

COMODOCA IoT Manager API Quick Start Guide

COMODO
Certification Authority



Contents

About Comodo CA	3
About Comodo CA IoT Manager	3
ComodoCA Support Contact Information	3
About This Guide	4
API Instructions	5
How to create batches by uploading CSRs	5
How to create batches with generated keys and CNs	5
API Function List with Examples	6
Authenticating to the API	6
Example Body	6
Example Response	6
List available profiles	7
Example Response	7
Create a batch using CSRs	8
Body Requirements	8
Example Response	8
Get Generator information	9
Example Response	9
Create a batch using a generator	10
Example Request Body	10
Example Response	10
Get a list of batches	11
Example Request Body	11
Example Response	12
Get detailed batch information	13
Example Response	13
Download a specific batch	13
Get profile parameters	14
Example Response	14

About Comodo CA

A trusted advisor by enterprises globally, for more than two decades, Comodo CA provides digital identity solutions for businesses of all sizes – protecting their employees, customers, intellectual property and overall brand – from damages caused by fraudsters impersonating people and devices. As the largest commercial certificate authority with over 100 million SSL certificates issued worldwide, Comodo CA has the experience and performance to meet the growing need to secure transactions and create online trust.

About Comodo CA IoT Manager

The ComodoCA IoT Manager provides trusted, mutual-authentication solutions for all IoT devices and networks. Using X.509 PKI certificates and custom hybrid TLS/SSL certificates, our high-availability, batch-issuance system allows for administrators to easily enroll, download and decrypt certificate batches quickly and efficiently.

ComodoCA Support Contact Information

In today's complex IT security environment, it is vital to minimize risk and downtime by utilizing services that safeguard your business and drive IT efficiencies. Our Enterprise Service is designed for customers who require technical and validation management services with immediate access to Comodo CA's most skilled service personnel.

The extensive Comodo CA experience from being the largest commercial Certification Authority gives you a solid, secure foundation in the shortest period of time. Once in service, we'll help you manage and maintain your digital certificates across multiple systems to avoid noncompliance, outages, and data breaches.

From on-demand validation to expert technical support, our trusted security experts are ready 24/7 to respond and resolve your technical and validation issues immediately and efficiently.

About This Guide

This guide is designed to help Organization Administrators work with the Application Programming Interfaces (API's) included as part of the ComodoCA IoT Manager.

This guide is broken down into two major sections:

- API Instructions - information required before using the API's
- API Function List with Examples - the API's used and code samples.

API Instructions

How to create batches by uploading CSRs

The following information is required to perform this task:

- profile to use. Refer to *"List available profiles"*.
- CSR file to upload consisting of a comma separated list of CSRs in PEM format with UNIX line endings

To execute the commands see *"Create a batch using CSRs" on page 8*

How to create batches with generated keys and CNs

The following information is required to perform this task:

- the generator to use and properties to fill out. Refer to *"Get generator information"*.
- the Profile parameters. Refer to *"Get profile parameters"*.

See *"Create a batch using a generator" on page 10*

API Function List with Examples

This is the list of API calls required.

Authenticating to the API

This authenticates your credentials to the API and provides you with a token that can be included in the rest of the API calls.

POST <https://demo.iot.comodoca.com/auth/pwd>

Example Body

```
{
  "username": "USER",
  "password": "PASSWORD"
}
```

Example Response

```
{
  "accessToken": "eyJhbGciOiJI...IYGeBKQ",
  "refreshToken": "eyJhbGciOiJI...nTYRuQWQ"
}
```

NOTE: The value of “accessToken” should be used for the Authorization header in subsequent requests prefixed with “Bearer ”

List available profiles

This lists the types of certificate profiles available for batch creation. All batches created use one of these profiles to define the certificate requirements.

GET <https://demo.iot.comodoca.com/api/v1/authorities/allowed>

Example Response

```
[{
  "id": 11,
  "ecosystemId": 1,
  "signerCertificateId": 0,
  "signerCertificateId": 0,
  "ecosystemName": "COMODO CA IoT DEMO",
  "balance": 0,
  "enabled": true,
  "addedBalance": 0,
  "usedBalance": 0,
  "extId": 0,
  "profileId": 4,
  "profileName": "ECC Device Certificate",
  "totalEcosystemBalance": 0
},
...
]
```

NOTE: When using other API calls that require a profile ID, use the information from the "id" field from the returned values in this list, NOT the value in the "profileId" attribute.

Create a batch using CSRs

This API creates a batch of certificates using a list of existing CSRs generated outside the Comodo CA IoT Manager. The CSRs must contain the attributes that match any requirements the certificate profile specified requires.

POST <https://demo.iot.comodoca.com/api/v1/batches/upload?profileId={ID}>

Body Requirements

Include a URL-form encoded property called "file" that contains the file.

The file format is a comma separated list of PEM formatted CSRs with Unix line endings.

The batch created will not be immediately download-able. Refer to *"Get detailed batch information" on page 13* to find out when the batch is available for download using the returned "batchId".

Example Response

```
{
  "batchId": 144,
  "orderNumber": 356,
  "creationDate": "2018-09-04T00:04:28.775Z",
  "profile": "RSA Device Certificate",
  "size": 1,
  "status": "Ready for Download",
  "isRejectableDueTo": null,
  "active": false,
  "batchName": "my-batch-001",
  "rejectReason": null,
  "generatorParametersValues": {
    "increment": "1",
    "startValue": "0"
  },
  "userId": 13,
  "rejectable": true,
  "downloadable": true
}
```


Get Generator information

This gets a list of all common name generators for a given certificate profile. A generator controls the common names for the certificates that are created in a batch. When creating a batch, values specified for a generator must match the validator regex returned here.

