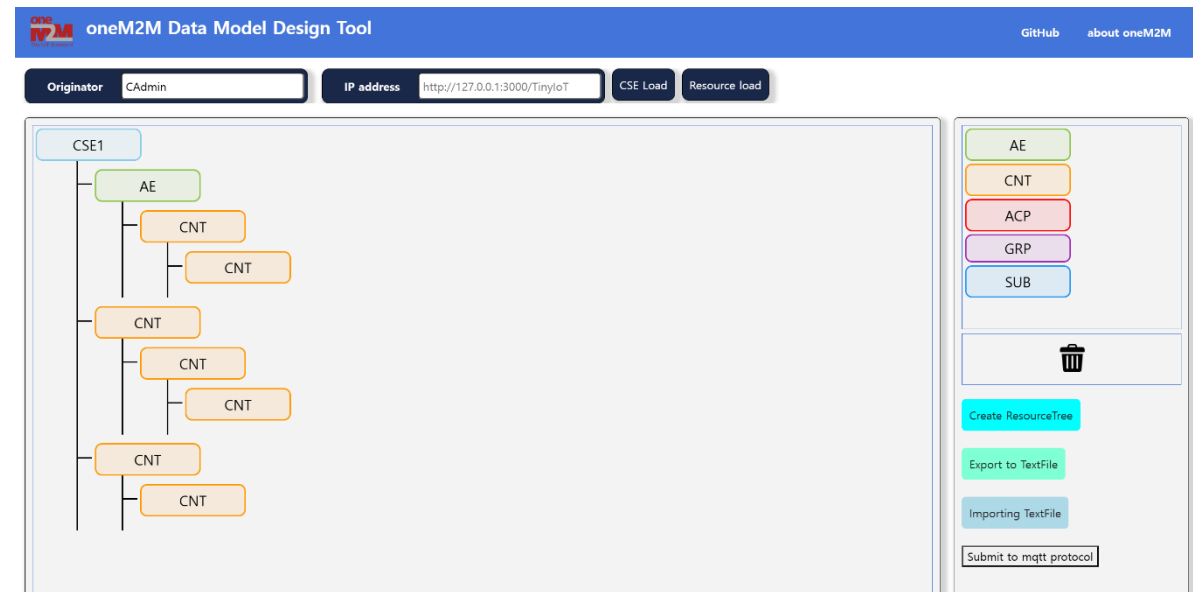


# **Resource Design Tool: Installation**

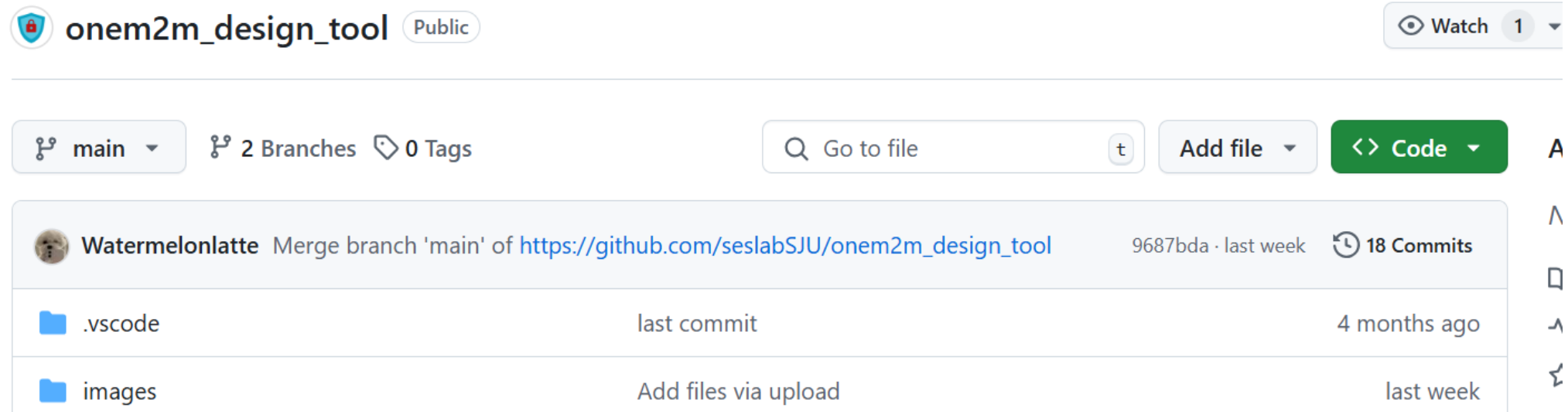
# Resource Design Tool Overview

- Design tool is designed to help you design oneM2M data model.
  - It is based on the oneM2M data standards described in TS-0001. and the tool is written in Vue3
- Available functions
  - CSE Load
  - Drag & Drop
  - Create resources
  - Resource load
- Prerequisites
  - OS (Windows or Ubuntu)
  - Node.js (Version v20.10.0 or lower required)



# Resource Design Tool Installation

- Clone resource design tool repository
  - [https://github.com/seslabSJU/onem2m\\_design\\_tool](https://github.com/seslabSJU/onem2m_design_tool)
- \$ git clone [https://github.com/seslabSJU/onem2m\\_design\\_tool](https://github.com/seslabSJU/onem2m_design_tool)



The screenshot shows the GitHub repository page for **onem2m\_design\_tool**, which is a public repository. The repository is owned by **Watermelonlatte**. The page displays the repository name, a "Public" badge, and a "Watch" button with a count of 1. Below the repository name, there are tabs for "main" (selected), "2 Branches", and "0 Tags". A search bar labeled "Go to file" is present, along with buttons for "Add file" and "Code". The commit history shows a merge by **Watermelonlatte** of branch 'main' from the repository, with commit hash 9687bda and a timestamp of "last week". The repository has 18 commits. The file list shows two folders: **.vscode** (last commit 4 months ago) and **images** (Add files via upload last week).

onem2m\_design\_tool Public Watch 1

main 2 Branches 0 Tags Go to file Add file Code

