



Guest REST API

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An API for Guest User Resources

The Cisco Guest API is a REST (Representational State Transfer)-based set of operations that provide secure and authenticated access to and management of Cisco guest users. With the API, you can create, read, update, delete, and search for guest users.

When you call the API, you are calling it as if you are a sponsor using the Cisco ISE Sponsor portal to manage guest users. In order to use the API, you must first enable access to it and then set up sponsor authentication in ISE.

Full request and response examples are provided in [External RESTful Services APIs for Guest Users, page 7-24](#).

Sponsor Authentication and Authorization

A sponsor is a special type of Cisco ISE user who can create and manage guest users using the Sponsor portal. The Guest REST API has the same capabilities as the Sponsor portal. Authentication for the Guest REST API is similar to the process for authenticating a sponsor. The privileges specified in a sponsor group's policies apply to the Guest REST API.



Note

The sponsor using the Guest REST API cannot be a part of the ERS-ADMIN role.

See the Cisco ISE User Guide for more information on sponsors and sponsor groups.

Before You Begin

Like other ISE users, Cisco ISE authenticates sponsors through a local database, or through external Lightweight Directory Access Protocol (LDAP) or Microsoft Active Directory identity stores. If you are not using an external identity store, you must create users in Cisco ISE (**Administration > Identity Management > Identities > Users**).

Procedure

-
- Step 1** Enter the Cisco ISE URL in the address bar of your browser (for example, `https://<ise hostname or ip address>/admin/`).
- Step 2** Enter your username and case-sensitive password.
- Step 3** Click **Login** or press **Enter**.
- Step 4** Assign the user to the appropriate identity group.
- Choose **Administration > Identity Management > Groups > Identity Groups**.
 - Create a new group or edit an existing one. Cisco ISE includes these default sponsor user identity groups:
 - SponsorAllAccount
 - SponsorGroupAccounts
 - SponsorOwnAccounts
 - Add the user to the list of members.
 - Click **Save**.
- Step 5** Add the user's identity group to a sponsor group.
- Choose **Guest Access > Configure > Sponsor Groups**.
 - Create a new sponsor group or edit an existing one.
 - Click **Members**.
 - Add the user's identity group to the list of sponsor group members and click **OK**.
 - Add the guest types and locations that the user can sponsor.
 - Select the **Access ISE guest accounts via the programatic interface (REST API)** check box.
 - Click **Save**.
- Step 6** Ensure that Sponsor_Portal_Sequence accesses the user's identity source.
- Choose **Administration > Identity Management > Identity Source Sequences > Sponsor_Portal_Sequence**.
 - Choose the user's identity source database if it hasn't been selected for the Authentication Search List.
 - Click **Save**.
-

Related Topics

For further details on sponsors and sponsor groups, see the Cisco ISE User Guide.

Guest REST API Requests

Requests made to the API have the following characteristics:

- User requests are sent over HTTPS to the Cisco ISE server, and a Response is returned.
- The URI to access all APIs is the domain name of your primary
`https://<ISE-ADMIN-NODE>:9060/ers/config`
- API requests are case sensitive and should be entered as shown in this manual.
- Each guest request needs to set Content Type as:
`application/vnd.com.cisco.ise.identity.guestuser.2.0+xml`
- Each guest request needs to set Accept as:
`application/vnd.com.cisco.ise.identity.guestuser.2.0+xml`
- Each guest bulk request needs to set Content Type as:
`application/vnd.com.cisco.ise.identity.guestuserbulkrequest.1.0+xml`
- Each guest bulk request needs to set Accept as:
`application/vnd.com.cisco.ise.identity.guestuserbulkrequest.1.0+xml`
- You also can include the optional `Accept-Encoding:gzip` header, which compresses the response payload.

