

Directions for CS455: Introduction to High Performance Computing

Remote Development using UIC Systems servers with VSCode

UIC provides the following servers, which can be accessed using a UIC email and password:

```
systems1.cs.uic.edu
systems2.cs.uic.edu
systems3.cs.uic.edu
systems4.cs.uic.edu
```

Steps to connect to Systems servers using VSCode

1. Install the **Remote Development** extension in VSCode.
2. Open the **Remote Explorer** from the menu and add a new Remote SSH connection using one of the above servers using your UIC NetID:

```
ssh NetID@systems1.cs.uic.edu
# Example: ssh ashov@systems1.cs.uic.edu
```

3. Enter your UIC email password when prompted.

Adding SSH Key to GitHub from a Systems Server

To clone a GitHub repository in a Systems server, you need to generate an SSH key on the systems server and add the public key to your GitHub profile.

1. After establishing the remote connection, open a terminal in VSCode. You should see `NetID@cs-sys1:` as the terminal prefix.
2. Generate an SSH key on the systems terminal:

```
NetID@cs-sys1:~$ ssh-keygen -t ed25519 -C "EMAIL ADDRESS"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/AD-home/NetID/.ssh/id_ed25519):
Created directory '/AD-home/NetID/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /AD-home/NetID/.ssh/id_ed25519
Your public key has been saved in /AD-home/NetID/.ssh/id_ed25519.pub
```

3. Display the public key:

```
NetID@cs-sys1:~$ cat .ssh/id_ed25519.pub
ssh-ed25519 XXXXXXXX EMAIL ADDRESS
```

4. Copy and add this key to your GitHub profile under `Settings > SSH and GPG keys > New SSH key`.

Cloning a GitHub Repository

After adding the SSH key, clone the repository to the Systems server from VSCode terminal:

```
git clone git@github.com:UIC-CS455/REPO.git
```

Opening the Remote Project

1. While you are connected to Systems server, in VSCode navigate to the Explorer.
2. Select the newly cloned repository.
3. The project will open in VSCode.
4. You can commit your changes to your Github repository using the VSCode **Terminal** directly from the systems server.

Additional Resources

1. **Add SSH key to GitHub:** Github's documentation on [generating a new SSH key and adding it to the ssh-agent](#).
2. **UIC Systems machine:** UIC's webpage of [Instructional Computing Facilities](#).