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What Is AWS Auto Scaling?

AWS Auto Scaling enables you to quickly discover the scalable AWS resources that are part of your application and configure dynamic scaling in a matter of minutes. The AWS Auto Scaling console provides a single user interface to use the automatic scaling features of multiple AWS services. It also offers recommendations to configure scaling for the scalable resources in your application.

For more information about the benefits of this service, see the AWS Auto Scaling FAQs.

Scalable Resources

Use AWS Auto Scaling to automatically scale the following resources that support your application:

- Amazon EC2 Auto Scaling groups
- Aurora DB clusters
- DynamoDB global secondary indexes
- DynamoDB tables
- ECS services
- Spot Fleet requests

How AWS Auto Scaling Works

With AWS Auto Scaling, you create a scaling plan with a set of instructions used to configure dynamic scaling for the scalable resources in your application. AWS Auto Scaling creates target tracking scaling policies for the scalable resources in your scaling plan. Target tracking scaling policies adjust the capacity of your scalable resource as required to maintain resource utilization at the target value that you specified. For more information, see Target Tracking Scaling Policies in the Application Auto Scaling User Guide.

You can create one scaling plan per application source (an AWS CloudFormation stack or a set of tags). You can add each scalable resource to one scaling plan. If you have already configured scaling policies for a scalable resource in your application, AWS Auto Scaling keeps the existing scaling policies instead of creating additional scaling policies for the resource.

How to Get Started

To get started, create a scaling plan. For more information, see Getting Started with AWS Auto Scaling (p. 3).

To see the regional availability for AWS Auto Scaling, see the AWS Region Table.

Related Services

To learn more about AWS CloudFormation, see the AWS CloudFormation User Guide.
To monitor the calls made to the API for your account, including calls made by the AWS Management Console, command line tools, and other services, use AWS CloudTrail. For more information, see the AWS CloudTrail User Guide.

For more information on scaling your fleet of Amazon EC2 instances, see the Amazon EC2 Auto Scaling User Guide.

To configure automatic scaling for resources beyond EC2, see the Application Auto Scaling User Guide.
Getting Started with AWS Auto Scaling

This tutorial provides a hands-on introduction to AWS Auto Scaling through the AWS Management Console, a web-based interface. To create your first scaling plan, complete the following steps.

Tasks
- Requirements (p. 3)
- Step 1: Search for Your Scalable Resources (p. 3)
- Step 2: Configure Your Scaling Plan (p. 4)
- Step 3: Create Your Scaling Plan (p. 4)
- Step 4: Delete Your Scaling Plan (Optional) (p. 4)

Requirements

AWS Auto Scaling uses an application source to discover the AWS resources that power your application. You can use a AWS CloudFormation stack or a set of tags as an application source. You need the name of your CloudFormation stack or a set of tags before you can create a scaling plan.

You can create one scaling plan per application source and add each scalable resource to one scaling plan.

Step 1: Search for Your Scalable Resources

Use one of the following procedures to specify the application source for your scalable resources.

To specify a CloudFormation stack as the application source
2. Select Search by CloudFormation stack.
3. Select your AWS CloudFormation stack and choose Next.

To specify a set of tags as the application source
2. Select Search by tag.
3. For each tag, select a tag key from Key and tag values from Value. To add tags, choose Add another row. To remove tags, choose Remove.
4. When you are finished specifying tags, choose Next.
Step 2: Configure Your Scaling Plan

On the Configure scaling plan page, for Scaling plan details, Name, type a name for your scaling plan. For each type of scalable resource, select a strategy. To omit a type of scalable resource from your scaling plan, clear Include in scaling plan. When you are finished, choose Next.

Step 3: Create Your Scaling Plan

On the Review and create page, choose Create scaling plan.

Step 4: Delete Your Scaling Plan (Optional)

When you are finished with a scaling plan, you can delete it. Deleting a scaling plan deletes the target tracking policies that AWS Auto Scaling created on your behalf. Deleting a scaling plan does not delete your AWS CloudFormation stack or the scalable resources.

