Amazon Cloud Directory

API Reference
# Table of Contents

Welcome ............................................................................................................................................. 1  
Actions ........................................................................................................................................... 2  
  AddFacetToObject .......................................................................................................................... 4  
    Request Syntax ......................................................................................................................... 4  
    URI Request Parameters .......................................................................................................... 4  
    Request Body ............................................................................................................................ 4  
    Response Syntax ...................................................................................................................... 5  
    Response Elements .................................................................................................................. 5  
    Errors ....................................................................................................................................... 5  
    Examples ................................................................................................................................... 6  
    See Also .................................................................................................................................. 7  
  ApplySchema ............................................................................................................................... 8  
    Request Syntax ........................................................................................................................ 8  
    URI Request Parameters ......................................................................................................... 8  
    Request Body ............................................................................................................................ 8  
    Response Syntax ...................................................................................................................... 8  
    Response Elements .................................................................................................................. 8  
    Errors ....................................................................................................................................... 9  
    Examples ................................................................................................................................... 10  
    See Also .................................................................................................................................. 10  
  AttachObject ............................................................................................................................... 12  
    Request Syntax ........................................................................................................................ 12  
    URI Request Parameters ......................................................................................................... 12  
    Request Body ............................................................................................................................ 12  
    Response Syntax ...................................................................................................................... 13  
    Response Elements .................................................................................................................. 13  
    Errors ....................................................................................................................................... 13  
    Examples ................................................................................................................................... 14  
    See Also .................................................................................................................................. 15  
  AttachPolicy ............................................................................................................................... 16  
    Request Syntax ........................................................................................................................ 16  
    URI Request Parameters ......................................................................................................... 16  
    Request Body ............................................................................................................................ 16  
    Response Syntax ...................................................................................................................... 16  
    Response Elements .................................................................................................................. 16  
    Errors ....................................................................................................................................... 16  
    Examples ................................................................................................................................... 17  
    See Also .................................................................................................................................. 18  
  AttachToIndex .............................................................................................................................. 19  
    Request Syntax ........................................................................................................................ 19  
    URI Request Parameters ......................................................................................................... 19  
    Request Body ............................................................................................................................ 19  
    Response Syntax ...................................................................................................................... 19  
    Response Elements .................................................................................................................. 19  
    Errors ....................................................................................................................................... 19  
    Examples ................................................................................................................................... 20  
    See Also .................................................................................................................................. 21  
  AttachTypedLink .......................................................................................................................... 23  
    Request Syntax ........................................................................................................................ 23  
    URI Request Parameters ......................................................................................................... 23  
    Request Body ............................................................................................................................ 23  
    Response Syntax ...................................................................................................................... 24  
    Response Elements .................................................................................................................. 24  
    Errors ....................................................................................................................................... 25
<table>
<thead>
<tr>
<th>Method</th>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>BatchRead</td>
<td>Request Syntax</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>URI Request Parameters</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Request Body</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Response Syntax</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>Response Elements</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Errors</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Examples</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
<td>57</td>
</tr>
<tr>
<td>BatchWrite</td>
<td>Request Syntax</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>URI Request Parameters</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Request Body</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Response Syntax</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Response Elements</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>Errors</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>Examples</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
<td>45</td>
</tr>
<tr>
<td>CreateDirectory</td>
<td>Request Syntax</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>URI Request Parameters</td>
<td>46</td>
</tr>
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<td></td>
<td>Request Body</td>
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<td>Response Syntax</td>
<td>46</td>
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<td></td>
<td>Response Elements</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Errors</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Examples</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
<td>49</td>
</tr>
<tr>
<td>CreateFacet</td>
<td>Request Syntax</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>URI Request Parameters</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Request Body</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Response Syntax</td>
<td>51</td>
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<td>Response Elements</td>
<td>51</td>
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<tr>
<td></td>
<td>Errors</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>Examples</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
<td>53</td>
</tr>
<tr>
<td>CreateIndex</td>
<td>Request Syntax</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>URI Request Parameters</td>
<td>54</td>
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<td>Request Body</td>
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<td>Response Syntax</td>
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<td>Response Elements</td>
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<td>Errors</td>
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<td></td>
<td>Examples</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
<td>56</td>
</tr>
<tr>
<td>CreateObject</td>
<td>Request Syntax</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>URI Request Parameters</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Request Body</td>
<td>58</td>
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<tr>
<td></td>
<td>Response Syntax</td>
<td>59</td>
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<td>Response Elements</td>
<td>59</td>
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<tr>
<td></td>
<td>Errors</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Examples</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>See Also</td>
<td>61</td>
</tr>
<tr>
<td>CreateSchema</td>
<td>Request Syntax</td>
<td>63</td>
</tr>
<tr>
<td>Function</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------</td>
<td></td>
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<tr>
<td>EnableDirectory</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>DisableDirectory</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>DetachTypedLink</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>DetachPolicy</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>DetachObject</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>DisableDirectory</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>EnableDirectory</td>
<td>103</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>82</td>
<td></td>
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<tr>
<td>Response Syntax</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>86</td>
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<td>Response Syntax</td>
<td>86</td>
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<tr>
<td>Errors</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>88</td>
<td></td>
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<tr>
<td>URI Request Parameters</td>
<td>89</td>
<td></td>
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<tr>
<td>Response Syntax</td>
<td>89</td>
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<td>Errors</td>
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<tr>
<td>Examples</td>
<td>90</td>
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<tr>
<td>See Also</td>
<td>91</td>
<td></td>
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<tr>
<td>Request Syntax</td>
<td>91</td>
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<td>Response Syntax</td>
<td>91</td>
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<td>Errors</td>
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<td></td>
</tr>
<tr>
<td>Examples</td>
<td>95</td>
<td></td>
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<tr>
<td>See Also</td>
<td>95</td>
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<td>URI Request Parameters</td>
<td>96</td>
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<td>Errors</td>
<td>96</td>
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<td>Examples</td>
<td>97</td>
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<td>See Also</td>
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<td></td>
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<td>97</td>
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<td>Errors</td>
<td>97</td>
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<tr>
<td>Examples</td>
<td>98</td>
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<tr>
<td>See Also</td>
<td>98</td>
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<td>URI Request Parameters</td>
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<tr>
<td>Examples</td>
<td>101</td>
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<td>See Also</td>
<td>102</td>
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<td>Request Syntax</td>
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<td>Response Syntax</td>
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<td>Errors</td>
<td>103</td>
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</tr>
<tr>
<td>Examples</td>
<td>103</td>
<td></td>
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<tr>
<td>Documentation Section</td>
<td>Page</td>
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<td>----------------------------------------</td>
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<tr>
<td>Examples</td>
<td>104</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>GetAppliedSchemaVersion</td>
<td>106</td>
<td></td>
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<tr>
<td>Request Syntax</td>
<td>106</td>
<td></td>
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<td>URI Request Parameters</td>
<td>106</td>
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<td>Request Body</td>
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<tr>
<td>Response Syntax</td>
<td>106</td>
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<tr>
<td>Response Elements</td>
<td>106</td>
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</tr>
<tr>
<td>Errors</td>
<td>106</td>
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<tr>
<td>See Also</td>
<td>107</td>
<td></td>
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<tr>
<td>GetDirectory</td>
<td>109</td>
<td></td>
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<tr>
<td>Request Syntax</td>
<td>109</td>
<td></td>
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<tr>
<td>URI Request Parameters</td>
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<tr>
<td>Request Body</td>
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<tr>
<td>Errors</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>111</td>
<td></td>
</tr>
<tr>
<td>GetFacet</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>URI Request Parameters</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Request Body</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Response Syntax</td>
<td>112</td>
<td></td>
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<tr>
<td>Response Elements</td>
<td>113</td>
<td></td>
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<tr>
<td>Errors</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>114</td>
<td></td>
</tr>
<tr>
<td>GetLinkAttributes</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>URI Request Parameters</td>
<td>116</td>
<td></td>
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<tr>
<td>Request Body</td>
<td>116</td>
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<tr>
<td>Response Syntax</td>
<td>116</td>
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<tr>
<td>Response Elements</td>
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<td></td>
</tr>
<tr>
<td>Errors</td>
<td>117</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>GetObjectAttributes</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>URI Request Parameters</td>
<td>119</td>
<td></td>
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<tr>
<td>Request Body</td>
<td>119</td>
<td></td>
</tr>
<tr>
<td>Response Syntax</td>
<td>119</td>
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<tr>
<td>Response Elements</td>
<td>119</td>
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<td>Errors</td>
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</tr>
<tr>
<td>See Also</td>
<td>120</td>
<td></td>
</tr>
<tr>
<td>GetObjectInformation</td>
<td>122</td>
<td></td>
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<tr>
<td>Request Syntax</td>
<td>122</td>
<td></td>
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<tr>
<td>URI Request Parameters</td>
<td>122</td>
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<td>Errors</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td>GetSchemaAsJson</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>URI Request Parameters</td>
<td>128</td>
<td></td>
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<tr>
<td>Request Body</td>
<td>128</td>
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<tr>
<td>Errors</td>
<td>128</td>
<td></td>
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<tr>
<td>See Also</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Function</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>154</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>ListFacetNames</td>
<td>159</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>159</td>
<td></td>
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<tr>
<td>URI Request Parameters</td>
<td>159</td>
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<td>Request Body</td>
<td>159</td>
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<tr>
<td>Response Syntax</td>
<td>159</td>
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<tr>
<td>Response Elements</td>
<td>160</td>
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<td>Errors</td>
<td>160</td>
<td></td>
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<tr>
<td>Examples</td>
<td>161</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>161</td>
<td></td>
</tr>
<tr>
<td>ListIncomingTypedLinks</td>
<td>163</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>163</td>
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<td>URI Request Parameters</td>
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<td>Response Syntax</td>
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<td>Response Elements</td>
<td>165</td>
<td></td>
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<tr>
<td>Errors</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>ListIndex</td>
<td>169</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>169</td>
<td></td>
</tr>
<tr>
<td>URI Request Parameters</td>
<td>169</td>
<td></td>
</tr>
<tr>
<td>Request Body</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>Response Syntax</td>
<td>170</td>
<td></td>
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<tr>
<td>Response Elements</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td>171</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>172</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>173</td>
<td></td>
</tr>
<tr>
<td>ListManagedSchemaArns</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>URI Request Parameters</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>Request Body</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>Response Syntax</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>Response Elements</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>176</td>
<td></td>
</tr>
<tr>
<td>ListObjectAttributes</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td>URI Request Parameters</td>
<td>177</td>
<td></td>
</tr>
<tr>
<td>Request Body</td>
<td>177</td>
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</tr>
<tr>
<td>Response Syntax</td>
<td>178</td>
<td></td>
</tr>
<tr>
<td>Response Elements</td>
<td>178</td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td>179</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>181</td>
<td></td>
</tr>
<tr>
<td>ListObjectChildren</td>
<td>182</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>182</td>
<td></td>
</tr>
<tr>
<td>URI Request Parameters</td>
<td>182</td>
<td></td>
</tr>
<tr>
<td>Request Body</td>
<td>182</td>
<td></td>
</tr>
<tr>
<td>Response Syntax</td>
<td>183</td>
<td></td>
</tr>
<tr>
<td>Response Elements</td>
<td>183</td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td>183</td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>184</td>
<td></td>
</tr>
<tr>
<td>See Also</td>
<td>185</td>
<td></td>
</tr>
<tr>
<td>ListObjectParentPaths</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>Request Syntax</td>
<td>186</td>
<td></td>
</tr>
</tbody>
</table>

Amazon Cloud Directory API Reference
<table>
<thead>
<tr>
<th>Contents</th>
<th>See Also</th>
<th>xiv</th>
</tr>
</thead>
<tbody>
<tr>
<td>BatchDeleteObjectResponse</td>
<td>........................................................</td>
<td>281</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>282</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>282</td>
</tr>
<tr>
<td>BatchDetachFromIndex</td>
<td>........................................................</td>
<td>283</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>283</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>283</td>
</tr>
<tr>
<td>BatchDetachFromIndexResponse</td>
<td>....................................................</td>
<td>284</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>284</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>284</td>
</tr>
<tr>
<td>BatchDetachObject</td>
<td>........................................................</td>
<td>285</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>285</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>285</td>
</tr>
<tr>
<td>BatchDetachObjectResponse</td>
<td>........................................................</td>
<td>286</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>286</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>286</td>
</tr>
<tr>
<td>BatchDetachPolicy</td>
<td>........................................................</td>
<td>287</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>287</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>287</td>
</tr>
<tr>
<td>BatchDetachPolicyResponse</td>
<td>........................................................</td>
<td>288</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>288</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>288</td>
</tr>
<tr>
<td>BatchDetachTypedLink</td>
<td>........................................................</td>
<td>289</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>289</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>289</td>
</tr>
<tr>
<td>BatchDetachTypedLinkResponse</td>
<td>....................................................</td>
<td>290</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>290</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>290</td>
</tr>
<tr>
<td>BatchGetLinkAttributes</td>
<td>........................................................</td>
<td>291</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>291</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>291</td>
</tr>
<tr>
<td>BatchGetLinkAttributesResponse</td>
<td>..................................................</td>
<td>292</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>292</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>292</td>
</tr>
<tr>
<td>BatchGetObjectAttributes</td>
<td>........................................................</td>
<td>293</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>293</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>293</td>
</tr>
<tr>
<td>BatchGetObjectAttributesResponse</td>
<td>...............................................</td>
<td>294</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>294</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>294</td>
</tr>
<tr>
<td>BatchGetObjectInformation</td>
<td>........................................................</td>
<td>295</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>295</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>295</td>
</tr>
<tr>
<td>BatchGetObjectInformationResponse</td>
<td>........................................</td>
<td>296</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>296</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>296</td>
</tr>
<tr>
<td>BatchListAttachedIndices</td>
<td>........................................................</td>
<td>297</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>297</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>297</td>
</tr>
<tr>
<td>BatchListAttachedIndicesResponse</td>
<td>........................................</td>
<td>298</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>298</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>298</td>
</tr>
<tr>
<td>BatchListIncomingTypedLinks</td>
<td>................................................</td>
<td>299</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>299</td>
</tr>
<tr>
<td>See Also</td>
<td>.......................................................</td>
<td>299</td>
</tr>
<tr>
<td>BatchListIncomingTypedLinksResponse</td>
<td>......................................</td>
<td>301</td>
</tr>
<tr>
<td>Contents</td>
<td>........................................................</td>
<td>301</td>
</tr>
</tbody>
</table>
See Also ........................................................................................................................ 323
BatchReadSuccessfulResponse.......................................................................................... 324
Contents ......................................................................................................................... 324
See Also ......................................................................................................................... 325
BatchRemoveFacetFromObject ......................................................................................... 327
Contents ......................................................................................................................... 327
See Also ......................................................................................................................... 327
BatchRemoveFacetFromObjectResponse ......................................................................... 328
Contents ......................................................................................................................... 328
See Also ......................................................................................................................... 328
BatchUpdateLinkAttributes ............................................................................................ 329
Contents ......................................................................................................................... 329
See Also ......................................................................................................................... 329
BatchUpdateLinkAttributesResponse .............................................................................. 330
Contents ......................................................................................................................... 330
See Also ......................................................................................................................... 330
BatchUpdateObjectAttributes ......................................................................................... 331
Contents ......................................................................................................................... 331
See Also ......................................................................................................................... 331
BatchUpdateObjectAttributesResponse .......................................................................... 332
Contents ......................................................................................................................... 332
See Also ......................................................................................................................... 332
BatchWriteOperation ....................................................................................................... 333
Contents ......................................................................................................................... 333
See Also ......................................................................................................................... 334
BatchWriteOperationResponse ........................................................................................ 336
Contents ......................................................................................................................... 336
See Also ......................................................................................................................... 337
Directory ......................................................................................................................... 339
Contents ......................................................................................................................... 339
See Also ......................................................................................................................... 339
Facet ............................................................................................................................... 340
Contents ......................................................................................................................... 340
See Also ......................................................................................................................... 340
FacetAttribute .................................................................................................................. 341
Contents ......................................................................................................................... 341
See Also ......................................................................................................................... 341
FacetAttributeDefinition ............................................................................................... 342
Contents ......................................................................................................................... 342
See Also ......................................................................................................................... 342
FacetAttributeReference ............................................................................................... 343
Contents ......................................................................................................................... 343
See Also ......................................................................................................................... 343
FacetAttributeUpdate ..................................................................................................... 344
Contents ......................................................................................................................... 344
See Also ......................................................................................................................... 344
IndexAttachment ............................................................................................................. 345
Contents ......................................................................................................................... 345
See Also ......................................................................................................................... 345
LinkAttributeAction ....................................................................................................... 346
Contents ......................................................................................................................... 346
See Also ......................................................................................................................... 346
LinkAttributeUpdate ..................................................................................................... 347
Contents ......................................................................................................................... 347
See Also ......................................................................................................................... 347
ObjectAttributeAction .................................................................................................... 348
Contents ......................................................................................................................... 348
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Also</td>
<td>348</td>
</tr>
<tr>
<td>ObjectAttributeRange</td>
<td>349</td>
</tr>
<tr>
<td>Contents</td>
<td>349</td>
</tr>
<tr>
<td>See Also</td>
<td>349</td>
</tr>
<tr>
<td>ObjectAttributeUpdate</td>
<td>350</td>
</tr>
<tr>
<td>Contents</td>
<td>350</td>
</tr>
<tr>
<td>See Also</td>
<td>350</td>
</tr>
<tr>
<td>ObjectReference</td>
<td>351</td>
</tr>
<tr>
<td>Contents</td>
<td>351</td>
</tr>
<tr>
<td>See Also</td>
<td>351</td>
</tr>
<tr>
<td>PathToObjectIdentifiers</td>
<td>352</td>
</tr>
<tr>
<td>Contents</td>
<td>352</td>
</tr>
<tr>
<td>See Also</td>
<td>352</td>
</tr>
<tr>
<td>PolicyAttachment</td>
<td>353</td>
</tr>
<tr>
<td>Contents</td>
<td>353</td>
</tr>
<tr>
<td>See Also</td>
<td>353</td>
</tr>
<tr>
<td>PolicyToPath</td>
<td>354</td>
</tr>
<tr>
<td>Contents</td>
<td>354</td>
</tr>
<tr>
<td>See Also</td>
<td>354</td>
</tr>
<tr>
<td>Rule</td>
<td>355</td>
</tr>
<tr>
<td>Contents</td>
<td>355</td>
</tr>
<tr>
<td>See Also</td>
<td>355</td>
</tr>
<tr>
<td>SchemaFacet</td>
<td>356</td>
</tr>
<tr>
<td>Contents</td>
<td>356</td>
</tr>
<tr>
<td>See Also</td>
<td>356</td>
</tr>
<tr>
<td>Tag</td>
<td>357</td>
</tr>
<tr>
<td>Contents</td>
<td>357</td>
</tr>
<tr>
<td>See Also</td>
<td>357</td>
</tr>
<tr>
<td>TypedAttributeValue</td>
<td>358</td>
</tr>
<tr>
<td>Contents</td>
<td>358</td>
</tr>
<tr>
<td>See Also</td>
<td>358</td>
</tr>
<tr>
<td>TypedAttributeValueRange</td>
<td>359</td>
</tr>
<tr>
<td>Contents</td>
<td>359</td>
</tr>
<tr>
<td>See Also</td>
<td>359</td>
</tr>
<tr>
<td>TypedAttributeDefinition</td>
<td>360</td>
</tr>
<tr>
<td>Contents</td>
<td>360</td>
</tr>
<tr>
<td>See Also</td>
<td>361</td>
</tr>
<tr>
<td>TypedLinkAttributeRange</td>
<td>362</td>
</tr>
<tr>
<td>Contents</td>
<td>362</td>
</tr>
<tr>
<td>See Also</td>
<td>362</td>
</tr>
<tr>
<td>TypedLinkFacet</td>
<td>363</td>
</tr>
<tr>
<td>Contents</td>
<td>363</td>
</tr>
<tr>
<td>See Also</td>
<td>363</td>
</tr>
<tr>
<td>TypedLinkFacetAttributeUpdate</td>
<td>364</td>
</tr>
<tr>
<td>Contents</td>
<td>364</td>
</tr>
<tr>
<td>See Also</td>
<td>364</td>
</tr>
<tr>
<td>TypedLinkSchemaAndFacetName</td>
<td>365</td>
</tr>
<tr>
<td>Contents</td>
<td>365</td>
</tr>
<tr>
<td>See Also</td>
<td>365</td>
</tr>
<tr>
<td>TypedLinkSpecifier</td>
<td>366</td>
</tr>
<tr>
<td>Contents</td>
<td>366</td>
</tr>
<tr>
<td>See Also</td>
<td>366</td>
</tr>
<tr>
<td>Arn Examples</td>
<td>367</td>
</tr>
<tr>
<td>Schema Arns</td>
<td>367</td>
</tr>
<tr>
<td>Directory Arns</td>
<td>368</td>
</tr>
<tr>
<td>CloudTrail Logging</td>
<td>369</td>
</tr>
<tr>
<td>Cloud Directory Information in CloudTrail</td>
<td>369</td>
</tr>
</tbody>
</table>
Welcome to the Amazon Cloud Directory API Reference

Amazon Cloud Directory is a highly scalable, high performance, multitenant directory service in the cloud. Its web-based directories make it easy for you to organize and manage application resources such as users, groups, locations, devices, policies, and the rich relationships between them. Cloud Directory is a foundational building block for developers to create directory-based solutions easily and without having to worry about deployment, global scale, availability, and performance.

With Cloud Directory, you can organize directory objects into multiple hierarchies to support multiple organizational pivots and relationships across directory information. For example, a directory of users could provide a hierarchical view based on reporting structure, location, and project affiliation. Similarly, a directory of devices might have multiple hierarchical views based on its manufacturer, current owner, and physical location. For more information, see Amazon Cloud Directory in the AWS Directory Service Admin Guide.

This guide describes the Cloud Directory operations that you can call programatically and includes detailed information on data types and errors.

**Note**

AWS provides SDKs that consist of libraries and sample code for various programming languages and platforms (Java, Ruby, .Net, iOS, Android, etc.). The SDKs provide a convenient way to create programmatic access to AWS Directory Service and other AWS services. For more information about the AWS SDKs, including how to download and install them, see Tools for Amazon Web Services.
Actions

The following actions are supported:

- `AddFacetToObject` (p. 4)
- `ApplySchema` (p. 8)
- `AttachObject` (p. 12)
- `AttachPolicy` (p. 16)
- `AttachToIndex` (p. 19)
- `AttachTypedLink` (p. 23)
- `BatchRead` (p. 28)
- `BatchWrite` (p. 38)
- `CreateDirectory` (p. 46)
- `CreateFacet` (p. 50)
- `CreateIndex` (p. 54)
- `CreateObject` (p. 58)
- `CreateSchema` (p. 63)
- `CreateTypedLinkFacet` (p. 66)
- `DeleteDirectory` (p. 70)
- `DeleteFacet` (p. 73)
- `DeleteObject` (p. 76)
- `DeleteSchema` (p. 79)
- `DeleteTypedLinkFacet` (p. 82)
- `DetachFromIndex` (p. 85)
- `DetachObject` (p. 89)
- `DetachPolicy` (p. 93)
- `DetachTypedLink` (p. 96)
- `DisableDirectory` (p. 100)
- `EnableDirectory` (p. 103)
- `GetAppliedSchemaVersion` (p. 106)
- `GetDirectory` (p. 109)
- `GetFacet` (p. 112)
- `GetLinkAttributes` (p. 116)
- `GetObjectAttributes` (p. 120)
- `GetObjectInformation` (p. 124)
- `GetSchemaAsJson` (p. 128)
- `GetTypedLinkFacetInformation` (p. 132)
- `ListAppliedSchemaArns` (p. 136)
- `ListAttachedIndices` (p. 140)
- `ListDevelopmentSchemaArns` (p. 144)
- `ListDirectories` (p. 148)
- `ListFacetAttributes` (p. 152)
- `ListFacetNames` (p. 159)
- `ListIncomingTypedLinks` (p. 163)
- ListIndex (p. 169)
- ListManagedSchemaArns (p. 174)
- ListObjectAttributes (p. 177)
- ListObjectChildren (p. 182)
- ListObjectParentPaths (p. 186)
- ListObjectParents (p. 189)
- ListObjectPolicies (p. 193)
- ListOutgoingTypedLinks (p. 196)
- ListPolicyAttachments (p. 201)
- ListPublishedSchemaArns (p. 204)
- ListTagsForResource (p. 207)
- ListTypedLinkFacetAttributes (p. 210)
- ListTypedLinkFacetNames (p. 214)
- LookupPolicy (p. 217)
- PublishSchema (p. 221)
- PutSchemaFromJson (p. 224)
- RemoveFacetFromObject (p. 227)
- TagResource (p. 230)
- UntagResource (p. 233)
- UpdateFacet (p. 236)
- UpdateLinkAttributes (p. 240)
- UpdateObjectAttributes (p. 243)
- UpdateSchema (p. 246)
- UpdateTypedLinkFacet (p. 249)
- UpgradeAppliedSchema (p. 253)
- UpgradePublishedSchema (p. 256)
AddFacetToObject

Adds a new Facet (p. 340) to an object. An object can have more than one facet applied on it.

Request Syntax

PUT /amazonclouddirectory/2017-01-11/object/facets HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "ObjectAttributeList": [
    {
      "Key": {
        "FacetName": "string",
        "Name": "string",
        "SchemaArn": "string"
      },
      "Value": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    }
  ],
  "ObjectReference": {
    "Selector": "string"
  },
  "SchemaFacet": {
    "FacetName": "string",
    "SchemaArn": "string"
  }
}

URI Request Parameters

The request requires the following URI parameters.

DirectoryArn (p. 4)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where the object resides. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

ObjectAttributeList (p. 4)

Attributes on the facet that you are adding to the object.

Type: Array of AttributeKeyAndValue (p. 263) objects

Required: No
**ObjectReference (p. 4)**

A reference to the object you are adding the specified facet to.

Type: ObjectReference (p. 351) object

Required: Yes

**SchemaFacet (p. 4)**

Identifiers for the facet that you are adding to the object. See SchemaFacet (p. 356) for details.

Type: SchemaFacet (p. 356) object

Required: Yes

---

**Response Syntax**

```
HTTP/1.1 200
```

**Response Elements**

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**FacetValidationException**

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400
LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/object/facets HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 232
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=2cf0b34e6e67305c27f7ec762255196d937ef036d0e665e452a0e1bd79ae25106
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mA03dNY
X-Amz-Date: 20171009T164125Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
  "ObjectReference": {
    "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWmspn1fxfQmSQAaVKSBvEIQ"
  },
  "SchemaFacet": {
    "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mA03dNY/schema/org/1",
    "FacetName": "node1"
  }
}
```

Example Response

```
HTTP/1.1 200 OK
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ApplySchema

Copies the input published schema, at the specified version, into the Directory (p. 339) with the same name and version as that of the published schema.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/apply HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "PublishedSchemaArn": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 8)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) into which the schema is copied. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**PublishedSchemaArn (p. 8)**

Published schema Amazon Resource Name (ARN) that needs to be copied. For more information, see Arn Examples (p. 367).

