OpenMMO Groundwork - Quickstart Guide
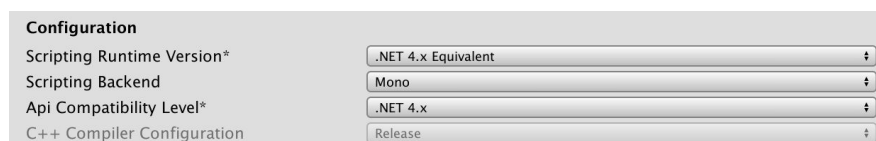
The free, open-source, small-scale MMORPG kit for Unity3d

Notes

1. OpenMMO is **free** & open-source, you can use, monetize, publish, expand and modify it any way you want.
2. OpenMMO supports **3d** games out of the box.
3. OpenMMO supports **third person** character controllers out of the box.
4. OpenMMO allows for both NavMesh as well as Physics and ships with a very simple NavMesh based Character Controller out of the box.
5. OpenMMO ships with two database systems out of the box: **SQLite** and **mySQL**. You can change the database system on-the-fly and without code modifications.
6. OpenMMO uses **Mirror-Networking** for its network layer - Mirror is a free, open-source replacement of the depreciated UNET.

Basic Installation

1. **Download** the most recent version of the OpenMMO asset package.
2. Launch **Unity3d** version **2019** or higher.
3. Create a fresh, blank, **3d project**.
4. Go to "Project Settings" and make sure that both the "Scripting Runtime Version" as well as the "Api Compatibility Level" are set to ".NET 4.x"

Configuration

|	
Scripting Runtime Version*	.NET 4.x Equivalent
Scripting Backend	Mono
Api Compatibility Level*	.NET 4.x
C++ Compiler Configuration	Release

5. **Import** the OpenMMO package into your project.
6. Switch to the included "**Login Scene**" by double clicking it.

7. Make sure that both the "Login Scene" and "UI Scene" are included in your **Build Settings** (File > Build Settings)
   Note: Make sure that the Login scene is the first scene, the UI scene should be the last one.
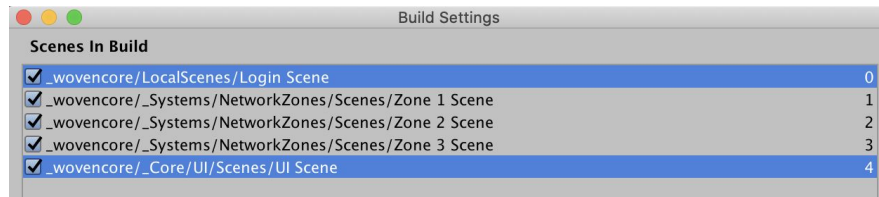
8. Locate the "**ProjectConfiguration**" Scriptable Object template in the **Resources** folder and make sure it is set to "**Host and Play**" in the Inspector.
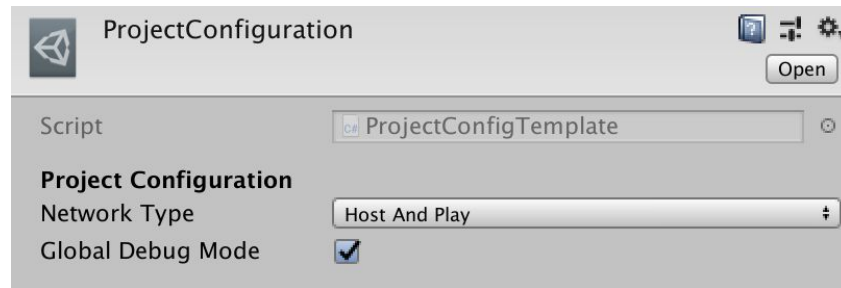

9. In the "Login Scene" scene hierarchy select "NetworkManager" and look for the "Search & add Prefabs" template near the bottom. Click it and the template file will be highlited in your project. Select it to switch to that file.

