AHE Exercise 1: Installing the AHE Client

Aims and Objectives

- Install the AHE client on your system
- Set up a keystore containing your grid certificate
- Configure the client with settings for UCL's AHE server
- Confirm that the client is installed and working

Introduction

The AHE client is designed to be easily installed on an end user's machine, requiring only that they have a Java installation and an X.509 certificate for the grid which they want to access. The client package contains both GUI and command line clients which interoperate, allowing jobs launched with the GUI client to be manipulated with the command line tools and vice versa.

In this exercise we will install and configure the AHE client, install a certificate to allow you to access NGS resources, and check that the client is successfully installed.

After completing this section you should have a working installation of the AHE client

Stage 1: Install and Configure the Client

1 Open a web browser at the following location:
http://www.realitygrid.org/AHE/training/courseinfo.html#ex1

The Safari browser is installed on the iMacs in LG27, and can be accessed by clicking the  icon on the task bar.

2 Download aheclient-training.tgz

Note: the following instructions assume you saved the file to your desktop. On the Macs in LG27 this can be found at /Users/ccs/Desktop. You can download in Safari by holding down [**Alt**] and clicking on the link.

3 Open a command prompt - on the iMacs in LG27 this can be done by clicking on the  icon on the taskbar. Change the directory to the Desktop - on the iMacs in LG27 type **cd Desktop**

4 At the command prompt unpack the AHE client by typing:
tar zxvf aheclient-training.tgz

The client will be unpacked onto your desktop.

5 Set the variable AHECLIENT_HOME to point to do the AHE client location. To do this under Unix/Linux/MacOS X, type: export AHECLIENT_HOME=/path to client

For example, on the iMacs in LG27 type:
export AHECLIENT_HOME=/Users/ccs/aheclient-1.0.1

Note, this will only be set for the duration that your shell session is open. To set the variable permenantly, add the export line to your ~/.bashrc file (Unix/Linux) or add it to your ~/.MacOSX/environment.plist file (MacOS X). You can find a sample environment.plist at:
http://www.realitygrid.org/AHE/training/courseinfo.html#extras

6 Next you need to create a keystore for your client, containing your grid certificate. This will be used to authenticate you to the AHE server, and generate the proxy credentials required to access NGS resources. A script is provided to allow you to import your grid certificate in p12 format into a Java keystore for use by the AHE client. At the command prompt type:
cd $AHECLIENT_HOME
cd bin
./kssetup path_to_certificate

where path_to_certificate is the full path to your grid certificate (for example /Users/ccs/Desktop/mycertficate.p12)

You will be prompted to enter the password for your p12 certificate. Enter the password and press [**Return**]. Note: All passwords entered will be echoed back to the screen. Next, you will be prompted to enter a password for the keystore that you are setting up. This will be the password that you enter to unlock the AHE client.

You will see a message telling you that the certificate has been imported, and then you will be prompted for your keystore password again (the second password you had to enter).

Next a trusted CA root certificate for the UK e-Science authority will be imported into the keystore. Answer yes to say that you trust the certificate. You will be prompted for the keystore password a final time, enter it and then answer yes to confirm that you trust the root CA certificate of the NeSC training team.

7 Now that the keystore has been generated you can proceed to configure the AHE client. Start the AHE GUI client - at the command prompt type:
./ahe-guiclient.

When the client loads up you will be prompted to enter a password to unlock it. This is the password that you set when generating the Java keystore in step 6. When the client is unlocked it will jump to the Current Jobs screen. In order to configure the client double click the Setting button. The client needs to be configured with the details of our AHE training server. In the relevant boxes enter the following:

Job Registry Endpoint:
https://chemd237.chem.ucl.ac.uk:9443/ahe/AppWSResource

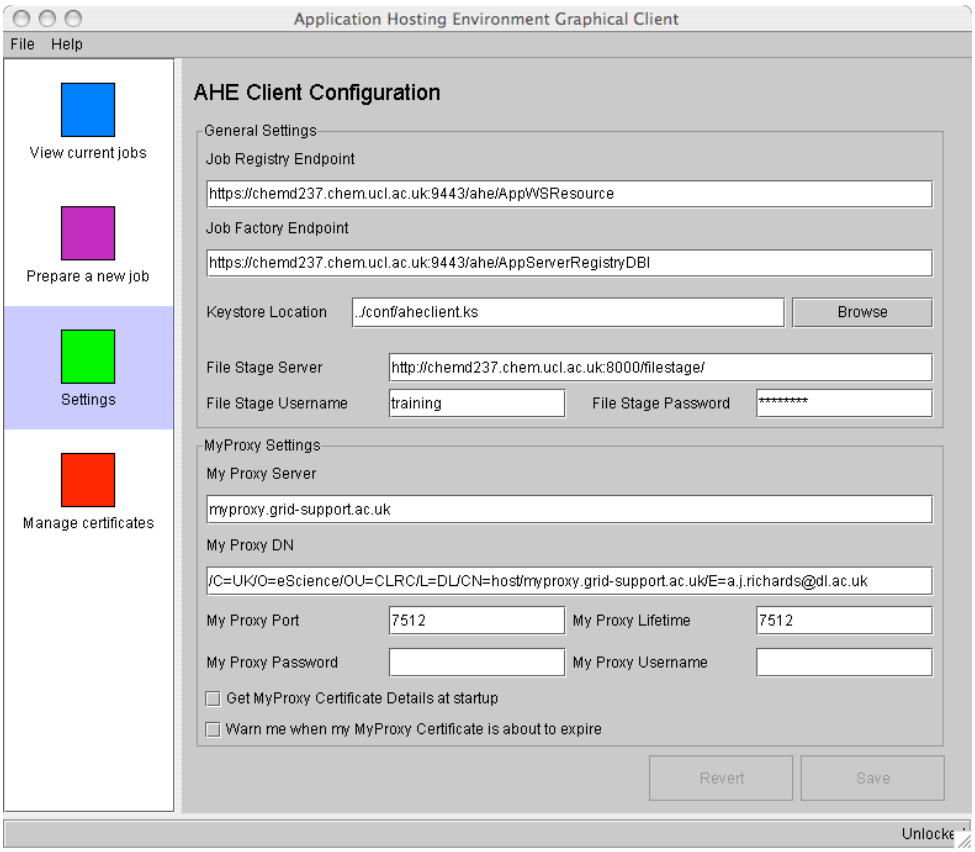
Job Factory Endpoint:
https://chemd237.chem.ucl.ac.uk:9443/ahe/AppServerRegistryDBI

File Stage Server:
http://chemd237.chem.ucl.ac.uk:8000/filestage/

File Stage Username:
training

File Stage Password:
training

Your AHE client setting should now look like this:



The MyProxy settings are pre-configured to use the NGS MyProxy server.

Click **Save** to save the changes.

8 To test that the installation has been successful, double-click on Prepare a new job, from the **Select an application to run** drop down list, choose **sort**.

Click on the button **Find Job Factories**. This has the effect of querying the AHE server for details of the sort application. After a short time you will see a Sort factory endpoint

appear in the box beneath. If this happens then the client is configured correctly.

Stage 2: Configuring a Proxy Certificate

1 In submit jobs to globus resources using the AHE, the user must upload a proxy certificate to a MyProxy server. This is a short lived certificate which GridSAM can use to submit the job to the globus machine on behalf of the user.

To generate and upload a proxy certificate using the AHE, double-click on **Manage certificates**, and in the Upload Proxy box, enter and confirm a password for your proxy certificate, then click **Create and Upload**.

When the proxy has been successfully created and uploaded, the details of the proxy will be shown in the Current Proxy Credentials box. Clicking on the **Delete Credential from Server** button deleted the proxy credential.

3 Double-click on the Settings button, and change MyProxy Lifetime to **1200**. This is the number of seconds that the proxy retrieved by GridSAM will last for. Click **Save**.

2 The proxy credential tool allows you to specify the lifetime of the proxy on the proxy server. After a proxy expires a new one will need to be created before you can submit jobs again. Note, the lifetime of the proxy can not be longer than the lifetime of your certificate – the NGS training certificate have a very short lifetime, so you will only be able to created proxies that last for one day.

If you have uploaded a proxy certificate using a different tool you can set your proxy certificate username and password on the Settings panel, along with the proxy server details.

Further Work

Familiarise yourself with the AHE client manual:

http://www.realitygrid.org/AHE/doc/AHEClientUserGuide.pdf