Type: String

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "AppliedSchemaArn": "string",
    "DirectoryArn": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.
AppliedSchemaArn (p. 8)

The applied schema ARN that is associated with the copied schema in the Directory (p. 339). You can use this ARN to describe the schema information applied on this directory. For more information, see Arn Examples (p. 367).

Type: String

DirectoryArn (p. 8)

The ARN that is associated with the Directory (p. 339). For more information, see Arn Examples (p. 367).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidAttachmentException

Indicates that an attempt to attach an object with the same link name or to apply a schema with the same name has occurred. Rename the link or the schema and then try again.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have
time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

**Examples**

The following examples are formatted for legibility.

**Example Request**

```plaintext
PUT /amazonclouddirectory/2017-01-11/schema/apply HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 94
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171003/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=ac58e3d2d25b85cd1869f7a845a0e97cebfce28d1e8f8df34c0ee89a197f042
AfMr4qym1kZTvqoafAYfqI
X-Amz-Date: 20171003T201513Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
  "PublishedSchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:schema/published/
  org/1"
}
```

**Example Response**

```
HTTP/1.1 200 OK
x-amzn-RequestId: 90d60895-a877-11e7-81c0-7b48a7696e76
Date: Tue, 03 Oct 2017 20:15:13 GMT
x-amzn-RequestId: 90d60895-a877-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 212

{
  AfMr4qym1kZTvqoafAYfqI/schemas/organization/1",
  AfMr4qym1kZTvqoafAYfqI"
}
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
See Also

- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
AttachObject

Attaches an existing object to another object. An object can be accessed in two ways:

1. Using the path
2. Using ObjectIdentifier

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object/attach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "ChildReference": {
      "Selector": "string",
      "LinkName": "string",
      "ParentReference": {
         "Selector": "string"
      }
   }
}
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 12)**

Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where both objects reside. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**ChildReference (p. 12)**

The child object reference to be attached to the object.

Type: ObjectReference (p. 351) object

Required: Yes

**LinkName (p. 12)**

The link name with which the child object is attached to the parent.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `[^\//\[\]\(\)\:\\\&\?\$\]\s]+`

Required: Yes
ParentReference (p. 12)

The parent object reference.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
  "AttachedObjectIdentifier": "string"
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

AttachedObjectIdentifier (p. 13)

The attached ObjectIdentifier, which is the child ObjectIdentifier.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500
InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidAttachmentException

Indicates that an attempt to attach an object with the same link name or to apply a schema with the same name has occurred. Rename the link or the schema and then try again.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

LinkNameAlreadyInUseException

Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/object/attach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: e4be5146-a874-11e7-a169-c5bf0acd39f4
Date: Tue, 03 Oct 2017 19:56:06 GMT
x-amzn-RequestId: e4be5146-a874-11e7-a169-c5bf0acd39f4
Content-Type: application/json
Content-Length: 77

{"AttachedObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
Attaches a policy object to a regular object. An object can have a limited number of attached policies.

**Request Syntax**

```plaintext
PUT /amazonclouddirectory/2017-01-11/policy/attach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "ObjectReference": {
    "Selector": "string"
  },
  "PolicyReference": {
    "Selector": "string"
  }
}
```

**URI Request Parameters**

The request requires the following URI parameters.

**DirectoryArn (p. 16)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where both objects reside. For more information, see Arn Examples (p. 367).

**Request Body**

The request accepts the following data in JSON format.

**ObjectReference (p. 16)**

The reference that identifies the object to which the policy will be attached.

Type: ObjectReference (p. 351) object

Required: Yes

**PolicyReference (p. 16)**

The reference that is associated with the policy object.

Type: ObjectReference (p. 351) object

Required: Yes

**Response Syntax**

```
HTTP/1.1 200
```

**Response Elements**

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotPolicyException

Indicates that the requested operation can only operate on policy objects.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400
Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/policy/attach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 168
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/
  clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
  Signature=d6ba55fbae53295150b69a92946e542ad08f7557492c5862d70d6a8c62fa24b0
  AYb8AOV81kHNgdj8mAO3dNY
X-Amz-Date: 20171017T185436Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
  "PolicyReference": {
    "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWgcBsTVmcQEWSdjlygfhuw"
  },
  "ObjectReference": {
    "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWQoovmls3Ts2v0NKrzdVnPw"
  }
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 9ff9d709-b36c-11e7-843e-9fad359f817f
Date: Tue, 17 Oct 2017 18:54:37 GMT
x-amzn-RequestId: 9ff9d709-b36c-11e7-843e-9fad359f817f
Content-Type: application/json
Content-Length: 2

{}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
AttachToIndex

Attaches the specified object to the specified index.

Request Syntax

PUT /amazonclouddirectory/2017-01-11/index/attach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{  
  "IndexReference": {  
    "Selector": "string"
  },
  "TargetReference": {  
    "Selector": "string"
  }
}

URI Request Parameters

The request requires the following URI parameters.

DirectoryArn (p. 19)

The Amazon Resource Name (ARN) of the directory where the object and index exist.

Request Body

The request accepts the following data in JSON format.

IndexReference (p. 19)

A reference to the index that you are attaching the object to.

Type: ObjectReference (p. 351) object

Required: Yes

TargetReference (p. 19)

A reference to the object that you are attaching to the index.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{  
  "AttachedObjectIdentifier": "string"
}
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**AttachedObjectIdentifier (p. 19)**

The ObjectIdentifier of the object that was attached to the index.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**IndexedAttributeMissingException**

An object has been attempted to be attached to an object that does not have the appropriate attribute value.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**InvalidAttachmentException**

Indicates that an attempt to attach an object with the same link name or to apply a schema with the same name has occurred. Rename the link or the schema and then try again.

HTTP Status Code: 400

**LimitExceedededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400
LinkNameAlreadyInUseException

Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.

HTTP Status Code: 400

NotIndexException

Indicates that the requested operation can only operate on index objects.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```plaintext
PUT /amazonclouddirectory/2017-01-11/index/attach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 167
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYX5Sexample/20170927/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=78d785ce6e6b33aa8624c62c59b1dca60c4906bf91eb216909450ea214c5a56
AYbAQV8kHNgdj8mA03dNY
X-Amz-Date: 20170927T171118Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{  
  "IndexReference": {  
    "Selector": "#AQQG_ADlfNZBzYHY_JgDt3TWF45F26R1HTY2z-stwKBte_Q"  
  },  
  "TargetReference": {  
    "Selector": "#AQQG_ADlfNZBzYHY_JgDt3TWCwU71ARv0TeaR09zme1sVsw"  
  }  
}  
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: e1458e29-a3a6-11e7-a169-c5bf0acd39f4
Date: Wed, 27 Sep 2017 17:11:18 GMT
x-amzn-RequestId: e1458e29-a3a6-11e7-a169-c5bf0acd39f4
Content-Type: application/json
Content-Length: 77

{
   "AttachedObjectIdentifier": "AQGG_ADlfNfZfHY_JgDf3TWuU7IARvOTeaR09zme1sVsw"
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
AttachTypedLink

Attaches a typed link to a specified source and target object. For more information, see Typed link.

Request Syntax

```plaintext
PUT /amazonclouddirectory/2017-01-11/typedlink/attach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "Attributes": [
    {
      "AttributeName": "string",
      "Value": {
        "BinaryValue": null,
        "BooleanValue": null,
        "DatetimeValue": null,
        "NumberValue": null,
        "StringValue": null
      }
    }
  ],
  "SourceObjectReference": {
    "Selector": "string"
  },
  "TargetObjectReference": {
    "Selector": "string"
  },
  "TypedLinkFacet": {
    "SchemaArn": "string",
    "TypedLinkName": "string"
  }
}
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 23)**

The Amazon Resource Name (ARN) of the directory where you want to attach the typed link.

Request Body

The request accepts the following data in JSON format.

**Attributes (p. 23)**

A set of attributes that are associated with the typed link.

- Type: Array of AttributeNameAndValue (p. 264) objects
- Required: Yes

**SourceObjectReference (p. 23)**

Identifies the source object that the typed link will attach to.
Type: `ObjectReference (p. 351)` object

Required: Yes

**TargetObjectReference (p. 23)**

Identifies the target object that the typed link will attach to.

Type: `ObjectReference (p. 351)` object

Required: Yes

**TypedLinkFacet (p. 23)**

Identifies the typed link facet that is associated with the typed link.

Type: `TypedLinkSchemaAndFacetName (p. 365)` object

Required: Yes

---

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "TypedLinkSpecifier": {
      "IdentityAttributeValues": [
         {
            "AttributeName": "string",
            "Value": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         },
         ,
         "SourceObjectReference": {
            "Selector": "string"
         },
         "TargetObjectReference": {
            "Selector": "string"
         },
         "TypedLinkFacet": {
            "SchemaArn": "string",
            "TypedLinkName": "string"
         }
   }
}
```

---

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**TypedLinkSpecifier (p. 24)**

Returns a typed link specifier as output.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**FacetValidationException**

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**InvalidAttachmentException**

Indicates that an attempt to attach an object with the same link name or to apply a schema with the same name has occurred. Rename the link or the schema and then try again.

HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.
HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

**Examples**

The following examples are formatted for legibility.

**Example Request**

```
PUT /amazonclouddirectory/2017-01-11/typedlink/attach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 422
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170928/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=d1b63e72f1d13cafb5af77d621891a58849c146c2654d046366d420527a659b48
AYb8AOV81kHNgdj8mA03dNY
X-Amz-Date: 20170928T003543Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
    "SourceObjectReference": {
        "Selector": ":AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"
    },
    "Attributes": [{
        "AttributeName": "22",
        "Value": {
            "BinaryValue": "c3Ry"
        }
    }],
    "TargetObjectReference": {
        "Selector": ":AQGG_ADlfNZBzYHY_JgDt3TWCu7lARvOTeaR9zm1sVsw"
    },
    "TypedLinkFacet": {
        "TypedLinkName": "exampletypedlink8",
AYb8AOV81kHNgdj8mA03dNY/schema/org/1"
    }
}
```

**Example Response**

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 28 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
BatchRead

Performs all the read operations in a batch.

**Request Syntax**

```http
POST /amazonclouddirectory/2017-01-11/batchread HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
    "Operations": [
        {
            "GetLinkAttributes": {
                "AttributeNames": [ "string" ],
                "TypedLinkSpecifier": {
                    "IdentityAttributeValues": [
                        {
                            "AttributeName": "string",
                            "Value": {
                                "BinaryValue": blob,
                                "BooleanValue": boolean,
                                "DatetimeValue": number,
                                "NumberValue": "string",
                                "StringValue": "string"
                            }
                        }
                    ],
                    "SourceObjectReference": { "Selector": "string" },
                    "TargetObjectReference": { "Selector": "string" },
                    "TypedLinkFacet": { "SchemaArn": "string", "TypedLinkName": "string" }
                }
            },
            "GetObjectAttributes": {
                "AttributeNames": [ "string" ],
                "ObjectReference": { "Selector": "string" },
                "SchemaFacet": { "FacetName": "string", "SchemaArn": "string" }
            },
            "GetObjectInformation": { "ObjectReference": { "Selector": "string" } },
            "ListAttachedIndices": { "MaxResults": number, "NextToken": "string", "TargetReference": { "Selector": "string" } }
        }
    ]
}
```
"ListIncomingTypedLinks": {
  "FilterAttributeRanges": [
    {
      "AttributeName": "string",
      "Range": {
        "EndMode": "string",
        "EndValue": {
          "BinaryValue": blob,
          "BooleanValue": boolean,
          "DatetimeValue": number,
          "NumberValue": "string",
          "StringValue": "string"
        },
        "StartMode": "string",
        "StartValue": {
          "BinaryValue": blob,
          "BooleanValue": boolean,
          "DatetimeValue": number,
          "NumberValue": "string",
          "StringValue": "string"
        }
      }
    }
  ],
  "FilterTypedLink": {
    "SchemaArn": "string",
    "TypedLinkName": "string"
  },
  "MaxResults": number,
  "NextToken": "string",
  "ObjectReference": {
    "Selector": "string"
  }
},
"ListIndex": {
  "IndexReference": {
    "Selector": "string"
  },
  "MaxResults": number,
  "NextToken": "string",
  "RangesOnIndexedValues": [
    {
      "AttributeKey": {
        "FacetName": "string",
        "Name": "string",
        "SchemaArn": "string"
      },
      "Range": {
        "EndMode": "string",
        "EndValue": {
          "BinaryValue": blob,
          "BooleanValue": boolean,
          "DatetimeValue": number,
          "NumberValue": "string",
          "StringValue": "string"
        },
        "StartMode": "string",
        "StartValue": {
          "BinaryValue": blob,
          "BooleanValue": boolean,
          "DatetimeValue": number,
          "NumberValue": "string",
          "StringValue": "string"
        }
      }
    }
  ]
}
},
  "ListObjectAttributes": { 
    "FacetFilter": { 
      "FacetName": "string",
      "SchemaArn": "string"
    },
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": { 
      "Selector": "string"
    }
  },
  "ListObjectChildren": { 
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": { 
      "Selector": "string"
    }
  },
  "ListObjectParentPaths": { 
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": { 
      "Selector": "string"
    }
  },
  "ListObjectPolicies": { 
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": { 
      "Selector": "string"
    }
  },
  "ListOutgoingTypedLinks": { 
    "FilterAttributeRanges": [ 
      { 
        "AttributeName": "string",
        "Range": { 
          "EndMode": "string",
          "EndValue": { 
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "string"
          },
          "StartMode": "string",
          "StartValue": { 
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "string"
          }
        }
      }
    ],
    "FilterTypedLink": { 
      "SchemaArn": "string",
      "TypedLinkName": "string"
    }
  },
  "MaxResults": number,
  "NextToken": "string",
  "ObjectReference": { 
    "Selector": "string"
URI Request Parameters

The request requires the following URI parameters.

ConsistencyLevel (p. 28)

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: SERIALIZABLE | EVENTUAL

DirectoryArn (p. 28)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339). For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

Operations (p. 28)

A list of operations that are part of the batch.

Type: Array of BatchReadOperation (p. 320) objects

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "Responses": [
    {
      "ExceptionResponse": {
        "Message": "string",
        "Type": "string"
      }
    }
  ]
}
```
Amazon Cloud Directory API Reference
Response Syntax

```
},
"SuccessfulResponse": {
  "GetLinkAttributes": {
    "Attributes": [
      {
        "Key": {
          "FacetName": "string",
          "Name": "string",
          "SchemaArn": "string"
        },
        "Value": {
          "BinaryValue": blob,
          "BooleanValue": boolean,
          "DatetimeValue": number,
          "NumberValue": "string",
          "StringValue": "string"
        }
      }
    ]
  },
  "GetObjectAttributes": {
    "Attributes": [
      {
        "Key": {
          "FacetName": "string",
          "Name": "string",
          "SchemaArn": "string"
        },
        "Value": {
          "BinaryValue": blob,
          "BooleanValue": boolean,
          "DatetimeValue": number,
          "NumberValue": "string",
          "StringValue": "string"
        }
      }
    ]
  },
  "GetObjectInformation": {
    "ObjectIdentifier": "string",
    "SchemaFacets": [
      {
        "FacetName": "string",
        "SchemaArn": "string"
      }
    ]
  },
  "ListAttachedIndices": {
    "IndexAttachments": [
      {
        "IndexedAttributes": [
          {
            "Key": {
              "FacetName": "string",
              "Name": "string",
              "SchemaArn": "string"
            },
            "Value": {
              "BinaryValue": blob,
              "BooleanValue": boolean,
              "DatetimeValue": number,
              "NumberValue": "string",
              "StringValue": "string"
            }
          }
        ]
      }
    ]
  }
},
```

32
"ObjectIdentifier": "string"
},
"NextToken": "string"
},
"ListIncomingTypedLinks": {
"LinkSpecifiers": [
{
"IdentityAttributeValues": [
{
"AttributeName": "string",
"Value": {
"BinaryValue": blob,
"BooleanValue": boolean,
"DatetimeValue": number,
"NumberValue": "string",
"StringValue": "string"
}
}
],
"SourceObjectReference": {
"Selector": "string"
},
"TargetObjectReference": {
"Selector": "string"
},
"TypedLinkFacet": {
"SchemaArn": "string",
"TypedLinkName": "string"
}
}
],
"NextToken": "string"
},
"ListIndex": {
"IndexAttachments": [
{
"IndexedAttributes": [
{
"Key": {
"FacetName": "string",
"Name": "string",
"SchemaArn": "string"
},
"Value": {
"BinaryValue": blob,
"BooleanValue": boolean,
"DatetimeValue": number,
"NumberValue": "string",
"StringValue": "string"
}
}
],
"ObjectIdentifier": "string"
}
],
"NextToken": "string"
},
"ListObjectAttributes": {
"Attributes": [
{
"Key": {
"FacetName": "string",
"Name": "string",
"SchemaArn": "string"
}
},

33
"Value": {
  "BinaryValue": blob,
  "BooleanValue": boolean,
  "DatetimeValue": number,
  "NumberValue": "string",
  "StringValue": "string"
}
},
"NextToken": "string"
},
"ListObjectChildren": {
  "Children": {
    "string": "string"
  },
  "NextToken": "string"
},
"ListObjectParentPaths": {
  "NextToken": "string",
  "PathToObjectIdentifiersList": [
    {
      "ObjectIdentifiers": [ "string" ],
      "Path": "string"
    }
  ]
},
"ListObjectPolicies": {
  "AttachedPolicyIds": [ "string" ],
  "NextToken": "string"
},
"ListOutgoingTypedLinks": {
  "NextToken": "string",
  "TypedLinkSpecifiers": [
    {
      "IdentityAttributeValues": [
        {
          "AttributeName": "string",
          "Value": {
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "string"
          }
        }
      ],
      "SourceObjectReference": {
        "Selector": "string"
      },
      "TargetObjectReference": {
        "Selector": "string"
      },
      "TypedLinkFacet": {
        "SchemaArn": "string",
        "TypedLinkName": "string"
      }
    }
  ]
},
"ListPolicyAttachments": {
  "NextToken": "string",
  "ObjectIdentifiers": [ "string" ]
},
"LookupPolicy": {
  "NextToken": "string",
  "PolicyToPathList": [
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Responses (p. 31)

A list of all the responses for each batch read.

Type: Array of BatchReadOperationResponse (p. 323) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededExtension

Indicates that limits are exceeded. See Limits for more information.
HTTP Status Code: 400

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

**Example Request**

```
POST /amazonclouddirectory/2017-01-11/batchread HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 18
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mAO3DNY
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
x-amz-consistency-level: EVENTUAL
x-Amz-Date: 20170922T233414Z
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170922/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-consistency-level;x-amz-data-partition;x-amz-date,
Signature=dcf33d791a3f742d04edde6107c4795918d7e034c32f0029a49c95a9fe79cd40
{
  "Operations": []
}
```

**Example Response**

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 22 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{
  "Responses": []
}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
See Also

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
BatchWrite

Performs all the write operations in a batch. Either all the operations succeed or none.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/batchwrite HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "Operations": [
    {
      "AddFacetToObject": {
        "ObjectAttributeList": [
          {
            "Key": {
              "FacetName": "string",
              "Name": "string",
              "SchemaArn": "string"
            },
            "Value": {
              "BinaryValue": blob,
              "BooleanValue": boolean,
              "DatetimeValue": number,
              "NumberValue": "string",
              "StringValue": "string"
            }
          }
        ],
        "ObjectReference": {
          "Selector": "string"
        },
        "SchemaFacet": {
          "FacetName": "string",
          "SchemaArn": "string"
        }
      },
      "AttachObject": {
        "ChildReference": {
          "Selector": "string"
        },
        "LinkName": "string",
        "ParentReference": {
          "Selector": "string"
        }
      },
      "AttachPolicy": {
        "ObjectReference": {
          "Selector": "string"
        },
        "PolicyReference": {
          "Selector": "string"
        }
      },
      "AttachToIndex": {
        "IndexReference": {
          "Selector": "string"
        },
        "TargetReference": {
          "Selector": "string"
        }
      }
    }
  ]
}
```
"AttachTypedLink": {
  "Attributes": [
    {
      "AttributeName": "string",
      "Value": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    }
  ],
  "SourceObjectReference": {
    "Selector": "string"
  },
  "TargetObjectReference": {
    "Selector": "string"
  },
  "TypedLinkFacet": {
    "SchemaArn": "string",
    "TypedLinkName": "string"
  }
},
"CreateIndex": {
  "BatchReferenceName": "string",
  "IsUnique": boolean,
  "LinkName": "string",
  "OrderedIndexedAttributeList": [
    {
      "FacetName": "string",
      "Name": "string",
      "SchemaArn": "string"
    }
  ],
  "ParentReference": {
    "Selector": "string"
  }
},
"CreateObject": {
  "BatchReferenceName": "string",
  "LinkName": "string",
  "ObjectAttributeList": [
    {
      "Key": {
        "FacetName": "string",
        "Name": "string",
        "SchemaArn": "string"
      },
      "Value": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    }
  ],
  "ParentReference": {
    "Selector": "string"
  },
  "SchemaFacet": [
    {
      "FacetName": "string",
      "SchemaArn": "string"
    }
  ]
Request Syntax

`} "DeleteObject": {
    "ObjectReference": {
        "Selector": "string"
    }
},
"DetachFromIndex": {
    "IndexReference": {
        "Selector": "string"
    },
    "TargetReference": {
        "Selector": "string"
    }
},
"DetachObject": {
    "BatchReferenceName": "string",
    "LinkName": "string",
    "ParentReference": {
        "Selector": "string"
    }
},
"DetachPolicy": {
    "ObjectReference": {
        "Selector": "string"
    },
    "PolicyReference": {
        "Selector": "string"
    }
},
"DetachTypedLink": {
    "TypedLinkSpecifier": {
        "IdentityAttributeValues": [
            {
                "AttributeName": "string",
                "Value": {
                    "BinaryValue": blob,
                    "BooleanValue": boolean,
                    "DatetimeValue": number,
                    "NumberValue": "string",
                    "StringValue": "string"
                }
            }
        ],
        "SourceObjectReference": {
            "Selector": "string"
        },
        "TargetObjectReference": {
            "Selector": "string"
        },
        "TypedLinkFacet": {
            "SchemaArn": "string",
            "TypedLinkName": "string"
        }
    }
},
"RemoveFacetFromObject": {
    "ObjectReference": {
        "Selector": "string"
    },
    "SchemaFacet": {
        "FacetName": "string",
        "SchemaArn": "string"
    }
},
"UpdateLinkAttributes": {
"AttributeUpdates": [
  {
    "AttributeAction": {
      "AttributeActionType": "string",
      "AttributeUpdateValue": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    },
    "AttributeKey": {
      "FacetName": "string",
      "Name": "string",
      "SchemaArn": "string"
    }
  }
],
"TypedLinkSpecifier": {
  "IdentityAttributeValues": [
    {
      "AttributeName": "string",
      "Value": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    }
  ],
  "SourceObjectReference": {
    "Selector": "string"
  },
  "TargetObjectReference": {
    "Selector": "string"
  },
  "TypedLinkFacet": {
    "SchemaArn": "string",
    "TypedLinkName": "string"
  }
},
"UpdateObjectAttributes": {
  "AttributeUpdates": [
    {
      "ObjectAttributeAction": {
        "ObjectAttributeActionType": "string",
        "ObjectAttributeUpdateValue": {
          "BinaryValue": blob,
          "BooleanValue": boolean,
          "DatetimeValue": number,
          "NumberValue": "string",
          "StringValue": "string"
        }
      },
      "ObjectAttributeKey": {
        "FacetName": "string",
        "Name": "string",
        "SchemaArn": "string"
      }
    }
  ],
  "ObjectReference": {
    "Selector": "string"
  }
}
URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 38)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339). For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**Operations (p. 38)**

A list of operations that are part of the batch.

Type: Array of BatchWriteOperation (p. 333) objects

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

```json
{
   "Responses": [
      {
         "AddFacetToObject": {
         
         },
         "AttachObject": {
            "attachedObjectIdentifier": "string"
         },
         "AttachPolicy": {
         
         },
         "AttachToIndex": {
            "AttachedObjectIdentifier": "string"
         },
         "AttachTypedLink": {
            "TypedLinkSpecifier": {
               "IdentityAttributeValues": [ 
                  {
                     "AttributeName": "string",
                     "Value": {
                        "BinaryValue": blob,
                        "BooleanValue": boolean,
                        "DatetimeValue": number,
                        "NumberValue": "string",
                        "StringValue": "string"
                     }
                  }
               ]
            }
         }
      }
   ]
}
```
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Responses (p. 42)

A list of all the responses for each batch write.

Type: Array of BatchWriteOperationResponse (p. 336) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.
HTTP Status Code: 403

BatchWriteException

A BatchWrite exception has occurred.

HTTP Status Code: 400

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceeded Exception

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```plaintext
PUT /amazonclouddirectory/2017-01-11/batchwrite HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 18
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170922/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date, Signature=e539506cd67ac7a753fa37aa58272f4c7bda369fc0f6b47b7b6bea0f0fcd4af
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 22 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{
  "Responses": []
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateDirectory

Creates a Directory (p. 339) by copying the published schema into the directory. A directory cannot be created without a schema.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/directory/create HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "Name": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 46)

The Amazon Resource Name (ARN) of the published schema that will be copied into the data Directory (p. 339). For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

Name (p. 46)

The name of the Directory (p. 339). Should be unique per account, per region.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9.-_]*$

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "AppliedSchemaArn": "string",
    "DirectoryArn": "string",
    "Name": "string",
    "ObjectIdentifier": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.
The following data is returned in JSON format by the service.

**AppliedSchemaArn (p. 46)**

The ARN of the published schema in the Directory (p. 339). Once a published schema is copied into the directory, it has its own ARN, which is referred to applied schema ARN. For more information, see Arn Examples (p. 367).

Type: String

**DirectoryArn (p. 46)**

The ARN that is associated with the Directory (p. 339). For more information, see Arn Examples (p. 367).

Type: String

**Name (p. 46)**

The name of the Directory (p. 339).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[\sa-zA-Z0-9.-]*$

**ObjectIdentifier (p. 46)**

The root object node of the created directory.

Type: String

---

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryAlreadyExistsException**

Indicates that a Directory (p. 339) could not be created due to a naming conflict. Choose a different name and try again.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400
LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/directory/create HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 22
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170922/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=f347d3f8d6ceccbfdf47738ab11fe0194b5ef3d329b4e0431f7221ee80c672fd9a
person/1
X-Amz-Date: 20170922T220642Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{  
"Name": "ExampleCD"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 22 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

```
"DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AfmR4qym1kZTvqoqAfAYfqi",
"Name": "ExampleCD",
"ObjectIdentifier": "AQHzK-KsptZGU78KjmnwGH6i-4guCM3uQFOTA9_NjehHdrg"
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateFacet

Creates a new Facet (p. 340) in a schema. Facet creation is allowed only in development or applied schemas.

