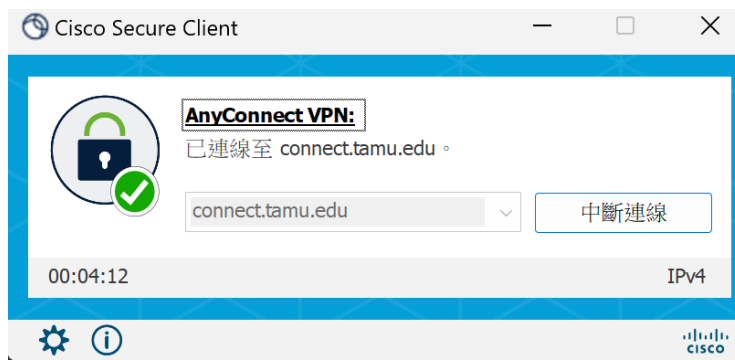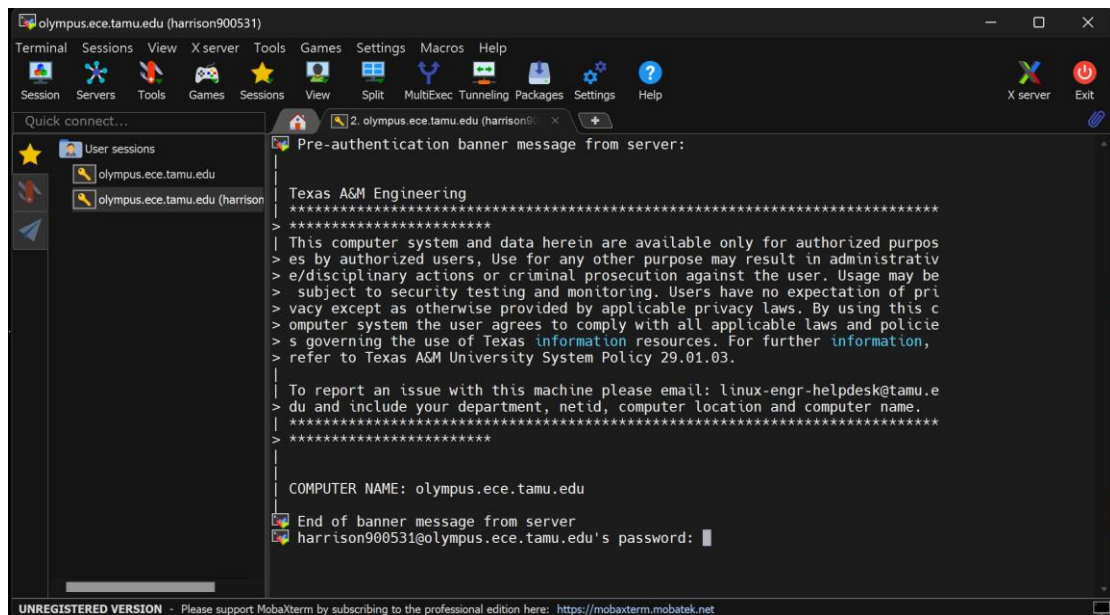## 1. connect VPN to TAMU (if outside TAMU)
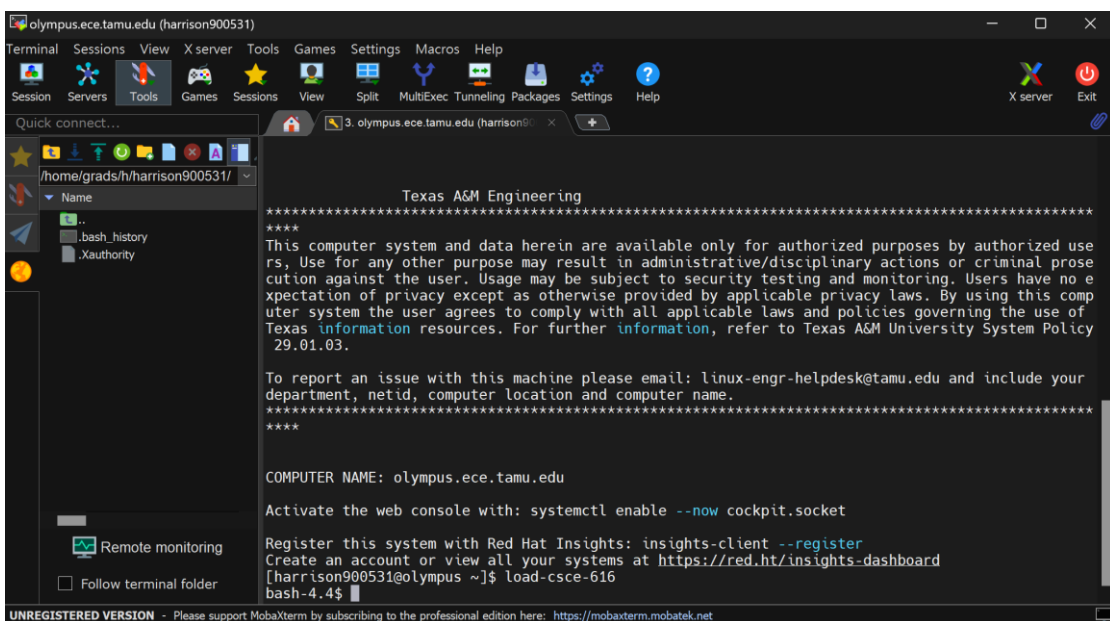

2. Log in to TAMU server (Linux)

(double click Olympus file to log in) ***(harrison900531/Harrison@0531)***

3. *Load-csce-616*

Bash- (allow window to type Linux order)

- *Cloning Token (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)*

```
bash-4.4$ git clone https://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@github.com/CSCE-616-FA24/lab
-0-Yu-HaoChen.git
Cloning into 'lab-0-Yu-HaoChen'...
remote: Enumerating objects: 47, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 47 (delta 0), reused 0 (delta 0), pack-reused 38 (from 1)
Receiving objects: 100% (47/47), 94.18 KiB | 1.65 MiB/s, done.
Resolving deltas: 100% (4/4), done.
```

4. **cd lab0-Yu-HaoChen**
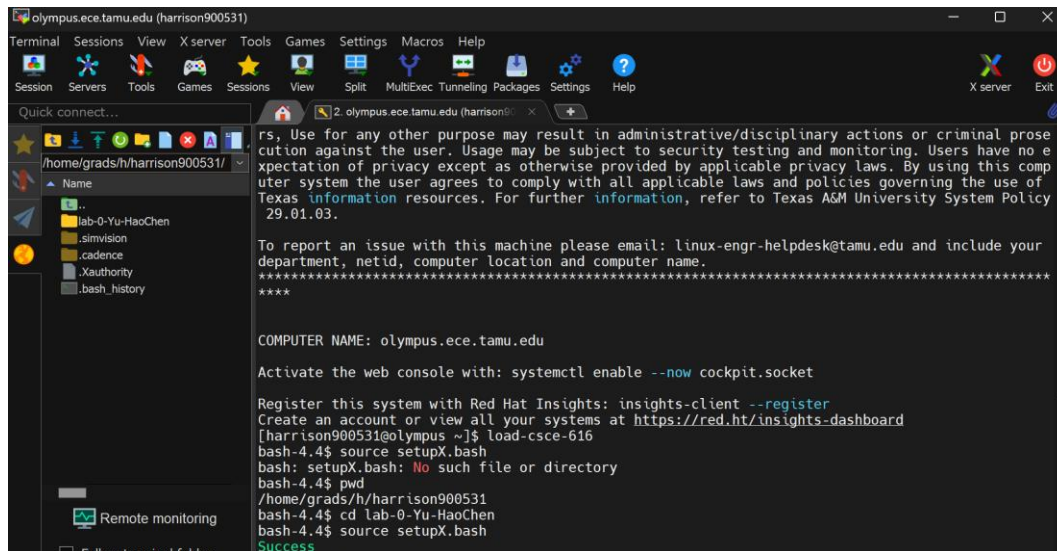
5. **Setup environment**

```
bash-4.4$ source setupX.bash
Success
```

- *Check cadence vision tool*

```
bash-4.4$ xrun -version
TOOL:   xrun    22.03-s012
bash-4.4$
```

```
remote: Enumerating objects: 47, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 47 (delta 0), reused 0 (delta 0), pack-reused 38 (from 1)
Receiving objects: 100% (47/47), 94.18 KiB | 1.65 MiB/s, done.
Resolving deltas: 100% (4/4), done.
bash-4.4$ source setupX.bash
bash: setupX.bash: No such file or directory
bash-4.4$ pwd
/home/grads/h/harrison900531
bash-4.4$ ls
lab-0-Yu-HaoChen
bash-4.4$ ls -al
total 320
drwx------+   3 harrison900531 nobody     94 Aug 23 23:41 .
drwxrwxr-x+ 575 root           wheel   15882 Aug 23 08:31 ..
-rwx------+   1 harrison900531 nobody    222 Aug 23 13:03 .bash_history
drwx------+   4 harrison900531 nobody    128 Aug 23 23:41 lab-0-Yu-HaoChen
-rwx------+   1 harrison900531 nobody    330 Aug 23 23:39 .Xauthority
bash-4.4$ ls
lab-0-Yu-HaoChen
bash-4.4$ cd lab-0-Yu-HaoChen
bash-4.4$ source setupX.bash
Success
bash-4.4$ xrun -version
TOOL:   xrun    22.03-s012
bash-4.4$ cd work
bash-4.4$
```
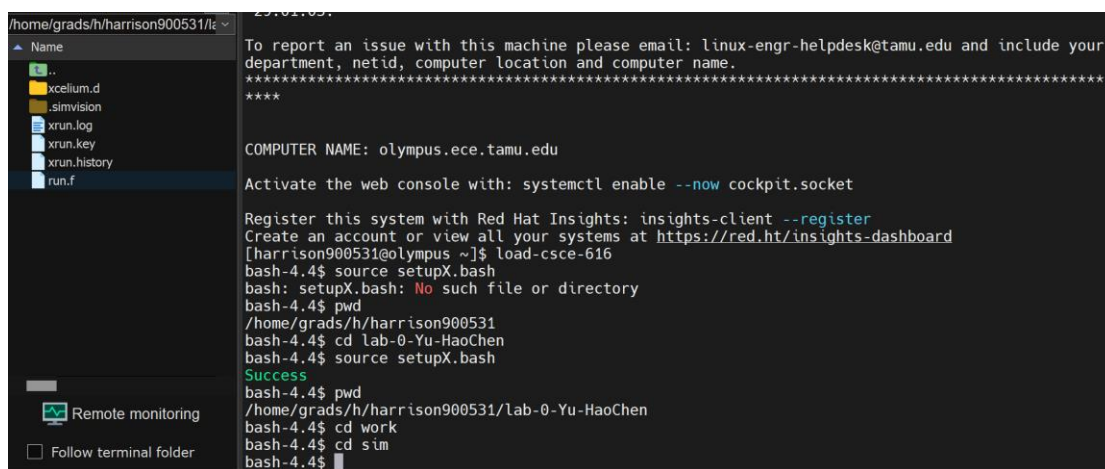
(outcome)

6. cd work

```
bash-4.4$ pwd
/home/grads/h/harrison900531
bash-4.4$ cd lab-0-Yu-HaoChen
bash-4.4$ cd work
```
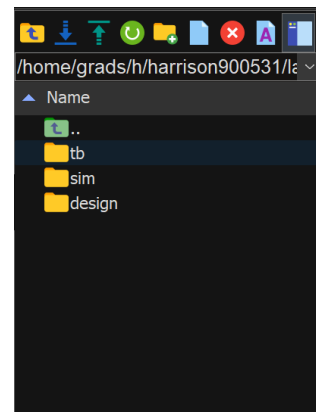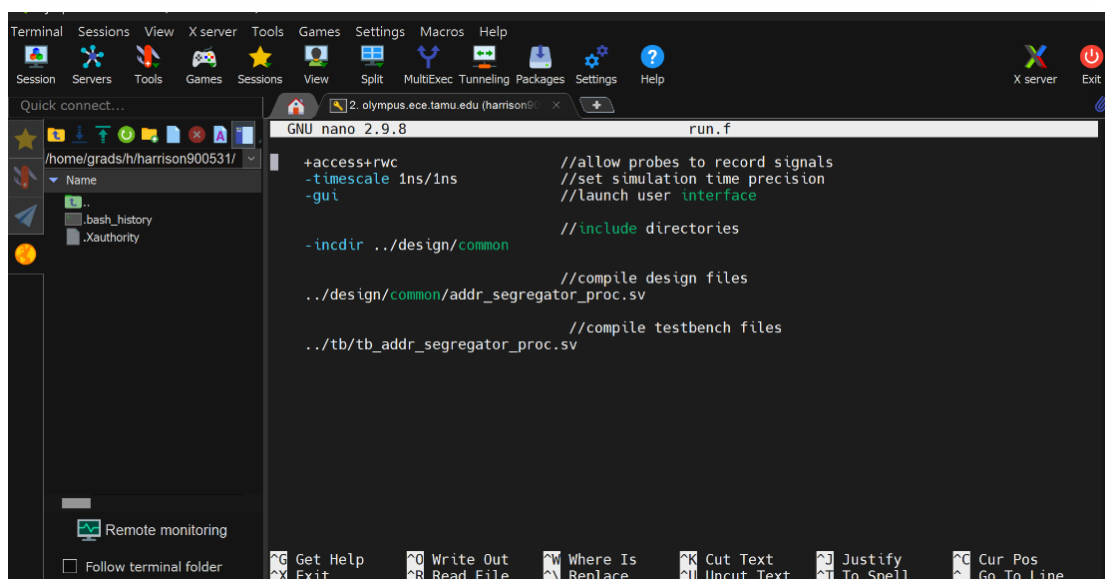

7. cd sim

- *Read (files in "run.f") open with nano*

Nano

Nano is a newer text editor in Linux systems. It's simpler and easier to use than vim.

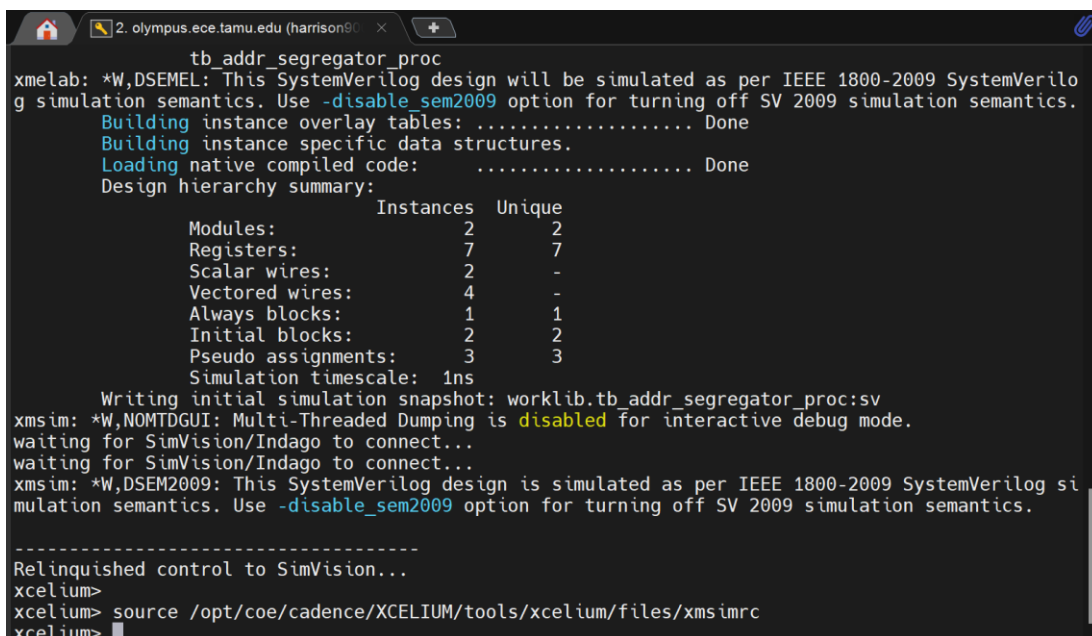To open a file with nano, use the following syntax at the command line:

```
$ nano (name of the file)
```

Note: The commands in the following list use `^` to indicate that you should press the **ctrl** key along with the other key. For example `^G` means that you should press **ctrl + G**.

