Remote Access to APS Beamlines Using NoMachine Cloud Server

Introduction

APS has installed a NoMachine Cloud Server which will allow remote users to access computing resources at the APS beamlines. Use of this server will require coordination between APS staff and the Users to authorize users access to these resources for a time surrounding scheduled beamtime. Access for a user will be granted to only particular computing resources during that time.

Connecting to beamline computers

Users who have been granted access to resources at a beamline can access these through the NoMachine Cloud Server (https://delos.aps.anl.gov) as shown below.
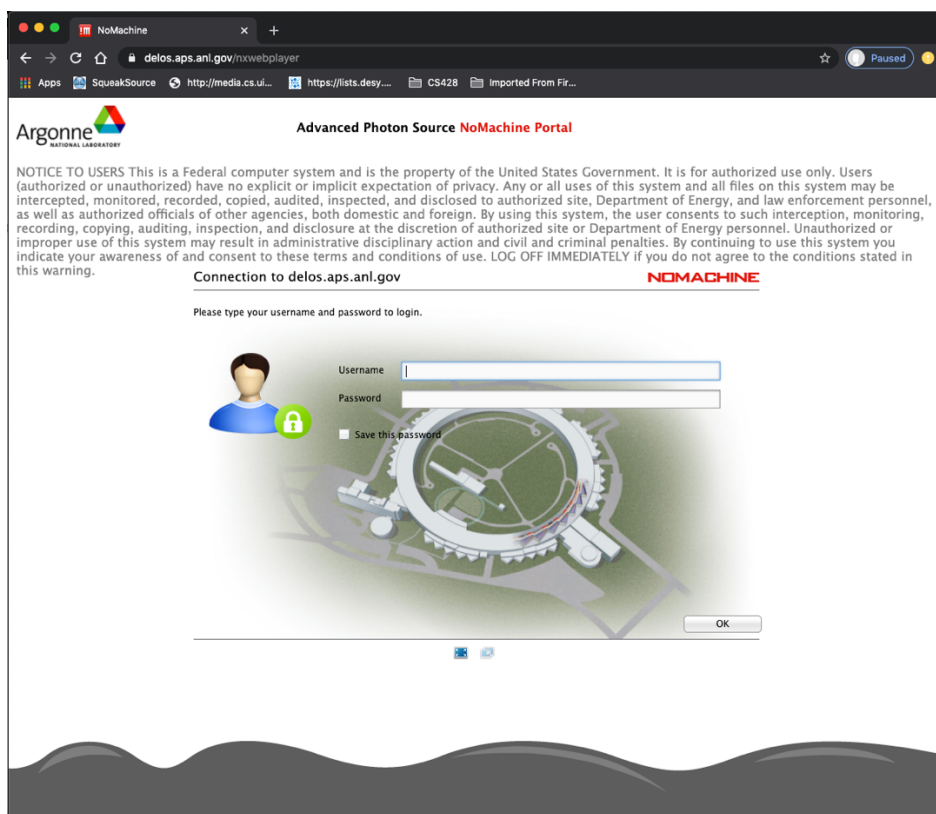

*Figure 1. Login Page for APS NoMachine Cloud Server*

For beamline users the login for this will be the same as that for access to the APS Data Management account. The username will be 'd' + the user's ANL Badge number (e.g. d37309). The password is the same as used for Data Management, APS Proposal System and the ESAF