Request Structure

The following table lists the types of request operations that you can use with the Cisco Guest REST API:

Table 6-1 Request Method Types

Request Type	Operations
GET	Get all resources (Search), Get a resource by its ID, Get a resource version information.
POST	Create a new guest user.
PUT	Update a guest user.
DELETE	Delete a guest user

The following table lists the mandatory headers for requests:

Table 6-2 Mandatory Request Headers

Header	Values	Description
ACCEPT	Guest REST API Resource Media-Type	Indicates to the server what media type(s) this client is willing to accept including the resource version.
AUTHORIZATION	"Basic " plus username and password (per RFC 2617	Identifies the authorized user making this request.
CONTENT-TYPE	Media type describing the request message body	Describes the representation and syntax of the request message body.

Related Topics[Content Type and Accept Headers, page 7-24](#)

Request Contents

The XML content below shows the structure of a guest user account, including custom fields:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns3:guestuser name="guestUser" id="123456789" description="ERS Example user "
xmlns:ns2="ers.ise.cisco.com" xmlns:ns3="identity.ers.ise.cisco.com">
  <customFields>
    <entry>
      <key>some key</key>
      <value>some value</value>
    </entry>
    <entry>
      <key>another key</key>
      <value>and its value</value>
    </entry>
  </customFields>
  <guestInfo>
    <emailAddress>email@some.uri.com</emailAddress>
    <enabled>true</enabled>
    <phoneNumber>3211239034</phoneNumber>
    <smsServiceProvider>GLobal Default</smsServiceProvider>
    <userName>DS3ewdsa34wWE</userName>
  </guestInfo>
  <guestType>Contractor</guestType>
  <portalId>23423432523</portalId>
  <sponsorUserName>Mr Spons</sponsorUserName>
</ns3:guestuser>
```

The request example below shows the XML content that's required to create guest user accounts using either the POST (create) operation.

**Note**

The fields required to create a guest user account do not necessarily correspond to the required fields displayed in the Sponsor Portal. However, the Guest REST API will throw an exception if the Sponsor Portal does not provide the information required to create a guest user account.

POST Request Example

POST https://<ISE-Admin-Node>:9060/ers/config/guestuser/

Accept: application/vnd.com.cisco.ise.identity.guestuser.2.0+xml

Content-Type: application/vnd.com.cisco.ise.identity.guestuser.2.0+xml

Authorization: Basic xxxxxxxxxxxxxxxxxxxx

```
<?xml version="1.0" encoding="UTF-8"?>
<ns2:guestuser xmlns:ns2="identity.ers.ise.cisco.com">
  <guestAccessInfo>
    <fromDate>08/06/2014 23:22</fromDate>
    <toDate>08/07/2014 23:22</toDate>
    <validDays>1</validDays>
  </guestAccessInfo>
  <guestInfo>
    <company>New Company</company>
    <emailAddress>john@example.com</emailAddress>
    <firstName>John</firstName>
```

