

NPRE 441 Homework #3 Assignment

Guide for Setting Up the VS Code

This document specifically explains how to connect to the course server using VS Code and SSH. Note that your future simulation job will be submitted through the VS Code terminal/command window.

To proceed,

- If you are on campus, connect to the campus network IllinoisNet, or
- If you are off campus, connect to the campus network through VPN:
 - Download and install: <https://webstore.illinois.edu/Shop/product.aspx?zpid=2600>
 - See the How-To guide, <https://www.techservices.illinois.edu/vpn-essentials/>

A. If You Are Using Windows

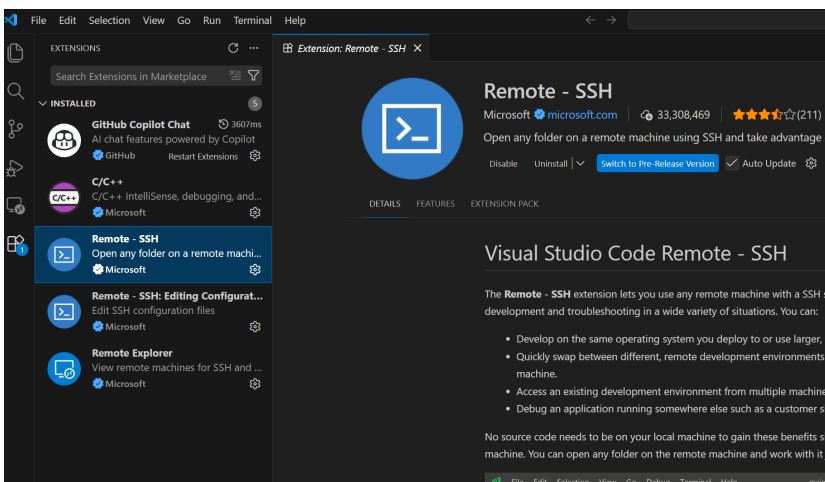
Step 1: Install VcXsrv

- Download and install VcXsrv.
- Launch XLaunch.
- Select: Multiple windows.
- Select: Start no client.
- Check: Disable access control.
- Click Finish
- Display number: 0.
- Finish and keep VcXsrv running.

Step 2: Set DISPLAY (one-time setup)

- Open PowerShell,
- In the command line: type `<setx DISPLAY localhost:0>`, and then press the return key.
- Close PowerShell.

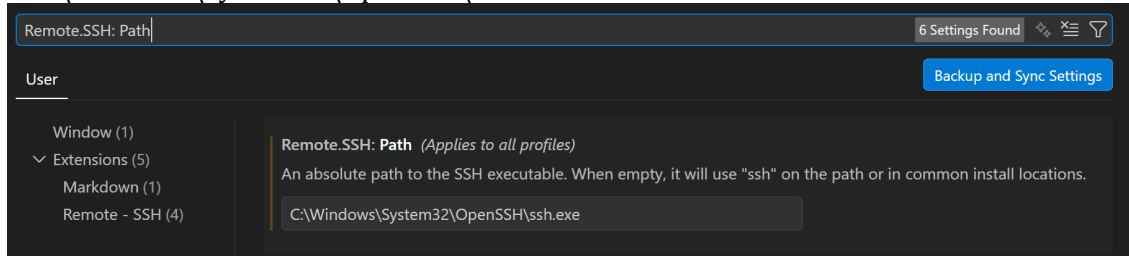
Step 3: Install VS Code and choose the Remote-SSH extension



Step 4: Configure VS Code to use Windows OpenSSH

- In VS Code File->Preferences->Settings:

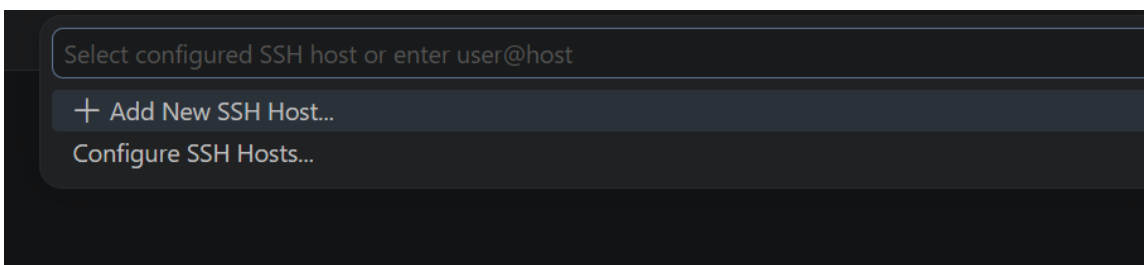
- Search for 'Remote.SSH: Path'
- Set to:
C:\Windows\System32\OpenSSH\ssh.exe