- `^G` - Get Help.
- `^X` - Exit. Nano then asks if you want to save with a `Y` or `N` option.
- `^O` - Write Out; also known as save.
- `^R` - Read File. Enter the name of a file you want to paste into the current document at your cursor's position.
- `^W` - Where Is; Search function.
- `^\` - Replace.
- `^K` - Cut text.
- `^U` - Uncut text.
- `^J` - Justify.
- `^T` - To spell.
- `^C` - Current Position; Cancel save.
- `^_` - Go to line.

8. Type the following command ("xrun -f run.f") to launch Cadence Xcelium

Two windows will pop out, one is the console, and the other is the design browser.
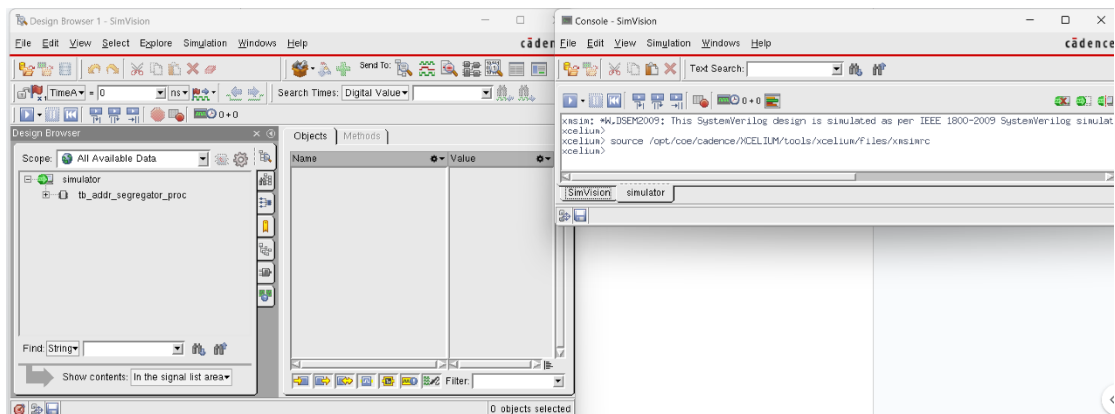
1. Select tb_addr_segregator_proc in the design browser; you can see the hierarchy of the testbench and its instances (Fig.2-2). Right-click on any instance and choose Send to Waveform Window. All the signals of that instance will be added to the waveform viewer. You can also choose the signals you need individually in the Object window on the right and send them to the waveform window.

2. In the console window, type run to start a full simulation or specify a run duration for the simulation.

e.g.

`run 100ns`

The waveform will display (Fig. 2-3).

3. Store the waveform by clicking File -> Export. Choose All recorded variables and click OK. The waveforms will be saved to the file you designated (Fig. 2-4). You can load the waveform by clicking File -> Open Database.
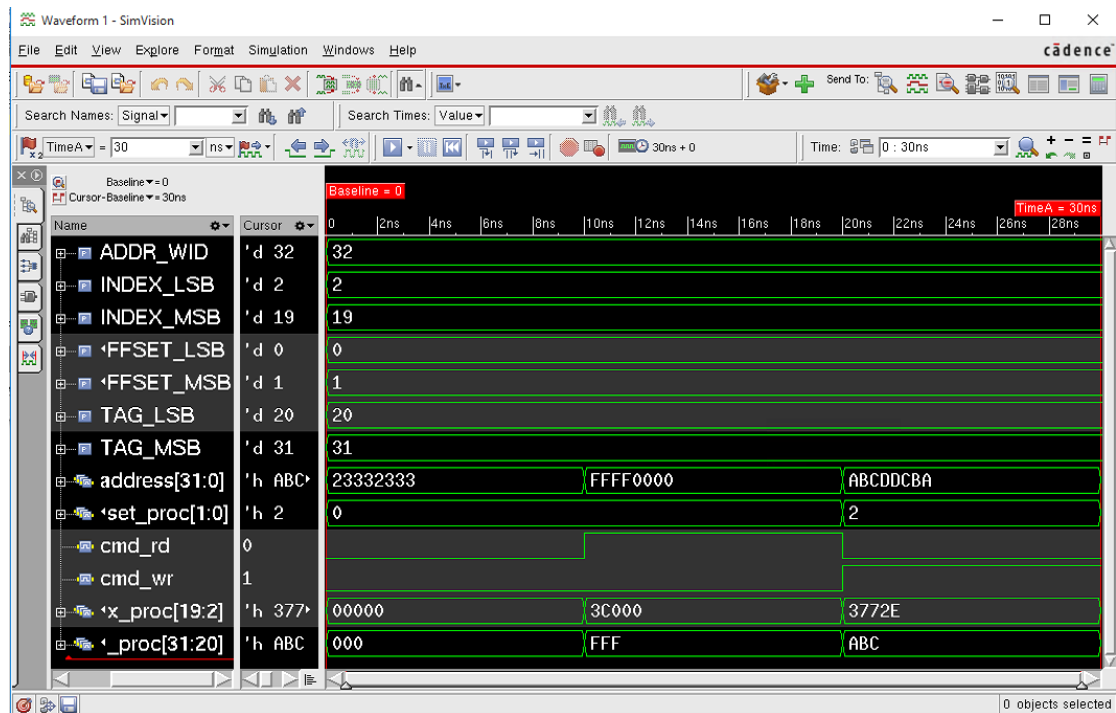