System. If you cannot remember the password or need to reset it see the section below on changing passwords.
Once logged in the user will see a choice of computer systems to which they have been granted access as shown below.
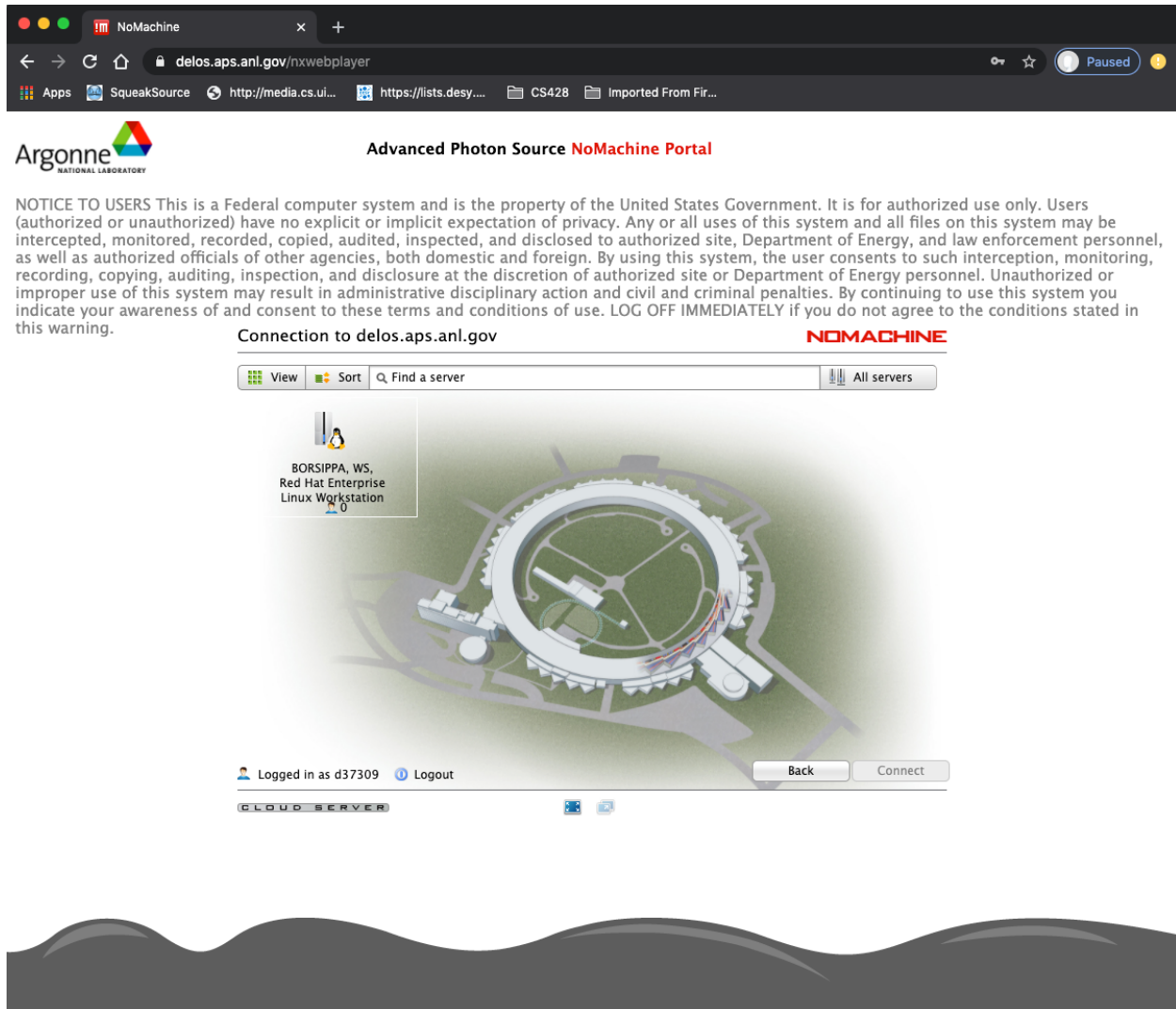
Double clicking on a computer here will present the user with a choice of desktop options ranging from virtual terminals that may already be configured, the physical desktop (if allowed by the beamline) or creating a new virtual desktop (from the button on the top right).
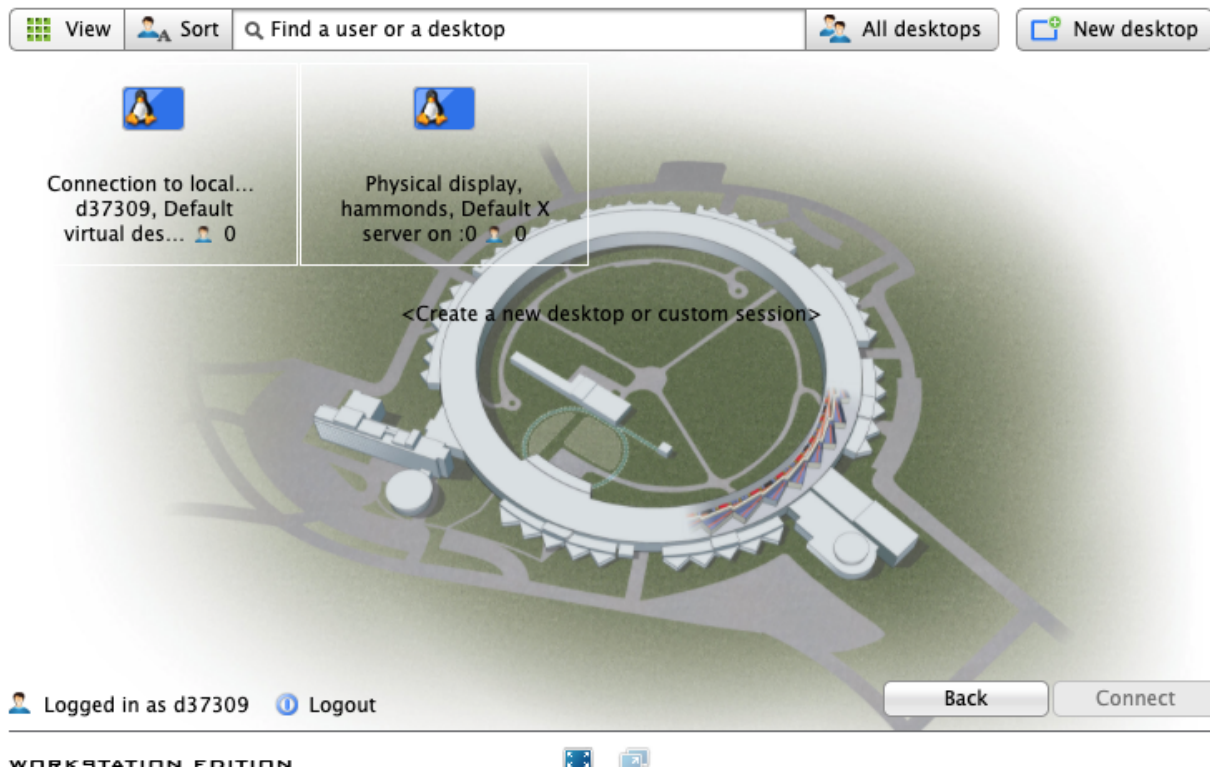
Once the selection is made, the user should be routed to a desktop corresponding to the choice.
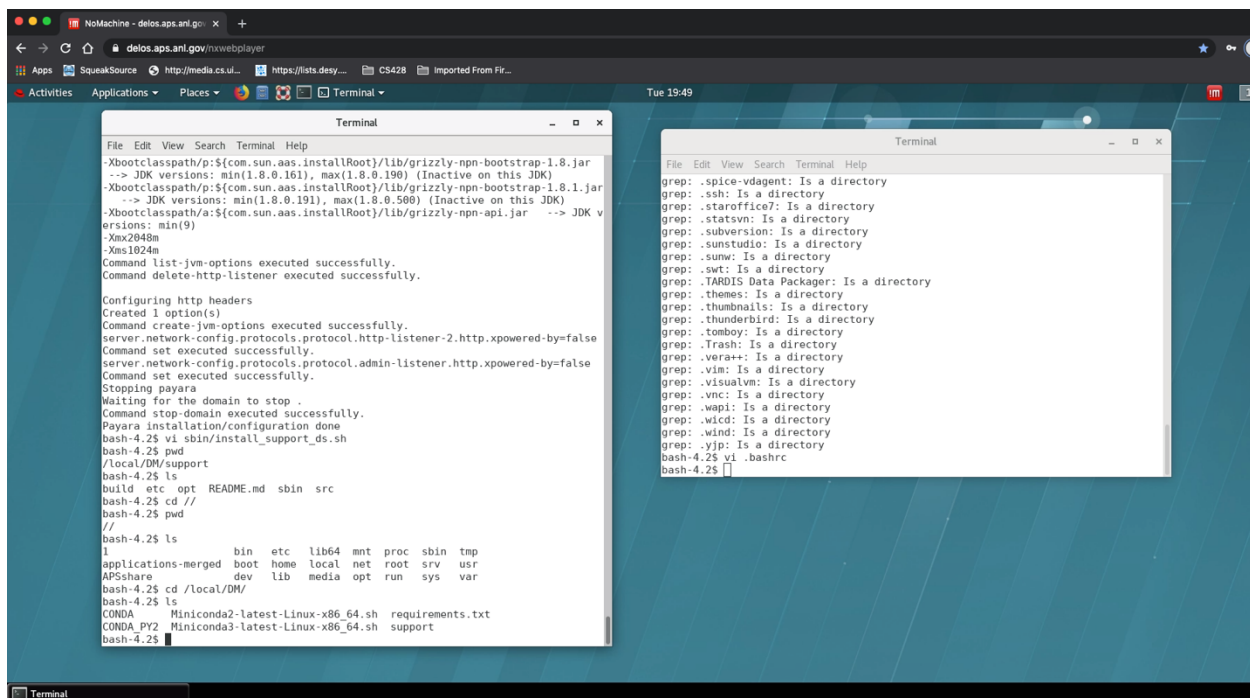
Use case for APS Beamline

The main purpose of this server is to provide APS users remote access to an APS beamline. One possible configuration for providing remote access for beamline users is one where APS Beamline Staff set up a virtual desktop session which is created using the beamline account. To start this session, a member of the beamline staff would start with a session either while at APS or while logged in remotely with their own account. When creating a virtual desktop session remotely, it is necessary to start as a regular user since it is not allowed to log in remotely using a shared beamline account. Once logged in as a regular user, select from the Applications->Internet menu select "NoMachine" as shown in the image below.
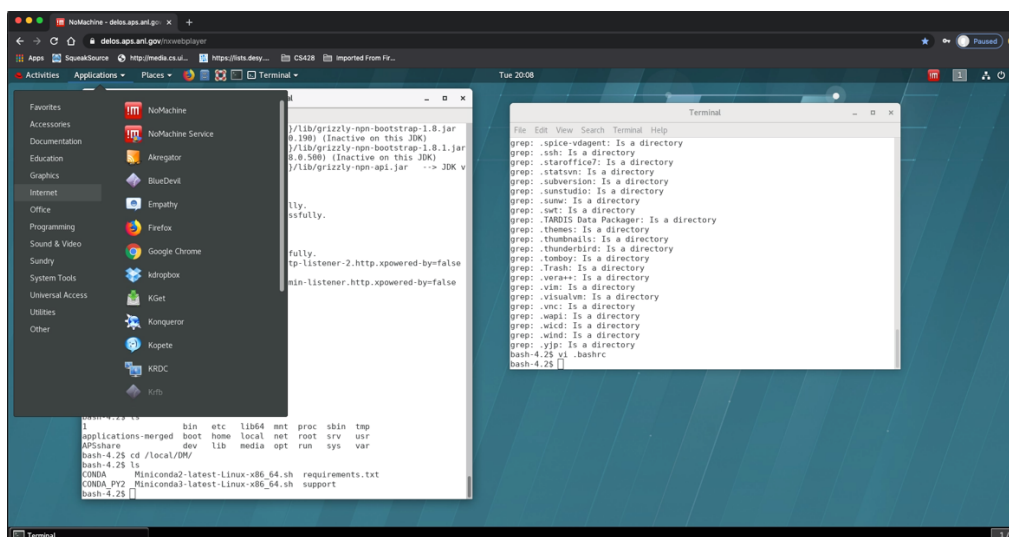

From the the NoMachine window, select a session from the desired computer as shown, or select the "New" button to create a connection to that computer. In this case the Connection to quartz (first session icon) could be used to create a session for Sector 8, or "New" could be used to select a session on another computer.
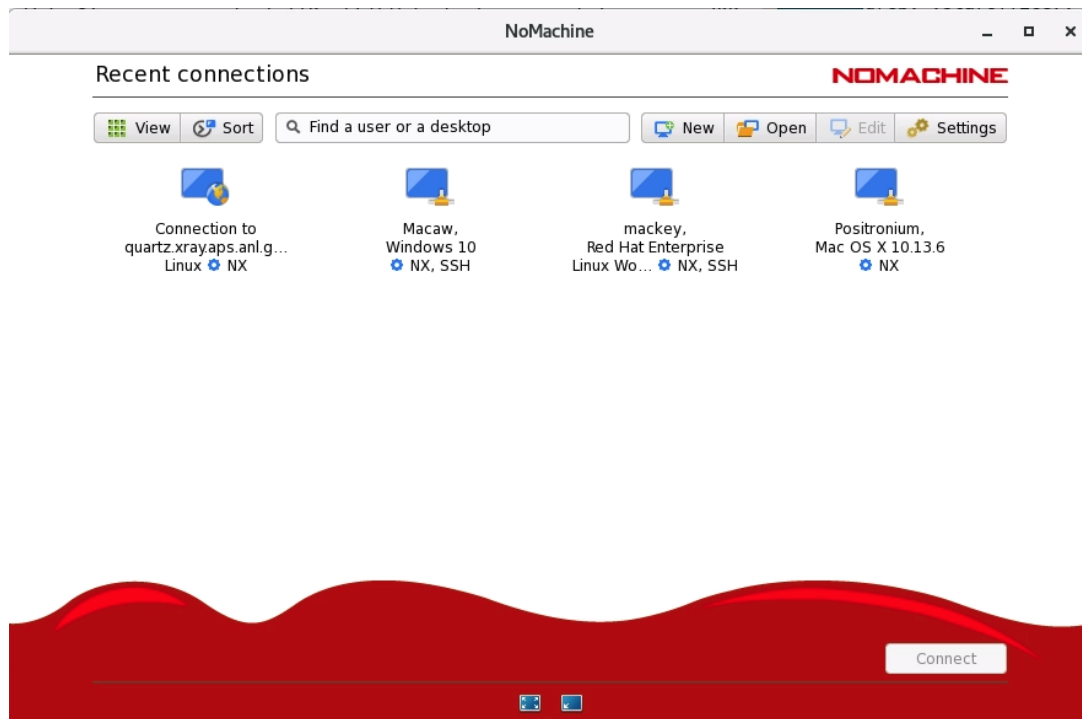
Selecting quartz here will prompt the user for the username and password to be used for the session. Log into this session as the beamline account. Once logged in here, Select the button on the top left to create a "New Desktop" if a virtual session is not already available. After selecting the "New Desktop" choose the "Create a new virtual desktop" icon as shown.
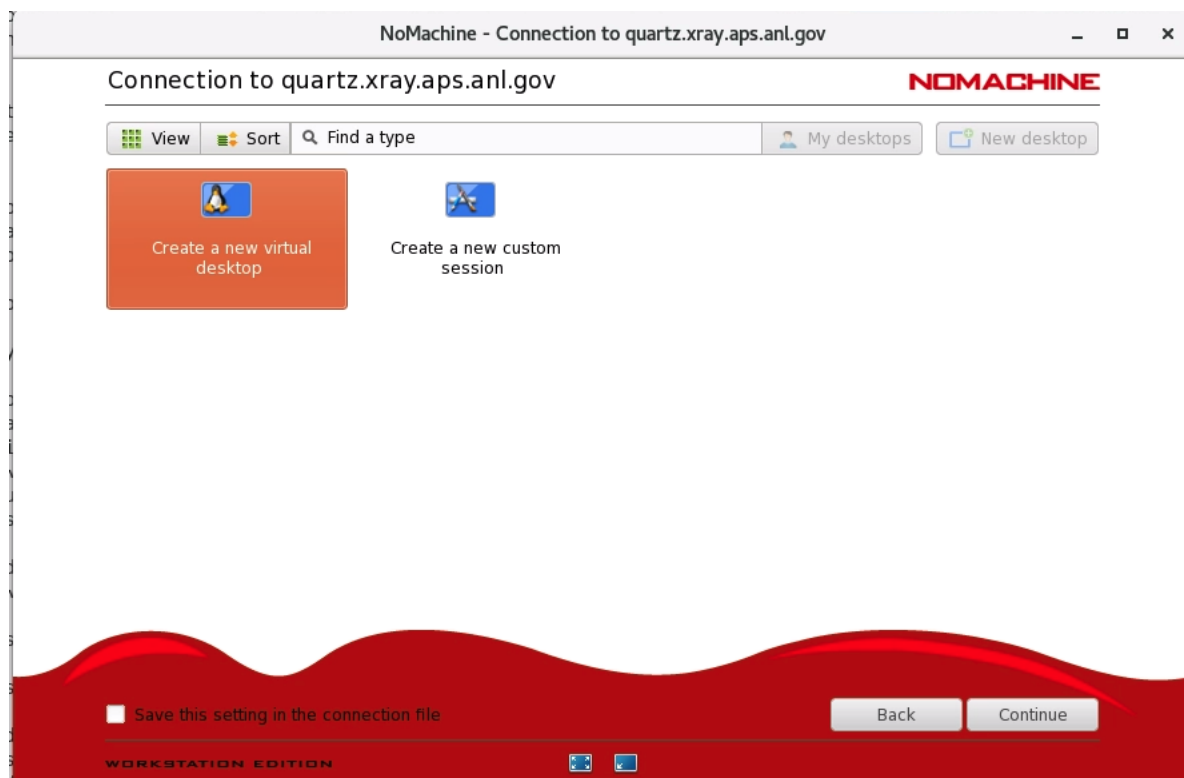
Selecting to continue on here will create the new virtual desktop. You may be shown a number of pages of information about NoMachine sessions such as how to get to configuration menus, etc. Read these as necessary clicking Ok to continue (you can also click a checkbox to not show these in the future). Once past these sessions, you will have a virtual desktop session, logged in as the beamline account. From here, you can start terminals and other windows for instrument control etc, to leave open for users convenience. Once the beamline staff has configured this session, that user can disconnect from the session by hovering in the upper right corner of the window to expose the pull down corner which allows access to the NoMachine menus.
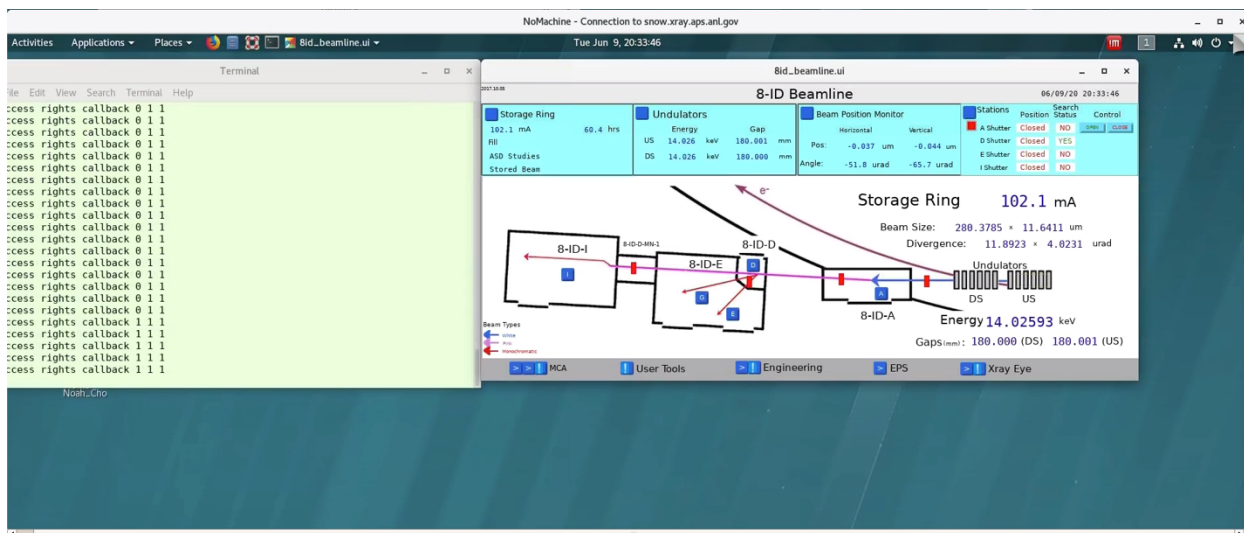
From the NoMachine controls select "Connection" & select disconnect or press the button on the lower right of the control page & follow prompts to disconnect from the server.
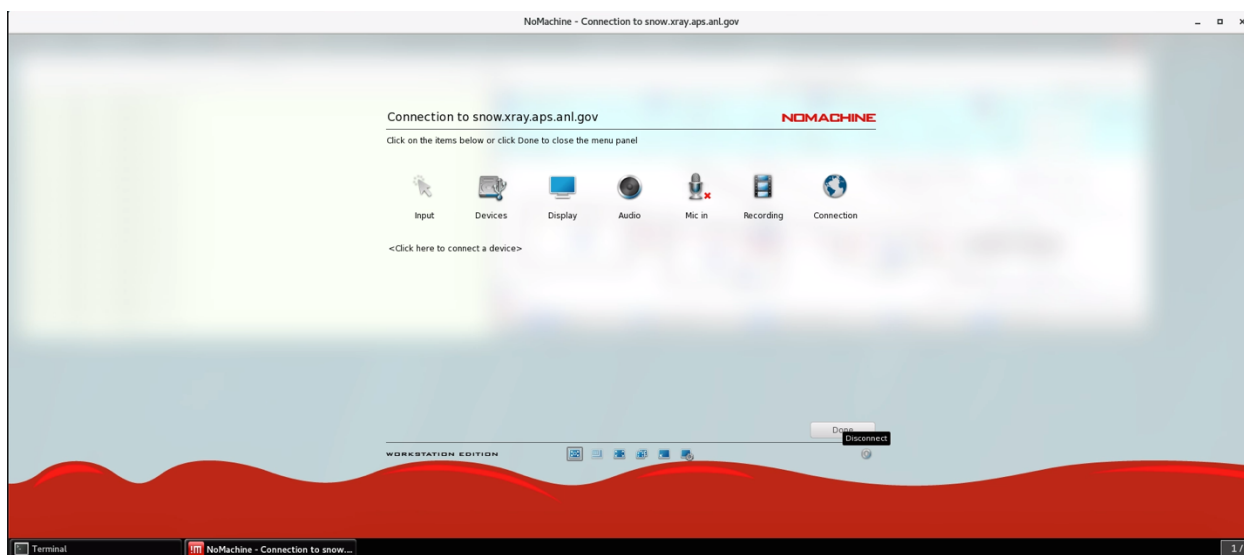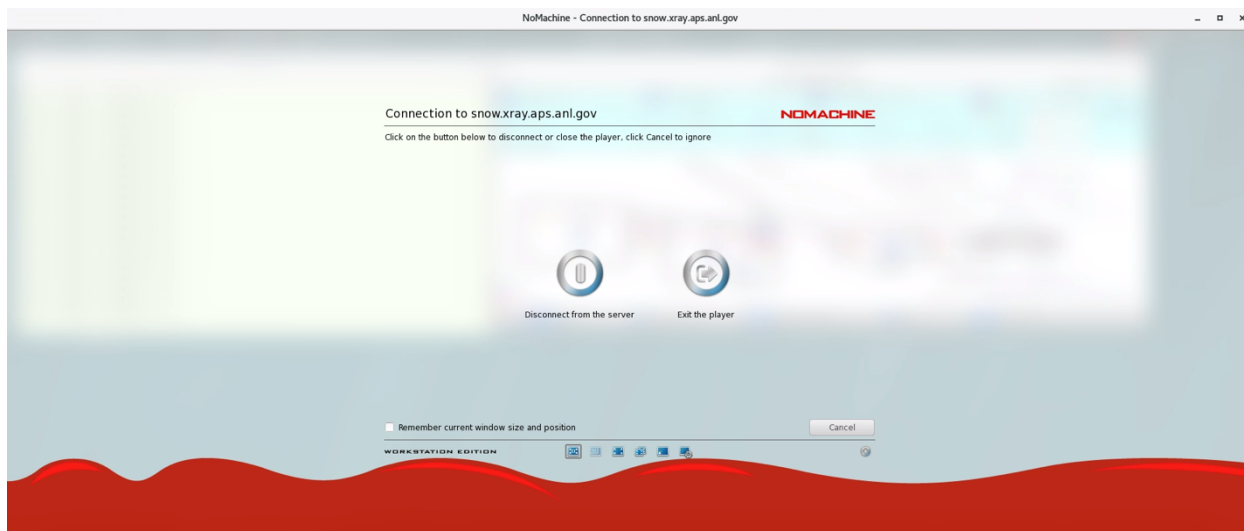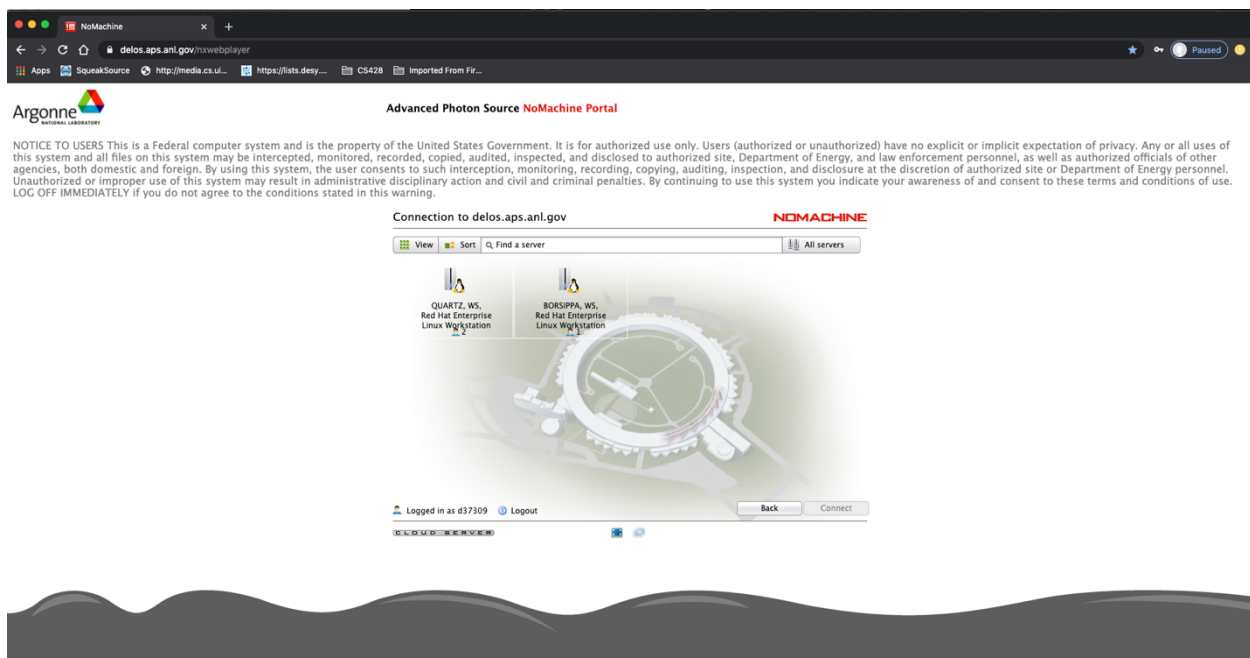
Connection to beamline virtual desktop by a remote (Non-ANL user) user

Non-ANL users can connect to the NoMachine Cloud server using an account which is linked to their APS Web Account, which is used with the Proposal/ESAF system. The APS Web account has a username which is their badge number. For the NoMachine Cloud server, the username is the badge number prepended by the letter 'd' (e.g. d37309) , similar to that used with the APS Data Management account. The password here will be the same as that for the Proposal/ESAF system. If you do not remember this password, find the section at the end of this manual for checking/resetting the password.

From a Google Chrome Browser, connect to the NoMachine Cloud Server at https://delos.aps.anl.gov as shown below and provide the username (d + badge #) and password to log in.
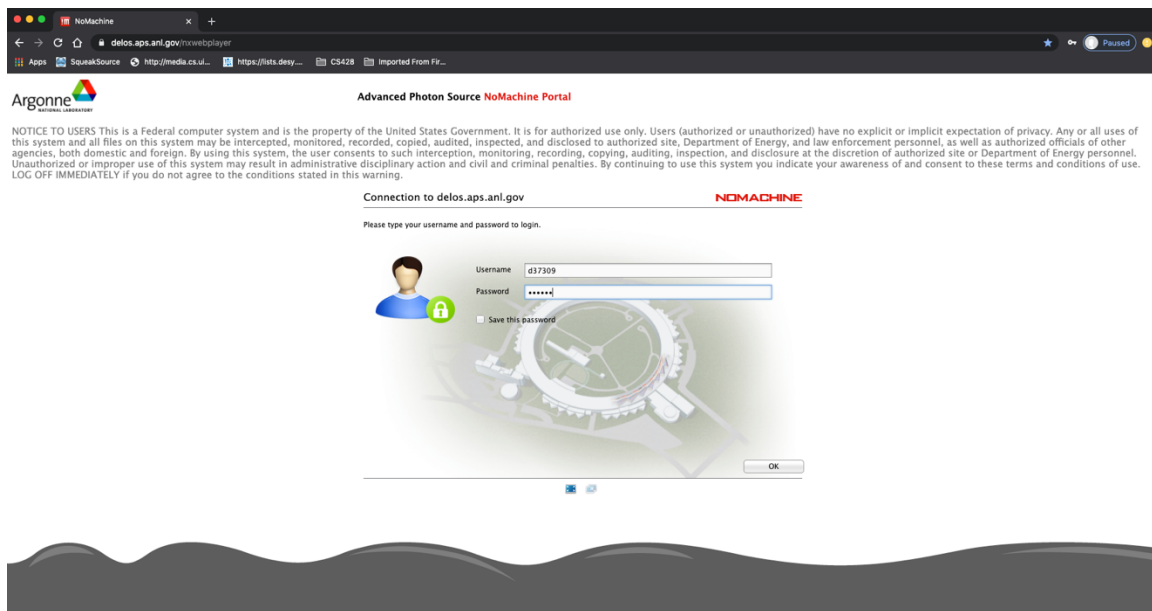
Once logged in you will be presented with a list of computers that you have been authorized to connect to. If the list contains no computers consult with your beamline contact to be added to access list during your experiment.
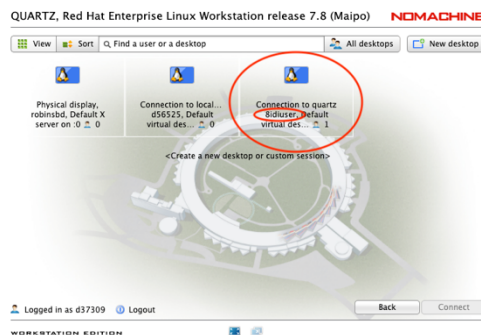

Select a node from the list and you will be presented with a list of virtual desktops available for connection. For access to the beamline you should look for a session started by the beamline account.

At this point you should be connected to a desktop on the beamline computer. If you are presented with a message "Waiting for the desktop user to authorize your connection" then your setup for access to the session is not complete. Consult with your beamline contact to correct this.

Verifying/updating APS Web Account

All experimenters on APS Proposal or ESAF should have created an account through the APS Web Portal at https://beam.aps.anl.gov/pls/apsweb/usercheckin.start_page. If the user does not have a badge number, they will need to register with the APS User Office at https://beam.aps.anl.gov/pls/apsweb/ufr_main_pkg.usr_start_page. To verify or update the Web Password, users can try to log into the web portal above. Like other web accounts, it is possible to update an unknown/expired password by clicking a link on the portal web page. For this you will need to provide answers to security questions that were entered at the time the account was set up.

WARNING
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Enter your **ANL Domain Username** (employees and resident users) and **ANL Domain Password** or **Badge Number** (non-resident users) and **APS Web Password**

Username Or Badge No:

Password:

Login   Change Password   Reset

Click here if you forgot your APS Web Password

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