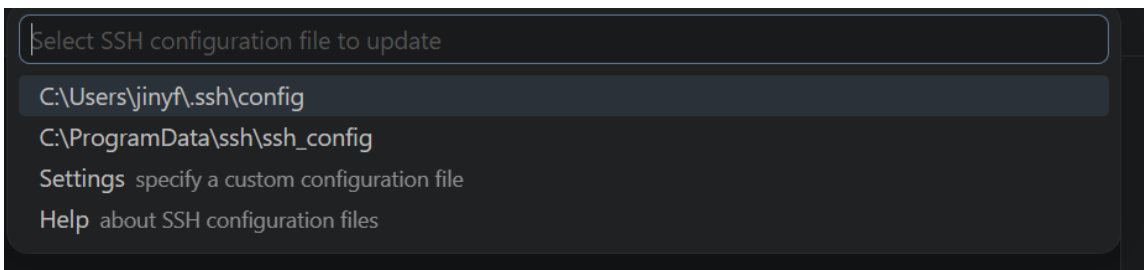
- Restart VS Code completely.

Step 5: Configure SSH

- In VS code, press Ctrl+Shift+P, search 'Remote-SSH: Connect to Host'. Select 'Configure SSH Hosts...'

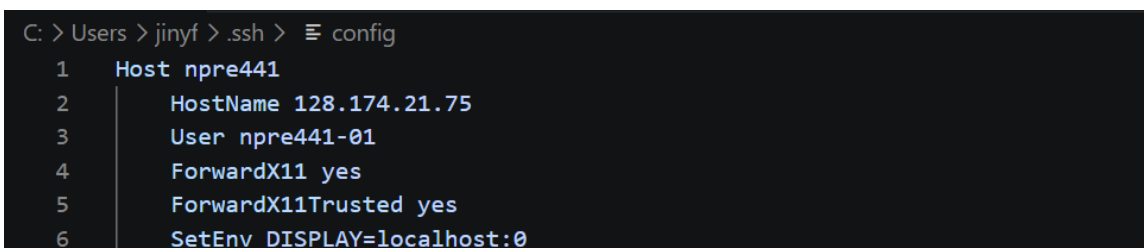


- Select C:\Users\\.ssh\config

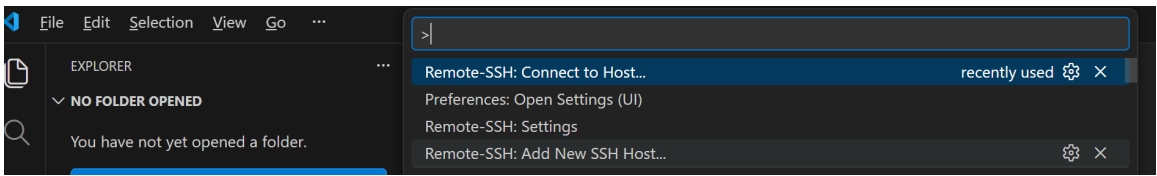


- Enter the following contents (please see the screenshot below, or you can copy and paste the 6 lines below)

