FortiVoice Phone System - REST API Reference Guide

Version 6.4.0

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FEEDBACK

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Change Log

Date	Change Description
2020-06-24	Initial release of the FortiVoice phone system 6.4.0 REST API Reference Guide.

Introduction

This document provides the REST API information supported in FortiVoice phone system version 6.4.0 release. This document covers the FortiVoice GUI supported REST API reference only. These APIs can be used to retrieve, create, update, and delete configuration settings, and to retrieve dynamic system statistics.

When using the APIs, the following conventions are followed:

`Http GET` : To retrieve all resources or particular resource.

`Http POST`: To create a new resource or perform certain administrative actions.

`Http PUT`: To update an existing resource.

`Http Delete`: To delete an existing resource.

Enabling REST API support and generating fabric token

By default, this feature is disabled on the FortiVoice phone system. To enable it, use the following CLI command:

```
config system global
   set rest-api enable
end
```

To generate a fabric token, use the following CLI command:

```
execute token-generate fabric-token
```
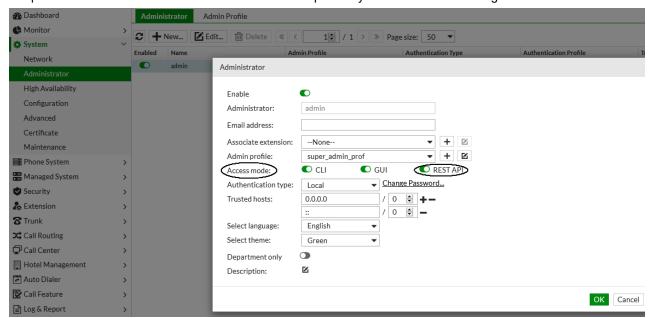
Authentication

When making requests to FortiVoice appliances using the REST API, you need:

- A valid admin username and password (so that an authenticated session can be established).
- Appropriate access permissions for the requested resource (controlled by admin profile).
  For an administrator to use the REST API, it has to be enabled as the access mode for the administrator.

```
config system admin
    edit admin
        set access cli gui rest
    end
```

This is the place to enable the access mode on the FortiVoice phone system web-based manager:

Setting up an authenticated session

To establish a valid authentication session, you must make a POST request to the FortiVoice login handler with your admin username and password. The POST request should contain JSON data with 'name' and 'password' fields:

URL: `http(s)://host_or_ip/api/v1/VoiceadminLogin/`

Method: `POST`

JSON: `{"name": "admin", "password": "****"}`

Example:

```
curl -k -v -H "Content-Type: application/json" -X POST -d '{"name":"admin","password":"1111"}'
https://host_or_ip/api/v1/VoiceadminLogin -c cookie.txt
```

If the login request is successful, the response will contain the authorization token in the APSCOOKIE cookie value. This cookie value must be included in any further requests. The cookie expires with the session.

Note: The permissions for the administrative account you use will affect which objects and operations you shall have access to. Make sure the user has the permissions required for the actions you wish to perform.

FortiVoice REST API HTTP response codes

FortiVoice REST APIs use well-defined HTTP status codes to indicate query results to the API. Following are some of the HTTP status codes used:

HTTP Response Code	Description
200-OK	API request successful.
400-Bad Request	Bad request.
403-Forbidden	Request is missing authentication token or administrator is missing access profile permissions.
404-Not Found	Unable to find the specified resource.
405-Method Not Allowed	Specified HTTP method is not allowed for this resource.
500	Internal Server Error.

FortiGate and FortiVoice fabric integration

The FortiGate and FortiVoice fabric integration process is as following:

1. FortiVoice unit implements Fabric JSON API as required and serves it over HTTPS.
2. On FortiGate Security Fabric Settings GUI, administrator adds a fabric device by specifying IP, admin username, and admin password.
3. FortiGate unit authenticates with fabric device by providing FortiVoice admin username/password and receives a token from FortiVoice unit.
4. FortiGate unit uses the token in subsequent requests to retrieve data from FortiVoice unit.
5. FortiGate unit uses retrieved data to learn about FortiVoice unit and shows FortiVoice unit in various GUI pages.

FortiVoice supported resource list

The FortiVoice phone system supports the following resources:

- FabricAuthenticate
- FabricCallStatistics
- FabricDeviceStatus
- FabricSysStatusUsage
- FabricSysStatusSysinfo
- FabricWidget
- FabricVoipStatus

All resources are read only.

FortiVoice RestFul API supported resources list

FortiVoice REST API provides access to a limited number of resources:

Object URL	Summary
/VoiceadminLogin	Authentication. See Resource: VoiceadminLogin on page 12.
/DeviceSip_phone	Retrieve authorized devices. See Resource: DeviceSip_phone on page 12.
/SysStatusLicinfo	License installation (soft client, PMS, CallCenter, etc.)