```
<lastName>Doe</lastName>
<notificationLanguage>English</notificationLanguage>
<phoneNumber>9999998877</phoneNumber>
<smsServiceProvider>Global Default</smsServiceProvider>
<userName>autoguestuser1</userName>
</guestInfo>
<guestType>Daily</guestType>
<personBeingVisited>sponsor</personBeingVisited>
<portalId>portal101</portalId>
<reasonForVisit>interview</reasonForVisit>
</ns2:guestuser>
```

**Note**

JSON is not used for Guest REST API.

Guest Passwords

ISE automatically generates a password when a guest is created. It is possible to reset a guest's password through the Guest REST API by calling the `resetpassword` operation.

You cannot change a guest's password to a specific string using the REST API.

Use the GET operation to retrieve a guest user's information and view their password. Cisco ISE guest passwords are visible in the response to a GET operation as long as the password was:

1. Automatically generated by ISE.
2. Reset through this API or via the Sponsor Portal.

In some guest flows, the guest has the ability to change their own password. Cisco ISE guest passwords that have been changed by the guest are not visible in the sponsor portal and are not visible via the REST API.

Related Topics

- [Reset Password for a Guest User Account, page 7-38](#)
- For further details on guest user password policies, see the Cisco ISE Admin Guide.

Bulk Executions

A bulk request will allow you to send up to 500 operations in a single request, or up to 5000 operations based on ID.

All operations in a request must be of same type, which means that you cannot send a mixed resources request.

Each resource has its own transaction and the order of the transactions is not guarantee as it is a multi-threaded execution.

The Cisco ISE server parses the request and validates its structure. If the request is valid and no other bulk already in progress, the execution starts and the server returns the status code 202 (ACCEPTED) and a unique bulk identifier in the LOCATION response header. This ID allows you to track the bulk status later on using the Get Bulk Status operation. The status report will be available for at least 2 hours after the operation's start time.

If a failure occurs while executing on a resource, the failure is logged in the status report and the execution proceeds to next resource.

Only one bulk execution is allowed to run at a time. If a bulk request is posted while another bulk execution is still running, the server returns the response status 503 (Service Unavailable) with a message asking the client to try again later.

A bulk execution, including getting the bulk status, uses different headers:

- Content Type as: `application/vnd.com.cisco.ise.identity.guestuserbulkrequest.1.0+xml`
- Accept: `application/vnd.com.cisco.ise.identity.guestuserbulkrequest.1.0+xml`

Related Topics

- [Start Bulk Execution for Guest Users, page 7-39](#)

Guest REST API Responses

Each request is followed by a server HTTPS response with the standard headers, plus response content.

Response Status Codes

A Response contains an HTTP status code. For the Guest REST API, these can be:

- 20x - Successful operation
- 4xx - Client errors
- 5xx - Server errors

The following table provides more information on the status codes.

Table 6-3 *Response Contents Types*

Request Type	Status	Response Payload
Get a guest user by its Id	200	Guest User in its XML representation
All	4xx (client errors)	A Response with messages describing the error, for example: unsupported version, or illegal URI
All	5xx (server error)	A Response with messages describing the error, for example: runtime exceptions...
Create A guest user [POST]	201	If no info or warnings, then no content will be sent back. The new guest user id will be sent in the response "Location" header. If there is additional info or warning it will be encapsulated in the Response.
Update a guest user [PUT]	200	Returns a list of updated fields.
Delete a guest user [Delete]	204	No content.

Related Topics

- [Response Error Messages, page 6-7](#)

Response Structure

The following table lists the headers for responses.

Table 6-4 *Mandatory Response Headers*

Header	Values	Description
LOCATION	newly created resource ID	for POST only—holds the new resource ID (as a URI representation)
CONTENT-TYPE	Media type describing the response message body	Describes the representation and syntax of the response message body

Response Error Messages

You are required to use certain headers when you do a POST or PUT request. You will get errors if you leave one out.

The log files that contains detailed messages that can enable you to correct the operations can be found in the Cisco ISE UI at the following location:

Operations > Node > Debug Logs > guest.log

Table 6-5 *Error Codes*

Error Code	Description	HTTP Status
Resource version exception	Resource version sent in the request content is not supported by the server.	415
Resource media type exception	Media type sent by the client in the ACCEPT or Content-Type headers is invalid.	415
Unsupported resource exception	Resource listed in the URI, is not supported by the server.	400
Unsupported method exception	Request method type is not supported for the specified URI.	400
Query string validation exception	Search filter or paging parameters are not valid.	400
Schema validation exception	The request's XML content does not conform to the API's schema rules for that resource, such as including a field that the API does not recognize or excluding a field that's mandatory.	400
Application resource validation exception	The API is unable to validate some of the request's content, such as using invalid characters in an attribute's values.	400
Unauthorized user	The sponsor's username and password are not valid.	401
Internal exception	Any unexpected internal server error occurs at runtime.	500

Table 6-5 Error Codes

Error Code	Description	HTTP Status
Conversion exception	Some internal conversions, should be treated as an internal exception.	500
CRUD operation exception	Executing a CRUD operation, should be treated as an internal exception.	500

Unsupported Media Type Example

The following example demonstrates a response that occurs when the client sent an unsupported media type in the ACCEPT header.

Response