GET <https://demo.iot.comodoca.com/api/v1/generators/?profileId={ID}>

Example Response

```
[{
  "generatorId": 1,
  "name": "NUMERIC",
  "parameters": [{
    "generatorParameterId": null,
    "name": "startValue",
    "label": "Start Value",
    "type": "number",
    "required": true,
    "validator": "^(0|[1-9][0-9]{0,63})$",
    "message": "Please enter a valid positive number",
    "value": "0"
  },
  {
    "generatorParameterId": null,
    "name": "increment",
    "label": "Increment",
    "type": "number",
    "required": true,
    "validator": "^[1-9][0-9]*$",
    "message": "Please enter a valid positive number",
    "value": "1"
  }
]}
],
...
]
```

Create a batch using a generator

This creates a batch using specified generator parameters and profile parameters.

PUT <https://demo.iot.comodoca.com/api/v1/batches>

Example Request Body

```
{
  "generatorId": 1,
  "generatorParams": {
    "startValue": "5",
    "increment": "1"
  },
  "profileParams": {
    "years": "1",
    "additionalInformation": "Example Certificate",
    "deviceClass": "Test",
    "pkcs12Password": "example"
  },
  "profileId": 11,
  "batchSize": 10,
  "batchName": "Example"
}
```

The batch created is not available for immediate download. Refer to *“Get detailed batch information” on page 13* to find out when the batch is available for download using the returned *“batchId”*.

Example Response

```
{
  "batchId": 186,
  "orderNumber": 398,
  "creationDate": "2018-09-05T17:08:04.037Z",
  "profile": "ECC Device Certificate",
  "size": 1,
  "status": "Pending",
  "isRejectableDueTo": null,
  "active": true,
  "batchName": "Example",
  "rejectReason": null,
  "generatorParametersValues": {
    "increment": "1",
    "startValue": "5"
  },
  "userId": 3,
  "rejectable": false,
  "downloadable": false
}
```

Get a list of batches

This API can be used to return a list of existing batches in the system. While it is more likely that the specific batch information request will be used, this searches all batches based on the provided parameters.

POST <https://demo.iot.comodoca.com/api/v1/batches?profileId={ID}>

Example Request Body

```
{
  "filter": {
    "batchId": 1025,
    "batchName": "Example",
    "fromDate": "2018-08-05T17:08:04.037Z ",
    "pagingSettings": {
      "pageIndex": 0,
      "pageSize": 10
    },
    "sizeFrom": 1,
    "sizeTo": 50000,
    "toDate": "2019-09-05T17:08:04.037Z"
  },
  "sortColumns": {
    "status": "DESC",
    "creation_date": "ASC",
    "batch_name": "DESC"
  }
}
```

Example Response

```
{
  "batches": [{
    "batchId": 186,
    "orderNumber": 398,
    "creationDate": "2018-09-05T17:08:04.037Z",
    "profile": null,
    "size": 1,
    "status": "Ready for Download",
    "isRejectableDueTo": null,
    "active": false,
    "batchName": "Test",
    "rejectReason": null,
    "generatorParametersValues": null,
    "userId": 3,
    "rejectable": true,
    "downloadable": true
  },
  ...
  {
    "batchId": 33,
    "orderNumber": 245,
    "creationDate": "2018-07-22T19:18:00.285Z",
    "profile": null,
    "size": 50000,
    "status": "Ready for Download",
    "isRejectableDueTo": null,
    "active": false,
    "batchName": "50k",
    "rejectReason": null,
    "generatorParametersValues": null,
    "userId": 3,
    "rejectable": false,
    "downloadable": true
  }
  ],
  "totalCount": 14
}
```

Get detailed batch information

This API provides information about a specific batch by “batchId”. Use the batchId obtained from a previous request or the batch upload/creation value.

GET <https://demo.iot.comodoca.com/api/v1/batches/{BATCHID}>

Example Response

```
{
  "batchId": 186,
  "orderNumber": 398,
  "creationDate": "2018-09-05T17:08:04.037Z",
  "profile": "ECC Device Certificate",
  "size": 1,
  "status": "Ready for Download",
  "isRejectableDueTo": null,
  "active": false,
  "batchName": "Example",
  "rejectReason": null,
  "generatorParametersValues": {
    "increment": "1",
    "startValue": "0"
  },
  "userId": 13,
  "rejectable": true,
  "downloadable": true
}
```

NOTE: The “downloadable” boolean should be used to determine if the batch can be downloaded, not the “status” field. If the batch cannot be downloaded and the “status” field is not “Pending” the batch may have failed and may require user intervention.

Download a specific batch

This downloads a batch as a zip file containing all the certificates requested in a given batch.

GET <https://demo.iot.comodoca.com/api/v1/batches/{BATCHID}/download>

The response will be a zip file.

NOTE: You **MUST NOT** include an *accept* header of any type with the request.

Get profile parameters

This gets the required parameters for creating a batch for a specific profile. These parameters are only required when you are creating a batch using the generators. Uploaded CSRs are checked to match these parameters instead of requiring them to be specified.

GET <https://demo.iot.comodoca.com/api/v1/profiles/{ID}/parameters>

Example Response

```
[{
  "name": "years",
  "inputType": "Integer:1,2,3",
  "required": false,
  "placeholder": "years",
  "validationPattern": "^(1|2|3){1}$",
  "message": "Valid integer values: 1,2,3",
  "value": null,
  "title": "Certificate validity period (in years; default = 1 year)",
  "batchScope": true,
  "dynamic": true
},
...
{
  "name": "pkcs12Password",
  "inputType": "String",
  "required": false,
  "placeholder": "pkcs12Password",
  "validationPattern": "^(.*)$",
  "message": "",
  "value": null,
  "title": null,
  "batchScope": true,
  "dynamic": true
}]
```