10. Now in the "Spawn Prefabs Template", click the "Search & Add Prefabs" button near the bottom to add all matching prefabs to it (like Player prefabs).
    Note: You will have to repeat this process every time you add a new prefab that is networked (e.g. Players, Monsters, NPCs and so on).
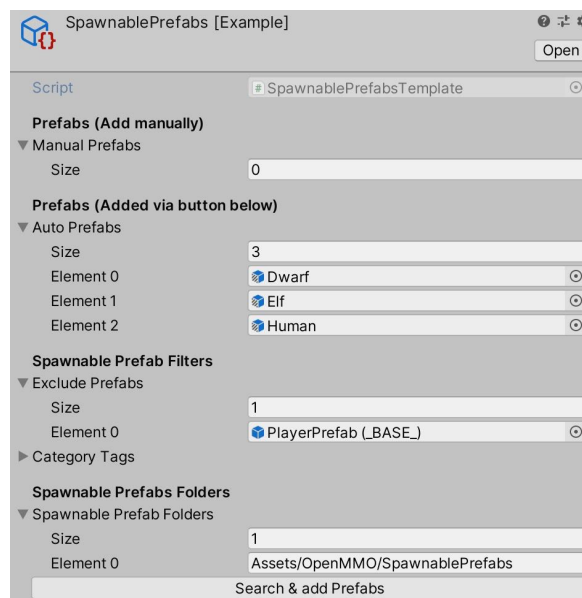
11. Now save your scene and hit the "**Play**" button in the editor to launch the project in "**Host and Play**" mode using local SQLite.

How to Switch Builds

1. Locate the "**Project Configuration**" mentioned above in Resources.
2. Set "Network Type" to "**Server**" when running/building a Server.
3. Set "Network Type" to "**Client**" when running/building a Client.
4. Set it to "**Host and Play**" when running/building a hybrid for Host + Play.
5. Now run and build your project, OpenMMO takes care of the rest.
6. **Note**: Never forget to change the "Network Type" to Client before publishing a new game client for your players.

How to edit the Server List

1. Locate "**ServerInfo**" in "**Resources**" of "**NetworkManager**"
2. Create a new "**ServerInfo**" template or edit an existing one.
3. Select it and edit the **name** and **IP** address (like 127.0.0.1) in the "Server List". You can have multiple login servers this way, for local connection you can type "localhost" instead of an IP.
4. The name will be displayed to your users and the IP address is the address clients connect to. Only when **visible** is checked, this server will be publically visible to all users to connect to. If its unchecked, players can only enter this server by other means.
5. This setting only affects your clients, the server ignores it.
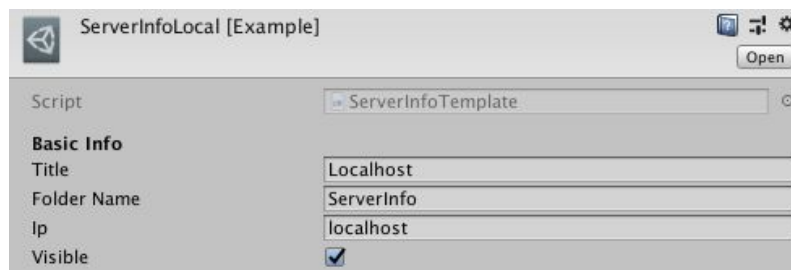
6. Afterwards, locate the "**Project Configuration**" once more.
7. Edit the list "Size" and drag-n-drop one or more "ServerInfo" entries (you need at least one).
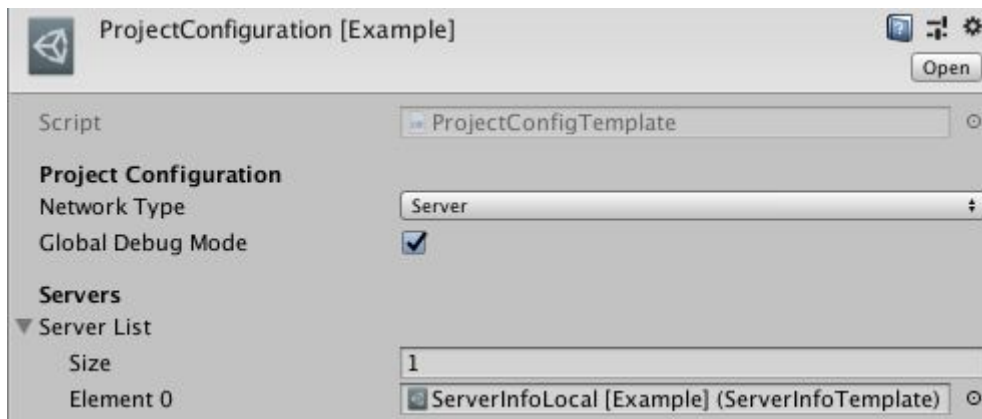
How to change the database layer

