Installation and Setup for Windows

For Internet Computer Web3 Application Development

Requirements

- **Windows 10 or higher (version 2004 or higher)**
- **64-bit machine (System type x64 based PC)**

Steps

WSL

1. Find the Windows **PowerShell** in your Start menu and run it as the **Administrator**.

2. WSL is the Windows Subsystem for Linux and it will allow us to run command line commands in Windows. Here's more info from Microsoft:

https://docs.microsoft.com/en-us/windows/wsl/install

3. As described in the docs above, we need to paste this command into **PowerShell** and hit enter:

```
wsl --install
```

4. Once that's done, you'll need to **restart** your computer.

5. Upon restart you will be prompted to setup an ubuntu **username** and **password** and then you will have successfully installed WSL. (Keep a note of both of these pieces of information, you'll need it later on).

6. To confirm that everything worked correctly, type the following command into PowerShell:

```
wsl --list –verbose
```

7. You should see it output something like this:

```
PS C:\WINDOWS\system32> wsl --list --verbose
  NAME      STATE           VERSION
* Ubuntu    Running         2
PS C:\WINDOWS\system32>
```

VSCode

8. Download and install the latest version of **VSCode** from here: https://code.visualstudio.com/

9. Install the **Motoko** language extension in VSCode (make sure it's from the **Dfinity** team, or just use the link below). https://marketplace.visualstudio.com/items?itemName=dfinity-foundation.vscode-motoko

10. Install the **Remote WSL** extension. https://marketplace.visualstudio.com/items?itemName=ms-vscode-remote.remote-wsl

Node

11. Search and open up **Ubuntu** from the Start menu.
12. Type the following command to install homebrew:

```
/bin/bash -c "$(curl -fsSL
https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

13. When prompted enter the **password** for the user that you set previously in **step 5**.

14. The installer will tell you how to add brew to the **PATH**. Copy the commands they list and run them one by one in Ubuntu.

15. Also run the command under the line **"Install Homebrew's dependencies if you have sudo access"**:

```
sudo apt-get install build-essential
```

16. Check that everything worked by typing the command:

```
brew -version
```

17. Install node using homebrew with the following command:

```
brew install node@16
```

18. Once it's done check that it worked with:

```
node -version
```

DFX

19. Open up Ubuntu from the Start menu
20. Copy the following command and paste it into your terminal and hit enter to install DFX.

```
DFX_VERSION=0.9.3 sh -ci "$(curl -fsSL
https://sdk.dfinity.org/install.sh)"
```

After DFX has installed it will tell you where it was installed. e.g.

```
labi@DESKTOP- CDRH903: /mnt/c/Users/londo$ DFX_VEN
all.sh)"
info: Executing dfx install script, commit: f4e24
info: Version found: 0.9.3
info: Creating uninstall script in ~/.cache/dfinity
info: uninstall path=/home/labi/.cache/dfinity/
info: Checking for latest release...
Will install in: /home/labi/bin
info: Installed /home/labi/bin/dfx
```

e.g. in my case, it tells me that it has been installed in **/home/labi/bin/dfx**

21. Copy the installation path you got from the last step and replace <REPLACE WITH YOUR INSTALLATION PATH> from the command below (You can use Notepad for this):

```
export PATH=$PATH:<REPLACE WITH YOUR INSTALLATION PATH>
```

22. Paste the formatted command from the previous step and hit enter.
23. Check that it has been added by running:

```
echo "${PATH//:/$'\n'}"
```

24. Check that dfx has been successfully installed with the following command:

```
dfx --version
```

Test Everything Worked by Creating and Deploying your DApp

Create the Default Hello DApp

1. Open up **Ubuntu** from the start menu and create a new folder called **dapp-projects** using the following command:

```
mkdir dapp-projects
```

2. Change directory into that folder using the command:

```
cd dapp-projects
```

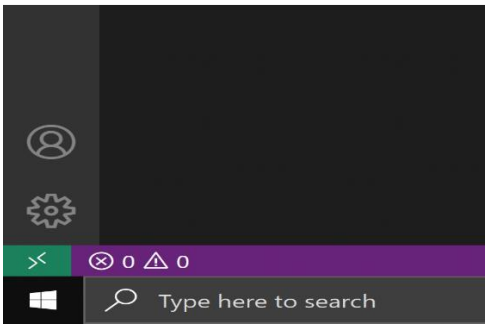
3. Inside this dapp-projects folder, you can create your first Internet Computer DApp using the following command:

```
dfx new hello
```

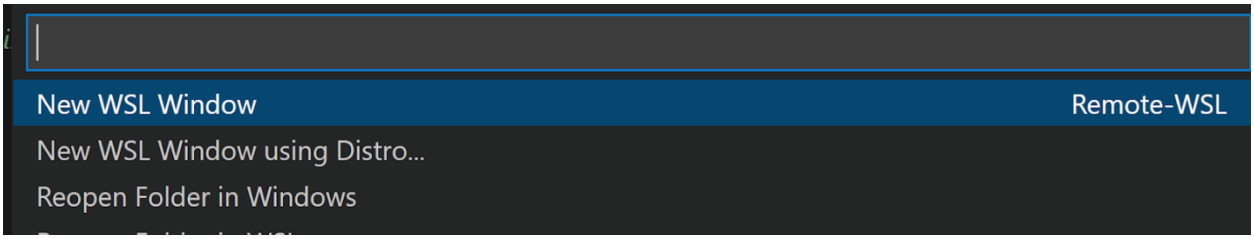
4. You can see this new project and folders by running the following command:

```
explorer.exe .
```

5. Open up VSCode and click on the green icon on the bottom left. It looks like this:



6. Select **New WSL Window**

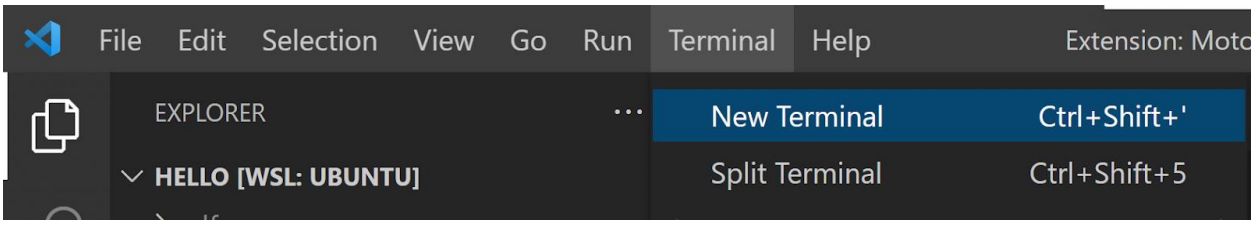


7. Inside the new window go to your **Extensions** panel and select the **Remote WSL** extension, click on **Install in WSL: Ubuntu**

8. Now take a look through the files inside the **src** folder. The main.mo is the Motoko file that we'll be writing most of our code in.

Deploy the DApp

9. Go to Terminal → New Terminal



10. In the Terminal, run the following command to start the local dfx

```
dfx start
```

11. Once you see the line INFO Starting server. Then split out another terminal using.
12. In the new terminal pane, run the following command to deploy your hello project:

```
dfx deploy
```

13. Finally, once that's done, run the following command:

```
npm start
```

14. Now you're ready to see your hello project, open up your browser and go to:

http://localhost:8080/