```
STATUS 415 Unsupported Media Type
Cache-Control: no-cache
Content-Length: 411
Content-Type: application/vnd.com.cisco.ise.ers.ersresponse.1.0+xml
Date: Wed, 11 Dec 2013 05:27:37 GMT
Expires: Wed, 31 Dec 2015 16:00:00 PST
Pragma: No-cache

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:ersResponse
  xmlns:ns2="ers.ise.cisco.com" operation="GET-getAll-guestuser">
  <link type="application/xml"
href="https://<ISE-Admin-Node>:9060/ers/config/guestuser/" rel="related"/>
  <messages>
    <ns2:message type="ERROR" code="Resource media type exception">
      <title>Wrong media type, check Accept request header.</title>
    </ns2:message>
  </messages>
</ns2:ersResponse>
```

Versioning

The Guest REST API for Cisco ISE Release 1.4 is version 2.0. It is designed to be compatible with future versions.

This REST API is not compatible with previous alpha and beta versions of the Guest REST API.

Each RESTful resource has a model version (major.minor). The version must be part of the request header with the syntax as follows:

```
application/vnd.com.cisco.ise.<resource-namespace>.<resource-type>.<major version>.<minor version>+xml
```

For example, to get guest user resource version 2.0, the following request is passed:

```
GET https://<ISE-ADMIN-NODE>:9060/ers/config/guestuser/333
```



```
Authorization: Basic xxxxxxxxxxxxxxxxxxxxxxxx
Accept: application/vnd.com.cisco.ise.identity.guestuser.2.0+xml
```

After authenticating and authorizing the request, a version-match check is performed with one of the following matching results.

Table 6-6 Version-match Results

Version-match	Outcome
No version sent	The server returns status 415 "Unsupported Media Type".
Client version equal to server version	The server proceeds with processing the request.
Client minor version not equal to server minor version	The server adds a response warning message describing the versions gap and proceeds processing the request.
Client and server major version does not match	The server returns status 415 with a corresponding error message.

Searching and Filtering

All filtering and searching operations are through the use of filtering.

You search for a resource by sending a GET request to a resource URI. By default, the result is the first page (page index = 0) with default size of 20. By adding filter, sort and paging parameters, described in the following sections, to the URI, the client can control this search.

The resources resulting from a paging, filter, or sort request are bundled in a `<resources>` collection, which contains for each resource its name, ID, description, and link to its full representation. This gives the client the ability to easily drill down into the resource.

Filtering Parameters

Filtering is available through the filter query string parameter. The structure of a filter is a triplet of field operator, parameter, and value, separated with dots. For example, use `filter=name.STARTSW.g` to find all guest users with usernames that start with the letter 'g'.

If you use multiple parameters in your filter, the result will be the AND of those parameters. That means that the results will be users that match all of the parameters sent to the API. Each resource description specifies if an attribute is a filtered field.



Note

Invalid filters values result in status 400 (Bad Request), with corresponding messages.

The following table shows the parameters available in filter queries.

Table 6-7 Filtering Parameters

Parameter	Description
firstName	Guest's first name
lastName	Guest's last name

Table 6-7 Filtering Parameters

Parameter	Description
emailAddress	Guest's email address
userName	Guest account user name
creationTime	Time the guest account was created
toDate	Expiration date for guest account
guestType	Type of guest
company	Guest's company
phoneNumber	Guest's phone number
groupTag	Group
sponsor	Guest's sponsor
status	Guest account's status
name	Resource identifier

The following table lists the operations that you can use in filter queries.

Table 6-8 Available Filter Operations

Parameter	Description
EQ	Equals
GT	Greater Than
LT	Less Than
STARTSW	Starts With
ENDSW	Ends With
CONTAINS	Contains

Filtering Examples

GET Request for Guest Users with First Names that Starts with 'br'