Request Syntax

```plaintext
PUT /amazonclouddirectory/2017-01-11/facet/create HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "Attributes": [
        {
            "AttributeDefinition": {
                "DefaultValue": {
                    "BinaryValue": "blob",
                    "BooleanValue": "boolean",
                    "DatetimeValue": "number",
                    "NumberValue": "string",
                    "StringValue": "string"
                },
                "IsImmutable": "boolean",
                "Rules": {
                    "string": {
                        "Parameters": {
                            "string": "string"
                        },
                        "Type": "string"
                    }
                },
                "Type": "string"
            },
            "AttributeReference": {
                "TargetAttributeName": "string",
                "TargetFacetName": "string"
            },
            "Name": "string",
            "RequiredBehavior": "string"
        }
    ],
    "FacetStyle": "string",
    "Name": "string",
    "ObjectType": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

**SchemaArn (p. 50)**

The schema ARN in which the new Facet (p. 340) will be created. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.
Attributes (p. 50)

The attributes that are associated with the Facet (p. 340).

Type: Array of FacetAttribute (p. 341) objects

Required: No

FacetStyle (p. 50)

There are two different styles that you can define on any given facet, Static and Dynamic. For static facets, all attributes must be defined in the schema. For dynamic facets, attributes can be defined during data plane operations.

Type: String

Valid Values: STATIC | DYNAMIC

Required: No

Name (p. 50)

The name of the Facet (p. 340), which is unique for a given schema.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

ObjectType (p. 50)

Specifies whether a given object created from this facet is of type node, leaf node, policy or index.

- Node: Can have multiple children but one parent.
- Leaf node: Cannot have children but can have multiple parents.
- Policy: Allows you to store a policy document and policy type. For more information, see Policies.
- Index: Can be created with the Index API.

Type: String

Valid Values: NODE | LEAF_NODE | POLICY | INDEX

Required: No

Response Syntax

HTTP/1.1 200

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).
AccessDeniedException
Access denied. Check your permissions.
HTTP Status Code: 403

FacetAlreadyExistsException
A facet with the same name already exists.
HTTP Status Code: 400

FacetValidationException
The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.
HTTP Status Code: 400

InternalServiceException
Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.
HTTP Status Code: 500

Invalid ArnException
Indicates that the provided ARN value is not valid.
HTTP Status Code: 400

InvalidRuleException
Occurs when any of the rule parameter keys or values are invalid.
HTTP Status Code: 400

LimitExceeded Exception
Indicates that limits are exceeded. See Limits for more information.
HTTP Status Code: 400

ResourceNotFoundException
The specified resource could not be found.
HTTP Status Code: 404

RetryableConflictException
Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.
HTTP Status Code: 409

ValidationException
Indicates that your request is malformed in some manner. See the exception message.
HTTP Status Code: 400
Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/facet/create HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 39
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170922/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=d6b41d921e64be7413abf9bd9036289cb34ace20275ed17dee45e594622ced4b
AYb8AOV81kHNgdj8mA03dNY/schema/org/1
X-Amz-Date: 20170922T214008Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
  "Name": "node1",
  "ObjectType": "NODE"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 22 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateIndex

Creates an index object. See Indexing for more information.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/index HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "IsUnique": boolean,
  "LinkName": "string",
  "OrderedIndexedAttributeList": [
    {
      "FacetName": "string",
      "Name": "string",
      "SchemaArn": "string"
    }
  ],
  "ParentReference": {
    "Selector": "string"
  }
}
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 54)**

The ARN of the directory where the index should be created.

Request Body

The request accepts the following data in JSON format.

**IsUnique (p. 54)**

Indicates whether the attribute that is being indexed has unique values or not.

Type: Boolean

Required: Yes

**LinkName (p. 54)**

The name of the link between the parent object and the index object.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: [^\/\[\]\(\)\{\}\}\@!\?\$\;\]*

Required: No
OrderedIndexedAttributeList (p. 54)
Specifies the attributes that should be indexed on. Currently only a single attribute is supported.
Type: Array of AttributeKey (p. 262) objects
Required: Yes

ParentReference (p. 54)
A reference to the parent object that contains the index object.
Type: ObjectReference (p. 351) object
Required: No

Response Syntax

HTTP/1.1 200
Content-type: application/json
{
  "ObjectIdentifier": "string"
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.
The following data is returned in JSON format by the service.

ObjectIdentifier (p. 55)
The ObjectIdentifier of the index created by this operation.
Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException
Access denied. Check your permissions.
HTTP Status Code: 403

DirectoryNotEnabledException
Operations are only permitted on enabled directories.
HTTP Status Code: 400

FacetValidationException
The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.
HTTP Status Code: 400
InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

LinkNameAlreadyInUseException

Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

UnsupportedIndexTypeException

Indicates that the requested index type is not supported.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/index HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 13 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521

{"ObjectIdentifier" : "AQF0Fw173YJDlpLUV1eB50Wv4vU99HjyQIShCCUEVob2fw"}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateObject

Creates an object in a Directory (p. 339). Additionally attaches the object to a parent, if a parent reference and `LinkName` is specified. An object is simply a collection of Facet (p. 340) attributes. You can also use this API call to create a policy object, if the facet from which you create the object is a policy facet.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "LinkName": "string",
  "ObjectAttributeList": [  
    {
      "Key": {
        "FacetName": "string",
        "Name": "string",
        "SchemaArn": "string"
      },
      "Value": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    }
  ],
  "ParentReference": {
    "Selector": "string"
  },
  "SchemaFacets": [
  {
    "FacetName": "string",
    "SchemaArn": "string"
  }
  ]
}
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 58)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) in which the object will be created. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**LinkName (p. 58)**

The name of link that is used to attach this object to a parent.
Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: [^\/[\]\(\)\:\}\{\}\@!\?\s\;]+

Required: No

ObjectAttributeList (p. 58)

The attribute map whose attribute ARN contains the key and attribute value as the map value.

Type: Array of AttributeKeyAndValue (p. 263) objects

Required: No

ParentReference (p. 58)

If specified, the parent reference to which this object will be attached.

Type: ObjectReference (p. 351) object

Required: No

SchemaFacets (p. 58)

A list of schema facets to be associated with the object. Do not provide minor version components.

See SchemaFacet (p. 356) for details.

Type: Array of SchemaFacet (p. 356) objects

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "ObjectIdentifier": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ObjectIdentifier (p. 59)

The identifier that is associated with the object.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).
AccessDeniedException
Access denied. Check your permissions.
HTTP Status Code: 403

DirectoryNotEnabledException
Operations are only permitted on enabled directories.
HTTP Status Code: 400

FacetValidationException
The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.
HTTP Status Code: 400

InternalServiceException
Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.
HTTP Status Code: 500

InvalidArnException
Indicates that the provided ARN value is not valid.
HTTP Status Code: 400

LimitExceededException
Indicates that limits are exceeded. See Limits for more information.
HTTP Status Code: 400

LinkNameAlreadyInUseException
Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.
HTTP Status Code: 400

ResourceNotFoundException
The specified resource could not be found.
HTTP Status Code: 404

RetryableConflictException
Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.
HTTP Status Code: 409

UnsupportedIndexTypeException
Indicates that the requested index type is not supported.
HTTP Status Code: 400
ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/object HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 196
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170912/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=af5780db69f39c02593f384e0ad70528f9c833e67d47e8e37ac456c10c994a0
AXQXDXvdgkOWktRXV4HnRa8
X-Amz-Date: 20170912T184134Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
    "SchemaFacets": [
        {
AXQXDXvdgkOWktRXV4HnRa8/schema/Examplepersonschema/1",
            "FacetName": "Organization_Person"
        }
    ]
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 12 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521
{
    "ObjectIdentifier": "AQF0Fw173YJDlpLUV1eB50WvP1K49muETy2xCqhXZK2s-A"
}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
CreateSchema

Creates a new schema in a development state. A schema can exist in three phases:

- **Development**: This is a mutable phase of the schema. All new schemas are in the development phase. Once the schema is finalized, it can be published.
- **Published**: Published schemas are immutable and have a version associated with them.
- **Applied**: Applied schemas are mutable in a way that allows you to add new schema facets. You can also add new, nonrequired attributes to existing schema facets. You can apply only published schemas to directories.

**Request Syntax**

```
PUT /amazonclouddirectory/2017-01-11/schema/create HTTP/1.1
Content-type: application/json

{
  "Name": "string"
}
```

**URI Request Parameters**

The request does not use any URI parameters.

**Request Body**

The request accepts the following data in JSON format.

**Name (p. 63)**

The name that is associated with the schema. This is unique to each account and in each region.

Type: String


Pattern: `^[a-zA-Z0-9_.-]*$`

Required: Yes

**Response Syntax**

```
HTTP/1.1 200
Content-type: application/json

{
  "SchemaArn": "string"
}
```

**Response Elements**

If the action is successful, the service sends back an HTTP 200 response.
The following data is returned in JSON format by the service.

**SchemaArn (p. 63)**

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 367).

Type: String

## Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**SchemaAlreadyExistsException**

Indicates that a schema could not be created due to a naming conflict. Please select a different name and then try again.

HTTP Status Code: 400

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.
HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/schema/create HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 21
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170927/
us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-date,
Signature=92b2be88dd90f3e789ff565f5ae897b35f601e2f6a4d08ad807993ef8399e29
X-Amz-Date: 20170927T164420Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
    "Name": "Customers"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 2c3050f1-a3a3-11e7-bd9d-f9e3493b0666
Date: Wed, 27 Sep 2017 16:44:47 GMT
x-amzn-RequestId: 2c3050f1-a3a3-11e7-bd9d-f9e3493b0666
Content-Type: application/json
Content-Length: 90
{
}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
CreateTypedLinkFacet

Creates a TypedLinkFacet (p. 363). For more information, see Typed link.

Request Syntax

```http
PUT /amazonclouddirectory/2017-01-11/typedlink/facet/create HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
  "Facet": {
    "Attributes": [
      {
        "DefaultValue": {
          "BinaryValue": blob,
          "BooleanValue": boolean,
          "DatetimeValue": number,
          "NumberValue": "string",
          "StringValue": "string"
        },
        "IsImmutable": boolean,
        "Name": "string",
        "RequiredBehavior": "string",
        "Rules": {
          "string": {
            "Parameters": {
              "string": "string"
            },
            "Type": "string"
          }
        },
        "Type": "string"
      }
    ],
    "IdentityAttributeOrder": [ "string" ],
    "Name": "string"
  }
}
```

URI Request Parameters

The request requires the following URI parameters.

**SchemaArn** (p. 66)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**Facet** (p. 66)

Facet (p. 340) structure that is associated with the typed link facet.

Type: TypedLinkFacet (p. 363) object
Required: Yes

Response Syntax

HTTP/1.1 200

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

FacetAlreadyExistsException

A facet with the same name already exists.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidRuleException

Occurs when any of the rule parameter keys or values are invalid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400
ResourceNotFoundException
The specified resource could not be found.
HTTP Status Code: 404

RetryableConflictException
Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.
HTTP Status Code: 409

ValidationException
Indicates that your request is malformed in some manner. See the exception message.
HTTP Status Code: 400

Examples
The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/typedlink/facet/create HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 156
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170923/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=b174c239b7f8e0ef63f16c7755d3655a16f7b812e2f93008eb0447fb611cfefa
typedlinkschema
X-Amz-Date: 20170923T004008Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
  "Facet": {
    "Attributes": [{
      "RequiredBehavior": "REQUIRED_ALWAYS",
      "Type": "BINARY",
      "Name": "1"
    }],
    "IdentityAttributeOrder": ["1"],
    "Name": "FacetExample"
  }
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Date: Thu, 23 Sep 2017 00:35:44 GMT
x-amzn-RequestId: f6f0b320-a3e4-11e7-b86b-239c40918c06
Content-Type: application/json
Content-Length: 521
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteDirectory

Deletes a directory. Only disabled directories can be deleted. A deleted directory cannot be undone. Exercise extreme caution when deleting directories.

**Request Syntax**

PUT /amazonclouddirectory/2017-01-11/directory HTTP/1.1
x-amz-data-partition: DirectoryArn

**URI Request Parameters**

The request requires the following URI parameters.

- **DirectoryArn** (p. 70)
  
  The ARN of the directory to delete.

**Request Body**

The request does not have a request body.

**Response Syntax**

HTTP/1.1 200
Content-type: application/json

{  "DirectoryArn": "string" }

**Response Elements**

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

- **DirectoryArn** (p. 70)
  
  The ARN of the deleted directory.

  Type: String

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 375).

- **AccessDeniedException**
  
  Access denied. Check your permissions.

  HTTP Status Code: 403
DirectoryDeletedException

A directory that has been deleted and to which access has been attempted. Note: The requested resource will eventually cease to exist.

HTTP Status Code: 400

DirectoryNotDisabledException

An operation can only operate on a disabled directory.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```plaintext
PUT /amazonclouddirectory/2017-01-11/directory HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: 2061f3c0-ad18-11e7-8502-0566a31305cf
Date: Mon, 09 Oct 2017 17:34:39 GMT
Content-Type: application/json
Content-Length: 98

{
    AXQXDXvdgkOWktRXV4HnRa8"
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteFacet

Deletes a given Facet (p. 340). All attributes and Rule (p. 355)s that are associated with the facet will be deleted. Only development schema facets are allowed deletion.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/facet/delete HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "Name": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

**SchemaArn (p. 73)**

The Amazon Resource Name (ARN) that is associated with the Facet (p. 340). For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**Name (p. 73)**

The name of the facet to delete.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9-_]*$

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).
AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

FacetInUseException

Occurs when deleting a facet that contains an attribute that is a target to an attribute reference in a different facet.

HTTP Status Code: 400

FacetNotFoundException

The specified Facet (p. 340) could not be found.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.
Example Request

```
PUT /amazonclouddirectory/2017-01-11/facet/delete HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 24
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
    clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
    Signature=67a330fb824e90451da06dd85e94ac37865044e9c933657a298457bd46660b07
    exampleorgtest
    X-Amz-Date: 20171009T182210Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
    "Name": "Organization"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: c4f739ec-ad1e-11e7-a6de-b54884d62153
Date: Mon, 09 Oct 2017 18:22:11 GMT
x-amzn-RequestId: c4f739ec-ad1e-11e7-a6de-b54884d62153
Content-Type: application/json
Content-Length: 2

{}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteObject

Deletes an object and its associated attributes. Only objects with no children and no parents can be deleted.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object/delete HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "ObjectReference": {
        "Selector": "string"
    }
}
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 76)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where the object resides. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**ObjectReference (p. 76)**

A reference that identifies the object.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.
HTTP Status Code: 403
**DirectoryNotEnabledException**
Operations are only permitted on enabled directories.

HTTP Status Code: 400
**InternalServiceException**
Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the [AWS Service Health Dashboard](https://status.aws.amazon.com) site to see if there are any operational issues with the service.

HTTP Status Code: 500
**InvalidArnException**
Indicates that the provided ARN value is not valid.

HTTP Status Code: 400
**LimitExceededException**
Indicates that limits are exceeded. See [Limits](https://docs.aws.amazon.com/cloud-directory/latest/developerguide/cloud-directory-limits.html) for more information.

HTTP Status Code: 400
**ObjectNotDetachedException**
Indicates that the requested operation cannot be completed because the object has not been detached from the tree.

HTTP Status Code: 400
**ResourceNotFoundException**
The specified resource could not be found.

HTTP Status Code: 404
**RetryableConflictException**
Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409
**ValidationException**
Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

---

**Examples**

The following examples are formatted for legibility.

**Example Request**

```
PUT /amazonclouddirectory/2017-01-11/object/delete HTTP/1.1
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: 3b1928f3-ad21-11e7-81c0-7b48a7696e76
Date: Mon, 09 Oct 2017 18:39:48 GMT
x-amzn-RequestId: 3b1928f3-ad21-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 2

{}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteSchema

Deletes a given schema. Schemas in a development and published state can only be deleted.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema HTTP/1.1
x-amz-data-partition: SchemaArn
```

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 79)

The Amazon Resource Name (ARN) of the development schema. For more information, see Arn Examples (p. 367).

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "SchemaArn": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

SchemaArn (p. 79)

The input ARN that is returned as part of the response. For more information, see Arn Examples (p. 367).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.
HTTP Status Code: 403

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**LimitExceeded Exception**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**StillContainsLinksException**

The object could not be deleted because links still exist. Remove the links and then try the operation again.

HTTP Status Code: 400

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

---

**Examples**

The following examples are formatted for legibility.

**Example Request**

```
PUT /amazonclouddirectory/2017-01-11/schema HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date, Signature=f2ac3f0780f6e0fa9115c1a7e19353dbcc607eac30420fceeacba09a189d057b44
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: c92b705e-ad22-11e7-8502-0566a31305cf
Date: Mon, 09 Oct 2017 18:50:57 GMT
x-amzn-RequestId: c92b705e-ad22-11e7-8502-0566a31305cf
Content-Type: application/json
Content-Length: 95

{  
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DeleteTypedLinkFacet

 Deletes a TypedLinkFacet (p. 363). For more information, see Typed link.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/typedlink/facet/delete HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "Name": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

**SchemaArn (p. 82)**

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**Name (p. 82)**

The unique name of the typed link facet.

Type: String

Pattern: ^[a-zA-Z0-9.-_]*$

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.
HTTP Status Code: 403

**FacetNotFoundException**

The specified Facet (p. 340) could not be found.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

**Examples**

The following examples are formatted for legibility.

**Example Request**

```
PUT /amazonclouddirectory/2017-01-11/typedlink/facet/delete HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 24
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date, Signature=a8d2e25d4f3051fb3820effa2efc21cfe3327bea088e45c53199a5d2a2db9e1d6
```

Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: 6cbc3bb3-ad25-11e7-98a0-81d6fbb0fa15
Date: Mon, 09 Oct 2017 19:09:50 GMT
x-amzn-RequestId: 6cbc3bb3-ad25-11e7-98a0-81d6fbb0fa15
Content-Type: application/json
Content-Length: 2

{}
**DetachFromIndex**

Detaches the specified object from the specified index.

**Request Syntax**

```
PUT /amazonclouddirectory/2017-01-11/index/detach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "IndexReference": {  
        "Selector": "string"
    },
    "TargetReference": {  
        "Selector": "string"
    }
}
```

**URI Request Parameters**

The request requires the following URI parameters.

*DirectoryArn (p. 85)*

The Amazon Resource Name (ARN) of the directory the index and object exist in.

**Request Body**

The request accepts the following data in JSON format.

*IndexReference (p. 85)*

A reference to the index object.

Type: ObjectReference (p. 351) object

Required: Yes

*TargetReference (p. 85)*

A reference to the object being detached from the index.

Type: ObjectReference (p. 351) object

Required: Yes

**Response Syntax**

```
HTTP/1.1 200
Content-type: application/json

{
    "DetachedObjectIdentifier": "string"
}
```
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**DetachedObjectIdentifier (p. 85)**

The `ObjectIdentifier` of the object that was detached from the index.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**LimitExceedededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**NotIndexException**

Indicates that the requested operation can only operate on index objects.

HTTP Status Code: 400

**ObjectAlreadyDetachedException**

Indicates that the object is not attached to the index.

HTTP Status Code: 400
ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation
occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have
time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is
the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/index/detach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 167
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171009/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=78ad77e2d49bc312be21f048fd10742dc50c838314696f2f58e99658137773b
AYb8AOV81kHN6d78maO3dNY
x-amz-date: 20171009T195357Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
  "IndexReference": {
      "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
  }
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 9746ae70-ad2b-11e7-81c0-7b48a7696e76
Date: Mon, 09 Oct 2017 19:53:59 GMT
x-amzn-RequestId: 9746ae70-ad2b-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 77
{
  "DetachedObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWcU7IARvOTeaR09zme1sVsw"
}
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DetachObject

Detaches a given object from the parent object. The object that is to be detached from the parent is specified by the link name.

Request Syntax

```plaintext
PUT /amazonclouddirectory/2017-01-11/object/detach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "LinkName": "string",
    "ParentReference": {
        "Selector": "string"
    }
}
```

URI Request Parameters

The request requires the following URI parameters.

DirectoryArn (p. 89)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where objects reside. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

LinkName (p. 89)

The link name associated with the object that needs to be detached.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: [^\/%[\]\(\)\:{\}\@!\?\s]+

Required: Yes

ParentReference (p. 89)

The parent reference from which the object with the specified link name is detached.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```
Response Elements

If the action is successful, the service sends back an HTTP 200 response. The following data is returned in JSON format by the service.

**DetachedObjectIdentifier (p. 89)**

The `ObjectIdentifier` that was detached from the object.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**LimitExceedededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**NotNodeException**

Occurs when any invalid operations are performed on an object that is not a node, such as calling `ListObjectChildren` for a leaf node object.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.
HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

**Examples**

The following examples are formatted for legibility.

**Example Request**

```
PUT /amazonclouddirectory/2017-01-11/object/detach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 105
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171016/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=e994ca925acaa6ffcd03c9bc505e5f634fc0847563f32025ed500ea05bc5f389
AYb8AOV81KHNgdji8mAO3dNY
X-Amz-Date: 20171016T231940Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{  
  "ParentReference": {  
    "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWcU71ARvoTeaR9zme1sVsw"
  },  
  "LinkName": "link2"
}
```

**Example Response**

```
HTTP/1.1 200 OK
x-amzn-RequestId: 7d42c361-b2c8-11e7-81c0-7b48a7696e76
Date: Mon, 16 Oct 2017 23:19:41 GMT
x-amzn-RequestId: 7d42c361-b2c8-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 77

{
  "DetachedObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWcU71ARvoTeaR9zme1sVsw"
}
```

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
DetachPolicy

Detaches a policy from an object.

Request Syntax

PUT /amazonclouddirectory/2017-01-11/policy/detach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "ObjectReference": {
    "Selector": "string"
  },
  "PolicyReference": {
    "Selector": "string"
  }
}

URI Request Parameters

The request requires the following URI parameters.

DirectoryArn (p. 93)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where both objects reside. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 93)

Reference that identifies the object whose policy object will be detached.

Type: ObjectReference (p. 351) object

Required: Yes

PolicyReference (p. 93)

Reference that identifies the policy object.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

HTTP/1.1 200

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceedededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotPolicyException

Indicates that the requested operation can only operate on policy objects.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400
Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/policy/detach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 168

Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=c4e166e4a1fae26ec2a5531e95ea261c6f7255e5639438bd56af0c0ce9dacf700
AYb8AOV81k4Nqdj6maAO3dNY
X-Amz-Date: 20171017T185834Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
  "PolicyReference": {
    "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWgcBsTvMcQErW8djlygfuwe"
  },
  "ObjectReference": {
    "Selector": "$AQGG_ADlfNZBzYHY_JgDt3TWQoovm1s3Ts2v0KNrzdVnPw"
  }
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 2d7a5bcf-b36d-11e7-81c0-7b48a7696e76
Date: Tue, 17 Oct 2017 18:58:34 GMT
x-amzn-RequestId: 2d7a5bcf-b36d-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 2

{}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DetachTypedLink

Detaches a typed link from a specified source and target object. For more information, see Typed link.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/typedlink/detach HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
   "TypedLinkSpecifier": {
      "IdentityAttributeValue": [
         {
            "AttributeName": "string",
            "Value": {
               "BinaryValue": blob,
               "BooleanValue": boolean,
               "DatetimeValue": number,
               "NumberValue": "string",
               "StringValue": "string"
            }
         }
      ],
      "SourceObjectReference": {
         "Selector": "string"
      },
      "TargetObjectReference": {
         "Selector": "string"
      },
      "TypedLinkFacet": {
         "SchemaArn": "string",
         "TypedLinkName": "string"
      }
   }
}
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn** *(p. 96)*

The Amazon Resource Name (ARN) of the directory where you want to detach the typed link.

Request Body

The request accepts the following data in JSON format.

**TypedLinkSpecifier** *(p. 96)*

Used to accept a typed link specifier as input.

Type: TypedLinkSpecifier *(p. 366)* object

Required: Yes
Response Syntax

HTTP/1.1 200

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceeded Exception

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have
time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```plaintext
PUT /amazonclouddirectory/2017-01-11/typedlink/detach HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 459
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20170927/us-west-2/
clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=f2b55a089ed64a5acfa07e793f5b2d2516ec91c5f3be76504cd0b1c613c1
AYb8AOV81kHNgdj8mA03dNY
X-Amz-Date: 20170927T191638Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
  "TypedLinkSpecifier": {
    "SourceObjectReference": {
      "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnSgTdmeCuTs6YBNUA"
    },
    "IdentityAttributeValues": [{
      "AttributeName": "22",
      "Value": {
        "BinaryValue": "c3Ry"
      }
    },
    "TargetObjectReference": {
      "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWCvU7IARv0TeaR09zem1sVsw"
    },
    "TypedLinkFacet": {
      "TypedLinkName": "exampletypedlink8",
AYb8AOV81kHNgdj8mA03dNY/schema/org/1"
    }
  }
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 6350a418-a3b8-11e7-8502-0566a31305cf
Date: Wed, 27 Sep 2017 19:16:38 GMT
x-amzn-RequestId: 6350a418-a3b8-11e7-8502-0566a31305cf
Content-Type: application/json
Content-Length: 0
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
DisableDirectory

Disables the specified directory. Disabled directories cannot be read or written to. Only enabled directories can be disabled. Disabled directories may be reenabled.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/directory/disable HTTP/1.1
x-amz-data-partition: DirectoryArn
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 100)**

The ARN of the directory to disable.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "DirectoryArn": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**DirectoryArn (p. 100)**

- The ARN of the directory that has been disabled.
  - Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

- Access denied. Check your permissions.
  - HTTP Status Code: 403
DirectoryDeletedException

A directory that has been deleted and to which access has been attempted. Note: The requested resource will eventually cease to exist.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/directory/disable HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171006/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date, Signature=2d3c51c700aee56ce68f0c2981c6dc08a413cd771ec9349b5190519c2c2d8a87
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: 51db4cc5-aa33-11e7-98a0-81d6fbb0fa15
Date: Fri, 06 Oct 2017 01:11:45 GMT
x-amzn-RequestId: 51db4cc5-aa33-11e7-98a0-81d6fbb0fa15
Content-Type: application/json
Content-Length: 98

{
  "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AXQXDXvdgkOWktRXV4HnRa8"
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
EnableDirectory

Enables the specified directory. Only disabled directories can be enabled. Once enabled, the directory can then be read and written to.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/directory/enable HTTP/1.1
x-amz-data-partition: DirectoryArn
```

URI Request Parameters

The request requires the following URI parameters.

- **DirectoryArn (p. 103)**
  
  The ARN of the directory to enable.

Request Body

The request does not have a request body.

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "DirectoryArn": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

- **DirectoryArn (p. 103)**
  
  The ARN of the enabled directory.

  Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

- **AccessDeniedException**
  
  Access denied. Check your permissions.