1. Select "**Database Manager**" in the "Login Scene" hierarchy and look at the Inspector.

2. Choose the database system of your liking (**SQLite** or **mySQL**). SQLite is great for beginners and quick local tests, mySQL is for advanced users and allows player data to be shared across servers.
3. **SQLite** does not require anymore setup, you can build and run right away.
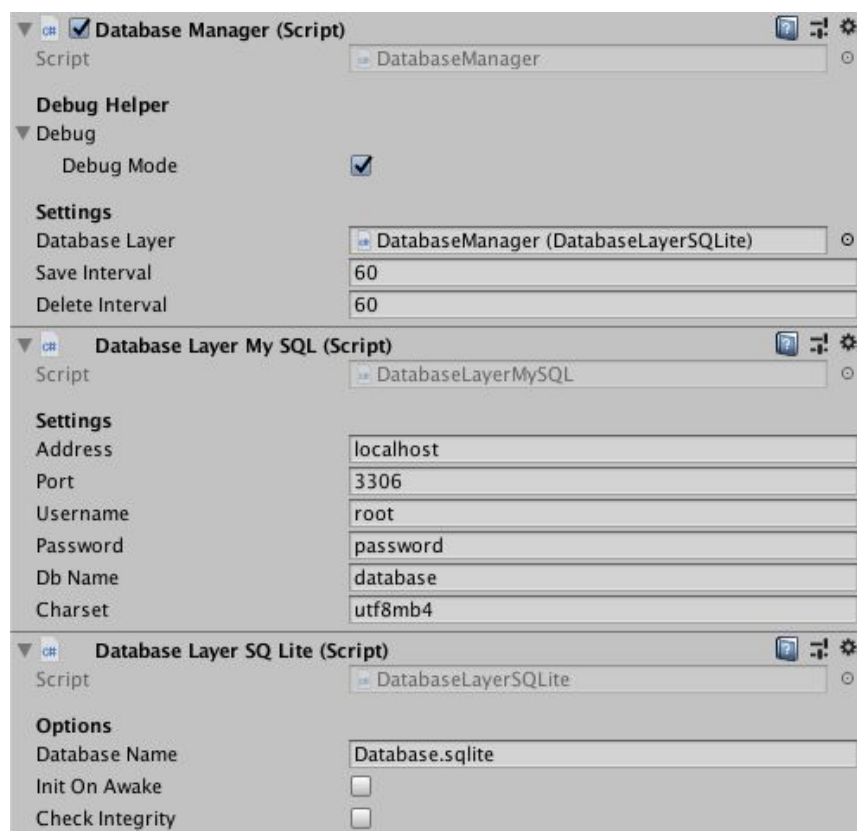
4. **mySQL** requires a mySQL server & setup, enter credentials in "DatabaseManager" > "DatabaseLayer.

5. You can **switch database systems** during development, e.g. develop locally using SQLite and then switch to mySQL for the live environment. Data does not get transferred from one database system to another.

6. For further instructions on how to setup and connect to a mySQL database, please refer to freely available tutorials on the internet.

How to change the Target Platform

1. You change the Target Build Platform as usual, but when doing so you have to make sure that all "Scripting Defines" used by OpenMMO are present. They usually regenerate automatically but if you encounter any problems, you can regenerate them manually.
2. To do so, locate the "**Modules Configuration**" file in Resources and click it in order to see it's Inspector.
3. Now simply change the "**Size**" of the Modules list to 0, it will then force refresh and update all Defines used by OpenMMO. It is recommended to repeat this process each time you switch the Build Platform, you have to do only once per platform though.
4. When you add new "Modules" to OpenMMO, you might also have to regenerate your Scripting Defines.
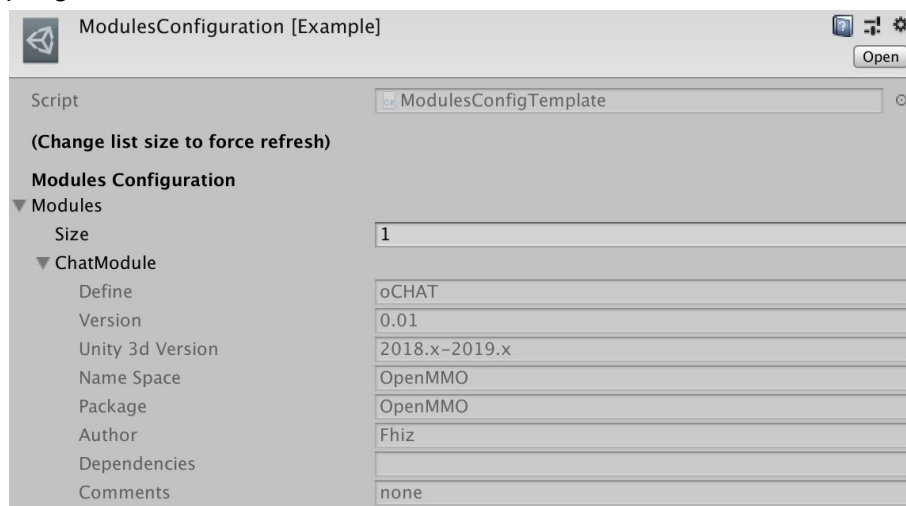

