



# Device Management API

This chapter describes the Device Management API:

- [Using the Device Management API, page 29](#)
- [Using the device-client Script, page 29](#)
- [Device Management API Method Calls, page 30](#)

## Using the Device Management API

In your IoT FND NB API client application, use this IoT FND server URL to access the Device API WSDL:

```
http://<server_address>/nbapi/device?wsdl
```

## Using the device-client Script

The IoT FND distribution provides a Device Management API client (device-client script) in the `cgms-tools-version.x86_64.rpm` package. The client is wrapped by a shell script (`/opt/cgms-tools/bin/device-client`) to directly communicate with the IoT FND API.

```
[root@localhost bin]# ./device-client
usage:
  ./bin/device-client add <endpoint URL> <filename>
  ./bin/device-client remove <endpoint URL> <filename>
  ./bin/device-client set <endpoint URL> <filename> <status>
  ./bin/device-client update <endpoint URL> <filename>
  ./bin/device-client export <endpoint URL> <query>
  ./bin/device-client job <endpoint URL> <job id>
```

[Table 1](#) lists device-client script commands:

**Table 1** device-client Commands

Command	Description
add	Calls the addDevices API.
remove	Calls the removeDevices API.
set	Calls the setDevices API to change status.
update	Calls the updateDevices API to change device properties.
export	Calls the exportDevices API.
job	Calls the getJob API to get the status of the job for one of the commands above.

Except for export and job, all other commands return a job ID used to query the job execution status.

## Device Management API Method Calls

- [addDevices, page 31](#)
- [exportDevices, page 35](#)
- [getJob, page 36](#)
- [removeDevices, page 32](#)
- [updateDevices, page 34](#)

## addDevices

This call lets the client add the devices specified in a CSV file to a managed device list in the IoT FND database. It is an asynchronous call that returns a job ID used to query the status of the add device job using the [getJob](#) call (see [getJob](#), page 36).

### Prototype

```
<dev:addDevices>
  <file>
    <data>eid:564620131674</data>
    <filename>H:\SGBU\csv_loading\test_for_device_api_2.csv</filename>
    <username>root</username>
  </file>
</dev:addDevices>
```

### Parameters

[Table 2](#) describes the parameters in the interface.

**Table 2 addDevices Parameters**

Parameter	Options	Description
file	data	A structure describing the CSV file to import. This file contains the list and details of devices to add. The data type is base 64 binary.
	filename	This example CSV file specifies new values for the mapLevel, latitude, and longitude properties of the specified devices:
	username	
		<pre>eid,mapLevel,lat,lng CA06001400100,2,-22.229488,37.860659 CA06001400100-0,15,-22.22887230524572,37.85273990917842 CA06001400100-1,15,-22.21759741145942,37.85962556788922</pre>

### Results

[Table 3](#) describes the parameters in the response.

**Table 3 addDevices Response**

Parameter	Type	Description
jobId	int	Use the job ID to get more information about the status of this call. For more information, see <a href="#">getJob</a> , page 36.

### addDevice SOAP XML Request Format

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:dev="http://devicemgmt.nbapi.cgms.cisco.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <dev:addDevices>
      <!--Optional:-->
      <file>
        <!--Optional:-->
        <data>eid:564620131674</data>
        <!--Optional:-->
        <filename>H:\SGBU\csv_loading\test_for_device_api_2.csv</filename>
        <!--Optional:-->
        <username>root</username>
      </file>
    </dev:addDevices>
  </soapenv:Body>
</soapenv:Envelope>
```

## removeDevices

This call lets the client remove the devices specified in a CSV file from a managed devices list stored in the IoT FND database. It is an asynchronous call that returns a job ID used to query the status of this job using the `getJob` call (see [getJob](#), page 36).

### Prototype

```
<dev:removeDevices>
  <file>
    <data>eid:136162421901</data>
    <filename>h:\SGBU|csv_loading\remove_device_Notepad_format.csv</filename>
    <username>root</username>
  </file>
</dev:removeDevices>
```

### Parameters

[Table 4](#) describes the parameters in the interface.

**Table 4** removeDevices Parameters

Parameter	Options	Description
file	data	A structure describing the CSV file to import. This file contains the list of devices to remove. The data type is base 64 binary.
	filename	This example CSV file specifies new values for the mapLevel, latitude, and longitude properties of the specified devices:
	username	
		<pre>eid,mapLevel,lat,lng CA06001400100,2,-22.229488,37.860659 CA06001400100-0,15,-22.22887230524572,37.85273990917842 CA06001400100-1,15,-22.21759741145942,37.85962556788922</pre>

### Results

[Table 5](#) describes the parameters in the response.

**Table 5** removeDevices Response

Parameter	Type	Description
jobId	int	The job ID used to get more information about the status of this call. For more information, see <a href="#">getJob</a> , page 36.

### removeDevices SOAP XML Request Format

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:dev="http://devicemgmt.nbapi.cgms.cisco.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <dev:removeDevices>
      <!--Optional:-->
      <file>
        <!--Optional:-->
        <data>eid:136162421901</data>
        <!--Optional:-->
        <filename>h:\SGBU|csv_loading\remove_device_Notepad_format.csv</filename>
        <!--Optional:-->
        <username>root</username>
      </file>
    </dev:removeDevices>
  </soapenv:Body>
</soapenv:Envelope>
```

## setDevices

This call sets the properties of the specified devices as defined in a CSV file.