  HTTP Status Code: 403
DirectoryDeletedException

A directory that has been deleted and to which access has been attempted. Note: The requested resource will eventually cease to exist.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceedededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
PUT /amazonclouddirectory/2017-01-11/directory/enable HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171006/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date, Signature=1399f0fd1bed70640c9d5f2dd91f8722645721bb30cb69f6467d091db40bda0
```
AXQXDXvdgkOWktRXV4HnRa8
X-Amz-Date: 20171006T011313Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: 85ee2468-aa33-11e7-98a0-81d6fbb0fa15
Date: Fri, 06 Oct 2017 01:13:12 GMT
x-amzn-RequestId: 85ee2468-aa33-11e7-98a0-81d6fbb0fa15
Content-Type: application/json
Content-Length: 98

{
AXQXDXvdgkOWktRXV4HnRa8"
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
**GetAppliedSchemaVersion**

Returns current applied schema version ARN, including the minor version in use.

**Request Syntax**

```
POST /amazonclouddirectory/2017-01-11/schema/getappliedschema HTTP/1.1
Content-type: application/json

{
  "SchemaArn": "string"
}
```

**URI Request Parameters**

The request does not use any URI parameters.

**Request Body**

The request accepts the following data in JSON format.

- **SchemaArn (p. 106)**
  - The ARN of the applied schema.
  - Type: String
  - Required: Yes

**Response Syntax**

```
HTTP/1.1 200
Content-type: application/json

{
  "AppliedSchemaArn": "string"
}
```

**Response Elements**

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

- **AppliedSchemaArn (p. 106)**
  - Current applied schema ARN, including the minor version in use if one was provided.
  - Type: String

**Errors**

For information about the errors that are common to all actions, see [Common Errors (p. 375)](#).
AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceedededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetDirectory

Retrieves metadata about a directory.

Request Syntax

POST /amazonclouddirectory/2017-01-11/directory/get HTTP/1.1
x-amz-data-partition: DirectoryArn

URI Request Parameters

The request requires the following URI parameters.

DirectoryArn (p. 109)

The ARN of the directory.

Request Body

The request does not have a request body.

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
   "Directory": {
      "CreationDateTime": number,
      "DirectoryArn": "string",
      "Name": "string",
      "State": "string"
   }
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Directory (p. 109)

Metadata about the directory.

Type: Directory (p. 339) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).
AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST /amazonclouddirectory/2017-01-11/directory/get HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171005/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=255eceb681267d8e41de7eb983269fb61aa76fe56e2b36ad0c4f855d9ae237
AYb8AOV81kHNgdj8maO3dNY
X-Amz-Date: 20171005T202329Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response
HTTP/1.1 200 OK
x-amzn-RequestId: 0d9489ee-aa0b-11e7-a169-c5bf0acd39f4
Date: Thu, 05 Oct 2017 20:23:30 GMT
x-amzn-RequestId: 0d9489ee-aa0b-11e7-a169-c5bf0acd39f4
Content-Type: application/json
Content-Length: 185

{
  "Directory": {
    "CreationDateTime": 1.506115781186E9,
    "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mAO3dNY",
    "Name": "ExampleCD",
    "State": "ENABLED"
  }
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetFacet

Gets details of the Facet (p. 340), such as facet name, attributes, Rule (p. 355)s, or ObjectType. You can call this on all kinds of schema facets -- published, development, or applied.

Request Syntax

POST /amazonclouddirectory/2017-01-11/facet HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{  "Name": "string"
}

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 112)

The Amazon Resource Name (ARN) that is associated with the Facet (p. 340). For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

Name (p. 112)

The name of the facet to retrieve.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9-_]*$

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{  "Facet": {  "FacetStyle": "string",
        "Name": "string",
        "ObjectType": "string"
    }
}
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Facet (p. 112)**

The Facet (p. 340) structure that is associated with the facet.

Type: Facet (p. 340) object

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**FacetNotFoundException**

The specified Facet (p. 340) could not be found.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**LimitExceeded**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409
ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST /amazonclouddirectory/2017-01-11/facet HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 17
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXSexample/20171005/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date, Signature=70251faa630aeb0ca6375eefddef5fbof956289eaf446fbb48ad7a34926aa6
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8maO3dNY/schema/org/1
X-Amz-Date: 20171005T195712Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
    "Name": "node2"
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 614b09f0-aa07-11e7-843e-9fad359f817f
Date: Thu, 05 Oct 2017 19:57:13 GMT
x-amzn-RequestId: 614b09f0-aa07-11e7-843e-9fad359f817f
Content-Type: application/json
Content-Length: 46
{
    "Facet": {
        "Name": "node2",
        "ObjectType": "NODE"
    }
}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
See Also

- AWS SDK for Python
- AWS SDK for Ruby V2
GetLinkAttributes

Retrieves attributes that are associated with a typed link.

Request Syntax

```http
POST /amazonclouddirectory/2017-01-11/typedlink/attributes/get HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "AttributeNames": [ "string" ],
  "ConsistencyLevel": "string",
  "TypedLinkSpecifier": {
    "IdentityAttributeValues": [ {
      "AttributeName": "string",
      "Value": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    } ],
    "SourceObjectReference": { "Selector": "string" }
  },
  "TargetObjectReference": { "Selector": "string" }
  "TypedLinkFacet": { "SchemaArn": "string", "TypedLinkName": "string" }
}
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 116)**

The Amazon Resource Name (ARN) that is associated with the Directory where the typed link resides. For more information, see Arn Examples (p. 367) or Typed link.

Request Body

The request accepts the following data in JSON format.

**AttributeNames (p. 116)**

A list of attribute names whose values will be retrieved.

Type: Array of strings
Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$  

Required: Yes

ConsistencyLevel (p. 116)

The consistency level at which to retrieve the attributes on a typed link.

Type: String

Valid Values: SERIALizable | EVENTual

Required: No

TypedLinkSpecifier (p. 116)

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 366) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{  
  "Attributes": [
    {
      "Key": {
        "FacetName": "string",
        "Name": "string",
        "SchemaArn": "string"
      },
      "Value": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    }
  ]
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Attributes (p. 117)

The attributes that are associated with the typed link.

Type: Array of AttributeKeyAndValue (p. 263) objects
Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceedededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetObjectAttributes

Retrieves attributes within a facet that are associated with an object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/attributes/get HTTP/1.1  
x-amz-data-partition: DirectoryArn  
x-amz-consistency-level: ConsistencyLevel  
Content-type: application/json

{
    "AttributeNames": [ "string" ],
    "ObjectReference": {
        "Selector": "string"
    },
    "SchemaFacet": {
        "FacetName": "string",
        "SchemaArn": "string"
    }
}
```

URI Request Parameters

The request requires the following URI parameters.

ConsistencyLevel (p. 120)

The consistency level at which to retrieve the attributes on an object.

Valid Values: SERIALIZABLE | EVENTUAL

DirectoryArn (p. 120)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where the object resides.

Request Body

The request accepts the following data in JSON format.

AttributeNames (p. 120)

List of attribute names whose values will be retrieved.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$  

Required: Yes

ObjectReference (p. 120)

Reference that identifies the object whose attributes will be retrieved.

Type: ObjectReference (p. 351) object
Required: Yes

**SchemaFacet (p. 120)**

Identifier for the facet whose attributes will be retrieved. See SchemaFacet (p. 356) for details.

Type: SchemaFacet (p. 356) object

Required: Yes

---

**Response Syntax**

```json
HTTP/1.1 200
Content-type: application/json
{
  "Attributes": [
    {
      "Key": {
        "FacetName": "string",
        "Name": "string",
        "SchemaArn": "string"
      },
      "Value": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    }
  ]
}
```

**Response Elements**

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Attributes (p. 121)**

The attributes that are associated with the object.

Type: Array of AttributeKeyAndValue (p. 263) objects

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.
HTTP Status Code: 400

**FacetValidationException**

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
GetObjectInformation

Retrieves metadata about an object.

Request Syntax

POST /amazonclouddirectory/2017-01-11/object/information HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
    "ObjectReference": {
        "Selector": "string"
    }
}

URI Request Parameters

The request requires the following URI parameters.

ConsistencyLevel (p. 124)

The consistency level at which to retrieve the object information.

Valid Values: SERIALIZABLE | EVENTUAL

DirectoryArn (p. 124)

The ARN of the directory being retrieved.

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 124)

A reference to the object.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
    "ObjectIdentifier": "string",
    "SchemaFacets": [
        {
            "FacetName": "string",
            "SchemaArn": "string"
        }
    ]
}
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**ObjectIdentifier (p. 124)**

The `ObjectIdentifier` of the specified object.

Type: String

**SchemaFacets (p. 124)**

The facets attached to the specified object. Although the response does not include minor version information, the most recently applied minor version of each Facet is in effect. See `GetAppliedSchemaVersion (p. 106)` for details.

Type: Array of `SchemaFacet (p. 356)` objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**LimitExceededError**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.
HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST /amazonclouddirectory/2017-01-11/object/information HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 84
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171005/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=6afad99dfc7c5c8152ec38e7ff206dc0c6c60606ed24624ea8654f24ab1392086
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mA03dNY
X-Amz-Date: 20171005T182528Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{
    "ObjectReference": {
        "Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWmspn1fxfQmSQaaVKSBvEiQ"
    }
}
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 90f2f915-a9fa-11e7-bd9d-f9e3493b0666
Date: Thu, 05 Oct 2017 18:25:29 GMT
x-amzn-RequestId: 90f2f915-a9fa-11e7-bd9d-f9e3493b0666
Content-Type: application/json
Content-Length: 215

{
    "ObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWmspn1fxfQmSQaaVKSBvEiQ",
    "SchemaFacets": [{
        "FacetName": "node2",
        "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mA03dNY/schema/org/1"
    }]
}
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetSchemaAsJson

Retrieves a JSON representation of the schema. See JSON Schema Format for more information.

Request Syntax

POST /amazonclouddirectory/2017-01-11/schema/json HTTP/1.1
x-amz-data-partition: SchemaArn

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 128)

The ARN of the schema to retrieve.

Request Body

The request does not have a request body.

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
  "Document": "string",
  "Name": "string"
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Document (p. 128)

The JSON representation of the schema document.

Type: String

Name (p. 128)

The name of the retrieved schema.

Type: String


Pattern: ^[a-zA-Z0-9-_]*$
Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServerErrorException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

POST /amazonclouddirectory/2017-01-11/schema/json HTTP/1.1
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: cc541a4e-aa0d-11e7-9e13-5b6a00750e59
Date: Thu, 05 Oct 2017 20:43:09 GMT
Content-Type: application/json
Content-Length: 6938

{"Document": "{"sourceSchemaArn":"arn:aws:clouddirectory:us-west-2:45132example:schema/published/org/1","facets":{"node2":{"facetAttributes":{},"objectType":"NODE"},"Organization":{"facetAttributes":{"account_id":{"attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"account_name":{"attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"telephone_number":{"attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"description":{"attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"mailing_address (country){attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"mailing_address (state){attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"mailing_address (street2){attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"mailing_address (street1){attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"web_site{attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"email{attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"organization_status{attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"organization_status{attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"},"mailing_address (postal_code){attributeDefinition":{"attributeType":"STRING","isImmutable":false,"attributeRules":{"nameLength":{"parameters":{"min":"1","max":"1024"},"ruleType":"STRING_LENGTH"}}},"requiredBehavior":"NOT_REQUIRED"}}}}}}

130
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
GetTypedLinkFacetInformation

Returns the identity attribute order for a specific TypedFacet (p. 363). For more information, see Typed link.

Request Syntax

```plaintext
POST /amazonclouddirectory/2017-01-11/typedlink/facet/get HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "Name": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

**SchemaArn (p. 132)**

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**Name (p. 132)**

The unique name of the typed link facet.

Type: String

Pattern: ^[a-zA-Z0-9._-]*$ 

Required: Yes

Response Syntax

```plaintext
HTTP/1.1 200
Content-type: application/json

{
   "IdentityAttributeOrder": [ "string" ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.
IdentityAttributeOrder (p. 132)

The order of identity attributes for the facet, from most significant to least significant. The ability to filter typed links considers the order that the attributes are defined on the typed link facet. When providing ranges to typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range. Filters are interpreted in the order of the attributes on the typed link facet, not the order in which they are supplied to any API calls. For more information about identity attributes, see Typed link.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 340) could not be found.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceeded Exception

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404
RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```plaintext
POST /amazonclouddirectory/2017-01-11/typedlink/facet/get HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 29
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171006/us-west-2/ clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=6561b457b066c8458961d43944ad116fc7d3a8b2f6b1a07a08cb4a5273a10b14
AYb8AOV81kHHNdj8mA03dNY/schema/org/1
X-Amz-Date: 20171006T005026Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8

{ "Name": "exampletypedlink8" }
```

Example Response

```plaintext
HTTP/1.1 200 OK
x-amzn-RequestId: 57471e31-aa30-11e7-8502-0566a31305cf
Date: Fri, 06 Oct 2017 00:50:25 GMT
x-amzn-RequestId: 57471e31-aa30-11e7-8502-0566a31305cf
Content-Type: application/json
Content-Length: 33

{
  "IdentityAttributeOrder": ["22"]
}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
See Also

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListAppliedSchemaArns

Lists schema major versions applied to a directory. If SchemaArn is provided, lists the minor version.

Request Syntax

POST /amazonclouddirectory/2017-01-11/schema/applied HTTP/1.1
Content-type: application/json

{  
   "DirectoryArn": "string",
   "MaxResults": number,
   "NextToken": "string",
   "SchemaArn": "string"
}

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

DirectoryArn (p. 136)

The ARN of the directory you are listing.

Type: String

Required: Yes

MaxResults (p. 136)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 136)

The pagination token.

Type: String

Required: No

SchemaArn (p. 136)

The response for ListAppliedSchemaArns when this parameter is used will list all minor version ARNs for a major version.

Type: String

Required: No
Response Syntax

HTTP/1.1 200
Content-type: application/json
{
    "NextToken": "string",
    "SchemaArns": [ "string" ]
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response. The following data is returned in JSON format by the service.

NextToken (p. 137)

The pagination token.

Type: String

SchemaArns (p. 137)

The ARNs of schemas that are applied to the directory.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceededExeception

Indicates that limits are exceeded. See Limits for more information.
HTTP Status Code: 400  
**ResourceNotFoundException**  
The specified resource could not be found.

HTTP Status Code: 404  
**RetryableConflictException**  
Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409  
**ValidationException**  
Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

**Examples**

The following examples are formatted for legibility.

**Example Request**

```
POST /amazonclouddirectory/2017-01-11/schema/applied HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 99
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171016/
us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-date,
Signature=9263dc9a99c8cd1178f6305dfb286d95f9c273b4d7cab78aaf1d7934bdce9f
X-Amz-Date: 20171016T225524Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
AYb8AOV81kHNgdj8maO3dNY"
}
```

**Example Response**

```
HTTP/1.1 200 OK
x-amzn-RequestId: 1920f0d5-b2c5-11e7-a973-b71cf1107b43
Date: Mon, 16 Oct 2017 22:55:25 GMT
x-amzn-RequestId: 1920f0d5-b2c5-11e7-a973-b71cf1107b43
Content-Type: application/json
Content-Length: 128

{
  "NextToken": null,
AYb8AOV81kHNgdj8maO3dNY/schemainfo/1"]
}
```
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListAttachedIndices

Lists indices attached to the specified object.

**Request Syntax**

```
POST /amazonclouddirectory/2017-01-11/object/indices HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
  "MaxResults": number,
  "NextToken": "string",
  "TargetReference": {
    "Selector": "string"
  }
}
```

**URI Request Parameters**

The request requires the following URI parameters.

- **ConsistencyLevel (p. 140)**
  The consistency level to use for this operation.
  Valid Values: SERIALIZABLE | EVENTUAL

- **DirectoryArn (p. 140)**
  The ARN of the directory.

**Request Body**

The request accepts the following data in JSON format.

- **MaxResults (p. 140)**
  The maximum number of results to retrieve.
  Type: Integer
  Valid Range: Minimum value of 1.
  Required: No

- **NextToken (p. 140)**
  The pagination token.
  Type: String
  Required: No

- **TargetReference (p. 140)**
  A reference to the object that has indices attached.
Type: **ObjectReference (p. 351)** object

Required: Yes

**Response Syntax**

```json
HTTP/1.1 200
Content-type: application/json

{
   "IndexAttachments": [
      {
         "IndexedAttributes": [
            {
               "Key": {
                  "FacetName": "string",
                  "Name": "string",
                  "SchemaArn": "string"
               },
               "Value": {
                  "BinaryValue": blob,
                  "BooleanValue": boolean,
                  "DatetimeValue": number,
                  "NumberValue": "string",
                  "StringValue": "string"
               }
            }
         ]
      },
      "ObjectIdentifier": "string"
   ],
   "NextToken": "string"
}
```

**Response Elements**

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**IndexAttachments (p. 141)**

The indices attached to the specified object.

Type: Array of **IndexAttachment (p. 345)** objects

**NextToken (p. 141)**

The pagination token.

Type: String

**Errors**

For information about the errors that are common to all actions, see **Common Errors (p. 375)**.

**AccessDeniedException**

Access denied. Check your permissions.
HTTP Status Code: 403
**DirectoryNotEnabledException**
Operations are only permitted on enabled directories.

HTTP Status Code: 400
**InternalServiceException**
Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500
**InvalidArnException**
Indicates that the provided ARN value is not valid.

HTTP Status Code: 400
**LimitExceededException**
Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400
**ResourceNotFoundException**
The specified resource could not be found.

HTTP Status Code: 404
**RetryableConflictException**
Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409
**ValidationException**
Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

**Examples**
The following examples are formatted for legibility.

**Example Request**

```
POST /amazonclouddirectory/2017-01-11/object/indices HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 84
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYX5example/20171009/us-west-2/ 
cloouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=0dd23d46d0aa37f61649857fafa2af6a9d52305b03bcda0de2027c074efce9d1
```
AYb8AOV81kHNgdj8maO3dNY
X-Amz-Date: 20171009T194908Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
"TargetReference": {
"Selector": ":AQGG_ADlfNZBzYHY_JgDt3TWcU71ARvOTeaR09zmelsVsw"
}
}

Example Response

HTTP/1.1 200 OK
x-amzn-Request-Id: eb40bf46-ad2a-11e7-9e13-5b6a00750e59
Date: Mon, 09 Oct 2017 19:49:10 GMT
Content-Type: application/json
Content-Length: 132
{
"IndexAttachments": [{
"IndexedAttributes": [],
"ObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TW45F26R1HTY2z-stwKBte_0"
}],
"NextToken": null
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListDevelopmentSchemaArns

Retrieves each Amazon Resource Name (ARN) of schemas in the development state.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/schema/development HTTP/1.1
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 144)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 144)

The pagination token.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "NextToken": "string",
    "SchemaArns": [ "string" ]
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.
NextToken (p. 144)

The pagination token.
Type: String


SchemaArns (p. 144)

The ARNs of retrieved development schemas.
Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.
HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.
HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.
HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.
HTTP Status Code: 400

LimitExceedededException

Indicates that limits are exceeded. See Limits for more information.
HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.
HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.
HTTP Status Code: 409
ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```plaintext
POST /amazonclouddirectory/2017-01-11/schema/development HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171016/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-date,
Signature=ff097f28605d8f60239f2ae4c0c3600741e772e10dfeff76c61b2a16a8f36a8fe
X-Amz-Date: 20171016T233712Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

```plaintext
HTTP/1.1 200 OK
x-amzn-RequestId: f01c6580-b2ca-11e7-81c0-7b48a7696e76
Date: Mon, 16 Oct 2017 23:37:13 GMT
x-amzn-RequestId: f01c6580-b2ca-11e7-81c0-7b48a7696e76
Content-Type: application/json
Content-Length: 510
{
  "NextToken": null,
  "SchemaArns": [
"arn:aws:clouddirectory:us-west-2:45132example:schema/development/exampleorg"
]
}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
• AWS SDK for Ruby V2
ListDirectories

Lists directories created within an account.

Request Syntax

POST /amazonclouddirectory/2017-01-11/directory/list HTTP/1.1
Content-type: application/json

{
  "MaxResults": number,
  "NextToken": "string",
  "state": "string"
}

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 148)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 148)

The pagination token.

Type: String

Required: No

state (p. 148)

The state of the directories in the list. Can be either Enabled, Disabled, or Deleted.

Type: String

Valid Values: ENABLED | DISABLED | DELETED

Required: No

Response Syntax

HTTP/1.1 200
Content-type: application/json
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Directories (p. 148)

Lists all directories that are associated with your account in pagination fashion.

Type: Array of Directory (p. 339) objects

NextToken (p. 148)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceeded Exception

Indicates that limits are exceeded. See Limits for more information.
HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

Examples

The following examples are formatted for legibility.

Example Request

```
POST /amazonclouddirectory/2017-01-11/directory/list HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171016/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-date, Signature=3e25d9a79eca5d22f81ae7ef6ed3d3b1a7280201839584196e680029893b8694 
X-Amz-Date: 20171016T233810Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

```
HTTP/1.1 200 OK
x-amzn-RequestId: 12ade21c-b2cb-11e7-bd9d-f9e3493b0666
Date: Mon, 16 Oct 2017 23:38:11 GMT
Content-Type: application/json
Content-Length: 893

{
  "Directories": [
    {
      "CreationDateTime": 1.506121791167E9,
      "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/Ae89hOKmw0bRpvYgW8EAsus",
      "Name": "ExampleCD4",
      "State": "ENABLED"
    },
    {
      "CreationDateTime": 1.485473189746E9,
      "Name": "testCD",
      "State": "DELETED"
    },
    {
      "CreationDateTime": 1.506115781186E9,
      "DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdjA3o3dNY",
    }
  ]
}
```
"Name": "ExampleCD",
"State": "ENABLED"
}
  ,
  {
"CreationDateTime": 1.506118003859E9,
"DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AfMr4qymkZTvqOafAYfQ",
"Name": "ExampleCD2",
"State": "ENABLED"
}
  ,
  {
"CreationDateTime": 1.485477107925E9,
"DirectoryArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AWeI1yjiB0SylWVTvQkLCD0",
"Name": "testCD2",
"State": "DELETED"
}
},
"NextToken": null
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListFacetAttributes

Retrieves attributes attached to the facet.

Request Syntax

POST /amazonclouddirectory/2017-01-11/facet/attributes HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "MaxResults": number,
   "Name": "string",
   "NextToken": "string"
}

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 152)

The ARN of the schema where the facet resides.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 152)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

Name (p. 152)

The name of the facet whose attributes will be retrieved.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9_.-]*$  

Required: Yes

NextToken (p. 152)

The pagination token.

Type: String

Required: No
Response Syntax

HTTP/1.1 200
Content-type: application/json

{"Attributes": [
  {
    "AttributeDefinition": {
      "DefaultValue": {
        "BinaryValue": "blob",
        "BooleanValue": "boolean",
        "DatetimeValue": "number",
        "NumberValue": "string",
        "StringValue": "string"
      },
      "IsImmutable": "boolean",
      "Rules": {
        "string": {
          "Parameters": {
            "string": "string"
          },
          "Type": "string"
        }
      },
      "Type": "string"
    },
    "AttributeReference": {
      "TargetAttributeName": "string",
      "TargetFacetName": "string"
    },
    "Name": "string",
    "RequiredBehavior": "string"
  }
],
"NextToken": "string"}
AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

FacetNotFoundException

The specified Facet (p. 340) could not be found.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.
Example Request

```plaintext
POST /amazonclouddirectory/2017-01-11/facet/attributes HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 24
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYX53example/20171017/us-west-2/
  clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
  Signature=72c0b6ed8d57814a2b2e2a671da29fc3c57f277c440c331c2dd2a3dd3b71b
  AYbAOV81kHNqdj8ma03hNY/schema/org/1
x-amz-date: 20171017T202437Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
  "Name": "Organization"
}
```

Example Response

```plaintext
HTTP/1.1 200 OK
x-amzn-RequestId: 330cefed-b379-11e7-a6de-b54884d62153
Date: Tue, 17 Oct 2017 20:24:38 GMT
x-amzn-RequestId: 330cefed-b379-11e7-a6de-b54884d62153
Content-Type: application/json
Content-Length: 2628
{
  "Attributes": [{
    "AttributeDefinition": {
      "DefaultValue": null,
      "IsImmutable": false,
      "Rules": {
        "nameLength": {
          "Parameters": {
            "max": "1024",
            "min": "1"
          },
          "Type": "STRING_LENGTH"
        }
      },
      "Type": "STRING"
    },
    "AttributeReference": null,
    "Name": "account_id",
    "RequiredBehavior": "NOT_REQUIRED"
  }, {
    "AttributeDefinition": {
      "DefaultValue": null,
      "IsImmutable": false,
      "Rules": {
        "nameLength": {
          "Parameters": {
            "max": "1024",
            "min": "1"
          },
          "Type": "STRING_LENGTH"
        }
      },
      "Type": "STRING"
    },
    "AttributeReference": null,
    "Name": "account_name",
    "RequiredBehavior": "NOT_REQUIRED"
  }
}
```
"RequiredBehavior": "NOT_REQUIRED"
},
"AttributeDefinition": {
  "DefaultValue": null,
  "IsImmutable": false,
  "Rules": {
    "nameLength": {
      "Parameters": {
        "max": "1024",
        "min": "1"
      },
      "Type": "STRING_LENGTH"
    },
    "Type": "STRING"
  },
  "AttributeReference": null,
  "Name": "description",
  "RequiredBehavior": "NOT_REQUIRED"
},
"AttributeDefinition": {
  "DefaultValue": null,
  "IsImmutable": false,
  "Rules": {
    "nameLength": {
      "Parameters": {
        "max": "1024",
        "min": "1"
      },
      "Type": "STRING_LENGTH"
    },
    "Type": "STRING"
  },
  "AttributeReference": null,
  "Name": "email",
  "RequiredBehavior": "NOT_REQUIRED"
},
"AttributeDefinition": {
  "DefaultValue": null,
  "IsImmutable": false,
  "Rules": {
    "nameLength": {
      "Parameters": {
        "max": "1024",
        "min": "1"
      },
      "Type": "STRING_LENGTH"
    },
    "Type": "STRING"
  },
  "AttributeReference": null,
  "Name": "mailing_address (city)",
  "RequiredBehavior": "NOT_REQUIRED"
},
"AttributeDefinition": {
  "DefaultValue": null,
  "IsImmutable": false,
  "Rules": {
    "nameLength": {
      "Parameters": {
        "max": "1024",
        "min": "1"
      },
      "Type": "STRING_LENGTH"
    },
    "Type": "STRING"
  },
  "AttributeReference": null,
  "Name": "organization",
  "RequiredBehavior": "NOT_REQUIRED"
"Type": "STRING"
},
"AttributeReference": null,
"Name": "mailing_address (country)",
"RequiredBehavior": "NOT_REQUIRED"
},
"AttributeDefinition": {
"DefaultValue": null,
"IsImmutable": false,
"Rules": {
"nameLength": {
"Parameters": {
"max": "1024",
"min": "1"
},
"Type": "STRING_LENGTH"
}
},
"Type": "STRING"
},
"AttributeReference": null,
"Name": "mailing_address (postal_code)",
"RequiredBehavior": "NOT_REQUIRED"
},
"AttributeDefinition": {
"DefaultValue": null,
"IsImmutable": false,
"Rules": {
"nameLength": {
"Parameters": {
"max": "1024",
"min": "1"
},
"Type": "STRING_LENGTH"
}
},
"Type": "STRING"
},
"AttributeReference": null,
"Name": "mailing_address (state)",
"RequiredBehavior": "NOT_REQUIRED"
},
"AttributeDefinition": {
"DefaultValue": null,
"IsImmutable": false,
"Rules": {
"nameLength": {
"Parameters": {
"max": "1024",
"min": "1"
},
"Type": "STRING_LENGTH"
}
},
"Type": "STRING"
},
"AttributeReference": null,
"Name": "mailing_address (street1)",
"RequiredBehavior": "NOT_REQUIRED"
},
"AttributeDefinition": {
"DefaultValue": null,
"IsImmutable": false,
"Rules": {
"nameLength": {
  "Parameters": {
    "max": "1024",
    "min": "1"
  },
  "Type": "STRING_LENGTH"
},
"Type": "STRING"
},
"AttributeReference": null,
"Name": "mailing_address {street2}",
"RequiredBehavior": "NOT_REQUIRED"
}],
"NextToken": "V0b3JnYW5pemF0aW9uX3N0YXR1cw=="
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListFacetNames

Retrieves the names of facets that exist in a schema.

Request Syntax

```plaintext
POST /amazonclouddirectory/2017-01-11/facet/list HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
  "MaxResults": number,
  "NextToken": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 159)

The Amazon Resource Name (ARN) to retrieve facet names from.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 159)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 159)

The pagination token.

Type: String

Required: No

Response Syntax

```plaintext
HTTP/1.1 200
Content-type: application/json

{
  "FacetNames": [ "string" ],
  "NextToken": "string"
}
```
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

FacetNames (p. 159)

The names of facets that exist within the schema.
Type: Array of strings
Length Constraints: Minimum length of 1. Maximum length of 64.
Pattern: ^[a-zA-Z0-9_\-]*$

NextToken (p. 159)

The pagination token.
Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.
HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.
HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.
HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.
HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.
HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.
HTTP Status Code: 404
RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```http
POST /amazonclouddirectory/2017-01-11/facet/list HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 0
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=e29fa5e564697e1912f34bd1d143f78be6e8ebbd4f31fcede96d300f5be5c814bd
x-amz-data-partition: arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kNtg0dJ8/a03dNY/schema/org/1
X-Amz-Date: 20171017T202730Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
```

Example Response

```http
HTTP/1.1 200 OK
x-amzn-RequestId: 9a69f750-b379-11e7-bd9d-f9e3493b0666
Date: Tue, 17 Oct 2017 20:27:32 GMT
x-amzn-RequestId: 9a69f750-b379-11e7-bd9d-f9e3493b0666
Content-Type: application/json
Content-Length: 101

{
    "FacetNames": ["Legal_Entity", "Organization", "node1", "node2", "nodex", "policyfacet"],
    "NextToken": null
}
```

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
ListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 366) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed link.

**Request Syntax**

```json
POST /amazonclouddirectory/2017-01-11/typedlink/incoming HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "ConsistencyLevel": "string",
    "FilterAttributeRanges": [
        {
            "AttributeName": "string",
            "Range": {
                "EndMode": "string",
                "EndValue": {
                    "BinaryValue": blob,
                    "BooleanValue": boolean,
                    "DatetimeValue": number,
                    "NumberValue": "string",
                    "StringValue": "string"
                },
                "StartMode": "string",
                "StartValue": {
                    "BinaryValue": blob,
                    "BooleanValue": boolean,
                    "DatetimeValue": number,
                    "NumberValue": "string",
                    "StringValue": "string"
                }
            }
        }
    ],
    "FilterTypedLink": {
        "SchemaArn": "string",
        "TypedLinkName": "string"
    },
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": {
        "Selector": "string"
    }
}
```

**URI Request Parameters**

The request requires the following URI parameters.

**DirectoryArn (p. 163)**

The Amazon Resource Name (ARN) of the directory where you want to list the typed links.

**Request Body**

The request accepts the following data in JSON format.
ConsistencyLevel (p. 163)

The consistency level to execute the request at.

Type: String

Valid Values: SERIALIZABLE | EVENTUAL

Required: No

FilterAttributeRanges (p. 163)

Provides range filters for multiple attributes. When providing ranges to typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range.

Type: Array of TypedLinkAttributeRange (p. 362) objects

Required: No

FilterTypedLink (p. 163)

Filters are interpreted in the order of the attributes on the typed link facet, not the order in which they are supplied to any API calls.

Type: TypedLinkSchemaAndFacetName (p. 365) object

Required: No

MaxResults (p. 163)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 163)

The pagination token.

Type: String

Required: No

ObjectReference (p. 163)

Reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{  
  "LinkSpecifiers": [  

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**LinkSpecifiers (p. 164)**

Returns one or more typed link specifiers as output.

Type: Array of TypedLinkSpecifier (p. 366) objects

**NextToken (p. 164)**

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400
FacetValidationException

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST /amazonclouddirectory/2017-01-11/typedlink/incoming HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: 0b1ebdf5-b37c-11e7-9e13-5b6a00750e59
Date: Tue, 17 Oct 2017 20:45:00 GMT
x-amzn-RequestId: 0b1ebdf5-b37c-11e7-9e13-5b6a00750e59
Content-Type: application/json
Content-Length: 1530

{"LinkSpecifiers": [{"IdentityAttributeValues": ["AttributeName": "22", "Value": {"BinaryValue": "", "BooleanValue": null, "DatetimeValue": null, "NumberValue": null, "StringValue": null }]}], "SourceObjectReference": {"Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"}, "TargetObjectReference": {"Selector": "#AQGG_ADlfNZBzYHY_JgDt3TWSvfuEnDqTdmeCuTs6YBNUA"}, "TypedLinkFacet": {"SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81khNkgdj8mA03dNY/schemas/org/1", "TypedLinkName": "exampletypedlink8"}]}
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListIndex

Lists objects attached to the specified index.

Request Syntax

```json
POST /amazonclouddirectory/2017-01-11/index/targets HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json
{
    "IndexReference": {
        "Selector": "string"
    },
    "MaxResults": number,
    "NextToken": "string",
    "RangesOnIndexedValues": [
        {
            "AttributeKey": {
                "FacetName": "string",
                "Name": "string",
                "SchemaArn": "string"
            },
            "Range": {
                "EndMode": "string",
                "EndValue": {
                    "BinaryValue": blob,
                    "BooleanValue": boolean,
                    "DatetimeValue": number,
                    "NumberValue": "string",
                    "StringValue": "string"
                },
                "StartMode": "string",
                "StartValue": {
                    "BinaryValue": blob,
                    "BooleanValue": boolean,
                    "DatetimeValue": number,
                    "NumberValue": "string",
                    "StringValue": "string"
                }
            }
        }
    ]
}
```

URI Request Parameters

The request requires the following URI parameters.

**ConsistencyLevel (p. 169)**

The consistency level to execute the request at.

Valid Values: SERIALIZABLE | EVENTUAL

**DirectoryArn (p. 169)**

The ARN of the directory that the index exists in.
Request Body

The request accepts the following data in JSON format.

IndexReference (p. 169)

The reference to the index to list.

Type: ObjectReference (p. 351) object

Required: Yes

MaxResults (p. 169)

The maximum number of objects in a single page to retrieve from the index during a request. For more information, see AWS Directory Service Limits.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 169)

The pagination token.

Type: String

Required: No

RangesOnIndexedValues (p. 169)

Specifies the ranges of indexed values that you want to query.

Type: Array of ObjectAttributeRange (p. 349) objects

Required: No

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
  "IndexAttachments": [
    {
      "IndexedAttributes": [
        {
          "Key": {
            "FacetName": "string",
            "Name": "string",
            "SchemaArn": "string"
          },
          "Value": {
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "string"
          }
        }
      ]
    }
  ]
}
Response Elements

If the action is successful, the service sends back an HTTP 200 response. The following data is returned in JSON format by the service.

**IndexAttachments (p. 170)**

The objects and indexed values attached to the index.

Type: Array of IndexAttachment (p. 345) objects

**NextToken (p. 170)**

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**FacetValidationException**

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400
InvalidNextTokenException

Indicates that the NextToken value is not valid.
HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.
HTTP Status Code: 400

NotIndexException

Indicates that the requested operation can only operate on index objects.
HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.
HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.
HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.
HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```bash
POST /amazonclouddirectory/2017-01-11/index/targets HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 83
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BXS3example/20171017/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=e10557e84c0fb9fd30e6a018a02b51ecbac72a389e2dd20090e516d3023872e4
X-Amz-Date: 20171017T221341Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
  "IndexReference": {
    "Selector": "#AQGG_AD1fNZBzYHY_JgDt3TW45F26R1HTY2z-stwKBte_0"
  }
}
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: 2920690c-b38d-11e7-bd9d-f9e3493b0666
Date: Tue, 17 Oct 2017 22:47:31 GMT
x-amzn-RequestId: 2920690c-b38d-11e7-bd9d-f9e3493b0666
Content-Type: application/json
Content-Length: 404

{
  "IndexAttachments": [{
    "IndexedAttributes": [{
      "Key": {
        "FacetName": "Organization",
        "Name": "description",
        "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AOV81kHNgdj8mAO3dNY/schema/org/1"
      },
      "Value": {
        "BinaryValue": null,
        "BooleanValue": null,
        "DatetimeValue": null,
        "NumberValue": null,
        "StringValue": null
      }
    },
    "ObjectIdentifier": "AQGG_ADlfNZBzYHY_JgDt3TWcU7IARv0TeaR09ze1sVsw"
  }],
  "NextToken": null
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListManagedSchemaArns

Lists the major version families of each managed schema. If a major version ARN is provided as SchemaArn, the minor version revisions in that family are listed instead.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/schema/managed HTTP/1.1
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "SchemaArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

**MaxResults (p. 174)**

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 174)**

The pagination token.

Type: String

Required: No

**SchemaArn (p. 174)**

The response for ListManagedSchemaArns. When this parameter is used, all minor version ARNs for a major version are listed.

Type: String

Required: No

Response Syntax

```
HTTP/1.1 200
Content-type: application/json
```

174
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**NextToken (p. 174)**

The pagination token.

Type: String

**SchemaArns (p. 174)**

The ARNs for all AWS managed schemas.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**InvalidNextTokenException**

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.
HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListObjectAttributes

Lists all attributes that are associated with an object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/attributes HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
  "FacetFilter": {
    "FacetName": "string",
    "SchemaArn": "string"
  },
  "MaxResults": number,
  "NextToken": "string",
  "ObjectReference": {
    "Selector": "string"
  }
}
```

URI Request Parameters

The request requires the following URI parameters.

ConsistencyLevel (p. 177)

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: SERIALizable | EVENTual

DirectoryArn (p. 177)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where the object resides. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

FacetFilter (p. 177)

Used to filter the list of object attributes that are associated with a certain facet.

Type: SchemaFacet (p. 356) object

Required: No

MaxResults (p. 177)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.
Required: No

**NextToken (p. 177)**

The pagination token.

Type: String

Required: No

**ObjectReference (p. 177)**

The reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 351) object

Required: Yes

## Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
    "Attributes": [
        {
            "Key": {
                "FacetName": "string",
                "Name": "string",
                "SchemaArn": "string"
            },
            "Value": {
                "BinaryValue": blob,
                "BooleanValue": boolean,
                "DatetimeValue": number,
                "NumberValue": "string",
                "StringValue": "string"
            }
        }
    ],
    "NextToken": "string"
}
```

## Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Attributes (p. 178)**

Attributes map that is associated with the object. AttributeArn is the key, and attribute value is the value.

Type: Array of AttributeKeyAndValue (p. 263) objects

**NextToken (p. 178)**

The pagination token.

Type: String
Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceeded Exception

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409
Amazon Cloud Directory API Reference
Examples

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

POST /amazonclouddirectory/2017-01-11/object/attributes HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
Accept-Encoding: identity
Content-Length: 84
Authorization: AWS4-HMAC-SHA256 Credential=AKIAI7E3BYXS3example/20171017/us-west-2/clouddirectory/aws4_request, SignedHeaders=host;x-amz-data-partition;x-amz-date,
Signature=192bfe684370989cc00cc0760a138e2e49e4454e67f7247d98112507beee7ed7
x-Amz-Date: 20171017T221819Z
User-Agent: aws-cli/1.11.150 Python/2.7.9 Windows/8 botocore/1.7.8
{
  "ObjectReference": {
    "Selector": "#AQGG_ADlfN2ZbYHY_JgD3TW45F26R1HTY3z--stwKBte_q"
  }
}

Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: 151ad236-b389-11e7-a6de-b54884d62153
Date: Tue, 17 Oct 2017 22:18:19 GMT
x-amzn-RequestId: 151ad236-b389-11e7-a6de-b54884d62153
Content-Type: application/json
Content-Length: 725
{
  "Attributes": [{
    "Key": {
      "FacetName": "INDEX",
      "Name": "index_is_unique",
      "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AVB8kHNgdj8maO3dNY/schema/CloudDirectory/1.0"
    },
    "Value": {
      "BinaryValue": null,
      "BooleanValue": true,
      "DatetimeValue": null,
      "NumberValue": null,
      "StringValue": null
    }
  }, {
    "Key": {
      "FacetName": "INDEX",
      "Name": "ordered_indexed_attributes",
      "SchemaArn": "arn:aws:clouddirectory:us-west-2:45132example:directory/AYb8AVB8kHNgdj8maO3dNY/schema/CloudDirectory/1.0"
    }
  }
}
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListObjectChildren

Returns a paginated list of child objects that are associated with a given object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/children HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": {
        "Selector": "string"
    }
}
```

URI Request Parameters

The request requires the following URI parameters.

ConsistencyLevel (p. 182)

 Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: SERIALizable | EVENTual

DirectoryArn (p. 182)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where the object resides. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 182)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 182)

The pagination token.

Type: String

Required: No
ObjectReference (p. 182)

The reference that identifies the object for which child objects are being listed.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

```json
{
  "Children": {
    "String" : "string"
  },
  "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

Children (p. 183)

Children structure, which is a map with key as the LinkName and ObjectIdentifier as the value.

Type: String to string map

Key Length Constraints: Minimum length of 1. Maximum length of 64.

Key Pattern: \[^\/%\[\]\(\:\{\}\)#@!\?\s\;\]+

NextToken (p. 183)

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400
InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotNodeException

Occurs when any invalid operations are performed on an object that is not a node, such as calling ListObjectChildren for a leaf node object.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

Examples

The following examples are formatted for legibility.

Example Request

```
POST /amazonclouddirectory/2017-01-11/object/children HTTP/1.1
Host: clouddirectory.us-west-2.amazonaws.com
```
Example Response

HTTP/1.1 200 OK
x-amzn-RequestId: dcafb249-b38a-11e7-a973-b71cf1107b43
Date: Tue, 17 Oct 2017 22:31:04 GMT
x-amzn-RequestId: dcafb249-b38a-11e7-a973-b71cf1107b43
Content-Type: application/json
Content-Length: 88

{
  "Children": {
    "link2": "AQGG_ADlfNZBSzYHY_JgDt3TWcU71ARvOTeaR09zme1sVsw"
  },
  "NextToken": null
}

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListObjectParentPaths

Retrieves all available parent paths for any object type such as node, leaf node, policy node, and index node objects. For more information about objects, see Directory Structure.

Use this API to evaluate all parents for an object. The call returns all objects from the root of the directory up to the requested object. The API returns the number of paths based on user-defined MaxResults, in case there are multiple paths to the parent. The order of the paths and nodes returned is consistent among multiple API calls unless the objects are deleted or moved. Paths not leading to the directory root are ignored from the target object.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/parentpaths HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "MaxResults": number,
  "NextToken": "string",
  "ObjectReference": {
    "Selector": "string"
  }
}
```

URI Request Parameters

The request requires the following URI parameters.

DirectoryArn (p. 186)

The ARN of the directory to which the parent path applies.

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 186)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 186)

The pagination token.

Type: String

Required: No

ObjectReference (p. 186)

The reference that identifies the object whose parent paths are listed.
Response Syntax

HTTP/1.1 200
Content-type: application/json

{
    "NextToken": "string",
    "PathToObjectIdentifiersList": [
        {
            "ObjectIdentifiers": [ "string" ],
            "Path": "string"
        }
    ]
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**NextToken (p. 187)**

The pagination token.

Type: String

**PathToObjectIdentifiersList (p. 187)**

Returns the path to the ObjectIdentifiers that are associated with the directory.

Type: Array of PathToObjectIdentifiers (p. 352) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.
HTTP Status Code: 500
InvalidArnException
Indicates that the provided ARN value is not valid.

HTTP Status Code: 400
InvalidNextTokenException
Indicates that the NextToken value is not valid.

HTTP Status Code: 400
LimitExceededException
Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400
ResourceNotFoundException
The specified resource could not be found.

HTTP Status Code: 404
RetryableConflictException
Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409
ValidationException
Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListObjectParents

Lists parent objects that are associated with a given object in pagination fashion.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/object/parent HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": {
        "Selector": "string"
    }
}
```

URI Request Parameters

The request requires the following URI parameters.

**ConsistencyLevel (p. 189)**

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: `SERIALIZABLE` | `EVENTUAL`

**DirectoryArn (p. 189)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where the object resides. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**MaxResults (p. 189)**

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 189)**

The pagination token.

Type: String

Required: No
ObjectReference (p. 189)

The reference that identifies the object for which parent objects are being listed.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
   "NextToken": "string",
   "Parents": {
      "string": "string"
   }
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextToken (p. 190)

The pagination token.

Type: String

Parents (p. 190)

The parent structure, which is a map with key as the ObjectIdentifier and LinkName as the value.

Type: String to string map

Value Length Constraints: Minimum length of 1. Maximum length of 64.

Value Pattern: [^\/[\]\{(\):\{\}#@!\s\;]+

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

CannotListParentOfRootException

Cannot list the parents of a Directory (p. 339) root.

HTTP Status Code: 400
DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServerErrorException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictingException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
ListObjectPolicies

Returns policies attached to an object in pagination fashion.

Request Syntax

```json
POST /amazonclouddirectory/2017-01-11/object/policy HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json
{
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": {
        "Selector": "string"
    }
}
```

URI Request Parameters

The request requires the following URI parameters.

**ConsistencyLevel (p. 193)**

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: SERIALizable | EVENTual

**DirectoryArn (p. 193)**

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where objects reside. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**MaxResults (p. 193)**

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

**NextToken (p. 193)**

The pagination token.

Type: String

Required: No
Response Syntax

HTTP/1.1 200
Content-type: application/json

```
{
    "AttachedPolicyIds": [ "string" ],
    "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**AttachedPolicyIds (p. 194)**

A list of policy ObjectIdentifiers, that are attached to the object.

Type: Array of strings

**NextToken (p. 194)**

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500
InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

LimitExceeded Exception

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListOutgoingTypedLinks

Returns a paginated list of all the outgoing TypedLinkSpecifier (p. 366) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed link.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/typedlink/outgoing HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "ConsistencyLevel": "string",
    "FilterAttributeRanges": [
        {
            "AttributeName": "string",
            "Range": {
                "EndMode": "string",
                "EndValue": {
                    "BinaryValue": blob,
                    "BooleanValue": boolean,
                    "DatetimeValue": number,
                    "NumberValue": "string",
                    "StringValue": "string"
                },
                "StartMode": "string",
                "StartValue": {
                    "BinaryValue": blob,
                    "BooleanValue": boolean,
                    "DatetimeValue": number,
                    "NumberValue": "string",
                    "StringValue": "string"
                }
            }
        },
        "FilterTypedLink": {
            "SchemaArn": "string",
            "TypedLinkName": "string"
        },
        "MaxResults": number,
        "NextToken": "string",
        "ObjectReference": {
            "Selector": "string"
        }
    }
}
```

URI Request Parameters

The request requires the following URI parameters.

**DirectoryArn (p. 196)**

The Amazon Resource Name (ARN) of the directory where you want to list the typed links.

Request Body

The request accepts the following data in JSON format.
ConsistencyLevel (p. 196)

The consistency level to execute the request at.

Type: String

Valid Values: SERIALIZABLE | EVENTUAL

Required: No

FilterAttributeRanges (p. 196)

Provides range filters for multiple attributes. When providing ranges to typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range.

Type: Array of TypedLinkAttributeRange (p. 362) objects

Required: No

FilterTypedLink (p. 196)

Filters are interpreted in the order of the attributes defined on the typed link facet, not the order they are supplied to any API calls.

Type: TypedLinkSchemaAndFacetName (p. 365) object

Required: No

MaxResults (p. 196)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 196)

The pagination token.

Type: String

Required: No

ObjectReference (p. 196)

A reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{  
   "NextToken": "string" ,
"TypedLinkSpecifiers": [
  {
    "IdentityAttributeValues": [
      {
        "AttributeName": "string",
        "Value": {
          "BinaryValue": "blob",
          "BooleanValue": "boolean",
          "DatetimeValue": "number",
          "NumberValue": "string",
          "StringValue": "string"
        }
      }
    ],
    "SourceObjectReference": {
      "Selector": "string"
    },
    "TargetObjectReference": {
      "Selector": "string"
    },
    "TypedLinkFacet": {
      "SchemaArn": "string",
      "TypedLinkName": "string"
    }
  }
]

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextToken (p. 197)

The pagination token.
Type: String

TypedLinkSpecifiers (p. 197)

Returns a typed link specifier as output.
Type: Array of TypedLinkSpecifier (p. 366) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.
HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.
HTTP Status Code: 400
FacetValidationException

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
ListPolicyAttachments

Returns all of the ObjectIdentifiers to which a given policy is attached.

Request Syntax

POST /amazonclouddirectory/2017-01-11/policy/attachment HTTP/1.1
x-amz-data-partition: DirectoryArn
x-amz-consistency-level: ConsistencyLevel
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "PolicyReference": {
        "Selector": "string"
    }
}

URI Request Parameters

The request requires the following URI parameters.

ConsistencyLevel (p. 201)

Represents the manner and timing in which the successful write or update of an object is reflected in a subsequent read operation of that same object.

Valid Values: SERIALIZABLE | EVENTUAL

DirectoryArn (p. 201)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where objects reside. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 201)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 201)

The pagination token.

Type: String

Required: No
PolicyReference (p. 201)

The reference that identifies the policy object.

Type: ObjectReference (p. 351) object

Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
   "NextToken": "string",
   "ObjectIdentifiers": [ "string" ]
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

NextToken (p. 202)

The pagination token.

Type: String

ObjectIdentifiers (p. 202)

A list of ObjectIdentifiers to which the policy is attached.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500
InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

NotPolicyException

Indicates that the requested operation can only operate on policy objects.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListPublishedSchemaArns

Lists the major version families of each published schema. If a major version ARN is provided as `SchemaArn`, the minor version revisions in that family are listed instead.

**Request Syntax**

```json
POST /amazonclouddirectory/2017-01-11/schema/published HTTP/1.1
Content-type: application/json

{
  "MaxResults": number,
  "NextToken": "string",
  "SchemaArn": "string"
}
```

**URI Request Parameters**

The request does not use any URI parameters.

**Request Body**

The request accepts the following data in JSON format.

- **MaxResults (p. 204)**
  
  The maximum number of results to retrieve.
  
  Type: Integer
  
  Valid Range: Minimum value of 1.
  
  Required: No

- **NextToken (p. 204)**
  
  The pagination token.
  
  Type: String
  
  Required: No

- **SchemaArn (p. 204)**
  
  The response for ListPublishedSchemaArns when this parameter is used will list all minor version ARNs for a major version.
  
  Type: String
  
  Required: No

**Response Syntax**

```
HTTP/1.1 200
Content-type: application/json
```
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**NextToken (p. 204)**

The pagination token.

Type: String

**SchemaArns (p. 204)**

The ARNs of published schemas.

Type: Array of strings

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**InvalidNextTokenException**

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

**LimitExceeded**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.
HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListTagsForResource

Returns tags for a resource. Tagging is currently supported only for directories with a limit of 50 tags per directory. All 50 tags are returned for a given directory with this API call.

Request Syntax

```
POST /amazonclouddirectory/2017-01-11/tags HTTP/1.1
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "ResourceArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

**MaxResults (p. 207)**

The `MaxResults` parameter sets the maximum number of results returned in a single page. This is for future use and is not supported currently.

- Type: Integer
- Valid Range: Minimum value of 50.
- Required: No

**NextToken (p. 207)**

The pagination token. This is for future use. Currently pagination is not supported for tagging.

- Type: String
- Required: No

**ResourceArn (p. 207)**

The Amazon Resource Name (ARN) of the resource. Tagging is only supported for directories.

- Type: String
- Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
```
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**NextToken (p. 207)**

The token to use to retrieve the next page of results. This value is null when there are no more results to return.

Type: String

**Tags (p. 207)**

A list of tag key value pairs that are associated with the response.

Type: Array of Tag (p. 357) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**InvalidTaggingRequestException**

Can occur for multiple reasons such as when you tag a resource that doesn’t exist or if you specify a higher number of tags for a resource than the allowed limit. Allowed limit is 50 tags per resource.

HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See Limits for more information.
HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListTypedLinkFacetAttributes

Returns a paginated list of all attribute definitions for a particular TypedFacet (p. 363). For more information, see Typed link.

Request Syntax

POST /amazonclouddirectory/2017-01-11/typedlink/facet/attributes HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{  "MaxResults": number,
   "Name": "string",
   "NextToken": "string"
}

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 210)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 210)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

Name (p. 210)

The unique name of the typed link facet.

Type: String

Pattern: ^[a-zA-Z0-9._-]+$

Required: Yes

NextToken (p. 210)

The pagination token.

Type: String

Required: No
Response Syntax

HTTP/1.1 200
Content-type: application/json

```
{
    "Attributes": [
        {
            "DefaultValue": {
                "BinaryValue": blob,
                "BooleanValue": boolean,
                "DatetimeValue": number,
                "NumberValue": "string",
                "StringValue": "string"
            },
            "IsImmutable": boolean,
            "Name": "string",
            "RequiredBehavior": "string",
            "Rules": {
                "string": {
                    "Parameters": {
                        "string": "string"
                    },
                    "Type": "string"
                }
            },
            "Type": "string"
        }
    ],
    "NextToken": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**Attributes (p. 211)**

An ordered set of attributes associate with the typed link.

Type: Array of **TypedLinkAttributeDefinition (p. 360)** objects

**NextToken (p. 211)**

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see **Common Errors (p. 375).**

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403
FacetNotFoundException

The specified Facet (p. 340) could not be found.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
See Also

- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
ListTypedLinkFacetNames

Returns a paginated list of TypedLink facet names for a particular schema. For more information, see Typed link.

Request Syntax

POST /amazonclouddirectory/2017-01-11/typedlink/facet/list HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string"
}

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 214)

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 214)

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 214)

The pagination token.

Type: String

Required: No

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
    "FacetNames": [ "string" ],
    "NextToken": "string"
Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**FacetNames (p. 214)**

The names of typed link facets that exist within the schema.

Type: Array of strings

Pattern: `^[a-zA-Z0-9._-]*$`

**NextToken (p. 214)**

The pagination token.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**InvalidNextTokenException**

Indicates that the `NextToken` value is not valid.

HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404
RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
LookupPolicy

Lists all policies from the root of the Directory (p. 339) to the object specified. If there are no policies present, an empty list is returned. If policies are present, and if some objects don't have the policies attached, it returns the ObjectIdentifier for such objects. If policies are present, it returns ObjectIdentifier, policyId, and policyType. Paths that don't lead to the root from the target object are ignored. For more information, see Policies.