Resource: VoiceadminLogin

Login:

```
curl -k -v -H "Content-Type: application/json" -X POST -d
'{"name":"admin","password":"11"}' https://host_or_ip/api/v1/VoiceadminLogin -c cookie.txt
```

Output:

```
{"objectID": "VoiceadminLogin:{D:system}","reqAction": 2,"nodePermission": 3,"name":
"admin","password": "11","new_password": "******","token": "******","vpbx": true,"role":
2,"license": 0,"is_superadmin": true,"webmode": 0,"locale": "en","loginstatus": 1,"model":
"FO4000","serial": "FO4000YYZRD00006","theme": 3,"debug": true,"product_name":
"FortiVoice","product_version": "6.4.306","disclaimer_enable": false,"scramble":
true,"disclaimer": "","gateway_status": false,"departments": "","userportal_status":
true,"operator_console_status": true,"lsg_status": true,"localsurvival_mode":
0,"business_group_status": true,"minimum_length": 8,"survivability_centralstatus":
true,"magic_number": "ce"}
```

```
APSCOOKIE=Era%3D1%26Payload%3DLRVEJ5uKHM%2F%2FYrpWe7n65ny
%2FlCNxt4Nh4nMvq2cv8B6InbsIdvBMKWHwBmjq5uIx
%0AwcK647Hii7g6C7CP3xXn1K5bQABlHsU415ATliu2230%2FGp1xV8Zj4mk
3H2gucWu0%0AmS nfM3vPoUNoZdYxWIw2Ug%3D%3D%0A%26AuthHash
%3DmE6QACwAJj7jQAQiMipUsw%3D%3D%0A;
```

Resource: DeviceSip_phone

Get all devices with page size 50:

```
curl -k -v -b cookie.txt ' https:// host_or_ip /api/v1/DeviceSip_phone ?
reqAction=1&mdomain=system&startIndex=0&pageSize=50&extraParam='
```

Output:

```
{"objectID": "DeviceSip_phoneCollection:{D:system}","reqAction": 1,"totalRemoteCount":
```

7,"subCount": 7,"remoteSorting": true,"nextPage": false,"nodePermission": 3,"collection": [
{"mkey": "b4:0e:dc:bd:f4:bd","phone_type": "FortiFone-550i\/560i","name":
"","multicell_device": "","description": "","unassigned": 1,"phone_profile": "Default-
        FortiFone-
550i\/560i","associated_display_name": "","associated_number": "","associated_id":
"","device_ip": "","phone_info": "","associated_role": 0,"softclient_license":
0,"registration_status": 0,"last_register": "","expiration": "","unregister_cause":
0,"failure_code": 0},
{"mkey": "00:15:65:83:cb:12","phone_type": "FortiFone-470i","name":
"","multicell_device": "","description": "","unassigned": 1,"phone_profile": "Default-
        FortiFone-
470i","associated_display_name": "","associated_number": "","associated_id": "","device_ip":
"","phone_info": "","associated_role": 0,"softclient_license": 0,"registration_status":
0,"last_register": "","expiration": "","unregister_cause": 0,"failure_code": 0},
{"mkey": "00:1a:7e:a7:e7:9e","phone_type": "FortiFone-550i\/560i","name":
"","multicell_device": "","description": "","unassigned": 1,"phone_profile": "Default-
        FortiFone-
550i\/560i","associated_display_name": "","associated_number": "","associated_id":
"","device_ip": "","phone_info": "","associated_role": 0,"softclient_license":
0,"registration_status": 0,"last_register": "","expiration": "","unregister_cause":
0,"failure_code": 0},
{"mkey": "b4:0e:dc:bd:f4:ff","phone_type": "FortiFone-550i\/560i","name":
"","multicell_device": "","description": "FakePhone","unassigned": 2,"phone_profile":
"Default-FortiFone-550i\/560i","associated_display_name": "","associated_number":
"","associated_id": "","device_ip": "","phone_info": "","associated_role": 0,"softclient_
        license":
0,"registration_status": 0,"last_register": "","expiration": "","unregister_cause":
0,"failure_code": 0},
{"mkey": "70:4c:a5:ce:bb:fc","phone_type": "FortiFone-175","name":
"","multicell_device": "","description": "","unassigned": 1,"phone_profile": "Default-
        FortiFone-
175","associated_display_name": "Kanata","associated_number": "6006","associated_id":
"6006","device_ip": "192.168.2.35","phone_info": "Fortinet FortiFone FON-175 2.4.0.5672
704ca5cebbfc","associated_role": 1,"softclient_license": 0,"registration_status":
1,"last_register": "2020-06-12 13:54:27","expiration": "2020-06-12
14:54:27","unregister_cause": 0,"failure_code": 0},
{"mkey": "e8:1c:ba:0f:86:7d","phone_type": "FortiFone-375","name":
"","multicell_device": "","description": "","unassigned": 1,"phone_profile": "Default-
        FortiFone-
375","associated_display_name": "","associated_number": "","associated_id": "","device_ip":
"","phone_info": "","associated_role": 0,"softclient_license": 0,"registration_status":
0,"last_register": "","expiration": "","unregister_cause": 0,"failure_code": 0},
{"mkey": "e8:1c:ba:0f:86:7b","phone_type": "FortiFone-375","name":
"e81cba0f867b","multicell_device": "","description": "","unassigned": 2,"phone_profile":
"Default-FortiFone-375","associated_display_name": "","associated_number":
"","associated_id": "","device_ip": "","phone_info": "","associated_role": 0,"softclient_
        license":
0,"registration_status": 0,"last_register": "","expiration": "","unregister_cause":
0,"failure_code": 0}
]
}

