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# Amazon Connect Contact Lens

**Welcome**

**API Version 2020-08-21**



## **Amazon Connect Contact Lens: Welcome**

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# Welcome

Contact Lens for Amazon Connect enables you to analyze conversations between customer and agents, by using speech transcription, natural language processing, and intelligent search capabilities. It performs sentiment analysis, detects issues, and enables you to automatically categorize contacts.

Contact Lens for Amazon Connect provides both real-time and post-call analytics of customer-agent conversations. For more information, see [Analyze conversations using Contact Lens](#) in the *Amazon Connect Administrator Guide*.

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# Actions

The following actions are supported:

- [ListRealtimeContactAnalysisSegments \(p. 3\)](#)

# ListRealtimeContactAnalysisSegments

Provides a list of analysis segments for a real-time analysis session.

## Request Syntax

```
POST /realtime-contact-analysis/analysis-segments HTTP/1.1
Content-type: application/json

{
  "ContactId": "string",
  "InstanceId": "string",
  "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.

### ContactId (p. 3)

The identifier of the contact.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: .\*\S.\*

Required: Yes

### InstanceId (p. 3)

The identifier of the Amazon Connect instance.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: .\*\S.\*

Required: Yes

### MaxResults (p. 3)

The maximum number of results to return per page.

Type: Integer

Valid Range: Minimum value of 1. Maximum value of 100.

Required: No

### NextToken (p. 3)

The token for the next set of results. Use the value returned in the previous response in the next request to retrieve the next set of results.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 131070.

Pattern: .\*\\S.\*

Required: No

## Response Syntax

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

{
  "NextToken": "string",
  "Segments": [
    {
      "Categories": {
        "MatchedCategories": [ "string" ],
        "MatchedDetails": {
          "string": {
            "PointsOfInterest": [
              {
                "BeginOffsetMillis": number,
                "EndOffsetMillis": number
              }
            ]
          }
        }
      },
      "Transcript": {
        "BeginOffsetMillis": number,
        "Content": "string",
        "EndOffsetMillis": number,
        "Id": "string",
        "IssuesDetected": [
          {
            "CharacterOffsets": {
              "BeginOffsetChar": number,
              "EndOffsetChar": number
            }
          }
        ],
        "ParticipantId": "string",
        "ParticipantRole": "string",
        "Sentiment": "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. 4)

If there are additional results, this is the token for the next set of results. If response includes nextToken there are two possible scenarios:

- There are more segments so another call is required to get them.
- There are no more segments at this time, but more may be available later (real-time analysis is in progress) so the client should call the operation again to get new segments.

If response does not include `nextToken`, the analysis is completed (successfully or failed) and there are no more segments to retrieve.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 131070.

Pattern: `.*\S.*`

### Segments (p. 4)

An analyzed transcript or category.

Type: Array of [RealtimeContactAnalysisSegment \(p. 14\)](#) objects

Array Members: Minimum number of 0 items. Maximum number of 100 items.

## Errors

For information about the errors that are common to all actions, see [Common Errors \(p. 19\)](#).

### **AccessDeniedException**

You do not have sufficient access to perform this action.

HTTP Status Code: 403

### **InternalServiceException**

Request processing failed due to an error or failure with the service.

HTTP Status Code: 500

### **InvalidRequestException**

The request is not valid.

HTTP Status Code: 400

### **ResourceNotFoundException**

The specified resource was not found.

HTTP Status Code: 404

### **ThrottlingException**

The throttling limit has been exceeded.

HTTP Status Code: 429

## Examples

### Example

This example illustrates one usage of `ListRealtimeContactAnalysisSegments`.



## Sample Request

```
POST /realtime-contact-analysis/analysis-segments
{
  "InstanceId": "eeeeeee-eeee-eeee-eeee-eeeeeeeeeeee",
  "ContactId": "11111111-1111-1111-1111-111111111111",
  "MaxResults": 50,
  "NextToken": "fdsfsadgdfsgdfgfdhghfghfgjmbnmnm"
}
```

## Sample Response

