



Getting Started with APIs Guide

Use this document to get connected to a Fannie Mae API.

1

Create a System ID

[Skip this step if you already have System ID you are using for APIs].

APIs are considered system-to-system connections that belong to your institution (not a person). You will need an ID designated for that purpose, known as a **System ID**. This assignment is a one-time setup process.

To create an ID, your **Technology Manager corporate administrator** will create your System ID in the [Technology Manager](#). See these instructions in this job aid to [Create or Manage a System ID](#).

Result: A System ID.

2

Associate the System ID with an API

Consult with your Technology Delivery Manager to obtain the appropriate role for the API that is being consumed and notify them that you need to schedule a System ID update. (Scroll to 'Make System ID Updates' in this job aid: [Create or Manage a System ID](#))

With that role, your Fannie Mae **Technology Manager corporate administrator** can associate the role to specific APIs that you would like to access.

Result: API associated to a System ID.

3

Generate OAuth credentials

You have multiple options to receive your credentials. Use the [Developer Portal](#) Key Generation page to generate the OAuth credentials OR use direct API calls to receive your credentials using an application of your choice to make the calls (e.g., cURL, Postman etc.).

The OAuth credentials are generated in a sequence of three steps:

1. Get your Client ID and Secret (*page 2*)
2. Create your Token (*page 3*). *Note: Token refresh is covered on page 5*
3. Create your API Key (*page 4*).

4

Connect

Use your credentials and make an API call (*see sample curl on page 6*).



Get your Client ID and Secret

To get your Client ID and Secret:

1. Encode your system ID and Password to the Base64 format* as: **<System ID>:<Password>**
2. Use the resulting Base64 string in the client-secret call (see cURL example below)

In response, the Fannie Mae authorization server issues a Client ID and Secret.

Note: Your Client ID is unique to each System ID. If you consume multiple APIs associated to the same System ID in Technology Manager, then re-use the Client ID you created for that System ID for the related APIs.

Suggestion: Keep your Client ID and Secret outside your client code, in a secure place on your server.

**To create Base64 string, you can either use Postman app or <https://www.base64encode.org/>*

cURL request

```
curl -X POST \  
  https://api.fanniemae.com/cdxapi/client-secret/createsecret \  
  -H 'accept: application/json' \  
  -H 'authorization: Basic <Base64 encoded value>' \  
  -H 'content-type: application/json' \  
  -H 'x-fnma-channel: api'
```

(Text in yellow is unique for the API call)

Sample response

```
{  
  "statusCode": "200",  
  "responseEntity": {  
    "clientId": "<Client ID>",  
    "clientSecret": "<Client Secret>"  
  },  
  "errorList": []  
}
```

(Text in yellow is unique for the API call)



Create your Tokens

To get your Client ID and Secret:

1. Encode your system ID and Password to the Base64 format* as <System ID>:<Password>. For example, a user id of 'userid' and a password of 'pass1234' are encoded from: **userid:pass1234** and become:

'dXNicmlkOnBhc3MxMjM0'

2. Use the resulting Base64 string AND the Client ID and Secret (from previous step) in the Token Call (see cURL example below)

In response, the Fannie Mae authorization server will issue your Access and Refresh Tokens.

Note: Access Tokens have a finite lifetime noted as Time To Live (TTL). TTL is in seconds.

*To create Base64 string, you can either use Postman app or <https://www.base64encode.org/>

cURL Request

```
curl -X POST \
  https://api.fanniemae.com/cdxapi/accesstoken \
  -H 'accept: application/json' \
  -H 'authorization: Basic <Base64 encoded value>' \
  -H 'content-type: application/json' \
  -H 'x-fnma-channel: api' \
  -H 'x-fnma-client-id: <Client ID>' \
  -H 'x-fnma-client-secret: <Client Secret>' \
```

Response

```
{
  "statusCode": "200",
  "responseEntity": {
    "token": "<Access Token>",
    "refreshToken": "<Refresh Token>",
    "expiration": <TTL in seconds>
  },
  "errorList": []
}
```



Create your API Key

To get your API Key, use your Access Token (previous step) and the API Path.

The Access Token is obtained from the “Create Your Token” step and the API Path is obtained from the Swagger of the API you are using (For example, /singlefamily/underwriting/messages).

In response, the Fannie Mae authorization server issues your API Key.

cURL Request

```
curl -X POST \  
  https://api.fanniemae.com/cdxapi/client-secret/getapikey \  
  -H 'accept: application/json' \  
  -H 'content-type: application/json' \  
  -H 'x-fnma-access-token: <Access Token>' \  
  -H 'x-fnma-apikey-uri: <API Path>' \  
  -H 'x-fnma-channel: api'
```

Response

```
{  
  "statusCode": null,  
  "responseEntity": {  
    "apiKey": "<API Key>"  
  },  
  "errorList": []  
}
```



Refresh Tokens

To Refresh your Token, provide the Refresh Token obtained from the “Create Your Token” step if this is your first refresh, else use the Refresh Token from your previous ‘Refresh Token’ call.

In response, the Fannie Mae authorization server issues an Access Token and Refresh Token. Use the Access Token in your next API call.

Request

```
curl -X POST \  
https://api.fanniemae.com/cdxapi/refreshToken \  
-H 'accept: application/json' \  
-H 'content-type: application/json' \  
-H 'x-fnma-channel: api' \  
-H 'x-fnma-refresh-token: :<Refresh Token>'
```

Response

```
{  
  "statusCode": "200",  
  "responseEntity": {  
    "token": "<Access Token>",  
    "refreshToken": "<Refresh Token>",  
    "expiration": <TTL in seconds>  
  },  
  "errorList": []  
}
```



Creating a well-formed API call

To connect to your API, use the API Key and Access Token obtained in previous steps. API Key is obtained from the “Create Your API Key” step and the Access Token can be obtained from the “Create Your Access Token” step.

In response, your API call connects to the Fannie Mae API end-point to submit and/or retrieve data.

```
curl -v -X GET https://api.fanniemae.com/singlefamily/<Resource> \  
-H "Content-Type:application/json" \  
-H "Accept:application/json" \  
-H "x-fnma-channel:api" \  
-H "x-fnma-access-token:<Access Token>" \  
-H "x-fnma-api-key:<Api-Key>" \  
-H "api-version:<Version>"
```

Need More Support?

If you need more support, we’re here to help. Contact Fannie Mae at integration_support@fanniemae.com to answer questions and help ensure your implementation of the API is successful.