CS1653 Project P2 Demo Procedure

Ask the students to perform these steps via screenshare. They should be completed on the ACNS Linux Cluster: `acns-{01,02,03}.cs.pitt.edu`.

1. Open four SSH connections to the CS Linux Cluster machines chosen by your TA. (Alekhya: Choose among acns-01, acns-02, and acns-03 for each of the Authentication Server (AS), Resource Server (RS), Client1 (C1), and Client2 (C2). I recommend putting both clients on the same machine and each server on a different machine.) Two processes on the same machine should be run from **different folders** to ensure all communication is happening over the network.

2. **On AS:** Launch the authentication server.

3. **On RS:** Launch the resource server. (If multiple resource servers are needed, you can launch multiple.)

4. **On C1:** Run the client. Provide the correct AS address and port and RS address and port to demonstrate how the user connects the client to the servers. Connect as the administrator user.

5. Demonstrate how users are created by creating several users.

6. Demonstrate how users are removed by deleting one of the users you created. Attempt to delete a non-existent user and show that it cannot be done.

7. In your system design, you were asked to include "some aspect of metadata (groups, roles, attributes, etc.) [that] is used to determine which resources each user has access to." What type of metadata is used in your system for this? In the next few steps, you'll be asked to manipulate this metadata. You can translate and adjust these steps as necessary so that they are relevant to your system.

8. Demonstrate how a new metadata entry can be created by creating several groups (or roles, attributes, etc., as relevant).

9. Demonstrate how groups (or equivalent) are removed by deleting one of the groups you created. Attempt to delete a non-existent group and show that it cannot be done.

10. Demonstrate how groups (or equivalent) are manipulated by listing the members of the group.

11. Demonstrate how users are assigned to groups (or equivalent) by assigning several users to a common group.

12. List the members of a group again, to demonstrate how it has changed.

13. Demonstrate how users can lose metadata by removing a user from a group.

14. Demonstrate that you cannot add a non-existent user to valid group. Demonstrate that you cannot add a valid user to a non-existent group. Demonstrate that you cannot remove a user from a group that they do not belong to.

15. List the members of a group again, to demonstrate how it has changed.

16. **On C2:** Run the client. Provide the correct AS address and port and RS address and port to demonstrate how the user connects the client to the servers. Log in as a normal (non-administrator) user and get a token.

17. Demonstrate whether a non-administrator user can create users.

18. Demonstrate that no resources were uploaded yet by listing the available resources.

19. Demonstrate how resources are uploaded by sharing a resource with the members of a group (or equivalent) that has other users added.

20. Demonstrate that the resource was shared by listing the available resources again.

21. **On C1:** Log out as admin and log in as a non-admin user *other than* the user you logged in as on C2 that has access to the new resource. Connect to servers and get a token.

22. View and/or download the resource shared by the other user in previous steps.

23. Log out and then log in as a user without access to the resource. Demonstrate that you cannot view the resource shared in previous steps.

24. Log out and then log in again as a user with access to the resource (but not the user who uploaded it). Demonstrate the deletion policy by attempting to delete the resource uploaded in the previous steps. Show whether it worked or not.

25. **On C2:** If the non-uploading user was unable to delete the resource, delete it as here as the uploading user.

26. List available resources and demonstrate that the resource has been removed.

27. **On C1:** List the available resources and demonstrate that the resource has been removed for this user, as well.

28. **If you have other features you'd like to demonstrate**, please do so now before we start shutting things down.

29. Cleanly exit the client. Demonstrate that the client disconnects elegantly.

30. **On C2:** Cleanly exit the client. Demonstrate that the client disconnects elegantly.

31. **On RS:** Shut down the resource server. Demonstrate that it exits cleanly and show where the persistent data is stored.

32. **On AS:** Shut down the authentication server. Demonstrate that it exits cleanly and show where the persistent data is stored.