Request Syntax

```plaintext
POST /amazonclouddirectory/2017-01-11/policy/lookup HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
    "MaxResults": number,
    "NextToken": "string",
    "ObjectReference": {
        "Selector": "string"
    }
}
```

URI Request Parameters

The request requires the following URI parameters.

DirectoryArn (p. 217)

The Amazon Resource Name (ARN) that is associated with the Directory (p. 339). For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

MaxResults (p. 217)

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken (p. 217)

The token to request the next page of results.

Type: String

Required: No

ObjectReference (p. 217)

Reference that identifies the object whose policies will be looked up.
Response Syntax

HTTP/1.1 200
Content-type: application/json

{  
    "NextToken": "string",
    "PolicyToPathList": [
        {  
            "Path": "string",
            "Policies": [
                {  
                    "ObjectIdentifier": "string",
                    "PolicyId": "string",
                    "PolicyType": "string"
                }
            ]
        }
    ]
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

**NextToken (p. 218)**

The pagination token.

Type: String

**PolicyToPathList (p. 218)**

Provides list of path to policies. Policies contain PolicyId, ObjectIdentifier, and PolicyType. For more information, see Policies.

Type: Array of PolicyToPath (p. 354) objects

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**DirectoryNotEnabledException**

Operations are only permitted on enabled directories.

HTTP Status Code: 400
InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidNextTokenException

Indicates that the NextToken value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationError

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
PublishSchema

Publishes a development schema with a major version and a recommended minor version.

Request Syntax

```plaintext
PUT /amazonclouddirectory/2017-01-11/schema/publish HTTP/1.1
x-amz-data-partition: DevelopmentSchemaArn
Content-type: application/json

{
  "MinorVersion": "string",
  "Name": "string",
  "Version": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

DevelopmentSchemaArn (p. 221)

The Amazon Resource Name (ARN) that is associated with the development schema. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

MinorVersion (p. 221)

The minor version under which the schema will be published. This parameter is recommended. Schemas have both a major and minor version associated with them.

Type: String


Pattern: ^[a-zA-Z0-9._-]+$

Required: No

Name (p. 221)

The new name under which the schema will be published. If this is not provided, the development schema is considered.

Type: String


Pattern: ^[a-zA-Z0-9._-]+$

Required: No

Version (p. 221)

The major version under which the schema will be published. Schemas have both a major and minor version associated with them.
Type: String
Pattern: ^[a-zA-Z0-9._-]*$
Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json
{
    "PublishedSchemaArn": "string"
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.
The following data is returned in JSON format by the service.

PublishedSchemaArn (p. 222)

The ARN that is associated with the published schema. For more information, see Arn
Examples (p. 367).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error
in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health
Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceeded Exception

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400
ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

SchemaAlreadyPublishedException

Indicates that a schema is already published.

HTTP Status Code: 400

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
PutSchemaFromJson

Allows a schema to be updated using JSON upload. Only available for development schemas. See JSON Schema Format for more information.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/json HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
   "Document": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 224)
The ARN of the schema to update.

Request Body

The request accepts the following data in JSON format.

Document (p. 224)
The replacement JSON schema.

Type: String
Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
   "Arn": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.
The following data is returned in JSON format by the service.

Arn (p. 224)
The ARN of the schema to update.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidRuleException

Occurs when any of the rule parameter keys or values are invalid.

HTTP Status Code: 400

InvalidSchemaDocException

Indicates that the provided SchemaDoc value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
RemoveFacetFromObject

Removes the specified facet from the specified object.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/object/facets/delete HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "ObjectReference": {
    "Selector": "string"
  },
  "SchemaFacet": {
    "FacetName": "string",
    "SchemaArn": "string"
  }
}
```

URI Request Parameters

The request requires the following URI parameters.

DirectoryArn (p. 227)

The ARN of the directory in which the object resides.

Request Body

The request accepts the following data in JSON format.

ObjectReference (p. 227)

A reference to the object to remove the facet from.

Type: ObjectReference (p. 351) object

Required: Yes

SchemaFacet (p. 227)

The facet to remove. See SchemaFacet (p. 356) for details.

Type: SchemaFacet (p. 356) object

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.
Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceedededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
TagResource

An API operation for adding tags to a resource.

Request Syntax

PUT /amazonclouddirectory/2017-01-11/tags/add HTTP/1.1
Content-type: application/json

{
    "ResourceArn": "string",
    "Tags": [
        {
            "Key": "string",
            "Value": "string"
        }
    ]
}

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

ResourceArn (p. 230)

The Amazon Resource Name (ARN) of the resource. Tagging is only supported for directories.

Type: String

Required: Yes

Tags (p. 230)

A list of tag key-value pairs.

Type: Array of Tag (p. 357) objects

Required: Yes

Response Syntax

HTTP/1.1 200

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).
AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidTaggingRequestException

Can occur for multiple reasons such as when you tag a resource that doesn’t exist or if you specify a higher number of tags for a resource than the allowed limit. Allowed limit is 50 tags per resource.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
UntagResource

An API operation for removing tags from a resource.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/tags/remove HTTP/1.1
Content-type: application/json
{
    "ResourceArn": "string",
    "TagKeys": [ "string" ]
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

ResourceArn (p. 233)

The Amazon Resource Name (ARN) of the resource. Tagging is only supported for directories.

Type: String

Required: Yes

TagKeys (p. 233)

Keys of the tag that need to be removed from the resource.

Type: Array of strings

Required: Yes

Response Syntax

```
HTTP/1.1 200
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.
HTTP Status Code: 403

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**InvalidTaggingRequestException**

Can occur for multiple reasons such as when you tag a resource that doesn't exist or if you specify a higher number of tags for a resource than the allowed limit. Allowed limit is 50 tags per resource.

HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

---

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
UpdateFacet

Does the following:

1. Adds new Attributes, Rules, or ObjectTypes.
2. Updates existing Attributes, Rules, or ObjectTypes.
3. Deletes existing Attributes, Rules, or ObjectTypes.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/facet HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
  "AttributeUpdates": [
    {
      "Action": "string",
      "Attribute": {
        "AttributeDefinition": {
          "DefaultValue": {
            "BinaryValue": blob,
            "BooleanValue": boolean,
            "DatetimeValue": number,
            "NumberValue": "string",
            "StringValue": "string"
          },
          "IsImmutable": boolean,
          "Rules": {
            "string": {
              "Parameters": {
                "string": "string"
              },
              "Type": "string"
            }
          },
          "Type": "string"
        },
        "AttributeReference": {
          "TargetAttributeName": "string",
          "TargetFacetName": "string"
        }
      }
    }
  ],
  "Name": "string",
  "ObjectType": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

**SchemaArn (p. 236)**

The Amazon Resource Name (ARN) that is associated with the Facet (p. 340). For more information, see Arn Examples (p. 367).
Request Body

The request accepts the following data in JSON format.

**AttributeUpdates (p. 236)**

List of attributes that need to be updated in a given schema Facet (p. 340). Each attribute is followed by AttributeAction, which specifies the type of update operation to perform.

Type: Array of FacetAttributeUpdate (p. 344) objects

Required: No

**Name (p. 236)**

The name of the facet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

**ObjectType (p. 236)**

The object type that is associated with the facet. See CreateFacet:ObjectType (p. 51) for more details.

Type: String

Valid Values: NODE | LEAF_NODE | POLICY | INDEX

Required: No

Response Syntax

HTTP/1.1 200

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**FacetNotFoundException**

The specified Facet (p. 340) could not be found.

HTTP Status Code: 400
InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidFacetUpdateException

An attempt to modify a Facet (p. 340) resulted in an invalid schema exception.

HTTP Status Code: 400

InvalidRuleException

Occurs when any of the rule parameter keys or values are invalid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
UpdateLinkAttributes

Updates a given typed link's attributes. Attributes to be updated must not contribute to the typed link's identity, as defined by its IdentityAttributeOrder.

Request Syntax

POST /amazonclouddirectory/2017-01-11/typedlink/attributes/update HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "AttributeUpdates": [
  {
    "AttributeAction": {
      "AttributeActionType": "string",
      "AttributeUpdateValue": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    },
    "AttributeKey": {
      "FacetName": "string",
      "Name": "string",
      "SchemaArn": "string"
    }
  }]
  "TypedLinkSpecifier": {
    "IdentityAttributeValues": [
    {
      "AttributeName": "string",
      "Value": {
        "BinaryValue": blob,
        "BooleanValue": boolean,
        "DatetimeValue": number,
        "NumberValue": "string",
        "StringValue": "string"
      }
    },
    "SourceObjectReference": {
      "Selector": "string"
    },
    "TargetObjectReference": {
      "Selector": "string"
    },
    "TypedLinkFacet": {
      "SchemaArn": "string",
      "TypedLinkName": "string"
    }
  }
}

URI Request Parameters

The request requires the following URI parameters.
DirectoryArn (p. 240)

The Amazon Resource Name (ARN) that is associated with the Directory where the updated typed link resides. For more information, see Arn Examples (p. 367) or Typed link.

Request Body

The request accepts the following data in JSON format.

AttributeUpdates (p. 240)

The attributes update structure.

Type: Array of LinkAttributeUpdate (p. 347) objects

Required: Yes

TypedLinkSpecifier (p. 240)

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 366) object

Required: Yes

Response Syntax

HTTP/1.1 200

Response Elements

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationException

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400
InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
UpdateObjectAttributes

Updates a given object's attributes.

**Request Syntax**

```plaintext
PUT /amazonclouddirectory/2017-01-11/object/update HTTP/1.1
x-amz-data-partition: DirectoryArn
Content-type: application/json

{
  "AttributeUpdates": [
    {
      "ObjectAttributeAction": {
        "ObjectAttributeActionType": "string",
        "ObjectAttributeUpdateValue": {
          "BinaryValue": "blob",
          "BooleanValue": boolean,
          "DatetimeValue": number,
          "NumberValue": "string",
          "StringValue": "string"
        }
      },
      "ObjectAttributeKey": {
        "FacetName": "string",
        "Name": "string",
        "SchemaArn": "string"
      }
    }
  ],
  "ObjectReference": {
    "Selector": "string"
  }
}
```

**URI Request Parameters**

The request requires the following URI parameters.

- **DirectoryArn (p. 243)**
  
  The Amazon Resource Name (ARN) that is associated with the Directory (p. 339) where the object resides. For more information, see Arn Examples (p. 367).

**Request Body**

The request accepts the following data in JSON format.

- **AttributeUpdates (p. 243)**
  
  The attributes update structure.

  Type: Array of **ObjectAttributeUpdate (p. 350)** objects

  Required: Yes

- **ObjectReference (p. 243)**
  
  The reference that identifies the object.
Response Syntax

HTTP/1.1 200
Content-type: application/json

{
  "ObjectIdentifier": "string"
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

ObjectIdentifier (p. 244)

The ObjectIdentifier of the updated object.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

DirectoryNotEnabledException

Operations are only permitted on enabled directories.

HTTP Status Code: 400

FacetValidationError

The Facet (p. 340) that you provided was not well formed or could not be validated with the schema.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.
HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See [Limits](#) for more information.

HTTP Status Code: 400

**LinkNameAlreadyInUseException**

Indicates that a link could not be created due to a naming conflict. Choose a different name and then try again.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
UpdateSchema

Updates the schema name with a new name. Only development schema names can be updated.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/update HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
  "Name": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

SchemaArn (p. 246)

The Amazon Resource Name (ARN) of the development schema. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

Name (p. 246)

The name of the schema.

Type: String


Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

Response Syntax

```
HTTP/1.1 200
Content-type: application/json

{
  "SchemaArn": "string"
}
```

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.
SchemaArn (p. 246)

The ARN that is associated with the updated schema. For more information, see Arn Examples (p. 367).

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

LimitExceededException

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS Command Line Interface
• AWS SDK for .NET
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
UpdateTypedLinkFacet

Updates a TypedLinkFacet (p. 363). For more information, see Typed link.

Request Syntax

```plaintext
PUT /amazonclouddirectory/2017-01-11/typedlink/facet HTTP/1.1
x-amz-data-partition: SchemaArn
Content-type: application/json

{
    "AttributeUpdates": [
        {
            "Action": "string",
            "Attribute": {
                "DefaultValue": {
                    "BinaryValue": "blob",
                    "BooleanValue": "boolean",
                    "DatetimeValue": "number",
                    "NumberValue": "string",
                    "StringValue": "string"
                },
                "IsImmutable": "boolean",
                "Name": "string",
                "RequiredBehavior": "string",
                "Rules": {
                    "string": {
                        "Parameters": {
                            "string": "string"
                        },
                        "Type": "string"
                    }
                },
                "Type": "string"
            }
        }
    ],
    "IdentityAttributeOrder": [ "string" ],
    "Name": "string"
}
```

URI Request Parameters

The request requires the following URI parameters.

**SchemaArn (p. 249)**

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 367).

Request Body

The request accepts the following data in JSON format.

**AttributeUpdates (p. 249)**

Attributes update structure.
Type: Array of `TypedLinkFacetAttributeUpdate (p. 364)` objects

Required: Yes

**IdentityAttributeOrder (p. 249)**

The order of identity attributes for the facet, from most significant to least significant. The ability to filter typed links considers the order that the attributes are defined on the typed link facet. When providing ranges to a typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range. Filters are interpreted in the order of the attributes on the typed link facet, not the order in which they are supplied to any API calls. For more information about identity attributes, see [Typed link](#).

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: `^[a-zA-Z0-9._-]+$`

Required: Yes

**Name (p. 249)**

The unique name of the typed link facet.

Type: String

Pattern: `^[a-zA-Z0-9._-]+$`

Required: Yes

---

**Response Syntax**

```
HTTP/1.1 200
```

**Response Elements**

If the action is successful, the service sends back an HTTP 200 response with an empty HTTP body.

**Errors**

For information about the errors that are common to all actions, see [Common Errors (p. 375)](#).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**FacetNotFoundException**

The specified [Facet (p. 340)](#) could not be found.

HTTP Status Code: 400

**FacetValidationException**

The [Facet (p. 340)](#) that you provided was not well formed or could not be validated with the schema.
HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**InvalidFacetUpdateException**

An attempt to modify a Facet (p. 340) resulted in an invalid schema exception.

HTTP Status Code: 400

**InvalidRuleException**

Occurs when any of the rule parameter keys or values are invalid.

HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See Limits for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using “SERIALIZABLE” consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
• AWS SDK for Java
• AWS SDK for JavaScript
• AWS SDK for PHP V3
• AWS SDK for Python
• AWS SDK for Ruby V2
UpgradeAppliedSchema

Upgrades a single directory in-place using the `PublishedSchemaArn` with schema updates found in `MinorVersion`. Backwards-compatible minor version upgrades are instantaneously available for readers on all objects in the directory. Note: This is a synchronous API call and upgrades only one schema on a given directory per call. To upgrade multiple directories from one schema, you would need to call this API on each directory.

**Request Syntax**

```
PUT /amazonclouddirectory/2017-01-11/schema/upgradeapplied HTTP/1.1
Content-type: application/json
{
  "DirectoryArn": "string",
  "DryRun": boolean,
  "PublishedSchemaArn": "string"
}
```

**URI Request Parameters**

The request does not use any URI parameters.

**Request Body**

The request accepts the following data in JSON format.

**DirectoryArn (p. 253)**

The ARN for the directory to which the upgraded schema will be applied.

Type: String

Required: Yes

**DryRun (p. 253)**

Used for testing whether the major version schemas are backward compatible or not. If schema compatibility fails, an exception would be thrown else the call would succeed but no changes will be saved. This parameter is optional.

Type: Boolean

Required: No

**PublishedSchemaArn (p. 253)**

The revision of the published schema to upgrade the directory to.

Type: String

Required: Yes

**Response Syntax**

```
HTTP/1.1 200
```
Content-type: application/json

{  
  "DirectoryArn": "string",
  "UpgradedSchemaArn": "string"
}

**Response Elements**

If the action is successful, the service sends back an HTTP 200 response. The following data is returned in JSON format by the service.

**DirectoryArn (p. 253)**

The ARN of the directory that is returned as part of the response.

Type: String

**UpgradedSchemaArn (p. 253)**

The ARN of the upgraded schema that is returned as part of the response.

Type: String

**Errors**

For information about the errors that are common to all actions, see Common Errors (p. 375).

**AccessDeniedException**

Access denied. Check your permissions.

HTTP Status Code: 403

**IncompatibleSchemaException**

Indicates a failure occurred while performing a check for backward compatibility between the specified schema and the schema that is currently applied to the directory.

HTTP Status Code: 400

**InternalServiceException**

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

**InvalidArnException**

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

**InvalidAttachmentException**

Indicates that an attempt to attach an object with the same link name or to apply a schema with the same name has occurred. Rename the link or the schema and then try again.

HTTP Status Code: 400
ResourceNotFoundException

The specified resource could not be found.

HTTP Status Code: 404

RetryableConflictException

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

ValidationException

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS Command Line Interface
- AWS SDK for .NET
- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for JavaScript
- AWS SDK for PHP V3
- AWS SDK for Python
- AWS SDK for Ruby V2
UpgradePublishedSchema

Upgrades a published schema under a new minor version revision using the current contents of DevelopmentSchemaArn.

Request Syntax

```
PUT /amazonclouddirectory/2017-01-11/schema/upgradepublished HTTP/1.1
Content-type: application/json