Watermelonlatte Merge branch 'main' of [https://github.com/seslabSJU/onem2m\\_design\\_tool](https://github.com/seslabSJU/onem2m_design_tool) 9687bda · last week 18 Commits

.vscode	last commit	4 months ago
images	Add files via upload	last week

# Resource Design Tool Installation

- Move to onem2m\_design\_tool directory
- \$ cd onem2m\_design\_tool

```
C:\Users\██████\██████>git clone https://github.com/seslabSJU/onem2m_design_tool
Cloning into 'onem2m_design_tool'...
remote: Enumerating objects: 133, done.
remote: Counting objects: 100% (133/133), done.
remote: Compressing objects: 100% (115/115), done.
remote: Total 133 (delta 44), reused 85 (delta 15), pack-reused 0 (from 0)
Receiving objects: 100% (133/133), 1.48 MiB | 9.88 MiB/s, done.
Resolving deltas: 100% (44/44), done.
```

```
C:\Users\██████\██████>cd onem2m_design_tool
C:\Users\██████\██████\onem2m_design_tool>|
```

# Environment Setting

---

- Check the version of Node.js
  - `$ node -v` (Version v20.10.0 or lower is required, v20.10.0 recommended)
- If Node.js is not installed, download and install it from the link below
  - <https://nodejs.org/download/release/v20.10.0/>
- if the Node.js version is not available, (Node.js & npm are already installed)
  - Install NVM for Node.js version management.
  - <https://github.com/coreybutler/nvm-windows/>

# Environment Setting

- Install the NVM

[README](#) [MIT license](#) [Security](#)

Notice: We have started full time work on [Runtime](#), the successor to NVM for Windows.

Complete [this form](#) to provide your thoughts and sign up for progress updates.

Updates will also be posted on the [Author Software LinkedIn Page](#).

## NVM for Windows

The [Microsoft/npm/Google](#) recommended Node.js version manager for *Windows*.