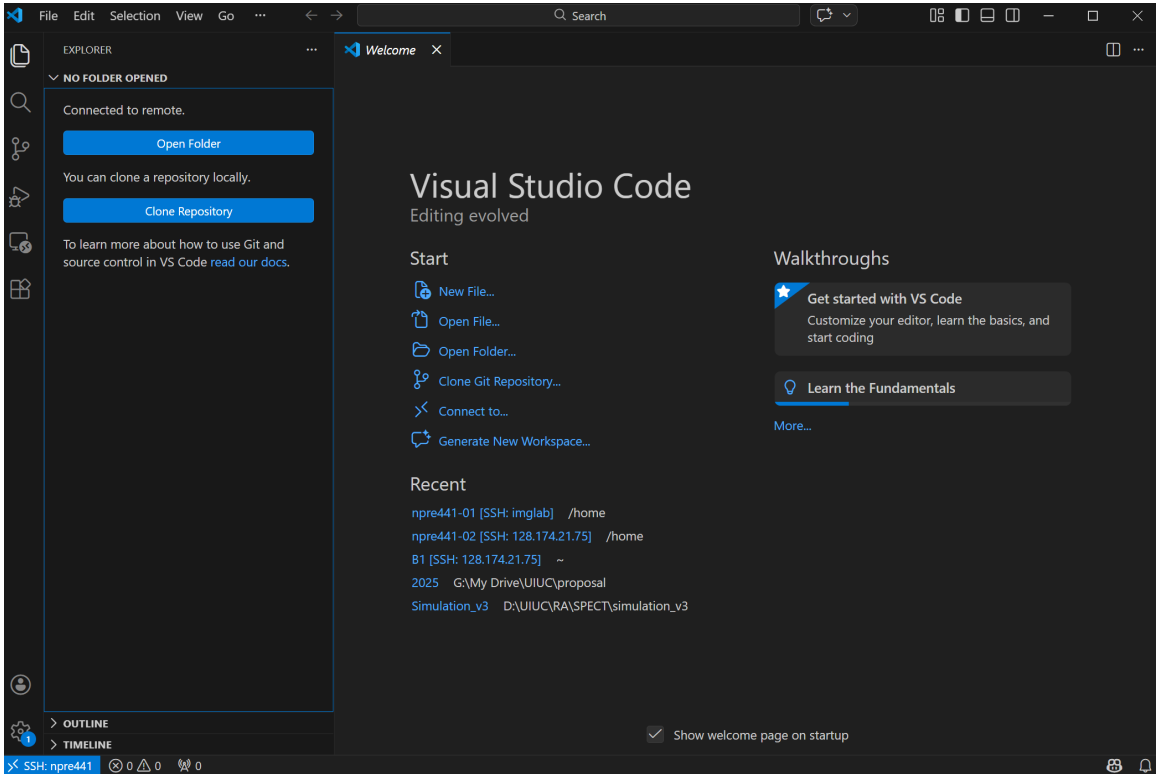
```
Host npre441
  HostName <SERVER_IP>
  User npre441-XX
  ForwardX11 yes
  ForwardX11Trusted yes
  SetEnv DISPLAY=localhost:0
```



Step 6: In VS Code, press Ctrl+Shift+P, search 'Remote-SSH: Connect to Host'.

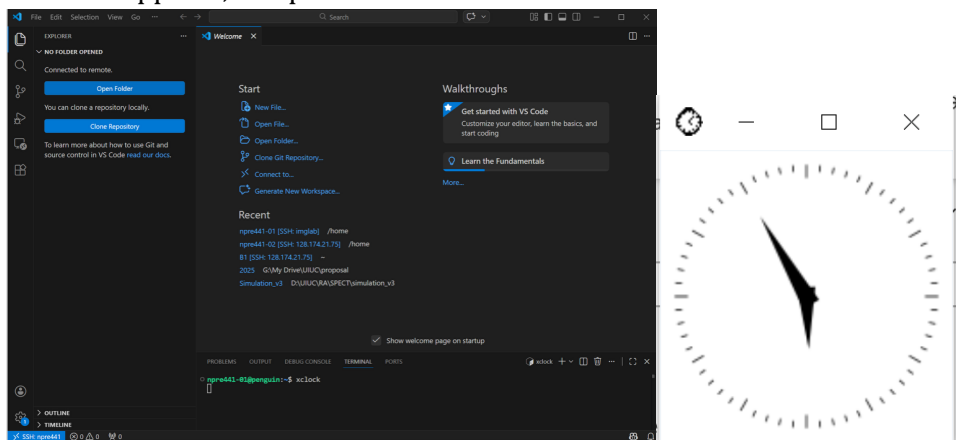


- Select host name: npre441 or manually enter npre441-XX@npre441
- Select Platform OS: Linux
- Enter Password



- Open a remote terminal (View->Terminal) and run the following commands:
echo \$DISPLAY
xclock

If a clock appears, setup is successful



B. If You Are Using Mac

Step 1: Install VS Code and Remote-SSH extension

Step 2: Install XQuartz

- Download from: <https://www.xquartz.org/>
- Install and restart your computer if required.
- Open XQuartz → Settings → Security → Check 'Allow connections from network clients'.
- Restart XQuartz.

Step 3: Configure SSH

- Edit ~/.ssh/config and add:
Host npre441
 HostName <SERVER_IP>
 User npre441-XX
 ForwardX11 yes
 ForwardX11Trusted yes

Step 4: In VS Code, connect using 'Remote-SSH: Connect to Host' → npre441. (See Sec. A, Step6)

- Open a remote terminal and run the following commands:
 echo \$DISPLAY
 xclock

If a clock appears, setup is successful.

Success Criteria

You have successfully completed the setup if:

- When you run <echo \$DISPLAY> in the VS Code terminal, the output should be something like "localhost:10.0"
- When you run <xclock>, it opens a clock window on your laptop.