How to Play

1. Once your project setup is complete, launch the game in any mode you want (either "Host and Play" or with one "Server" build and one or more "Client" builds).
2. During the connect phase, users can select the server they want to connect to (the default server is always selected).

3. Next you create a user account by providing a name and password, email is entirely optional.
4. Now you create one or more characters by providing a name and choosing one of the available character prefabs. You can also delete existing characters.
5. Finally you select one of your characters and enter the game.
6. Walk around using **WASD**, the camera will follow the player around.
7. Keep **LeftControl** pressed and move th mouse to move the camera.
8. Keep **LeftShift** pressed to make the character run at increased speed.
9. The server saves your characters data and position in regular intervals.
10. For now, you simply quit the client to log-out - the server will save your characters data and position once more.
    Note: When using "Host and Play" it is not guaranteed that the server has enough time to save your client data (as your server is also your client at the same time when quitting).
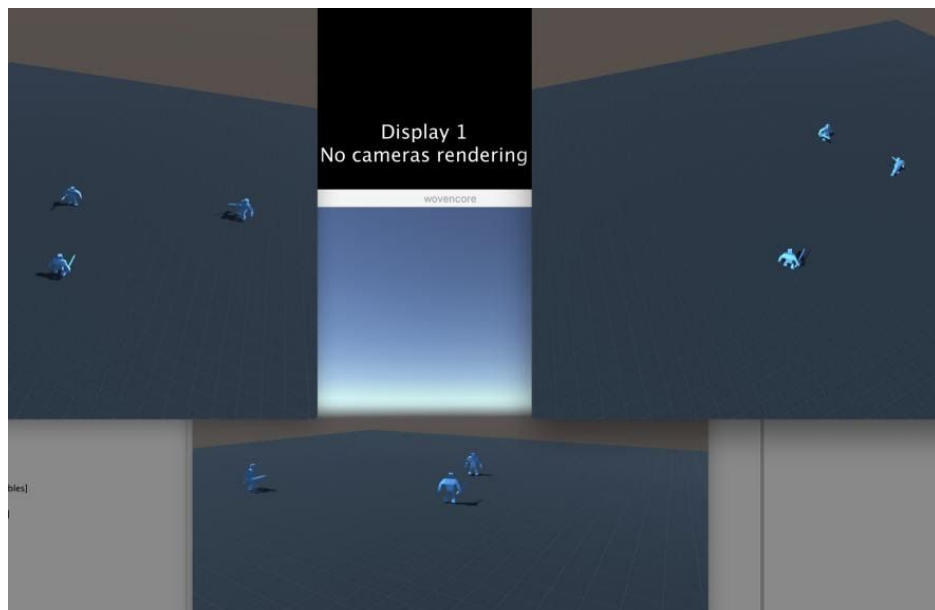
Setting up Network Zones

Allows to setup a game world using multiple scenes (one unity instance each) either hosted on the same or another server and allows players to move between those zones and servers.

This feature is work in progress and will be provided by the next scheduled updates.

The Network Layer

Mirror has been chosen as the Network Layer for OpenMMO as it is freely available, open-source and actively developed. It is far superior to old UNET and much easier to handle than other network solutions out there.

It is recommended that you check out the Mirror Networking website and official discord, as there are several "AddOns" available for it.

For example, "Apathy" features a speed boost required to handle CCU on MMO scale while the "LiteNetLib for Mirror" allows you to add LiteNetLib to your project (almost) via drag-and-drop.

Final Words

Thank you for using **OpenMMO Groundwork**!

Note that this asset merely provides the solid "Groundwork" to build a MMO on. Based on the OpenMMO foundation there will be more features, assets and modules within the next months. The final goal is to build it out into a full featured, small-scale MMORPG engine for Unity3d. Although this effort will take at least years from now on.

-Fhiz