```
{
  "Segments": [
    {
      "Transcript": {
        "Id": "tttttttt-tttt-tttt-tttt-tttttttt",
        "ParticipantId": "55555555-5555-5555-5555-555555555555",
        "ParticipantRole": "AGENT",
        "Content": "I can't login.",
        "BeginOffsetMillis": 19010,
        "EndOffsetMillis": 22690,
        "Sentiment": "NEUTRAL",
        "IssuesDetected": [
          {
            "CharacterOffsets": {
              "BeginOffsetChar": 8,
              "EndOffsetChar": 12
            }
          }
        ]
      }
    },
    {
      "Categories": {
        "MatchedCategories": [
          "CreditCardRelated",
          "CardBrokenIssue"
        ],
        "MatchedDetails": {
          "CreditCardRelated": {
            "PointsOfInterest": [
              {
                "BeginOffsetMillis": 19010,
                "EndOffsetMillis": 22690
              }
            ]
          },
          "CardBrokenIssue": {
            "PointsOfInterest": [
              {
                "BeginOffsetMillis": 25000,
                "EndOffsetMillis": 29690
              }
            ]
          }
        }
      }
    }
  ],
  "NextToken": "fdsfsadgdfsgdfgfdhghfghfgjmbnmnm"
}
```

## 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 V2](#)
- [AWS SDK for JavaScript](#)
- [AWS SDK for PHP V3](#)
- [AWS SDK for Python](#)
- [AWS SDK for Ruby V3](#)

# Data Types

The Amazon Connect Contact Lens 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:

- [Categories](#) (p. 9)
- [CategoryDetails](#) (p. 10)
- [CharacterOffsets](#) (p. 11)
- [IssueDetected](#) (p. 12)
- [PointOfInterest](#) (p. 13)
- [RealtimeContactAnalysisSegment](#) (p. 14)
- [Transcript](#) (p. 15)

# Categories

Provides the category rules that are used to automatically categorize contacts based on uttered keywords and phrases.

## Contents

### MatchedCategories

The category rules that have been matched in the analyzed segment.

Type: Array of strings

Array Members: Minimum number of 0 items. Maximum number of 150 items.

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: .\*\\S.\*

Required: Yes

### MatchedDetails

The category rule that was matched and when it occurred in the transcript.

Type: String to [CategoryDetails \(p. 10\)](#) object map

Map Entries: Minimum number of 0 items. Maximum number of 150 items.

Key Length Constraints: Minimum length of 1. Maximum length of 256.

Key Pattern: .\*\\S.\*

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 V2](#)
- [AWS SDK for Ruby V3](#)

## CategoryDetails

Provides information about the category rule that was matched.

### Contents

#### PointsOfInterest

The section of audio where the category rule was detected.

Type: Array of [PointOfInterest \(p. 13\)](#) objects

Array Members: Minimum number of 0 items. Maximum number of 20 items.

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 V2](#)
- [AWS SDK for Ruby V3](#)

# CharacterOffsets

For characters that were detected as issues, where they occur in the transcript.

## Contents

### **BeginOffsetChar**

The beginning of the issue.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

### **EndOffsetChar**

The end of the issue.

Type: Integer

Valid Range: Minimum value of 0.

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 V2](#)
- [AWS SDK for Ruby V3](#)

# IssueDetected

Potential issues that are detected based on an artificial intelligence analysis of each turn in the conversation.

## Contents

### CharacterOffsets

The offset for when the issue was detected in the segment.

Type: [CharacterOffsets \(p. 11\)](#) 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 V2](#)
- [AWS SDK for Ruby V3](#)

# PointOfInterest

The section of the contact audio where that category rule was detected.

## Contents

### **BeginOffsetMillis**

The beginning offset in milliseconds where the category rule was detected.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

### **EndOffsetMillis**

The ending offset in milliseconds where the category rule was detected.

Type: Integer

Valid Range: Minimum value of 0.

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 V2](#)
- [AWS SDK for Ruby V3](#)



# RealtimeContactAnalysisSegment

An analyzed segment for a real-time analysis session.

## Contents

### Categories

The matched category rules.

Type: [Categories \(p. 9\)](#) object

Required: No

### Transcript

The analyzed transcript.

Type: [Transcript \(p. 15\)](#) 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 V2](#)
- [AWS SDK for Ruby V3](#)

# Transcript

A list of messages in the session.

## Contents

### **BeginOffsetMillis**

The beginning offset in the contact for this transcript.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

### **Content**

The content of the transcript.

Type: String

Length Constraints: Minimum length of 1.

Pattern: .\*\.S.\*

Required: Yes

### **EndOffsetMillis**

The end offset in the contact for this transcript.

Type: Integer

Valid Range: Minimum value of 0.

Required: Yes

### **Id**

The identifier of the transcript.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: .\*\.S.\*

Required: Yes

### **IssuesDetected**

List of positions where issues were detected on the transcript.

Type: Array of [IssueDetected](#) (p. 12) objects

Array Members: Minimum number of 0 items. Maximum number of 20 items.

Required: No

### **ParticipantId**

The identifier of the participant. Valid values are CUSTOMER or AGENT.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: Yes

### **ParticipantRole**

The role of participant. For example, is it a customer, agent, or system.

Type: String

Length Constraints: Minimum length of 1. Maximum length of 256.

Pattern: `.*\S.*`

Required: Yes

### **Sentiment**

The sentiment detected for this piece of transcript.

Type: String

Valid Values: `POSITIVE` | `NEUTRAL` | `NEGATIVE`

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 V2](#)
- [AWS SDK for Ruby V3](#)

# 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'THHMMSS'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

**NotAuthorized**

You do not have permission to perform this action.

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