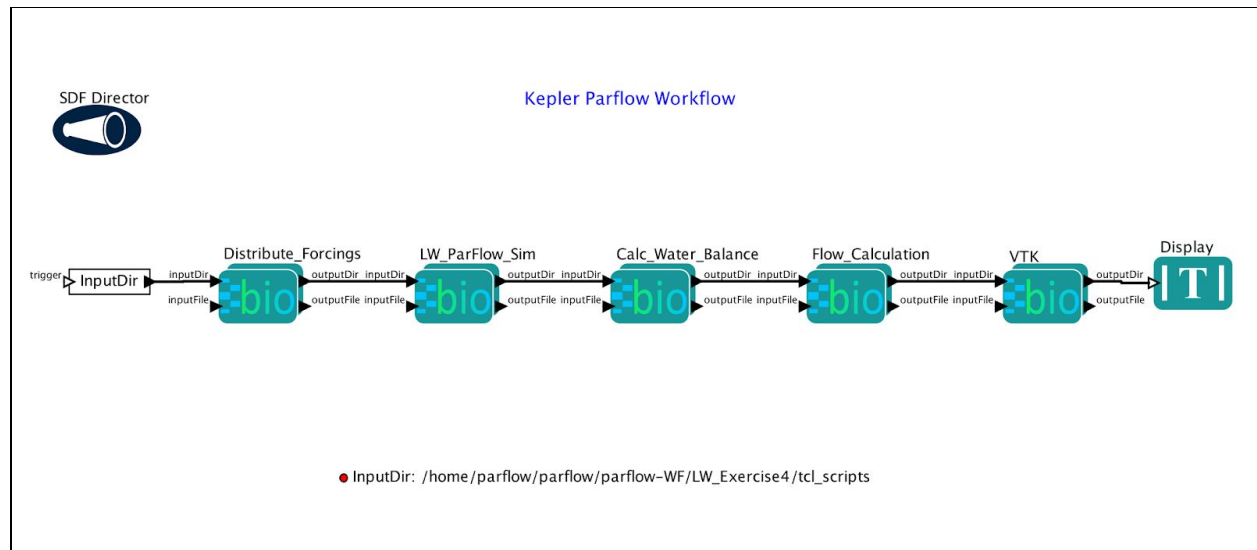**Kepler Parflow Workflow:**

1. To process the atmospheric forcing the model will need (Distribute Forcings)
2. To run the model (Parflow Simulations)
3. Do some analysis on the outputs.(Calculate water balance, flow calculation, VTK output files)

Kepler-ParFlow Docker Link:

https://cloud.docker.com/repository/docker/spurawat/kepler-parflow

Kepler-parflow Workflow Github link:

https://github.com/words-sdsc/kepler-parflow.git

Step 1: Download the kepler-parflow workflow and associated input files

git clone https://github.com/words-sdsc/kepler-parflow.git

Step 2: Launch the Docker Container and expose port 5902 to your host

```
docker run -p 5902:5902 -v
/Path/to/kepler-parflow Directory/parflow-WF:/home/parflow/parflow/parflow-WF -it
spurawat/kepler-parflow:v1 /bin/bash
```

Step 3: Execute Kepler Parflow WF through

A. Commandline:

    a. `[kepler@ ~]$ kepler.sh -runwf -nogui /home/parflow/parflow/parflow-WF/Hydroflow-WF.xml`

