

# IoTDM

## Welcome to IoTDM

- [Welcome to IoTDM](#)
- [Introduction](#)
- [Documentation](#)
  - [Getting started for users](#)
  - [Information for developers](#)
  - [Externally Consumable APIs](#)
  - [Plugins Overview](#)
  - [Client API](#)
  - [GUI](#)
- [Release Planning](#)
  - [Architecture Overview](#)
- [Release Notes](#)
- [Report Bugs & Discussion](#)
- [Postman Collection](#)

## Introduction

The IoT Data Management (IoTDM) project is an open source implementation of oneM2M running on OpenDayLight. It is about developing a data-centric middleware that will act as a oneM2M compliant IoT Data Broker and enable authorized applications to retrieve IoT data uploaded by any device.

[Project Proposal](#)

[Git patches and reviews](#)

[Jenkins](#)

## Project Facts

Project Creation

Date: December 9th, 2014

Lifecycle State: Lithium Release

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feel free to join our slack: <https://join-iotdm.herokuapp.com/>

Mailing List: [iotdm-dev@lists.opendaylight.org](mailto:iotdm-dev@lists.opendaylight.org)

Archives: [mailing list archives](#)

Meetings: See [Community Meetings](#)

Repository: git clone <https://git.opendaylight.org/gerrit/iotdm>

Jenkins: [jenkins silo](#)

Gerrit Patches: [code patches/reviews](#)

Bugs:

- [open bugs](#)

## Documentation

### Getting started for users

- There are several ways to use IoTDM. You may want to just send CRUD to it, you may want to install it locally and CRUD to it, or you may want to access the code and develop modules for it.
- If you just want to exercise the APIs and don't want to touch the code, then follow the following procedure:
  1. create a local directory and download the tar file distribution from [tar.gz file here](#) or zip file [zip file here](#)
  2. rename your file to "onem2mall-karaf-1.0.0-SNAPSHOT.tar.gz" or "onem2mall-karaf-1.0.0-SNAPSHOT.zip" (if you download a zip file)
  3. cd to that directory and type

```
tar -xvf onem2mall-karaf-1.0.0-SNAPSHOT.tar.gz
```

or

```
unzip onem2mall-karaf-1.0.0-SNAPSHOT.zip
```

(if you download a zip file)

- 4 cd into onem2mall-karaf-1.0.0-SNAPSHOT/bin

```
cd onem2mall-karaf-1.0.0-SNAPSHOT/bin
```

- 5. Launch IoTDM

```
./karaf
```

- 6. Prompt changes to opendaylight-user@root>
- 7. Wait for the karaf features to load
- 8. Verify oneM2M modules are "active"

```
opendaylight-user@root>list | grep onem2m
```

```
256 | Active | 80 | 0.0.1.SNAPSHOT | onem2m-api
```

```
257 | Active | 80 | 0.0.1.SNAPSHOT | onem2m-core
```

```
259 | Active | 80 | 0.0.1.SNAPSHOT | onem2m-notifier
```

```
261 | Active | 80 | 0.0.1.SNAPSHOT | onem2m-protocol-coap
```

```
262 | Active | 80 | 0.0.1.SNAPSHOT | onem2m-protocol-http
```

- 9. IoTDM is now running on port 8181 and 8282
- 10. Initialize the resource tree (if prompted for a username/password type admin/admin).

- Send a POST to :

```
localhost:8181/restconf/operations/onem2m:onem2m-cse-provisioning
```

Headers

```
Content-Type      application/json
Accept            application/json
Authorization      Basic YWRtaW46YWRtaW4=
```

Authorization is used for (user:admin, password:admin)

JSON Body

```
{
  "input": {
    "onem2m-primitive": [
      {
        "name": "CSE_ID",
        "value": "InCSE1"
      },
      {
        "name": "CSE_TYPE",
        "value": "IN-CSE"
      }
    ]
  }
}
```

- This will create a tree called ODL-oneM2M-Cse. You are ready to exercise the CRUDs. See API examples [here](#)

A more convenient tool is Postman, we create a collection for you to try iotdm, just click the link and import the collection. <https://www.getpostman.com/collections/f0b20ed5f4d574f6fb5>

Video tutorial: <https://www.youtube.com/watch?v=FXjkJgw01Yo>

## Information for developers

- If you are unfamiliar with OpenDaylight development see the [core tutorials](#) project.
- Make sure your development environment is [setup](#):
- Getting the iotdm code from the repository:

```
git clone https://git.opendaylight.org/gerrit/p/iotdm.git
cd iotdm
git checkout stable/beryllium
```

- Build the code:

```
mvn clean install -DskipTests
```

- To bring up the iotdm onem2m features in karaf, if you have a successful build,

```
cd onem2mall/karaf/target/assembly/bin
./karaf
```

- The system is ready for CRUD operations via CoAP (Port 5683) or HTTP (Port 8282).

## Externally Consumable APIs

- **IoTDM OneM2M feature**
  - We do our best to implement IoTDM as closely to the oneM2M spec as possible. Keep in mind that the specification is still evolving. Detailed information about what is supported from the oneM2M is available [here](#) for the Boron release (Aug 2016).
- - RESTconf is also supported but it is a non-oneM2M standard method for accessing the tree.
  - Bundles providing the API: odl-iotdm-onem2m
  - REST API commands include:
    - onem2m-request-primitive for CRUDN
  - Examples of CRUDN calls and JSON formats are available [here](#)

## Plugins Overview

It is possible to extend the functionality of IoTDM with the addition of ODL's plugin architecture. See the following for an introduction to adding [IoTDM plugin's](#). Video Tutorial: <https://www.youtube.com/channel/UCQFkSjC4Ed7GzuJH51QR5eg>

## Client API

[IoTDM:PythonAPI](#)

[IoTDM:JavaClient](#)

## GUI

[IoTDM:GUI](#)

# Requirements

## Release Planning

Release	Release Plan	Release Notes	Release Review	Installation Guide	User Guide	Developer Guide	Operations Guide	How-To's /Tutorials
Lithium	<a href="#">Release Plan</a>	<a href="#">Release Notes</a>	<a href="#">Release Review</a>	-	<a href="#">User Guide</a>	<a href="#">Developer Guide</a>	-	-
Beryllium	<a href="#">Release Plan</a>	<a href="#">Release Notes</a>	<a href="#">Release Review</a>	-	-	-	-	-
Boron	<a href="#">Release Plan</a>	<a href="#">Release Notes</a>	<a href="#">Release Review</a>	-	-	-	-	-
Carbon	<a href="#">Release Plan</a>	<a href="#">Release Notes</a>	<a href="#">Release Review</a>	-	-	-	-	-

If you'd like to attend our weekly calls, please send an email to [lflorit@cisco.com](mailto:lflorit@cisco.com)

Some information below are deprecated. IoTDM sources includes some readme files with more actual documentation.

## Architecture Overview

[Overview](#)

## Release Notes

## Report Bugs & Discussion

Join our Slack : <https://join-iotdm.herokuapp.com/>

## Postman Collection

Automatic Create a resource tree. <https://www.getpostman.com/collections/ed66e63ce1bdca37a568> Video Link: