GENI Setup Instructions

This set of instructions is for first time GENI users. The steps below will prepare you for the GENI in the Classroom webinars. Please contact aldenc@live.unc.edu with any questions.

Contents

Computer Requirements

Verify that your laptop or desktop meets these following minimum requirements

- ✓ Runs a relatively recent version of Mac OS X, Windows, or Linux
- ✓ 2 GB of memory
- ✓ A modern processor, at least dual core, and > 1.5 GHz (no Intel Atom, no netbooks, no tablets)
- ✓ A good connection to the internet
- ✓ Webcam (optional but recommended, if you have a webcam please use it at the tutorial – web based tutorials are much less impersonal if we can see your faces!)
- ✓ Microphone
- ✓ Headphones/speakers

GENI Portal Account Instructions

These instructions are to test if you are able to log into the GENI Portal using the username and password that you use at your home institution, and in the event that fails, to help you request a GENI account.

Note that GENI uses InCommon and therefore never sees your home institution username or password. For more details: http://www.incommon.org/federation/basics.html

1. Go to https://portal.geni.net and click the big orange "Use GENI" button.
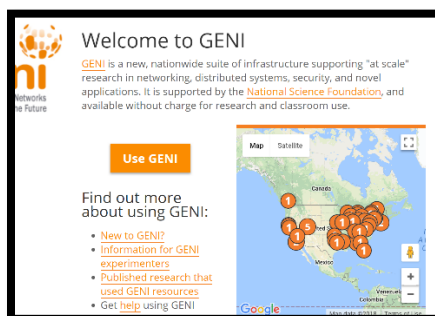

Figure 1: GENI Homepage

2. On the institution chooser page, select your home institution. The interface will allow you to pick from a list or will autocomplete as you type in your institution name.
IF your institution does not appear on the list, STOP and fill out this form: https://shib-idp.geni.net/geni/request.html. There may be a warning that the site is unsafe, you should be able to proceed anyway. Follow the instructions on the page to request an account.
3. Click "Continue" and you will be directed to your home institution sign in page.
4. Type in your usual home institution username and password. Again, note that this information is not sent to GENI.
5. You should be redirected to a GENI agreement page.
IF your institution does not appear on the list, STOP and fill out this form: https://shib-idp.geni.net/geni/request.html.
6. On the GENI agreement page, check the two boxes that indicate you agree to the policies and you agree to let the portal work on your behalf. Then "submit" the page.
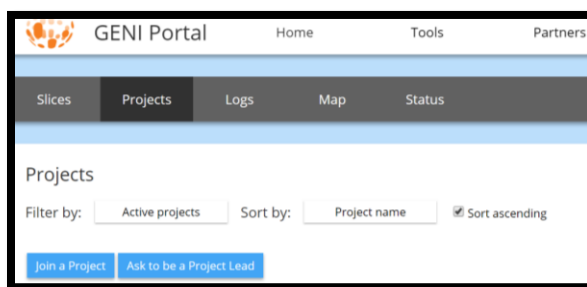7. Click the Projects tab on the portal home page, and then click the Join a Project button.

Figure 2: Projects interface

8. In the Search box type: UNC-Classroom-Spring 2018
9. Click the Join button next to the project UNC-Classroom-Spring 2018 with project lead Jay Aikat. Leave the join message as is and click the Send Join Request button. Someone will approve your request before the first session.
10. You have now requested to join the project we will use for the tutorial, and have a feel for what the GENI portal is like.

Install and Test GENI Tools

1. Install a browser – if not already installed on your machine, please install Google Chrome or Firefox (Firefox is required if you choose to use FireSSH as an SSH client (see below)).
2. Install an SSH Client
   a. Mac OS X/Linux
      Mac OS X and Linux come with an ssh client you can run from a terminal window. You do not need to install anything. Proceed to step 3.
   b. Windows
      Recommended – Install PuTTY, a free SSH client for Windows: PuTTY
      Alternative – Install FireSSH, a Firefox ssh plugin: FireSSH
      (If you have an ssh client you prefer, so long as you are able to ssh into the test node in the following steps, that will be fine!)
3. Test SSH with Keys
   In the email with these instructions, you should have received two copies of an SSH private

key (a regular one and a PuTTY one). PuTTY users should use the key that is labeled PUTTY; everyone else should use the NOT_PUTTY key.
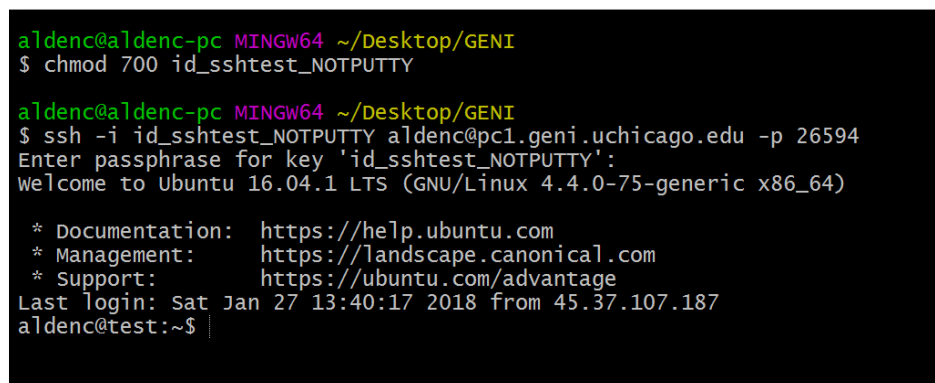
    a. <u>Mac OS X/Linux/Terminal Based Tool</u>

        i. Save the NOT_PUTTY version of the private key on your computer.

        ii. Open a terminal.

        iii. Ensure that your private key has the right permissions by typing:

```
$ chmod 700 <key_file>
```

        iv. Run ssh:

```
$ ssh –i <key_file> aldenc@pc1.geni.uchicago.edu –p 26594
```

        v. Enter the passphrase **genitest** when prompted. Note that if you are asked for a password then something has gone wrong. Check that all the information is correct.

        vi. If you see the prompt **aldenc@test:~$**" then you have successfully logged into the node. Proceed to the next section.

```
aldenc@aldenc-pc MINGW64 ~/Desktop/GENI
$ chmod 700 id_sshtest_NOTPUTTY

aldenc@aldenc-pc MINGW64 ~/Desktop/GENI
$ ssh -i id_sshtest_NOTPUTTY aldenc@pc1.geni.uchicago.edu -p 26594
Enter passphrase for key 'id_sshtest_NOTPUTTY':
Welcome to Ubuntu 16.04.1 LTS (GNU/Linux 4.4.0-75-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage
Last login: Sat Jan 27 13:40:17 2018 from 45.37.107.187
aldenc@test:~$
```

Figure 3: Terminal based SSH login to test node

    b. <u>Windows PuTTY</u>

        i. You will be using the PuTTY version of the private key. Save the key on your computer and remember the location. (This key was converted from the standard format using the puttygen program).

        ii. Run PuTTY.

        iii. On the Basics options screen, in the Host Name field, enter: aldenc@pc1.geni.uchicago.edu and in the port field enter: **26594**.

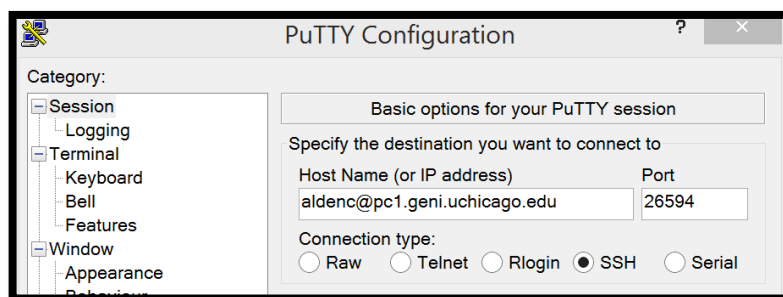   iv. Make sure the Connection type is **SSH**

Figure 4: PuTTY Setup 1

        v. Under the settings categories on the left, navigate to **Connection->SSH->Auth.**

        vi. Next to the "Private key file for authentication" field at the bottom, click **Browse**, select the private key you saved, and select **Open**.
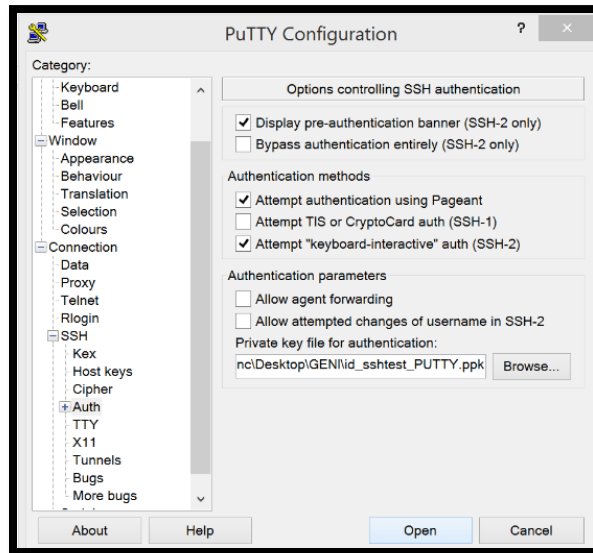
vii. Click **Open** to establish the SSH connection.

Figure 5: PuTTY Setup 2

viii. If prompted about whether you trust the host (host key not cached in registry), click **Yes**.

ix. When prompted for the passphrase, enter: **genitest**

x. If you see the prompt **aldenc@test:~$**" then you have successfully logged into the node. Proceed to the next section.

Figure 6: PuTTY login success

c. Windows FireSSH
   i. Save the NOT_PUTTY version of the private key attached to the email.
   ii. Load this URL into Firefox: **ssh://aldenc@pc1.geni.uchicago.edu:26594**
   iii. In the popup window, enter the passphrase **genitest** in the (mislabeled password) field, and click **Browse.**
   iv. Select the private key, and click **Open.**
   v. Click **Ok.**
   vi. If prompted about whether you trust the host (host key not cached in registry), click **Yes.**
   vii. If you see the prompt **aldenc@test:~$**" then you have successfully logged into the node. Proceed to the next section.

Finishing

- Once you have successfully logged-in, you may close the SSH connection. Your setup is now complete. During the hands-on lab, you will generate a set of your own public and private keys, and use this same procedure to login to GENI machines you will reserve.
- Please now complete and submit the following form so that we know you were able to complete the setup steps: https://docs.google.com/forms/d/e/1FAIpQLScHG1dDIXnDt0tsxa3xg4JcprUQi3VXsNUKohe1KGQWOIVpUA/viewform?usp=sf_link
- Please email if you have any questions. We look forward to seeing you for the webinar!