► This is not the same thing as nvm! (expand for details)

[Download Now!](#)

Latest Release

v1.1.12

Released

november 2023

Downloads

12M

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### Contributors



acdvorak, coreybutler, and 5 other contributors

### ▼ Assets 9

<a href="#">nvm-noinstall.zip</a>	4.65 MB	Nov 23, 2023
<a href="#">nvm-noinstall.zip.checksum.txt</a>	34 Bytes	Nov 23, 2023
<a href="#">nvm-setup.exe</a>	5.52 MB	Nov 24, 2023
<a href="#">nvm-setup.zip</a>	5.02 MB	Nov 23, 2023
<a href="#">nvm-setup.zip.checksum.txt</a>	34 Bytes	Nov 23, 2023
<a href="#">nvm-update.zip</a>	4.15 MB	Nov 23, 2023
<a href="#">nvm-update.zip.checksum.txt</a>	34 Bytes	Nov 23, 2023
<a href="#">Source code (zip)</a>		Nov 23, 2023
<a href="#">Source code (tar.gz)</a>		Nov 23, 2023

682 81 98 198 131 76 972 people reacted

36 [Join discussion](#)

# Environment Setting

---

- Check NVM Installation and Available Node.js Versions
  - \$ nvm -v
  - \$ nvm list available
- Install the Required Node.js Version
  - \$ nvm install 20.10.0

```
C:\Users\██████████\onem2m_design_tool>nvm install 20.10.0
Downloading node.js version 20.10.0 (64-bit)...
Extracting node and npm...
Complete
npm v10.2.3 installed successfully.
```

# Environment Setting

- Change the Node.js Version

- \$ nvm list
- \$ nvm use 20.10.0

```
C:\Users\██████████\onem2m_design_tool>nvm list
* 20.10.0 (Currently using 64-bit executable)
  16.20.2

C:\Users\rnjs0\installing\onem2m_design_tool>nvm use 20.10.0
Now using node v20.10.0 (64-bit)
```

- Checking the Node.js Version

- \$ node -v

```
C:\Users\██████████\onem2m_design_tool>node -v
v20.10.0
```



# Resource Design Tool Installation

- Install requirements
  - \$ npm install

```
C:\Users\██████\██████\onem2m_design_tool>npm install
```

- \$ npm run dev
  - Enter the address that appears afterward

```
C:\Users\██████\██████\onem2m_design_tool>npm run dev  
  
> onem2m-data-model-design-tool@0.0.0 dev  
> vite  
  
Port 5173 is in use, trying another one...  
  
VITE v4.5.0 ready in 999 ms  
  
→ Local:   http://localhost:5174/  
→ Network: use --host to expose  
→ press h to show help
```

# **How to Use the Resource Design Tool**

# Key Features of the Tool

---

- CSE Load
    - Connect to an external CSE server to load and visualize its resource tree for further modeling.
  - Drag & Drop
    - Intuitively model resources using a drag-and-drop interface
    - Drag components into the canvas to design resource structures.
  - Create Resources
    - Easily create resources or resource trees with a few clicks.
    - Modify resource attributes and relationships in the modal.
  - Resource Load
    - Retrieve and manage existing resources effortlessly.
    - Save the resource tree or load existing resources from a server.
-

# CSE Load

- This feature connects to an external oneM2M-compatible CSE server, allowing you to load and visualize its complete resource tree for further modeling or management.

- How to use

- Enter the URL or IP address of the target CSE server.



A screenshot of a software interface for loading CSE resources. It features a dark blue toolbar with four components: a text input field labeled 'Originator' containing 'CAdmin', a text input field labeled 'IP address' containing 'http://127.0.0.1:3000/TinyIoT', a button labeled 'CSE Load', and a button labeled 'Resource load'. The 'IP address' field is highlighted with a red rectangular box.

- Click the CSE Load button in the toolbar.



A screenshot of the same software interface as above. In this view, the 'CSE Load' button is highlighted with a red rectangular box.

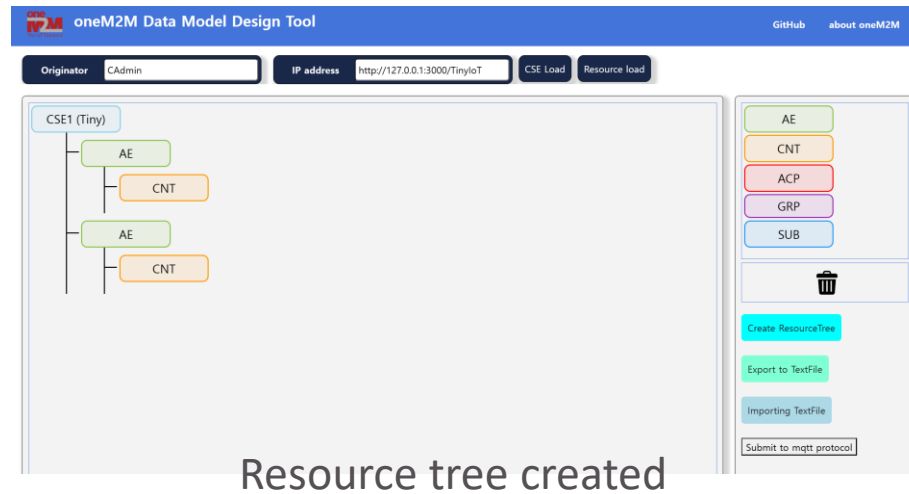
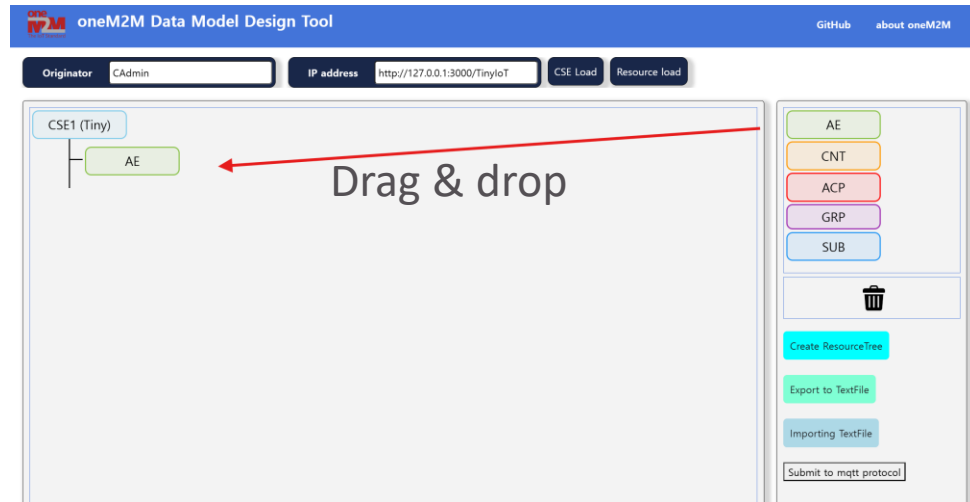
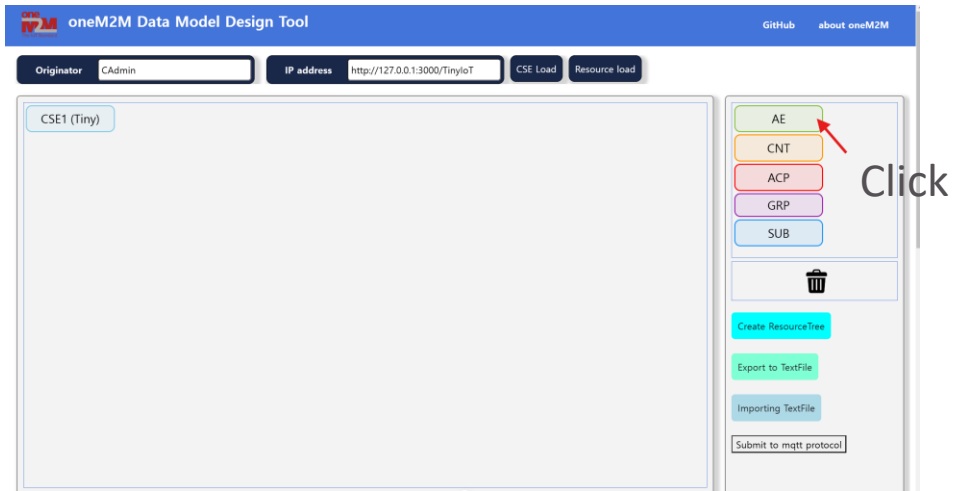
- View the loaded CSE resources.