### Parameters

[Table 6](#) describes the parameters in the interface.

**Table 6 setDevices Parameters**

Parameter	Options	Description
file	data filename username	<p>A structure describing the CSV file to import. This file contains the list of devices and corresponding properties to set. The data type is base 64 binary.</p> <p>This example CSV file specifies new values for the mapLevel, latitude, and longitude properties of the specified devices:</p> <pre>eid,mapLevel,lat,lng CA06001400100,2,-22.229488,37.860659 CA06001400100-0,15,-22.22887230524572,37.85273990917842 CA06001400100-1,15,-22.21759741145942,37.85962556788922</pre>

### Results

[Table 7](#) describes the parameters in the response.

**Table 7 setDevices Response**

Parameter	Type	Description
jobId	int	The job ID used to get more information about the status of this call. For more information, see <a href="#">getJob</a> , page 36.

## updateDevices

This call updates the properties of the specified devices with new values provided in CSV file.

### Prototype

```
<dev:updateDevices>
  <file>
    <data>eid:568127286335</data>
    <filename>?</filename>
    <username>?</username>
  </file>
</dev:updateDevices>
```

### Parameters

Table 8 describes the parameters in the interface.

**Table 8** updateDevice Parameters

Parameter	Type	Description
file	data	This structure describes the CSV file to import. This file contains the list of devices and corresponding properties to update. The data type is base 64 binary.
	filename	This example CSV file specifies new values for the mapLevel, latitude, and longitude properties of the specified devices:
	username	
		<pre>eid,mapLevel,lat,lng CA06001400100,2,-22.229488,37.860659 CA06001400100-0,15,-22.22887230524572,37.85273990917842 CA06001400100-1,15,-22.21759741145942,37.85962556788922 CA06001400100-10,15,-22.21672330007085,37.85933754140877 CA06001400100-100,15,-22.22737656792707,37.866319080937444 CA06001400100-1000,15,-22.23107565852129,37.86334942264521 CA06001400100-1001,15,-22.23444480993644,37.86209437189405</pre>

### Results

Table 9 describes the parameters in the response.

**Table 9** updateDevice Response

Parameter	Type	Description
jobId	int	The job ID used to get more information about the status of this call. For more information, see <a href="#">getJob</a> , page 36.

### updateDevice SOAP XML Request Format

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:dev="http://devicemgmt.nbapi.cgms.cisco.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <dev:updateDevices>
      <!--Optional:-->
      <file>
        <!--Optional:-->
        <data>eid:568127286335</data>
        <!--Optional:-->
        <filename>?</filename>
        <!--Optional:-->
        <username>?</username>
      </file>
    </dev:updateDevices>
  </soapenv:Body>
</soapenv:Envelope>
```

## exportDevices

This call returns a list of devices found by the query. This is an asynchronous call. Unlike other device management APIs, this call is blocking until all results are consumed by the caller.

### Prototype

```
<dev:exportDevices>
  <username>root</username>
  <query>cgr1000</query>
</dev:exportDevices>
```

### Parameters

Table 10 describes the parameters in the interface.

**Table 10 exportDevices Parameters**

Parameter	Type	Description
username	string	IoT FND username used as part of the job creation.
query	string	The query that determines the criteria of the devices to export.

### Results

Table 11 describes the parameters in the response.

**Table 11 exportDevices Response**

Parameter	Type	Description
data	base64Binary	The job ID used to get more information about the status of this call. For more information, see <a href="#">getJob, page 36</a> .
date	dateTime	The date of the query (UTC time).
query	string	The query used to find the devices to export.
status	string	Status of the job.

### exportDevices SOAP XML Request Format

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:dev="http://devicemgmt.nbapi.cgms.cisco.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <dev:exportDevices>
      <!--Optional:-->
      <username>root</username>
      <!--Optional:-->
      <query>cgr1000</query>
    </dev:exportDevices>
  </soapenv:Body>
</soapenv:Envelope>
```

## getJob

This call returns a job report describing the detailed execution status of the specified job.

### Prototype

```
<dev:getJob>
  <jobId>110</jobId>
</dev:getJob>
```

### Parameters

Table 12 describes the parameters in the interface.

**Table 12 getJob Parameters**

Parameter	Type	Description
jobId	int	The job ID to return information about.

### Results

Table 13 describes the parameters in the response.

**Table 13 getJob Results**

Parameter	Type	Description
id	integer	Job ID.
username	string	The username of the job submitter.
filename	string	The filename of the job.
type	string	The job type.
totalCount	integer	Total count includes successes and failures.
successCount	integer	Success count represents the number of devices successfully updated.
failureCount	integer	Failure count summarizes the number of devices not successfully updated.
status	string	The job execution status.
submittedAt	date	The job submission date (UTC time).
updatedAt	date	The job updating date (UTC time).
logs	string	The logged messages of the job execution.

### exportJob SOAP XML Request Format

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:dev="http://devicemgmt.nbapi.cgms.cisco.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <dev:getJob>
      <jobId>110</jobId>
    </dev:getJob>
  </soapenv:Body>
</soapenv:Envelope>
```