```
GET https://<ISE-ADMIN-NODE>:9060/ers/config/guestuser/?filter=firstName.STARTSW.br
```

GET Request for Guest Users with First Name that Starts with 'b' Whose Email Address Includes 'bob'

```
GET https://<ISE-ADMIN-NODE>:9060/ers/config/guestuser?filter=firstName.STARTSW.b&filter=emailAddress.CONTAINS.bob
```

GET Request for Guest Users with the Status of "Approved" and Expiration Date in October

```
GET https://<ISE-ADMIN-NODE>:9060/ers/config/guestuser?filter=status.EQ.Approved&filter=toDate.STARTSW.10
```

Related Topics

[Get a Guest User, page 7-25](#)

Page Size Parameters

Search results default to 20 resources per page. Page numbering starts at page '0'. The maximum number of resources per page cannot be more than 100. Illegal parameter values result in status 400 (Bad Request) with corresponding messages

The page size parameters can override the defaults by using the paging parameters as described in [Table 6-9](#).

In the following example, the page size is changed to 50 resources:

```
GET
https://<ISE-ADMIN-NODE>:9060/ers/config/guestuser?filter=name.STARTSW.b&filter=emailAddresses.CONTAINS.bob&size=50&page=0
```

Sorting Parameters

By default, the sort column is `name` and the sort direction is `sortasc`. You can override the defaults by using the parameters as described in the example below:

```
GET https://<ISE-ADMIN-NODE>:9060/ers/config/guestuser?size=50&page=0&sortdsc=name
```

You can find a list of the values that you can use for sorting in [Table 6-7 on page 6-9](#).

Table 6-9 Available Paging and Sorting Preferences

Parameter	Description	Default Value
page	Page starting index	0
size	Page size	20 (max. = 100)
sortasc	Sorting field with Ascending direction, out of a set of available fields for sorting. (For alphabetic characters, it is sorted A to Z.)	name
sortdsc	Sorting field with Descending direction, out of a set of available fields for sorting. (For alphabetic characters, it is sorted Z to A.)	name

Example: GET First 20 Guest User Records and Sort ascending by the Last Name

Request

```
GET https://<ISE-ADMIN-NODE>:9060/ers/config/guestuser?page=0&size=20&sortasc=lastName
```

Response

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<ns2:searchResult
  xmlns:ns2="ers.ise.cisco.com" total="22">
  <nextPage type="application/xml"
href="https://<ISE-ADMIN-NODE>:9060/ers/config/guestuser?page=1&size=20&sortasc=lastName"
rel="next"/>
  <resources>
    <resource name="aname001" id="8e4bf290-6229-11e3-9bc2-000c2932c73c">
      <link type="application/xml"
href="https://ISE-Admin-Node:9060/ers/config/guestuser/8e4bf290-6229-11e3-9bc2-000c2932c73c"
rel="self"/>
    </resource>
```

```
<resource name="aname002" id="8fe86480-6229-11e3-9bc2-000c2932c73c">
  <link type="application/xml"
href="https://ISE-Admin-Node:9060/ers/config/guestuser/8fe86480-6229-11e3-9bc2-000c2932c73
c" rel="self"/>
  </resource>
...
  <resource name="aname020" id="908b5b40-6229-11e3-9bc2-000c2932c73c">
    <link type="application/xml"
href="https://ISE-Admin-Node:9060/ers/config/guestuser/908b5b40-6229-11e3-9bc2-000c2932c73
c" rel="self"/>
    </resource>
  </resources>
</ns2:searchResult>
```

Related Topics

- [Filter by Usernames that Start with “ilucky” Example, page 7-26](#)
- [Filter by Username that Starts with “ilucky” and Last Name that Starts with “J” Example, page 7-27](#)
- [Filter By the First Name “John” and Sort By Username Example, page 7-28](#)