# Drag & Drop

---

- Drag & Drop allows you to visually organize and design the hierarchy of oneM2M resources within the modeling tool. This intuitive interface helps you build resource trees efficiently.
  - How to use
    - Open the modeling tool interface.
    - Select a resource type (e.g., AE, CNT) from the left panel.
    - Drag the resource to the canvas and place it in the desired position.
    - Adjust the resources as needed to create the structure.
-

# Drag & Drop



# Create Resources

---

- This feature allows users to create oneM2M-compliant resources using the modeling tool and then deploy them directly to the connected CSE server. You can configure resource attributes and send them to the CSE for immediate use.
  - How to use
    - Use Drag & Drop to design your resource structure.
    - Open the modal for each resource to configure its attributes.
    - Click the Create Resource button to deploy the resource tree to the CSE.
    - Verify the resources are created successfully on the CSE server.
-

# Create Resources

oneM2M Data Model Design Tool

Originator: CAdmin

AE Attributes

Originator(ae): Should Start with C or S

Resource Name:

App-ID:

App-Name:

announceTo:

Announced Attribute:

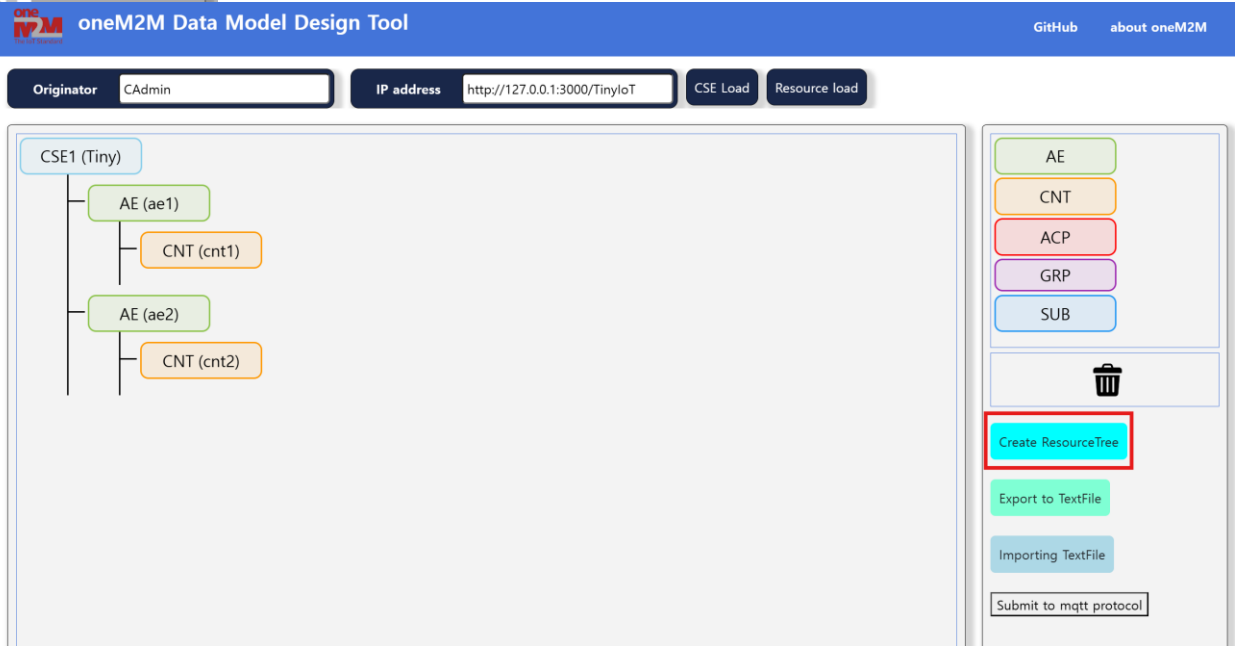
Announce Sync Type:

Label:

Access Control Policy IDs:

Request Reachability:

Supported Release Version: ☐ 1 ☐ 2 ☐ 2a ☒ 3 ☐ 4 ☐





# Resource Load

- Resource Load lets you load pre-existing resource structures into the modeling tool. This feature supports importing from local files, allowing users to continue working on previously saved models.
- How to use
  - Enter the target CSE server's URL or IP address (if not already connected).
  - Click the Resource Load button in the toolbar.



The image shows a toolbar with four components: a dark blue button labeled 'Originator', a text input field containing 'CAdmin', a dark blue button labeled 'IP address' with a text input field containing 'http://127.0.0.1:3000/TinyIoT', a dark blue button labeled 'CSE Load', and a dark blue button labeled 'Resource load'. The 'IP address' button and its input field, and the 'Resource load' button, are highlighted with red rectangular boxes.

- Import the resources into the modeling tool.
- Modify or extend the loaded resources as needed.