Figure 2-3 Waveform viewer
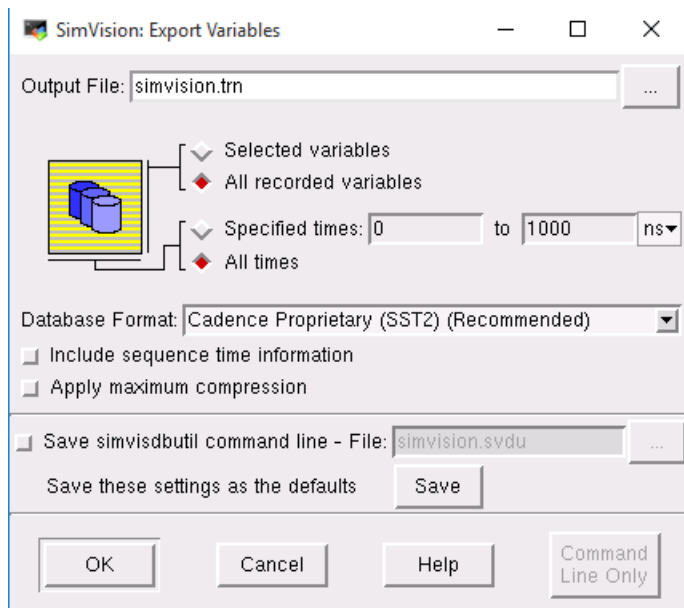
Figure 2-4 Save waveforms

4. To view an existing waveform database (without rerunning a simulation), follow the steps below:

a. Type the following command on the UNIX terminal: simvision

b. Click on File -> Open Database

c. Choose your database. The default one would be waves.shm

d. After the database is loaded, click on waves -> tb_addr_segregator_proc. All the signals in this hierarchy will be shown in the window below. Clicking on a signal will add the signal to the waveform display.