Get a devices with 'ff' pattern in their mac addresses:

```
curl -k -v -b cookie.txt ' https://host_or_ip/api/v1/DeviceSip_phone?
reqAction=1&mdomain=system&startIndex=0&pageSize=50&extraParam=quickSearch:ff'
```

Output:

```
{"objectID": "DeviceSip_phoneCollection:{D:system}","reqAction": 1,"totalRemoteCount":
1,"subCount": 1,"remoteSorting": true,"nextPage": false,"nodePermission": 3,"collection": [
{"mkey": "b4:0e:dc:bd:f4:ff","phone_type": "FortiFone-550i\/560i","name":
"","multicell_device": "","description": "FakePhone","unassigned": 2,"phone_profile":
"Default-FortiFone-550i\/560i","associated_display_name": "","associated_number":
"","associated_id": "","device_ip": "","phone_info": "","associated_role": 0,"softclient_
    license":
0,"registration_status": 0,"last_register": "","expiration": "","unregister_cause":
0,"failure_code": 0}
]
}
```

Get non assigned devices:

```
curl -g -k -v -b cookie.txt 'https://host_or_ip/api/v1/DeviceSip_phone?
reqAction=1&mdomain=system&startIndex=0&pageSize=50&extraParam=&jsonPayload={"compoun
dSearch":[{"searchValues":[{"filter_content":1}],"filter_type":1,"is_negated":false}]}'
```

Output:

```
{"objectID": "DeviceSip_phoneCollection:{D:system}","reqAction": 1,"totalRemoteCount":
2,"subCount": 2,"remoteSorting": true,"nextPage": false,"nodePermission": 3,"collection": [
{"mkey": "b4:0e:dc:bd:f4:ff","phone_type": "FortiFone-550i\/560i","name":
"","multicell_device": "","description": "FakePhone","unassigned": 2,"phone_profile":
"Default-FortiFone-550i\/560i","associated_display_name": "","associated_number":
"","associated_id": "","device_ip": "","phone_info": "","associated_role": 0,"softclient_
    license":
0,"registration_status": 0,"last_register": "","expiration": "","unregister_cause":
0,"failure_code": 0},
{"mkey": "e8:1c:ba:0f:86:7b","phone_type": "FortiFone-375","name":
"e81cba0f867b","multicell_device": "","description": "","unassigned": 2,"phone_profile":
"Default-FortiFone-375","associated_display_name": "","associated_number":
"","associated_id": "","device_ip": "","phone_info": "","associated_role": 0,"softclient_
    license":
0,"registration_status": 0,"last_register": "","expiration": "","unregister_cause":
0,"failure_code": 0}
]
}
```

Uploading license files with Restful API

File upload is achieved in the following steps:

Authentication

```
curl -k -H "Content-Type: application/json" -X POST -d '{"name":"admin","password":"11"}'
https://host_or_ip/api/v1/VoiceadminLogin -c cookie.txt
```

Output:

```
{"objectID": "VoiceadminLogin:{D:system}","reqAction": 2,"nodePermission": 3,"name":
"admin","password": "11","new_password": "******","token": "******","vpbx": true,"role":
2,"license": 0,"is_superadmin": true,"webmode": 0,"locale": "en","loginstatus": 1,"model":
"FO4000","serial": "FO4000YYZRD00006","theme": 3,"debug": true,"product_name":
"FortiVoice","product_version": "6.4.307","disclaimer_enable": false,"scramble":
    true,"disclaimer":
"","gateway_status": false,"departments": "","userportal_status": true,"operator_console_
    status":
true,"lsg_status": true,"localsurvival_mode": 0,"business_group_status": true,"minimum_
    length":
8,"survivability_centralstatus": true,"magic_number": "rb"}
```

Getting the upload authorization token

```
curl -k -b cookie.txt -H "Content-Type: application/json" -X POST -d '{"reqAction":22}'
https://host_or_ip/api/v1/SysStatusLicinfo
```

Output:

```
{"token":"d45885ac1c2532686bf3554b65a781a7M500"}
```

Uploading a file with the authorization token returned in previous step

```
curl -k -b cookie.txt -X POST -F 'license=@/home/elvis/Licences/call_center_trial_one_
    year.lic' -F
'token=d45885ac1c2532686bf3554b65a781a7M500' 'https://host_or_ip/api/v1/uploadfile/'
```

Output:

```
{"id":"license_WssKBI"}
```

Applying the uploaded file with file ID returned in previous step

```
curl -k -v -b cookie.txt -H "Content-Type: application/json" -X PUT -d
'{"vm_lic_file":"license_WssKBI", "reqAction":"5"}' 'https://host_or_
    ip/api/v1/SysStatusLicinfo'
```

Output:

```
{"objectID": "SysStatusLicinfo:{D:system}","reqAction": 5,"nodePermission": 3,"vm_lic_file":
    ""}
```

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