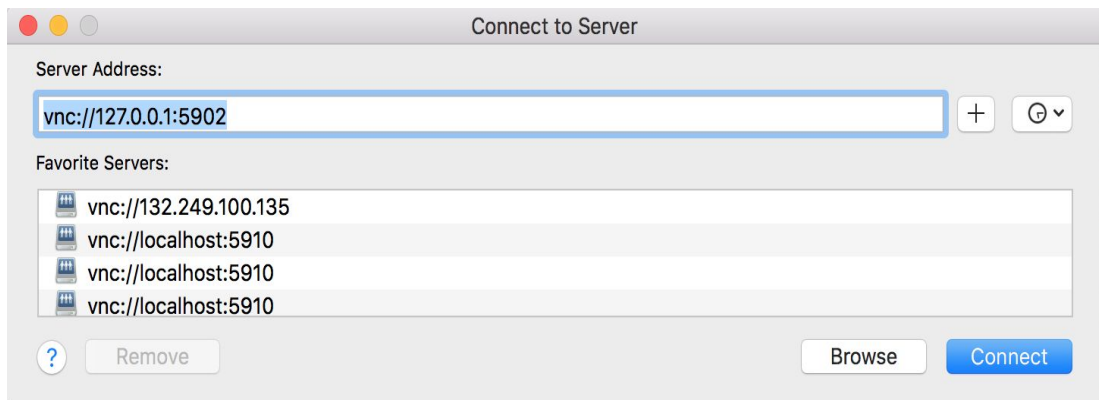**B. Graphical User Interface:**

Docker Container:

    a. `[kepler@ ~]$ vncserver :2 -depth 16 -geometry 1800x1050`
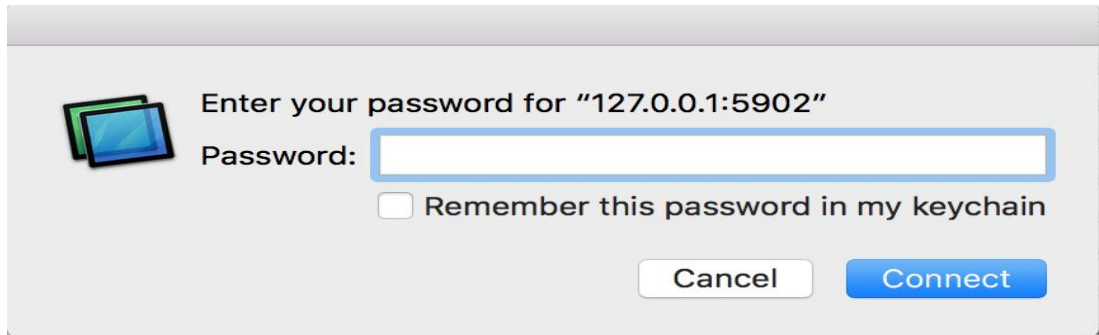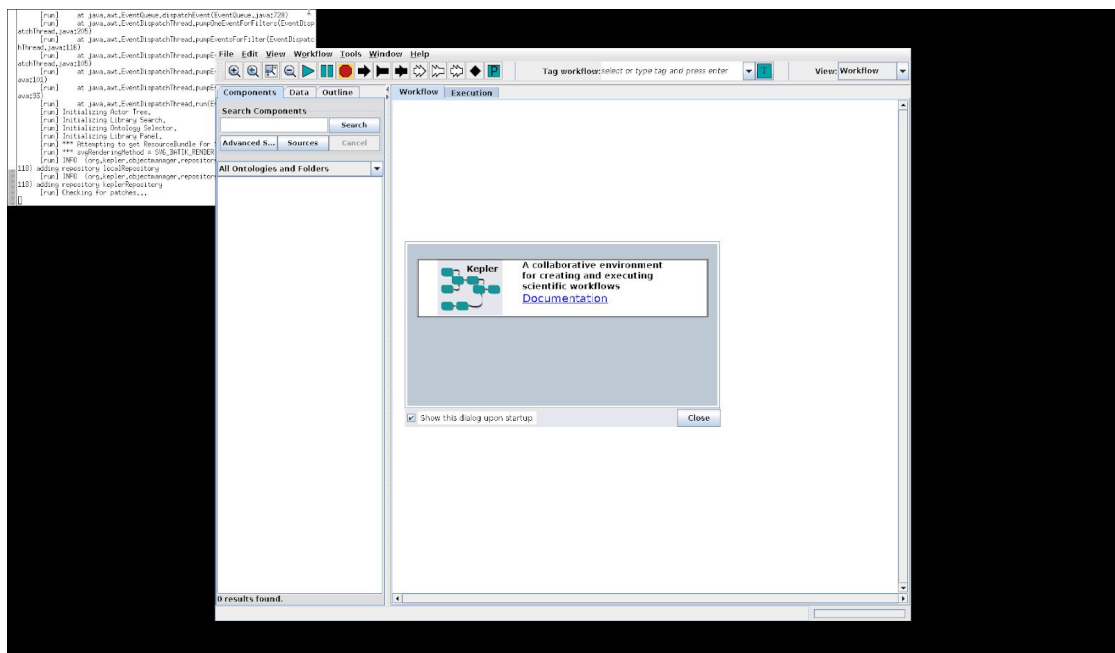
Host Side:

<u>MacOS:</u>

- Finder -> Go-> Connect to Server
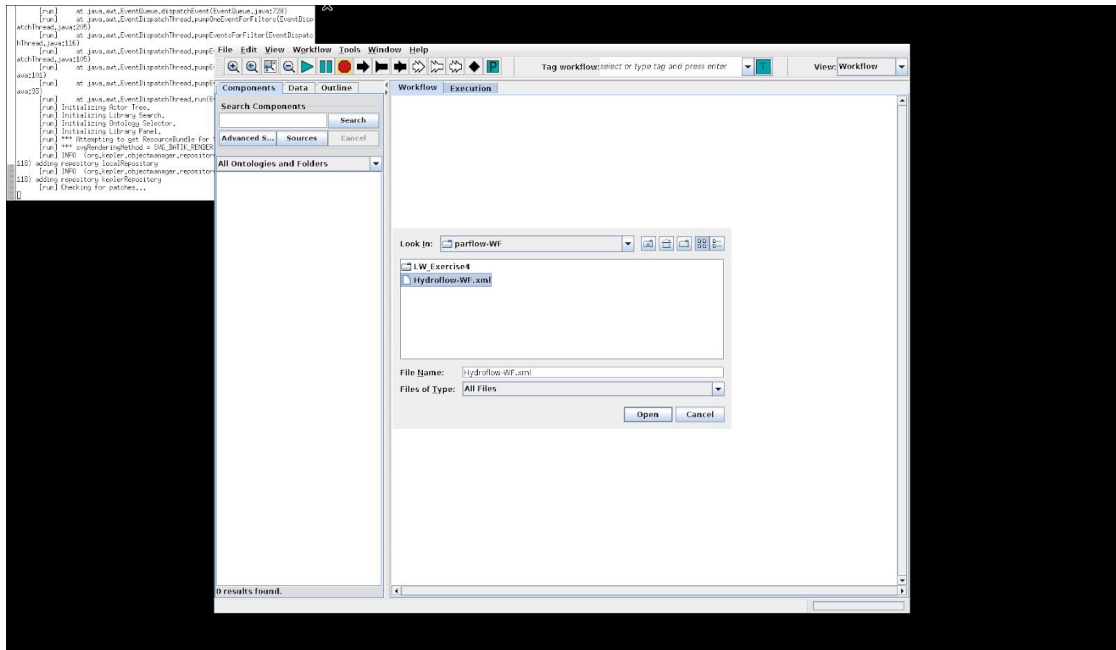- Enter Server Address: vnc://127.0.0.1:5902 and click on Connect

- Skip password and Click on Connect

Enter your password for "127.0.0.1:5902"

Password: [   ]

☐ Remember this password in my keychain

Cancel   Connect

- Skip password and Click on Connect. You will see Kepler Application window open.

- In Kepler Window, Click on File. Go to
  `/home/parflow/parflow/parflow-WF/Hydroflow-WF.xml`

- Click on Play to execute the Workflow

Click on Play Button