{
    "DevelopmentSchemaArn": "string",
    "DryRun": boolean,
    "MinorVersion": "string",
    "PublishedSchemaArn": "string"
}
```

URI Request Parameters

The request does not use any URI parameters.

Request Body

The request accepts the following data in JSON format.

**DevelopmentSchemaArn** *(p. 256)*

The ARN of the development schema with the changes used for the upgrade.

Type: String

Required: Yes

**DryRun** *(p. 256)*

Used for testing whether the Development schema provided is backwards compatible, or not, with the publish schema provided by the user to be upgraded. If schema compatibility fails, an exception would be thrown else the call would succeed. This parameter is optional and defaults to false.

Type: Boolean

Required: No

**MinorVersion** *(p. 256)*

Identifies the minor version of the published schema that will be created. This parameter is NOT optional.

Type: String


Pattern: `^[a-zA-Z0-9_.-]*$`

Required: Yes

**PublishedSchemaArn** *(p. 256)*

The ARN of the published schema to be upgraded.
Type: String
Required: Yes

Response Syntax

HTTP/1.1 200
Content-type: application/json

{
    "UpgradedSchemaArn": "string"
}

Response Elements

If the action is successful, the service sends back an HTTP 200 response.

The following data is returned in JSON format by the service.

UpgradedSchemaArn (p. 257)

The ARN of the upgraded schema that is returned as part of the response.

Type: String

Errors

For information about the errors that are common to all actions, see Common Errors (p. 375).

AccessDeniedException

Access denied. Check your permissions.

HTTP Status Code: 403

IncompatibleSchemaException

Indicates a failure occurred while performing a check for backward compatibility between the specified schema and the schema that is currently applied to the directory.

HTTP Status Code: 400

InternalServiceException

Indicates a problem that must be resolved by Amazon Web Services. This might be a transient error in which case you can retry your request until it succeeds. Otherwise, go to the AWS Service Health Dashboard site to see if there are any operational issues with the service.

HTTP Status Code: 500

InvalidArnException

Indicates that the provided ARN value is not valid.

HTTP Status Code: 400

InvalidAttachmentException

Indicates that an attempt to attach an object with the same link name or to apply a schema with the same name has occurred. Rename the link or the schema and then try again.
HTTP Status Code: 400

**LimitExceededException**

Indicates that limits are exceeded. See [Limits](#) for more information.

HTTP Status Code: 400

**ResourceNotFoundException**

The specified resource could not be found.

HTTP Status Code: 404

**RetryableConflictException**

Occurs when a conflict with a previous successful write is detected. For example, if a write operation occurs on an object and then an attempt is made to read the object using "SERIALIZABLE" consistency, this exception may result. This generally occurs when the previous write did not have time to propagate to the host serving the current request. A retry (with appropriate backoff logic) is the recommended response to this exception.

HTTP Status Code: 409

**ValidationException**

Indicates that your request is malformed in some manner. See the exception message.

HTTP Status Code: 400

### See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- [AWS Command Line Interface](#)
- [AWS SDK for .NET](#)
- [AWS SDK for C++](#)
- [AWS SDK for Go](#)
- [AWS SDK for Java](#)
- [AWS SDK for JavaScript](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V2](#)
Data Types

The Amazon CloudDirectory API contains several data types that various actions use. This section describes each data type in detail.

**Note**
The order of each element in a data type structure is not guaranteed. Applications should not assume a particular order.

The following data types are supported:

- AttributeKey (p. 262)
- AttributeKeyAndValue (p. 263)
- AttributeNameAndValue (p. 264)
- BatchAddFacetToObject (p. 265)
- BatchAddFacetToObjectResponse (p. 266)
- BatchAttachObject (p. 267)
- BatchAttachObjectResponse (p. 268)
- BatchAttachPolicy (p. 269)
- BatchAttachPolicyResponse (p. 270)
- BatchAttachToIndex (p. 271)
- BatchAttachToIndexResponse (p. 272)
- BatchAttachTypedLink (p. 273)
- BatchAttachTypedLinkResponse (p. 274)
- BatchCreateIndex (p. 275)
- BatchCreateIndexResponse (p. 277)
- BatchCreateObject (p. 278)
- BatchCreateObjectResponse (p. 280)
- BatchDeleteObject (p. 281)
- BatchDeleteObjectResponse (p. 282)
- BatchDetachFromIndex (p. 283)
- BatchDetachFromIndexResponse (p. 284)
- BatchDetachObject (p. 285)
- BatchDetachObjectResponse (p. 286)
- BatchDetachPolicy (p. 287)
- BatchDetachPolicyResponse (p. 288)
- BatchDetachTypedLink (p. 289)
- BatchDetachTypedLinkResponse (p. 290)
- BatchGetLinkAttributes (p. 291)
- BatchGetLinkAttributesResponse (p. 292)
- BatchGetObjectAttributes (p. 293)
- BatchGetObjectAttributesResponse (p. 294)
- BatchGetObjectInformation (p. 295)
- BatchGetObjectInformationResponse (p. 296)
- BatchListAttachedIndices (p. 297)
- BatchListAttachedIndicesResponse (p. 298)
• BatchListIncomingTypedLinks (p. 299)
• BatchListIncomingTypedLinksResponse (p. 301)
• BatchListIndex (p. 302)
• BatchListIndexResponse (p. 303)
• BatchListObjectAttributes (p. 304)
• BatchListObjectAttributesResponse (p. 305)
• BatchListObjectChildren (p. 306)
• BatchListObjectChildrenResponse (p. 307)
• BatchListObjectParentPaths (p. 308)
• BatchListObjectParentPathsResponse (p. 309)
• BatchListObjectPolicies (p. 310)
• BatchListObjectPoliciesResponse (p. 311)
• BatchListOutgoingTypedLinks (p. 312)
• BatchListOutgoingTypedLinksResponse (p. 314)
• BatchListPolicyAttachments (p. 315)
• BatchListPolicyAttachmentsResponse (p. 316)
• BatchLookupPolicy (p. 317)
• BatchLookupPolicyResponse (p. 318)
• BatchReadException (p. 319)
• BatchReadOperation (p. 320)
• BatchReadOperationResponse (p. 323)
• BatchReadSuccessfulResponse (p. 324)
• BatchRemoveFacetFromObject (p. 327)
• BatchRemoveFacetFromObjectResponse (p. 328)
• BatchUpdateLinkAttributes (p. 329)
• BatchUpdateLinkAttributesResponse (p. 330)
• BatchUpdateObjectAttributes (p. 331)
• BatchUpdateObjectAttributesResponse (p. 332)
• BatchWriteOperation (p. 333)
• BatchWriteOperationResponse (p. 336)
• Directory (p. 339)
• Facet (p. 340)
• FacetAttribute (p. 341)
• FacetAttributeDefinition (p. 342)
• FacetAttributeReference (p. 343)
• FacetAttributeUpdate (p. 344)
• IndexAttachment (p. 345)
• LinkAttributeAction (p. 346)
• LinkAttributeUpdate (p. 347)
• ObjectAttributeAction (p. 348)
• ObjectAttributeRange (p. 349)
• ObjectAttributeUpdate (p. 350)
• ObjectReference (p. 351)
• PathToObjectIdentifiers (p. 352)
• PolicyAttachment (p. 353)
• PolicyToPath (p. 354)
• Rule (p. 355)
• SchemaFacet (p. 356)
• Tag (p. 357)
• TypedAttributeValue (p. 358)
• TypedAttributeValueRange (p. 359)
• TypedLinkAttributeDefinition (p. 360)
• TypedLinkAttributeRange (p. 362)
• TypedLinkFacet (p. 363)
• TypedLinkFacetAttributeUpdate (p. 364)
• TypedLinkSchemaAndFacetName (p. 365)
• TypedLinkSpecifier (p. 366)
AttributeKey

A unique identifier for an attribute.

Contents

FacetName

The name of the facet that the attribute exists within.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9-_.-]*$

Required: Yes

Name

The name of the attribute.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9-_.-]*$

Required: Yes

SchemaArn

The Amazon Resource Name (ARN) of the schema that contains the facet and attribute.

Type: String

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
AttributeKeyAndValue

The combination of an attribute key and an attribute value.

Contents

Key

The key of the attribute.

Type: AttributeKey (p. 262) object

Required: Yes

Value

The value of the attribute.

Type: TypedAttributeValue (p. 358) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
AttributeNameAndValue

Identifies the attribute name and value for a typed link.

Contents

AttributeName

The attribute name of the typed link.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9\-\_\-]*$

Required: Yes

Value

The value for the typed link.

Type: TypedAttributeValue (p. 358) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAddFacetToObject

Represents the output of a batch add facet to object operation.

Contents

- **ObjectAttributeList**
  - The attributes to set on the object.
  - Type: Array of `AttributeKeyAndValue (p. 263)` objects
  - Required: Yes

- **ObjectReference**
  - A reference to the object being mutated.
  - Type: `ObjectReference (p. 351)` object
  - Required: Yes

- **SchemaFacet**
  - Represents the facet being added to the object.
  - Type: `SchemaFacet (p. 356)` object
  - Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAddFacetToObjectResponse

The result of a batch add facet to object operation.

Contents

The members of this structure are context-dependent.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAttachObject

Represents the output of an AttachObject (p. 12) operation.

Contents

ChildReference

The child object reference that is to be attached to the object.

Type: ObjectReference (p. 351) object

Required: Yes

LinkName

The name of the link.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: [^\/%\[\]\:\}\{\}\:#@!\.\;]+

Required: Yes

ParentReference

The parent object reference.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAttachObjectResponse

Represents the output batch AttachObject (p. 12) response operation.

Contents

attachedObjectIdentifier

The ObjectIdentifier of the object that has been attached.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAttachPolicy

Attaches a policy object to a regular object inside a BatchRead (p. 28) operation. For more information, see AttachPolicy (p. 16) and BatchRead:Operations (p. 31).

Contents

ObjectReference

The reference that identifies the object to which the policy will be attached.

Type: ObjectReference (p. 351) object

Required: Yes

PolicyReference

The reference that is associated with the policy object.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAttachPolicyResponse

Represents the output of an AttachPolicy (p. 16) response operation.

Contents

The members of this structure are context-dependent.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAttachToIndex

Attaches the specified object to the specified index inside a BatchRead (p. 28) operation. For more information, see AttachToIndex (p. 19) and BatchRead:Operations (p. 31).

Contents

IndexReference

A reference to the index that you are attaching the object to.

Type: ObjectReference (p. 351) object

Required: Yes

TargetReference

A reference to the object that you are attaching to the index.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAttachToIndexResponse

Represents the output of a AttachToIndex response operation.

Contents

AttachedObjectIdentifier

The ObjectIdentifier of the object that was attached to the index.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAttachTypedLink

Attaches a typed link to a specified source and target object inside a BatchRead (p. 28) operation. For more information, see AttachTypedLink (p. 23) and BatchRead:Operations (p. 31).

Contents

Attributes

A set of attributes that are associated with the typed link.

Type: Array of AttributeNameAndValue (p. 264) objects

Required: Yes

SourceObjectReference

Identifies the source object that the typed link will attach to.

Type: ObjectReference (p. 351) object

Required: Yes

TargetObjectReference

Identifies the target object that the typed link will attach to.

Type: ObjectReference (p. 351) object

Required: Yes

TypedLinkFacet

Identifies the typed link facet that is associated with the typed link.

Type: TypedLinkSchemaAndFacetName (p. 365) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchAttachTypedLinkResponse

Represents the output of a AttachTypedLink (p. 23) response operation.

Contents

TypedLinkSpecifier

Returns a typed link specifier as output.

Type: TypedLinkSpecifier (p. 366) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchCreateIndex

Creates an index object inside of a BatchRead (p. 28) operation. For more information, see CreateIndex (p. 54) and BatchRead:Operations (p. 31).

Contents

BatchReferenceName

The batch reference name. See Batches for more information.

Type: String

Required: No

IsUnique

Indicates whether the attribute that is being indexed has unique values or not.

Type: Boolean

Required: Yes

LinkName

The name of the link between the parent object and the index object.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: \[^\\[\]\(\)\:\:\@!\?\$\\;\]+\n
Required: No

OrderedIndexedAttributeList

Specifies the attributes that should be indexed on. Currently only a single attribute is supported.

Type: Array of AttributeKey (p. 262) objects

Required: Yes

ParentReference

A reference to the parent object that contains the index object.

Type: ObjectReference (p. 351) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchCreateIndexResponse

Represents the output of a CreateIndex (p. 54) response operation.

Contents

ObjectIdentifier

The ObjectIdentifier of the index created by this operation.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchCreateObject

Represents the output of a CreateObject (p. 58) operation.

Contents

BatchReferenceName

The batch reference name. See Batches for more information.

Type: String

Required: No

LinkName

The name of the link.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: [^\/[\[]\(\)\:\{}\:\}\#@!\?\s\;]+

Required: No

ObjectAttributeList

An attribute map, which contains an attribute ARN as the key and attribute value as the map value.

Type: Array of AttributeKeyAndValue (p. 263) objects

Required: Yes

ParentReference

If specified, the parent reference to which this object will be attached.

Type: ObjectReference (p. 351) object

Required: No

SchemaFacet

A list of FacetArns that will be associated with the object. For more information, see Arn Examples (p. 367).

Type: Array of SchemaFacet (p. 356) objects

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchCreateObjectResponse

Represents the output of a CreateObject (p. 58) response operation.

Contents

ObjectIdentifier

The ID that is associated with the object.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDeleteObject

Represents the output of a DeleteObject (p. 76) operation.

Contents

ObjectReference

The reference that identifies the object.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDeleteObjectResponse

Represents the output of a DeleteObject (p. 76) response operation.

Contents

The members of this structure are context-dependent.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDetachFromIndex

Detaches the specified object from the specified index inside a BatchRead (p. 28) operation. For more information, see DetachFromIndex (p. 85) and BatchRead:Operations (p. 31).

Contents

IndexReference

A reference to the index object.

Type: ObjectReference (p. 351) object

Required: Yes

TargetReference

A reference to the object being detached from the index.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDetachFromIndexResponse

Represents the output of a DetachFromIndex (p. 85) response operation.

Contents

DetachedObjectIdentifier

The ObjectIdentifier of the object that was detached from the index.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDetachObject

Represents the output of a DetachObject (p. 89) operation.

Contents

BatchReferenceName

The batch reference name. See Batches for more information.

Type: String
Required: No

LinkName

The name of the link.

Type: String
Length Constraints: Minimum length of 1. Maximum length of 64.
Pattern: \[^\/%\[\]\(\)\:\\{\}\#\@!\?\s\;\]+
Required: Yes

ParentReference

Parent reference from which the object with the specified link name is detached.

Type: ObjectReference (p. 351) object
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDetachObjectResponse

Represents the output of a DetachObject (p. 89) response operation.

Contents

detachedObjectIdentifier

The ObjectIdentifier of the detached object.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDetachPolicy

Detaches the specified policy from the specified directory inside a BatchWrite (p. 38) operation. For more information, see DetachPolicy (p. 93) and BatchWrite:Operations (p. 42).

Contents

ObjectReference

Reference that identifies the object whose policy object will be detached.

Type: ObjectReference (p. 351) object

Required: Yes

PolicyReference

Reference that identifies the policy object.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDetachPolicyResponse

Represents the output of a DetachPolicy (p. 93) response operation.

Contents

The members of this structure are context-dependent.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDetachTypedLink

Detaches a typed link from a specified source and target object inside a BatchRead (p. 28) operation. For more information, see DetachTypedLink (p. 96) and BatchRead:Operations (p. 31).

Contents

TypedLinkSpecifier

Used to accept a typed link specifier as input.

Type: TypedLinkSpecifier (p. 366) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchDetachTypedLinkResponse

Represents the output of a DetachTypedLink (p. 96) response operation.

Contents

The members of this structure are context-dependent.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchGetLinkAttributes

Retrieves attributes that are associated with a typed link inside a BatchRead (p. 28) operation. For more information, see GetLinkAttributes (p. 116) and BatchRead:Operations (p. 31).

Contents

AttributeNames

A list of attribute names whose values will be retrieved.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]+$

Required: Yes

TypedLinkSpecifier

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 366) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchGetLinkAttributesResponse

Represents the output of a GetLinkAttributes (p. 116) response operation.

Contents

Attributes

The attributes that are associated with the typed link.

Type: Array of AttributeKeyAndValue (p. 263) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchGetObjectAttributes

Retrieves attributes within a facet that are associated with an object inside an BatchRead (p. 28) operation. For more information, see GetObjectAttributes (p. 120) and BatchRead:Operations (p. 31).

Contents

AttributeNames

List of attribute names whose values will be retrieved.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]+$

Required: Yes

ObjectReference

Reference that identifies the object whose attributes will be retrieved.

Type: ObjectReference (p. 351) object

Required: Yes

SchemaFacet

Identifier for the facet whose attributes will be retrieved. See SchemaFacet (p. 356) for details.

Type: SchemaFacet (p. 356) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchGetObjectAttributesResponse

Represents the output of a GetObjectAttributes (p. 120) response operation.

Contents

Attributes

The attribute values that are associated with an object.

Type: Array of AttributeKeyAndValue (p. 263) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchGetObjectInformation

Retrieves metadata about an object inside a BatchRead (p. 28) operation. For more information, see GetObjectInformation (p. 124) and BatchRead:Operations (p. 31).

Contents

ObjectReference

A reference to the object.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchGetObjectInformationResponse

Represents the output of a GetObjectInformation (p. 124) response operation.

Contents

ObjectIdentifier

The ObjectIdentifier of the specified object.

Type: String
Required: No

SchemaFacets

The facets attached to the specified object.

Type: Array of SchemaFacet (p. 356) objects
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListAttachedIndices

Lists indices attached to an object inside a BatchRead (p. 28) operation. For more information, see ListAttachedIndices (p. 140) and BatchRead:Operations (p. 31).

Contents

MaxResults

The maximum number of results to retrieve.
Type: Integer
Valid Range: Minimum value of 1.
Required: No

NextToken

The pagination token.
Type: String
Required: No

TargetReference

A reference to the object that has indices attached.
Type: ObjectReference (p. 351) object
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListAttachedIndicesResponse

Represents the output of a ListAttachedIndices (p. 140) response operation.

Contents

IndexAttachments

The indices attached to the specified object.

Type: Array of IndexAttachment (p. 345) objects

Required: No

NextToken

The pagination token.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 366) information for an object inside a BatchRead (p. 28) operation. For more information, see ListIncomingTypedLinks (p. 163) and BatchRead:Operations (p. 31).

Contents

FilterAttributeRanges

Provides range filters for multiple attributes. When providing ranges to typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range.

Type: Array of TypedLinkAttributeRange (p. 362) objects

Required: No

FilterTypedLink

Filters are interpreted in the order of the attributes on the typed link facet, not the order in which they are supplied to any API calls.

Type: TypedLinkSchemaAndFacetName (p. 365) object

Required: No

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

The reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
• AWS SDK for Ruby V2
BatchListIncomingTypedLinksResponse

Represents the output of a `ListIncomingTypedLinks` response operation.

**Contents**

**LinkSpecifiers**

- Returns one or more typed link specifiers as output.
- Type: Array of `TypedLinkSpecifier` objects
- Required: No

**NextToken**

- The pagination token.
- Type: String
- Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListIndex

Lists objects attached to the specified index inside a BatchRead (p. 28) operation. For more information, see ListIndex (p. 169) and BatchRead:Operations (p. 31).

Contents

IndexReference

The reference to the index to list.

Type: ObjectReference (p. 351) object

Required: Yes

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

RangesOnIndexedValues

Specifies the ranges of indexed values that you want to query.

Type: Array of ObjectAttributeRange (p. 349) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
**BatchListIndexResponse**

Represents the output of a `ListIndex (p. 169)` response operation.

**Contents**

**IndexAttachments**

The objects and indexed values attached to the index.

Type: Array of `IndexAttachment (p. 345)` objects

Required: No

**NextToken**

The pagination token.

Type: String

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListObjectAttributes

Represents the output of a ListObjectAttributes (p. 177) operation.

Contents

FacetFilter

Used to filter the list of object attributes that are associated with a certain facet.

Type: SchemaFacet (p. 356) object

Required: No

MaxResults

The maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

Reference of the object whose attributes need to be listed.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListObjectAttributesResponse

Represents the output of a ListObjectAttributes (p. 177) response operation.

Contents

Attributes

The attributes map that is associated with the object. AttributeArn is the key; attribute value is the value.

Type: Array of AttributeKeyAndValue (p. 263) objects

Required: No

NextToken

The pagination token.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListObjectChildren

Represents the output of a ListObjectChildren (p. 182) operation.

Contents

MaxResults

Maximum number of items to be retrieved in a single call. This is an approximate number.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

Reference of the object for which child objects are being listed.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListObjectChildrenResponse

Represents the output of a ListObjectChildren (p. 182) response operation.

Contents

Children

The children structure, which is a map with the key as the LinkName and ObjectIdentifier as the value.

Type: String to string map

Key Length Constraints: Minimum length of 1. Maximum length of 64.

Key Pattern: [^\/[\[]\((\)\):{}\#@!\?\s\;]+

Required: No

NextToken

The pagination token.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListObjectParentPaths

Retrieves all available parent paths for any object type such as node, leaf node, policy node, and index node objects inside a BatchRead (p. 28) operation. For more information, see ListObjectParentPaths (p. 186) and BatchRead:Operations (p. 31).

Contents

MaxResults

The maximum number of results to retrieve.
Type: Integer
Valid Range: Minimum value of 1.
Required: No

NextToken

The pagination token.
Type: String
Required: No

ObjectReference

The reference that identifies the object whose attributes will be listed.
Type: ObjectReference (p. 351) object
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListObjectParentPathsResponse

Represents the output of a ListObjectParentPaths (p. 186) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

PathToObjectIdentifiersList

Returns the path to the ObjectIdentifiers that are associated with the directory.

Type: Array of PathToObjectIdentifiers (p. 352) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListObjectPolicies

Returns policies attached to an object in pagination fashion inside a BatchRead (p. 28) operation. For more information, see ListObjectPolicies (p. 193) and BatchRead:Operations (p. 31).

Contents

MaxResults

The maximum number of results to retrieve.
Type: Integer
Valid Range: Minimum value of 1.
Required: No

NextToken

The pagination token.
Type: String
Required: No

ObjectReference

The reference that identifies the object whose attributes will be listed.
Type: ObjectReference (p. 351) object
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListObjectPoliciesResponse

Represents the output of a ListObjectPolicies (p. 193) response operation.

Contents

AttachedPolicyIds

A list of policy ObjectIdentifiers, that are attached to the object.

Type: Array of strings
Required: No

NextToken

The pagination token.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListOutgoingTypedLinks

Returns a paginated list of all the outgoing TypedLinkSpecifier (p. 366) information for an object inside a BatchRead (p. 28) operation. For more information, see ListOutgoingTypedLinks (p. 196) and BatchRead:Operations (p. 31).

Contents

FilterAttributeRanges

Provides range filters for multiple attributes. When providing ranges to typed link selection, any inexact ranges must be specified at the end. Any attributes that do not have a range specified are presumed to match the entire range.

Type: Array of TypedLinkAttributeRange (p. 362) objects

Required: No

FilterTypedLink

Filters are interpreted in the order of the attributes defined on the typed link facet, not the order they are supplied to any API calls.

Type: TypedLinkSchemaAndFacetName (p. 365) object

Required: No

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

The reference that identifies the object whose attributes will be listed.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
• AWS SDK for Ruby V2
BatchListOutgoingTypedLinksResponse

Represents the output of a ListOutgoingTypedLinks (p. 196) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

TypedLinkSpecifiers

Returns a typed link specifier as output.

Type: Array of TypedLinkSpecifier (p. 366) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListPolicyAttachments

Returns all of the ObjectIdentifiers to which a given policy is attached inside a BatchRead (p. 28) operation. For more information, see ListPolicyAttachments (p. 201) and BatchRead:Operations (p. 31).

Contents

MaxResults

The maximum number of results to retrieve.
Type: Integer
Valid Range: Minimum value of 1.
Required: No

NextToken

The pagination token.
Type: String
Required: No

PolicyReference

The reference that identifies the policy object.
Type: ObjectReference (p. 351) object
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchListPolicyAttachmentsResponse

Represents the output of a ListPolicyAttachments (p. 201) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

ObjectIdentifiers

A list of ObjectIdentifiers to which the policy is attached.

Type: Array of strings

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchLookupPolicy

Lists all policies from the root of the Directory to the object specified inside a BatchRead (p. 28) operation. For more information, see LookupPolicy (p. 217) and BatchRead:Operations (p. 31).

Contents

MaxResults

The maximum number of results to retrieve.

Type: Integer

Valid Range: Minimum value of 1.

Required: No

NextToken

The pagination token.

Type: String

Required: No

ObjectReference

Reference that identifies the object whose policies will be looked up.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchLookupPolicyResponse

Represents the output of a LookupPolicy (p. 217) response operation.

Contents

NextToken

The pagination token.

Type: String

Required: No

PolicyToPathList

Provides list of path to policies. Policies contain PolicyId, ObjectIdentifier, and PolicyType. For more information, see Policies.

Type: Array of PolicyToPath (p. 354) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchReadException

The batch read exception structure, which contains the exception type and message.

Contents

Message

An exception message that is associated with the failure.

Type: String

Required: No

Type

A type of exception, such as InvalidArnException.

Type: String

Valid Values: ValidationException | InvalidArnException | ResourceNotFoundException | InvalidNextTokenException | AccessDeniedException | NotNodeException | FacetValidationException | CannotListParentOfRootException | NotIndexException | NotPolicyException | DirectoryNotEnabledException | LimitExceededException | InternalServiceException

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchReadOperation

Represents the output of a BatchRead operation.

Contents

GetLinkAttributes

Retrieves attributes that are associated with a typed link.
Type: BatchGetLinkAttributes (p. 291) object
Required: No

GetObjectAttributes

Retrieves attributes within a facet that are associated with an object.
Type: BatchGetObjectAttributes (p. 293) object
Required: No

GetObjectInformation

Retrieves metadata about an object.
Type: BatchGetObjectInformation (p. 295) object
Required: No

ListAttachedIndices

Lists indices attached to an object.
Type: BatchListAttachedIndices (p. 297) object
Required: No

ListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 366) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed link.
Type: BatchListIncomingTypedLinks (p. 299) object
Required: No

ListIndex

Lists objects attached to the specified index.
Type: BatchListIndex (p. 302) object
Required: No

ListObjectAttributes

Lists all attributes that are associated with an object.
Type: BatchListObjectAttributes (p. 304) object
Required: No
**ListObjectChildren**

Returns a paginated list of child objects that are associated with a given object.

Type: `BatchListObjectChildren (p. 306)` object

Required: No

**ListObjectParentPaths**

Retrieves all available parent paths for any object type such as node, leaf node, policy node, and index node objects. For more information about objects, see Directory Structure.

Type: `BatchListObjectParentPaths (p. 308)` object

Required: No

**ListObjectPolicies**

Returns policies attached to an object in pagination fashion.

Type: `BatchListObjectPolicies (p. 310)` object

Required: No

**ListOutgoingTypedLinks**

Returns a paginated list of all the outgoing `TypedLinkSpecifier (p. 366)` information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed link.

Type: `BatchListOutgoingTypedLinks (p. 312)` object

Required: No

**ListPolicyAttachments**

Returns all of the `ObjectIdentifiers` to which a given policy is attached.

Type: `BatchListPolicyAttachments (p. 315)` object

Required: No

**LookupPolicy**

Lists all policies from the root of the Directory (p. 339) to the object specified. If there are no policies present, an empty list is returned. If policies are present, and if some objects don't have the policies attached, it returns the `ObjectIdentifier` for such objects. If policies are present, it returns `ObjectIdentifier`, `policyId`, and `policyType`. Paths that don't lead to the root from the target object are ignored. For more information, see Policies.

Type: `BatchLookupPolicy (p. 317)` object

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
• AWS SDK for Ruby V2
BatchReadOperationResponse

Represents the output of a BatchRead response operation.

Contents

ExceptionResponse

Identifies which operation in a batch has failed.

Type: BatchReadException (p. 319) object

Required: No

SuccessfulResponse

Identifies which operation in a batch has succeeded.

Type: BatchReadSuccessfulResponse (p. 324) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchReadSuccessfulResponse

Represents the output of a BatchRead success response operation.

Contents

GetLinkAttributes

The list of attributes to retrieve from the typed link.

Type: BatchGetLinkAttributesResponse (p. 292) object

Required: No

GetObjectAttributes

Retrieves attributes within a facet that are associated with an object.

Type: BatchGetObjectAttributesResponse (p. 294) object

Required: No

GetObjectInformation

Retrieves metadata about an object.

Type: BatchGetObjectInformationResponse (p. 296) object

Required: No

ListAttachedIndices

Lists indices attached to an object.

Type: BatchListAttachedIndicesResponse (p. 298) object

Required: No

ListIncomingTypedLinks

Returns a paginated list of all the incoming TypedLinkSpecifier (p. 366) information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed link.

Type: BatchListIncomingTypedLinksResponse (p. 301) object

Required: No

ListIndex

Lists objects attached to the specified index.

Type: BatchListIndexResponse (p. 303) object

Required: No

ListObjectAttributes

Lists all attributes that are associated with an object.

Type: BatchListObjectAttributesResponse (p. 305) object

Required: No
**ListObjectChildren**

Returns a paginated list of child objects that are associated with a given object.

Type: `BatchListObjectChildrenResponse (p. 307)` object

Required: No

**ListObjectParentPaths**

Retrieves all available parent paths for any object type such as node, leaf node, policy node, and index node objects. For more information about objects, see Directory Structure.

Type: `BatchListObjectParentPathsResponse (p. 309)` object

Required: No

**ListObjectPolicies**

Returns policies attached to an object in pagination fashion.

Type: `BatchListObjectPoliciesResponse (p. 311)` object

Required: No

**ListOutgoingTypedLinks**

Returns a paginated list of all the outgoing `TypedLinkSpecifier (p. 366)` information for an object. It also supports filtering by typed link facet and identity attributes. For more information, see Typed link.

Type: `BatchListOutgoingTypedLinksResponse (p. 314)` object

Required: No

**ListPolicyAttachments**

Returns all of the `ObjectIdentifiers` to which a given policy is attached.

Type: `BatchListPolicyAttachmentsResponse (p. 316)` object

Required: No

**LookupPolicy**

Lists all policies from the root of the Directory (p. 339) to the object specified. If there are no policies present, an empty list is returned. If policies are present, and if some objects don't have the policies attached, it returns the `ObjectIdentifier` for such objects. If policies are present, it returns `ObjectIdentifier`, `policyId`, and `policyType`. Paths that don't lead to the root from the target object are ignored. For more information, see Policies.

Type: `BatchLookupPolicyResponse (p. 318)` object

Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
See Also

- AWS SDK for Ruby V2
BatchRemoveFacetFromObject

A batch operation to remove a facet from an object.

Contents

ObjectReference

A reference to the object whose facet will be removed.

Type: ObjectReference (p. 351) object

Required: Yes

SchemaFacet

The facet to remove from the object.

Type: SchemaFacet (p. 356) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchRemoveFacetFromObjectResponse

An empty result that represents success.

Contents

The members of this structure are context-dependent.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchUpdateLinkAttributes

Updates a given typed link's attributes inside a BatchRead (p. 28) operation. Attributes to be updated must not contribute to the typed link's identity, as defined by its IdentityAttributeOrder. For more information, see UpdateLinkAttributes (p. 240) and BatchRead:Operations (p. 31).

Contents

AttributeUpdates

The attributes update structure.

Type: Array of LinkAttributeUpdate (p. 347) objects

Required: Yes

TypedLinkSpecifier

Allows a typed link specifier to be accepted as input.

Type: TypedLinkSpecifier (p. 366) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchUpdateLinkAttributesResponse

Represents the output of a UpdateLinkAttributes (p. 240) response operation.

Contents

The members of this structure are context-dependent.

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchUpdateObjectAttributes

Represents the output of a BatchUpdate operation.

Contents

AttributeUpdates

Attributes update structure.

Type: Array of ObjectAttributeUpdate (p. 350) objects

Required: Yes

ObjectReference

Reference that identifies the object.

Type: ObjectReference (p. 351) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchUpdateObjectAttributesResponse

Represents the output of a BatchUpdate response operation.

Contents

ObjectIdentifier

ID that is associated with the object.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
BatchWriteOperation

Represents the output of a BatchWrite operation.

Contents

AddFacetToObject

A batch operation that adds a facet to an object.
Type: BatchAddFacetToObject (p. 265) object
Required: No

AttachObject

Attaches an object to a Directory (p. 339).
Type: BatchAttachObject (p. 267) object
Required: No

AttachPolicy

Attaches a policy object to a regular object. An object can have a limited number of attached policies.
Type: BatchAttachPolicy (p. 269) object
Required: No

AttachToIndex

Attaches the specified object to the specified index.
Type: BatchAttachToIndex (p. 271) object
Required: No

AttachTypedLink

Attaches a typed link to a specified source and target object. For more information, see Typed link.
Type: BatchAttachTypedLink (p. 273) object
Required: No

CreateIndex

Creates an index object. See Indexing for more information.
Type: BatchCreateIndex (p. 275) object
Required: No

CreateObject

Creates an object.
Type: BatchCreateObject (p. 278) object
Required: No

DeleteObject

Deletes an object in a Directory (p. 339).
See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for Ruby V2
BatchWriteOperationResponse

Represents the output of a BatchWrite response operation.

Contents

AddFacetToObject

The result of an add facet to object batch operation.

Type: BatchAddFacetToObjectResponse (p. 266) object

Required: No

AttachObject

Attaches an object to a Directory (p. 339).

Type: BatchAttachObjectResponse (p. 268) object

Required: No

AttachPolicy

Attaches a policy object to a regular object. An object can have a limited number of attached policies.

Type: BatchAttachPolicyResponse (p. 270) object

Required: No

AttachToIndex

Attaches the specified object to the specified index.

Type: BatchAttachToIndexResponse (p. 272) object

Required: No

AttachTypedLink

Attaches a typed link to a specified source and target object. For more information, see Typed link.

Type: BatchAttachTypedLinkResponse (p. 274) object

Required: No

CreateIndex

Creates an index object. See Indexing for more information.

Type: BatchCreateIndexResponse (p. 277) object

Required: No

CreateObject

Creates an object in a Directory (p. 339).

Type: BatchCreateObjectResponse (p. 280) object

Required: No

DeleteObject

Deletes an object in a Directory (p. 339).
Type: BatchDeleteObjectResponse (p. 282) object
Required: No

**DetachFromIndex**

Detaches the specified object from the specified index.

Type: BatchDetachFromIndexResponse (p. 284) object
Required: No

**DetachObject**

Detaches an object from a Directory (p. 339).

Type: BatchDetachObjectResponse (p. 286) object
Required: No

**DetachPolicy**

Detaches a policy from a Directory (p. 339).

Type: BatchDetachPolicyResponse (p. 288) object
Required: No

**DetachTypedLink**

Detaches a typed link from a specified source and target object. For more information, see Typed link.

Type: BatchDetachTypedLinkResponse (p. 290) object
Required: No

**RemoveFacetFromObject**

The result of a batch remove facet from object operation.

Type: BatchRemoveFacetFromObjectResponse (p. 328) object
Required: No

**UpdateLinkAttributes**

Represents the output of a BatchWrite response operation.

Type: BatchUpdateLinkAttributesResponse (p. 330) object
Required: No

**UpdateObjectAttributes**

Updates a given object's attributes.

Type: BatchUpdateObjectAttributesResponse (p. 332) object
Required: No

**See Also**

For more information about using this API in one of the language-specific AWS SDKs, see the following:
• AWS SDK for C++
• AWS SDK for Go
• AWS SDK for Java
• AWS SDK for Ruby V2
Directory

Directory structure that includes the directory name and directory ARN.

Contents

**CreationDateTime**

The date and time when the directory was created.

Type: Timestamp

Required: No

**DirectoryArn**

The Amazon Resource Name (ARN) that is associated with the directory. For more information, see Arn Examples (p. 367).

Type: String

Required: No

**Name**

The name of the directory.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: No

**State**

The state of the directory. Can be either Enabled, Disabled, or Deleted.

Type: String

Valid Values: ENABLED | DISABLED | Deleted

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Facet

A structure that contains Name, ARN, Attributes, Rule (p. 355)s, and ObjectTypes. See Facets for more information.

Contents

FacetStyle

There are two different styles that you can define on any given facet, Static and Dynamic. For static facets, all attributes must be defined in the schema. For dynamic facets, attributes can be defined during data plane operations.

Type: String

Valid Values: STATIC  |  DYNAMIC

Required: No

Name

The name of the Facet (p. 340).

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: No

ObjectType

The object type that is associated with the facet. See CreateFacet:ObjectType (p. 51) for more details.

Type: String

Valid Values: NODE  |  LEAF_NODE  |  POLICY  |  INDEX

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
FacetAttribute

An attribute that is associated with the Facet (p. 340).

Contents

AttributeDefinition

A facet attribute consists of either a definition or a reference. This structure contains the attribute definition. See Attribute References for more information.

Type: FacetAttributeDefinition (p. 342) object

Required: No

AttributeReference

An attribute reference that is associated with the attribute. See Attribute References for more information.

Type: FacetAttributeReference (p. 343) object

Required: No

Name

The name of the facet attribute.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9_.-]*$ 

Required: Yes

RequiredBehavior

The required behavior of the FacetAttribute.

Type: String

Valid Values: REQUIRED_ALWAYS | NOT_REQUIRED

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
FacetAttributeDefinition

A facet attribute definition. See Attribute References for more information.

Contents

DefaultValue

The default value of the attribute (if configured).

Type: TypedAttributeValue (p. 358) object

Required: No

IsImmutable

Whether the attribute is mutable or not.

Type: Boolean

Required: No

Rules

Validation rules attached to the attribute definition.

Type: String to Rule (p. 355) object map

Key Length Constraints: Minimum length of 1. Maximum length of 64.

Key Pattern: ^[a-zA-Z0-9._-]*$*

Required: No

Type

The type of the attribute.

Type: String

Valid Values: STRING | BINARY | BOOLEAN | NUMBER | DATETIME | VARIANT

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
FacetAttributeReference

The facet attribute reference that specifies the attribute definition that contains the attribute facet name and attribute name.

Contents

TargetAttributeName

The target attribute name that is associated with the facet reference. See Attribute References for more information.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

TargetFacetName

The target facet name that is associated with the facet reference. See Attribute References for more information.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
FacetAttributeUpdate

A structure that contains information used to update an attribute.

Contents

Action

The action to perform when updating the attribute.

Type: String

Valid Values: CREATE_OR_UPDATE | DELETE

Required: No

Attribute

The attribute to update.

Type: FacetAttribute (p. 341) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
IndexAttachment

Represents an index and an attached object.

Contents

IndexedAttributes

The indexed attribute values.

Type: Array of AttributeKeyAndValue (p. 263) objects

Required: No

ObjectIdentifier

In response to ListIndex (p. 169), the ObjectIdentifier of the object attached to the index. In response to ListAttachedIndices (p. 140), the ObjectIdentifier of the index attached to the object. This field will always contain the ObjectIdentifier of the object on the opposite side of the attachment specified in the query.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
LinkAttributeAction

The action to take on a typed link attribute value. Updates are only supported for attributes which don’t contribute to link identity.

Contents

AttributeActionType

A type that can be either UPDATE_OR_CREATE or DELETE.

Type: String

Valid Values: CREATE_OR_UPDATE | DELETE

Required: No

AttributeUpdateValue

The value that you want to update to.

Type: TypedAttributeValue (p. 358) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
LinkAttributeUpdate

Structure that contains attribute update information.

Contents

AttributeAction

The action to perform as part of the attribute update.

Type: LinkAttributeAction (p. 346) object

Required: No

AttributeKey

The key of the attribute being updated.

Type: AttributeKey (p. 262) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
ObjectAttributeAction

The action to take on the object attribute.

Contents

ObjectAttributeActionType

A type that can be either Update or Delete.

Type: String

Valid Values: CREATE_OR_UPDATE | DELETE

Required: No

ObjectAttributeUpdateValue

The value that you want to update to.

Type: TypedAttributeValue (p. 358) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
ObjectAttributeRange

A range of attributes.

Contents

AttributeKey

The key of the attribute that the attribute range covers.

Type: AttributeKey (p. 262) object

Required: No

Range

The range of attribute values being selected.

Type: TypedAttributeValueRange (p. 359) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
ObjectAttributeUpdate

Structure that contains attribute update information.

Contents

ObjectAttributeAction

The action to perform as part of the attribute update.

Type: ObjectAttributeAction (p. 348) object

Required: No

ObjectAttributeKey

The key of the attribute being updated.

Type: AttributeKey (p. 262) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
ObjectReference

The reference that identifies an object.

Contents

Selector

A path selector supports easy selection of an object by the parent/child links leading to it from the directory root. Use the link names from each parent/child link to construct the path. Path selectors start with a slash (/) and link names are separated by slashes. For more information about paths, see Accessing Objects. You can identify an object in one of the following ways:

- $ObjectIdentifier - An object identifier is an opaque string provided by Amazon Cloud Directory. When creating objects, the system will provide you with the identifier of the created object. An object’s identifier is immutable and no two objects will ever share the same object identifier
- /some/path - Identifies the object based on path
- #SomeBatchReference - Identifies the object in a batch call

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
PathToObjectIdentifiers

Returns the path to the ObjectIdentifiers that is associated with the directory.

Contents

**ObjectIdentifiers**

Lists ObjectIdentifiers starting from directory root to the object in the request.

Type: Array of strings

Required: No

**Path**

The path that is used to identify the object starting from directory root.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
PolicyAttachment

Contains the PolicyType, PolicyId, and the ObjectIdentifier to which it is attached. For more information, see Policies.

Contents

ObjectIdentifier

The ObjectIdentifier that is associated with PolicyAttachment.

Type: String
Required: No

PolicyId

The ID of PolicyAttachment.

Type: String
Required: No

PolicyType

The type of policy that can be associated with PolicyAttachment.

Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
PolicyToPath

Used when a regular object exists in a Directory (p. 339) and you want to find all of the policies that are associated with that object and the parent to that object.

Contents

Path

The path that is referenced from the root.

Type: String

Required: No

Policies

List of policy objects.

Type: Array of PolicyAttachment (p. 353) objects

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Rule

Contains an Amazon Resource Name (ARN) and parameters that are associated with the rule.

Contents

Parameters

The minimum and maximum parameters that are associated with the rule.

Type: String to string map

Required: No

Type

The type of attribute validation rule.

Type: String

Valid Values: BINARY_LENGTH | NUMBER_COMPARISON | STRING_FROM_SET | STRING_LENGTH

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
SchemaFacet

A facet.

Contents

FacetName

The name of the facet.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: No

SchemaArn

The ARN of the schema that contains the facet with no minor component. See Arn Examples (p. 367) and In-Place Schema Upgrade for a description of when to provide minor versions.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Tag

The tag structure that contains a tag key and value.

Contents

Key

The key that is associated with the tag.

Type: String

Required: No

Value

The value that is associated with the tag.

Type: String

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
TypedAttributeValue

Represents the data for a typed attribute. You can set one, and only one, of the elements. Each attribute in an item is a name-value pair. Attributes have a single value.

Contents

BinaryValue

A binary data value.
Type: Base64-encoded binary data object
Required: No

BooleanValue

A Boolean data value.
Type: Boolean
Required: No

DatetimeValue

A date and time value.
Type: Timestamp
Required: No

NumberValue

A number data value.
Type: String
Required: No

StringValue

A string data value.
Type: String
Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
TypedAttributeValueRange

A range of attribute values. For more information, see Range Filters.

Contents

EndMode

The inclusive or exclusive range end.

Type: String

Valid Values: FIRST | LAST | LAST_BEFORE_MISSING_VALUES | INCLUSIVE | EXCLUSIVE

Required: Yes

EndValue

The attribute value to terminate the range at.

Type: TypedAttributeValue (p. 358) object

Required: No

StartMode

The inclusive or exclusive range start.

Type: String

Valid Values: FIRST | LAST | LAST_BEFORE_MISSING_VALUES | INCLUSIVE | EXCLUSIVE

Required: Yes

StartValue

The value to start the range at.

Type: TypedAttributeValue (p. 358) object

Required: No

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
TypedLinkAttributeDefinition

A typed link attribute definition.

Contents

DefaultValue

The default value of the attribute (if configured).
Type: TypedAttributeValue (p. 358) object
Required: No

IsImmutable

Whether the attribute is mutable or not.
Type: Boolean
Required: No

Name

The unique name of the typed link attribute.
Type: String
Length Constraints: Minimum length of 1. Maximum length of 64.
Pattern: ^[a-zA-Z0-9._-]*$  
Required: Yes

RequiredBehavior

The required behavior of the TypedLinkAttributeDefinition.
Type: String
Valid Values: REQUIRED_ALWAYS | NOT_REQUIRED
Required: Yes

Rules

Validation rules that are attached to the attribute definition.
Type: String to Rule (p. 355) object map
Key Length Constraints: Minimum length of 1. Maximum length of 64.
Key Pattern: ^[a-zA-Z0-9._-]*$  
Required: No

Type

The type of the attribute.
Type: String
Valid Values: STRING | BINARY | BOOLEAN | NUMBER | DATETIME | VARIANT
Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
TypedLinkAttributeRange

Identifies the range of attributes that are used by a specified filter.

Contents

AttributeName

The unique name of the typed link attribute.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: No

Range

The range of attribute values that are being selected.

Type: TypedAttributeValueRange (p. 359) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
TypedLinkFacet

Defines the typed links structure and its attributes. To create a typed link facet, use the CreateTypedLinkFacet API.

Contents

Attributes

A set of key-value pairs associated with the typed link. Typed link attributes are used when you have data values that are related to the link itself, and not to one of the two objects being linked. Identity attributes also serve to distinguish the link from others of the same type between the same objects.

Type: Array of TypedLinkAttributeDefinition objects

Required: Yes

IdentityAttributeOrder

The set of attributes that distinguish links made from this facet from each other, in the order of significance. Listing typed links can filter on the values of these attributes. See ListOutgoingTypedLinks and ListIncomingTypedLinks for details.

Type: Array of strings

Length Constraints: Minimum length of 1. Maximum length of 64.

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

Name

The unique name of the typed link facet.

Type: String

Pattern: ^[a-zA-Z0-9._-]*$

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
TypedLinkFacetAttributeUpdate

A typed link facet attribute update.

Contents

Action

The action to perform when updating the attribute.

Type: String

Valid Values: CREATE_OR_UPDATE | DELETE

Required: Yes

Attribute

The attribute to update.

Type: TypedLinkAttributeDefinition (p. 360) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
TypedLinkSchemaAndFacetName

Identifies the schema Amazon Resource Name (ARN) and facet name for the typed link.

Contents

SchemaArn

The Amazon Resource Name (ARN) that is associated with the schema. For more information, see Arn Examples (p. 367).

Type: String

Required: Yes

TypedLinkName

The unique name of the typed link facet.

Type: String

Pattern: /^[a-zA-Z0-9._-]*$/

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
TypedLinkSpecifier

Contains all the information that is used to uniquely identify a typed link. The parameters discussed in this topic are used to uniquely specify the typed link being operated on. The AttachTypedLink (p. 23) API returns a typed link specifier while the DetachTypedLink (p. 96) API accepts one as input. Similarly, the ListIncomingTypedLinks (p. 163) and ListOutgoingTypedLinks (p. 196) API operations provide typed link specifiers as output. You can also construct a typed link specifier from scratch.

Contents

IdentityAttributeValues

Identifies the attribute value to update.

Type: Array of AttributeNameAndValue (p. 264) objects

Required: Yes

SourceObjectReference

Identifies the source object that the typed link will attach to.

Type: ObjectReference (p. 351) object

Required: Yes

TargetObjectReference

Identifies the target object that the typed link will attach to.

Type: ObjectReference (p. 351) object

Required: Yes

TypedLinkFacet

Identifies the typed link facet that is associated with the typed link.

Type: TypedLinkSchemaAndFacetName (p. 365) object

Required: Yes

See Also

For more information about using this API in one of the language-specific AWS SDKs, see the following:

- AWS SDK for C++
- AWS SDK for Go
- AWS SDK for Java
- AWS SDK for Ruby V2
Arn Examples

The following examples are separated by ARN types and show how they can be constructed for each schema state (where applicable). A schema can exist in three states:

- **Development**: This is a mutable state of the schema. All new schemas are in the development state. Once the schema is finalized, it can be published. All development schemas are under the development sub root of the schema metadata container.
- **Published**: Published schemas are immutable and have a version associated with them. All published schemas are under the published sub root of the schema container.
- **Applied**: Applied schemas are mutable in a way that allows you to add new schema facets. However, existing schema facets cannot be changed. You can apply only published schemas to directories. You can't apply schemas at the node level, but only at the directory root level.

### Schema Arns

<table>
<thead>
<tr>
<th>State</th>
<th>Format or Example</th>
<th>Schema Arn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Example</td>
<td>arn:aws:clouddirectory:us-west-2:12345678910:schema/published/cognito/1.0</td>
</tr>
<tr>
<td></td>
<td>Example</td>
<td>arn:aws:clouddirectory:us-west-2:12345678910:schema/published/cognito/1.0/XYZ</td>
</tr>
<tr>
<td></td>
<td>Example</td>
<td>arn:aws:clouddirectory:us-west-2:12345678910:directory/ARIqk1HD-UjdtmcIrJHEvPI/schema/cognito/1.0</td>
</tr>
</tbody>
</table>
### Directory Arns

<table>
<thead>
<tr>
<th>State</th>
<th>Format or Example</th>
<th>Schema Arn</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>arn:aws:clouddirectory:us-west-2:12345678910:directory/ARIk1HD-UjdtmcIrJHEvPI/schema/cognito/1.0/XYZ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Arn Type</th>
<th>Format or example</th>
<th>Arn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Example</td>
<td>arn:aws:clouddirectory:us-west-2:12345678910:directory/ARIk1HD-UjdtmcIrJHEvPI</td>
</tr>
</tbody>
</table>
Logging Cloud Directory API Calls Using CloudTrail

Amazon Cloud Directory is integrated with CloudTrail, a service that captures all of the Cloud Directory API calls and delivers the log files to an Amazon S3 bucket that you specify. CloudTrail captures API calls from the Cloud Directory section of the AWS Directory Service console or from your code to the Cloud Directory APIs. Using the information collected by CloudTrail, you can determine the request that was made to Cloud Directory, the source IP address from which the request was made, who made the request, when it was made, and so on. For more information about CloudTrail, including how to configure and enable it, see the AWS CloudTrail User Guide.

Cloud Directory Information in CloudTrail

When CloudTrail logging is enabled in your AWS account, API calls made to Cloud Directory actions are tracked in CloudTrail log files, where they are written with other AWS service records. CloudTrail determines when to create and write to a new file based on a time period and file size.

The following Cloud Directory actions are logged by CloudTrail and are documented in this API Reference guide.

- ApplySchema (p. 8)
- CreateDirectory (p. 46)
- CreateFacet (p. 50)
- CreateSchema (p. 63)
- DeleteDirectory (p. 70)
- DeleteFacet (p. 73)
- DeleteSchema (p. 79)
- DisableDirectory (p. 100)
- EnableDirectory (p. 103)
- GetDirectory (p. 109)
- GetFacet (p. 112)
- GetSchemaAsJson (p. 128)
- ListAppliedSchemaArns (p. 136)
- ListDevelopmentSchemaArns (p. 144)
- ListDirectories (p. 148)
- ListFacetAttributes (p. 152)
- ListFacetNames (p. 159)
- ListPublishedSchemaArns (p. 204)
- ListTagsForResource (p. 207)
- PublishSchema (p. 221)
- PutSchemaFromJson (p. 224)
- TagResource (p. 230)
- UpdateFacet (p. 236)
Understanding Cloud Directory Log File Entries

CloudTrail log files can contain one or more log entries. Each entry lists multiple JSON-formatted events. A log entry represents a single request from any source and includes information about the requested action, the date and time of the action, request parameters, and so on. Log entries are not an ordered stack trace of the public API calls, so they do not appear in any specific order.

Sensitive information, such as passwords, authentication tokens, file comments, and file contents are redacted in the log entries.

The following example shows a CloudTrail log entry that demonstrates the following Cloud Directory actions:

- **ApplySchema**
- **ListDirectories**
- **CreateSchema**

