

Using Anvi'o with an HPC with Slurm

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Note: Assumes you have already installed anvi'o in a conda virtual environment. The documentation for installing Anvi'o is here: <https://merenlab.org/2016/06/26/installation-v2/>

1. Login to your HPC account and enter:

```
(base) [eholdridge@borah-login ~]$ whoami
eholdridge
```

2. Create a file called `port_allocation.sh` with the following information. Note: you must use your own output from the command above in place of "eholdridge".

```
[[ "$(whoami)" = "eholdridge" ]] && export ANVIO_PORT=8082
```

3. Copy that file to `{path_to_anvio}/etc/conda/activate.d/` and use `chmod u+x` to make it executable.

```
scp ~/port_allocation.sh ~/{path_to_anvio}/etc/conda/activate.d/
chmod u+x ~/{path_to_anvio}/etc/conda/activate.d/port_allocation.sh
```

4. On your local machine, add the following script to `~/ssh/run_webbrowser.py`

```
import sys
import webbrowser

for line in sys.stdin:
    if "OPEN_ON_LOCAL[" in line:
        line = line.replace("0.0.0.0", "127.0.0.1")
        webbrowser.open(line.split("OPEN_ON_LOCAL[")[1].split(" ")[0])
```

5. To run Anvi'o, open a command window and login to your HPC account.

```
ssh -Y eholdridge@borah-login.boisestate.edu
```

6. Request an interactive session. Note the node you're allocated (here it's `cpu104`).

```
(base) [eholdridge@borah-login ~]$ dev-session-bsu
salloc: Granted job allocation 65225
(base) [eholdridge@cpu104 ~]$
```

7. Open a second command line window and login. Note: you must use your own port number in from your `port_allocation.sh` and your own node.

```
ssh -Y -XC -L 8082:cpu101:8082 eholdridge@borah-login.boisestate.edu |
tee /dev/tty | python3 ~/ssh/run_webbrowser.py
```

8. Login to the specific node you were allocated for the interactive session.

```
ssh cpu101
```

9. Now you can activate your anvi'o conda virtual environment and run whatever you need to.

```
conda activate anvio-7  
anvi-self-test --suite mini
```