Figure 2-5 Waveform Viewer

Git clone

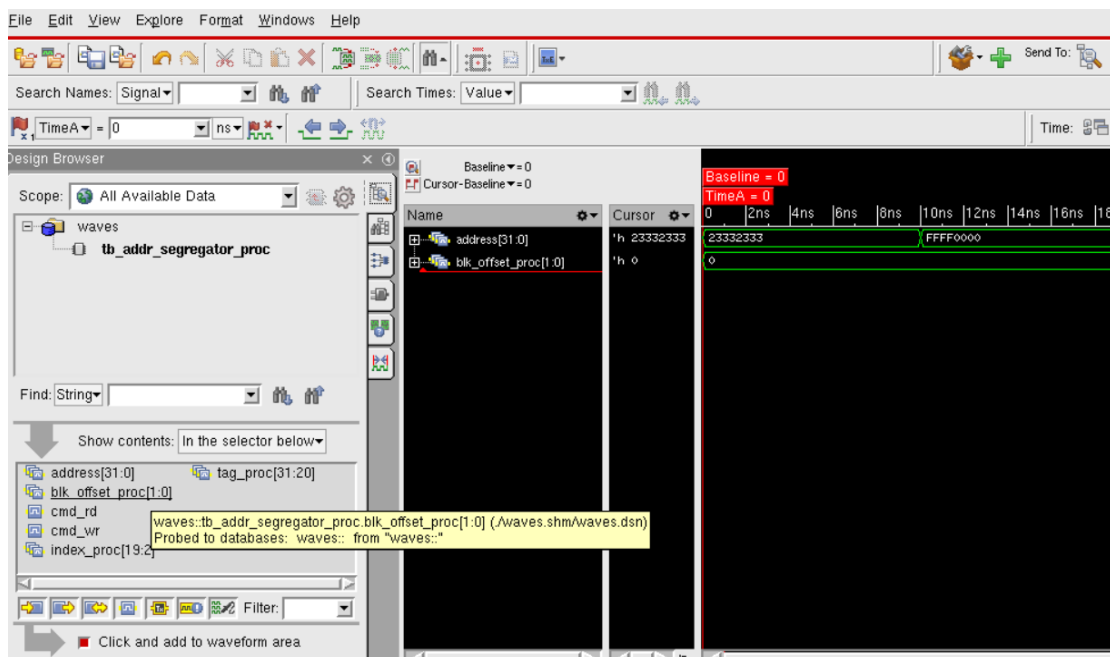是的，當你使用 `git clone` 從遠端存儲庫克隆一個新存儲庫時，Git 會自動將這個遠端存儲庫與本地存儲庫連結。

1. **查看遠端存儲庫信息**：

   - 你可以使用以下命令來查看本地存儲庫與哪些遠端存儲庫有連結：

   ```bash
   git remote -v
   ```

   這個命令會列出所有配置的遠端存儲庫及其 URL。例如：

   ```bash
   origin  https://github.com/username/repo.git (fetch)
   origin  https://github.com/username/repo.git (push)
   ```

   這表明本地存儲庫與遠端存儲庫 `https://github.com/username/repo.git` 相關聯，並且 `origin` 是該遠端存儲庫的名稱。

Git add -all

```
/home/grads/h/harrison900531/lab-0-Yu-HaoChen
bash-4.4$ git add--all
```

Git commit -m " "

```
bash-4.4$ git commit -m "changes"
[master e936eca] changes
 Committer: Yu-Hao Chen <harrison900531@n01-zeus.olympus.ece.tamu.edu>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:
```

Git push

```
bash-4.4$ git push
Enumerating objects: 60, done.
Counting objects: 100% (60/60), done.
Delta compression using up to 40 threads
Compressing objects: 100% (38/38), done.
Writing objects: 100% (39/39), 235.40 KiB | 3.68 MiB/s, done.
Total 39 (delta 17), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (17/17), completed with 10 local objects.
To https://github.com/CSCE-616-FA24/lab-0-Yu-HaoChen.git
   164cccd..e936eca  master -> master
```

- `commit`：是一個本地操作，用來保存當前文件的狀態和更改。它會在本地生成一個提交記錄，但不會影響遠程存儲庫。

- `push`：是一個遠程操作，將本地的提交記錄發送到遠程存儲庫，讓其他人可以看到和使用這些更改。

通常的工作流程是先 `commit` 本地的更改，然後在合適的時機 `push` 這些更改到遠程存儲庫。

Git status

把檔案交給 Git

在開始之前，我想先介紹 `git status` 這個指令。這個指令的用途是用來查詢現在這個目錄的「狀態」，先在剛剛建立的 `git-practice` 目錄下執行這個指令：

```
$ git status
On branch master

Initial commit

nothing to commit (create/copy files and use "git add" to track)
```

在這個目錄裡，現在除了 Git 幫你產生的那個 `.git` 隱藏目錄外什麼都沒有，所以上面這段訊息就是要跟你說「現在沒東西可以提交（nothing to commit）」。接下來，在這個目錄裡透過系統指令建立一個內容為 "hello, git" 並命名為 `welcome.html` 的檔案：