```json
ApplySchema:
{
"eventVersion": "1.05",
"userIdentity": {
  "type": "IAMUser",
  "principalId": "ASDFLKJHEXAMPLE1QWERT",
  "arn": "arn:aws:iam::11223Example:user/nickpi",
  "accountId": "11223Example",
  "accessKeyId": "ALSKDJFHGQPWOExample",
  "userName": "nickpi"
}
```

For example, calls to the **ApplySchema**, **ListDirectories** and **CreateSchema** sections generate entries in the CloudTrail log files.

Every log entry contains information about who generated the request. The user identity information in the log entry helps you determine the following:

- Whether the request was made with root or IAM user credentials
- Whether the request was made with temporary security credentials for a role or federated user
- Whether the request was made by another AWS service

For more information, see the [CloudTrail userIdentity Element](#).

You can store your log files in your Amazon S3 bucket for as long as you want, but you can also define Amazon S3 lifecycle rules to archive or delete log files automatically. By default, your log files are encrypted with Amazon S3 server-side encryption (SSE).

If you want to be notified upon log file delivery, you can configure CloudTrail to publish Amazon SNS notifications when new log files are delivered. For more information, see [Configuring Amazon SNS Notifications for CloudTrail](#).

You can also aggregate Cloud Directory log files from multiple AWS regions and multiple AWS accounts into a single Amazon S3 bucket. For more information, see [Receiving CloudTrail Log Files from Multiple Regions](#) and [Receiving CloudTrail Log Files from Multiple Accounts](#).
Understanding Cloud Directory Log File Entries

```
,
  "eventTime": "2017-01-06T00:09:08Z",
  "eventSource": "clouddirectory.amazonaws.com",
  "eventName": "ApplySchema",
  "awsRegion": "us-east-1",
  "sourceIPAddress": "192.0.2.92",
  "userAgent": "Apache-HttpClient/4.3 (java 1.5)",
  "requestParameters": {
    "directoryArn": "arn:aws:clouddirectory:us-east-1:11223Example:directory/AscCGClGlkIqweR836u9pyU",
    "publishedSchemaArn": "arn:aws:clouddirectory:us-east-1:11223Example:schema/published/simple_org-123456/1.0"
  },
  "responseElements": {
    "directoryArn": "arn:aws:clouddirectory:us-east-1:11223Example:directory/AscCGClGlkIqweR836u9pyU",
    "appliedSchemaArn": "arn:aws:clouddirectory:us-east-1:11223Example:directory/AscCGClGlkIqweR836u9pyU/schema/simple_org-123456/1.0"
  },
  "requestID": "12j45lk0-a1s2-00ie-b180-2b70510bd66f",
  "eventID": "733409ba-a869-4e7b-95a1-4d5d204e697c",
  "eventType": "AwsApiCall",
  "recipientAccountId": "11223Example"
},

ListDirectories:
{
  "eventVersion": "1.05",
  "userIdentity": {
    "type": "IAMUser",
    "principalId": "ASDFLKJHEXAMPLE1QWERT",
    "arn": "arn:aws:iam::11223Example:user/nickpi",
    "accountId": "11223Example",
    "accessKeyId": "ALSKDJFHGQPWOExample",
    "userName": "nickpi"
  },
  "eventTime": "2017-01-06T00:09:54Z",
  "eventSource": "clouddirectory.amazonaws.com",
  "eventName": "ListDirectories",
  "awsRegion": "us-east-1",
  "sourceIPAddress": "192.0.2.92",
  "userAgent": "Apache-HttpClient/4.3 (java 1.5)",
  "requestParameters": {
    "maxResults": 10
  },
  "responseElements": null,
  "requestID": "56j45l00-a1s2-00ie-b180-2b70510bd66f",
  "eventID": "uwjdf8-f003-4ef7-b15d-8a34149479ac",
  "eventType": "AwsApiCall",
  "recipientAccountId": "11223Example"
}

CreateSchema:
{
  "eventVersion": "1.05",
  "userIdentity": {
    "type": "IAMUser",
    "principalId": "ASDFLKJHEXAMPLE1QWERT",
    "arn": "arn:aws:iam::11223Example:user/nickpi",
    "accountId": "11223Example",
    "accessKeyId": "ALSKDJFHGQPWOExample",
    "userName": "nickpi"
  },
  "eventTime": "2017-01-06T00:08:54Z",
  "eventSource": "clouddirectory.amazonaws.com",
  "eventName": "CreateSchema",
  "requestParameters": {
    "directoryArn": "arn:aws:clouddirectory:us-east-1:11223Example:directory/AscCGClGlkIqweR836u9pyU",
    "publishedSchemaArn": "arn:aws:clouddirectory:us-east-1:11223Example:schema/published/simple_org-123456/1.0"
  },
  "responseElements": {
    "directoryArn": "arn:aws:clouddirectory:us-east-1:11223Example:directory/AscCGClGlkIqweR836u9pyU",
    "appliedSchemaArn": "arn:aws:clouddirectory:us-east-1:11223Example:directory/AscCGClGlkIqweR836u9pyU/schema/simple_org-123456/1.0"
  },
  "requestID": "12j45lk0-a1s2-00ie-b180-2b70510bd66f",
  "eventID": "733409ba-a869-4e7b-95a1-4d5d204e697c",
  "eventType": "AwsApiCall",
  "recipientAccountId": "11223Example"
}
```
"awsRegion": "us-east-1",
"sourceIPAddress": "192.0.2.92",
"userAgent": "Apache-HttpClient/4.3 (java 1.5)",
"requestParameters": {
  "name": "newName-111"
},
"responseElements": {
  "schemaArn": "arn:aws:clouddirectory:us-east-1:11223Example:schema/development/newName-111"
},
"requestID": "4jshkjsg-d3a4-11e6-b180-dfhkasdh",
"eventID": "skdjf-0acb-426c-b64b-fsaj",
"eventType": "AwsApiCall",
"recipientAccountId": "11223Example"}
Common Parameters

The following list contains the parameters that all actions use for signing Signature Version 4 requests with a query string. Any action-specific parameters are listed in the topic for that action. For more information about Signature Version 4, see Signature Version 4 Signing Process in the Amazon Web Services General Reference.

**Action**

The action to be performed.

Type: string

Required: Yes

**Version**

The API version that the request is written for, expressed in the format YYYY-MM-DD.

Type: string

Required: Yes

**X-Amz-Algorithm**

The hash algorithm that you used to create the request signature.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Valid Values: AWS4-HMAC-SHA256

Required: Conditional

**X-Amz-Credential**

The credential scope value, which is a string that includes your access key, the date, the region you are targeting, the service you are requesting, and a termination string ("aws4_request"). The value is expressed in the following format: access_key/YYYYMMDD/region/service/aws4_request.

For more information, see Task 2: Create a String to Sign for Signature Version 4 in the Amazon Web Services General Reference.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string

Required: Conditional

**X-Amz-Date**

The date that is used to create the signature. The format must be ISO 8601 basic format (YYYYMMDD'T'HHMMSS'Z'). For example, the following date time is a valid X-Amz-Date value: 20120325T120000Z.

Condition: X-Amz-Date is optional for all requests; it can be used to override the date used for signing requests. If the Date header is specified in the ISO 8601 basic format, X-Amz-Date is
not required. When X-Amz-Date is used, it always overrides the value of the Date header. For more information, see Handling Dates in Signature Version 4 in the Amazon Web Services General Reference.

Type: string
Required: Conditional

X-Amz-Security-Token

The temporary security token that was obtained through a call to AWS Security Token Service (AWS STS). For a list of services that support temporary security credentials from AWS Security Token Service, go to AWS Services That Work with IAM in the IAM User Guide.

Condition: If you're using temporary security credentials from the AWS Security Token Service, you must include the security token.

Type: string
Required: Conditional

X-Amz-Signature

Specifies the hex-encoded signature that was calculated from the string to sign and the derived signing key.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string
Required: Conditional

X-Amz-SignedHeaders

Specifies all the HTTP headers that were included as part of the canonical request. For more information about specifying signed headers, see Task 1: Create a Canonical Request For Signature Version 4 in the Amazon Web Services General Reference.

Condition: Specify this parameter when you include authentication information in a query string instead of in the HTTP authorization header.

Type: string
Required: Conditional
Common Errors

This section lists the errors common to the API actions of all AWS services. For errors specific to an API action for this service, see the topic for that API action.

**AccessDeniedException**
You do not have sufficient access to perform this action.
HTTP Status Code: 400

**IncompleteSignature**
The request signature does not conform to AWS standards.
HTTP Status Code: 400

**InternalFailure**
The request processing has failed because of an unknown error, exception or failure.
HTTP Status Code: 500

**InvalidAction**
The action or operation requested is invalid. Verify that the action is typed correctly.
HTTP Status Code: 400

**InvalidClientTokenId**
The X.509 certificate or AWS access key ID provided does not exist in our records.
HTTP Status Code: 403

**InvalidParameterCombination**
Parameters that must not be used together were used together.
HTTP Status Code: 400

**InvalidParameterValue**
An invalid or out-of-range value was supplied for the input parameter.
HTTP Status Code: 400

**InvalidQueryParameter**
The AWS query string is malformed or does not adhere to AWS standards.
HTTP Status Code: 400

**MalformedQueryString**
The query string contains a syntax error.
HTTP Status Code: 404

**MissingAction**
The request is missing an action or a required parameter.
HTTP Status Code: 400
**MissingAuthenticationToken**

The request must contain either a valid (registered) AWS access key ID or X.509 certificate.

HTTP Status Code: 403

**MissingParameter**

A required parameter for the specified action is not supplied.

HTTP Status Code: 400

**OptInRequired**

The AWS access key ID needs a subscription for the service.

HTTP Status Code: 403

**RequestExpired**

The request reached the service more than 15 minutes after the date stamp on the request or more than 15 minutes after the request expiration date (such as for pre-signed URLs), or the date stamp on the request is more than 15 minutes in the future.

HTTP Status Code: 400

**ServiceUnavailable**

The request has failed due to a temporary failure of the server.

HTTP Status Code: 503

**ThrottlingException**

The request was denied due to request throttling.

HTTP Status Code: 400

**ValidationError**

The input fails to satisfy the constraints specified by an AWS service.

HTTP Status Code: 400
Document History

The following table describes the important changes to the documentation in this release of the Amazon Cloud Directory API Reference.

- **Latest documentation update:** May 23, 2018

<table>
<thead>
<tr>
<th>Change</th>
<th>Description</th>
<th>Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typed links</td>
<td>Added the <code>GetLinkAttributes (p. 116)</code> and <code>UpdateLinkAttributes (p. 240)</code> APIs for Typed Links.</td>
<td>May 23, 2018</td>
</tr>
<tr>
<td>New API</td>
<td>Added the <code>GetObjectAttributes (p. 120)</code> API.</td>
<td>April 10, 2018</td>
</tr>
<tr>
<td>In-Place Schema Upgrade</td>
<td>Added new APIs to support In-Place Schema Upgrade feature.</td>
<td>December 6, 2017</td>
</tr>
<tr>
<td>Batch updates</td>
<td>Added several new Read and Write batch operation APIs</td>
<td>July 25, 2017</td>
</tr>
<tr>
<td>Typed links</td>
<td>Additional APIs for new Typed Links feature</td>
<td>May 31, 2017</td>
</tr>
<tr>
<td>New guide</td>
<td>This is the first release of the Amazon Cloud Directory API Reference Guide.</td>
<td>January 26, 2017</td>
</tr>
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</table>