

ACM-BCB Intro to Application Containerization with Singularity

Date: 8/01/2021

Instructors:

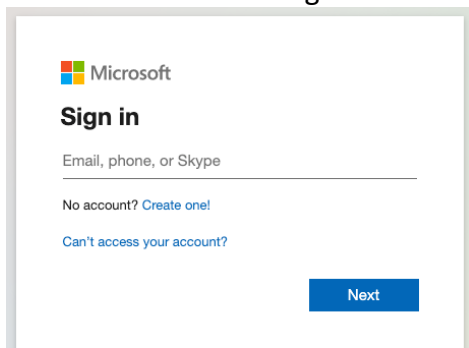
- Shane Sanders, Ph.D.: Senior Manager, Cyberinfrastructure - The Jackson Laboratory
- Jason Macklin: HPC Systems Engineer - The Jackson Laboratory
- Richard Yanicky: Systems Analyst - The Jackson Laboratory

Hello, and welcome to this tutorial is a primer on how to use the Singularity containerization framework to install customizable applications. Use the instructions below to connect to the Azure Lab environment for this course.

Course Lab Environment

***Note: In order to connect to our Azure Lab environment, you must sign-in with a Microsoft account. This could be your organizational Microsoft/Office 365 email account, a personal Microsoft account, or if you do not have one feel free to [create one](#).

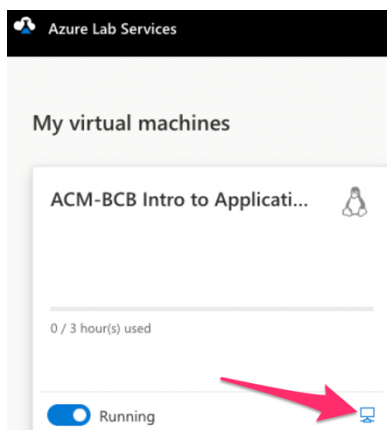
1. Connect to the Lab environment here: <https://labs.azure.com/register/s9faxesnt>
2. Sign-in with your institutional Microsoft/Office 365 account, personal, or sign-up for a new Microsoft account to sign-in.



3. Your VM should already be running. Click the computer icon in the lab preview box. Your custom ssh access command will be visible.

Mac Users only!!!: Click "Copy" to save the command to your clipboard.

Windows Users: Manually copy the highlighted portion below. Take note also of the 5 digit port number listed after the -p flag.



Connect to your virtual machine

To connect to your Linux virtual machine using SSH, use the following command:

```
ssh -p 63006 labuser@ml-lab-de11e102-81c3-4f81-8fc5-621278071-northcentralus.cloudapp.azure.com
```



Copy

Mac Users

Done

Connect to your virtual machine

To connect to your Linux virtual machine using SSH, use the following command:

```
ssh -p 63006 labuser@ml-lab-de11e102-81c3-4f81-8fc5-621278071-northcentralus.cloudapp.azure.com
```



Copied

Windows: copy only highlighted

Done

4. **Mac Users:** Open the Terminal app (Applications>Utilities>Terminal) or your preferred terminal app of choice on your Mac and paste in the command you copied previously.

- If prompted, type “yes” to accept the host ID and continue

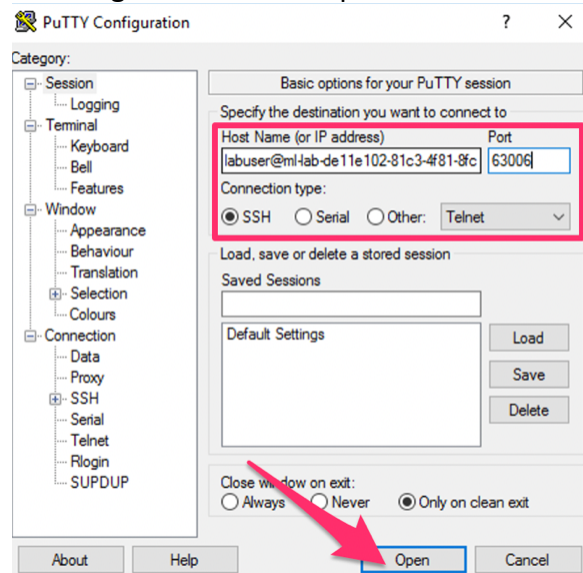
```
workstation1:~ labuser$ ssh -p 63006 labuser@ml-lab-de11e102-81c3-4f81-8fc5-62127807b373.northcentral
[The authenticity of host '[ml-lab-de11e102-81c3-4f81-8fc5-62127807b373.northcentralus.cloudapp.azure.
lablshed.
ECDSA key fingerprint is SHA256:sF6oeoaT6oJE0G0cEQf0K07NdHV11fqPdumtCzIPzJA.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

- Use the password **acmBCB2021** to sign into your virtual machine

```
labuser@ml-lab-de11e102-81c3-4f81-8fc5-62127807b373.northcentralus.cloudapp.azure.com's password:
Activate the web console with: systemctl enable --now cockpit.socket
```

```
Last login: Tue Jul 20 19:10:59 2021 from [REDACTED]
[labuser@ML-RefVm-808364 ~]$
```

Windows users: Using an app such as [Putty](#) or [MobaXterm](#), paste in the previously copied labuser@ml-lab-de... hostname address in the Host Name box ensuring the connection type is SSH. Put in the 5 digit port number from the previous step. This likely will be a different number than the image below. Click Open to connect.



- If prompted, click “Accept” to accept the host ID then type the password **acmBCB2021** to connect to your virtual machine

```
labuser@ML-RefVm-808364:~
Using username "labuser".
labuser@ml-lab-de11e102-81c3-4f81-8fc5-62127807b373.northcentralus.cloudapp.a
zure.com's password:
Activate the web console with: systemctl enable --now cockpit.socket

Last login: Wed Jul 21 18:10:00 2021 from [REDACTED]
[labuser@ML-RefVm-808364 ~]$
```