To delete a scaling plan

2. On the Scaling plans page, select the scaling plan and choose Delete.
3. When prompted for confirmation, choose Delete.
Authentication and Access Control for AWS Auto Scaling

By default, IAM users don't have permission to create or modify AWS resources. To grant IAM users permission to create or modify AWS resources, you must create policies using AWS Identity and Access Management (IAM). IAM policies grant permissions to specific resources and API actions. You attach an IAM policy to the IAM users or groups that require the permissions it grants. For more information, see Access Management in the IAM User Guide.

AWS Auto Scaling Actions

You can specify any and all AWS Auto Scaling actions in an IAM policy. Use the following prefix with the name of the action: autoscaling-plans:. For example:

```
"Action": "autoscaling-plans:DescribeScalingPlans"
```

You can also use wildcards. For example, use autoscaling-plans:* to specify all AWS Auto Scaling actions.

```
"Action": "autoscaling-plans:*"
```

Use Describe* to specify all actions whose names start with Describe.

```
"Action": "autoscaling-plans:Describe*"
```

For a list of actions, see AWS Auto Scaling Actions.

AWS Auto Scaling Resources

When writing an IAM policy to control access to AWS Auto Scaling actions, you must use "*" as the resource. There are no supported Amazon Resource Names (ARNs) for AWS Auto Scaling resources.

AWS Auto Scaling Keys

For a list of context keys supported by each AWS service and a list of AWS-wide policy keys, see Actions, Resources, and Condition Keys for AWS Services and AWS Global Condition Context Keys in the IAM User Guide.

Example Policies

To create a scaling plan, users must have permission to use the actions in the following example policy.
Example Policies

```json
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "autoscaling-plans:*",
        "cloudwatch:PutMetricAlarm",
        "cloudwatch:DeleteAlarms",
        "cloudwatch:DescribeAlarms",
        "cloudformation:ListStackResources"
      ],
      "Resource": "*"
    }
  ]
}
```

Users must have additional permissions for each type of scalable resource they must add to a scaling plan.

**Auto Scaling groups**

- autoscaling:UpdateAutoScalingGroups
- autoscaling:DescribeAutoScalingGroups
- autoscaling:PutScalingPolicy
- autoscaling:DescribePolicies
- autoscaling:DeletePolicy

**Resource types other than Auto Scaling groups**

- application-autoscaling:RegisterScalableTarget
- application-autoscaling:DescribeScalableTargets
- application-autoscaling:DeregisterScalableTarget
- application-autoscaling:PutScalingPolicy
- application-autoscaling:DescribeScalingPolicies
- application-autoscaling:DeleteScalingPolicy
- iam:CreateServiceLinkedRole

**ECS services**

- ecs:DescribeServices
- ecs:UpdateServices

**Spot Fleet requests**

- ec2:DescribeSpotFleetRequests
- ec2:ModifySpotFleetRequest

**DynamoDB tables or global indexes**

- dynamodb:DescribeTable
- dynamodb:UpdateTable
Aurora DB clusters

- rds:AddTagsToResource
- rds:CreateDBInstance
- rds:DeleteDBInstance
- rds:DescribeDBClusters
- rds:DescribeDBInstances
Your AWS account has the following limits related to AWS Auto Scaling. To request a limit increase, use the Auto Scaling Limits form.

- Scaling plans: 100
- Target tracking configurations per instruction: 10
- Target tracking configurations per scaling plan: 500
## Document History

The following table describes important additions to the AWS Auto Scaling documentation. For notification about updates to this documentation, you can subscribe to the RSS feed.

<table>
<thead>
<tr>
<th>update-history-change</th>
<th>update-history-description</th>
<th>update-history-date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tags as an application source</td>
<td>This release adds support for specifying a set of tags as an application source.</td>
<td>April 23, 2018</td>
</tr>
<tr>
<td>New service</td>
<td>Initial release of AWS Auto Scaling.</td>
<td>January 16, 2018</td>
</tr>
</tbody>
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