

Test Plan

Overview

There are several scenarios for both the client and the server, particularly green light scenarios and authentication failures involving invalid client private key, client public key, server private key, and server public key, and invalid client name.

Test Case 1: Greenlight on EC2 Instance

Client	Server
In ./Client: Run python3 driver.py	
Expected: Successfully authorized. Server response: test_client_name,<session_key> ec2-52-32-60-227.us-west-2.compute.amazonaws.com>	
Run: ls	
Expected: Server directory listed	
Run: ls ..	
Expected: Server parent directory listed	
Run: pwd	
Expected: /home/ubuntu/CS-475-Assignment-4/Server	
Run: quit	
Expected: Goodbye	

Test Case 2: Greenlight on Tux

Client	Server
	In ./Server: Run python3 driver.py &
	Expected: Started listening on port 13456...
	Run hostname from working directory
Open ./Client/settings.json and change the value of the "serverName" key to hostname (If the Server is running on tux, make sure to run the Client on tux as well)	
In ./Client: Run python3 driver.py	
Expected: Successfully authorized. Server response: test_client_name,<session_key>	Expected: Handling request from <client_hostname> (actual hostname, not clientname)

hostname>	
Run: ls	
Expected: Server directory listed	
Run: ls ..	
Expected: Server parent directory listed	
Run: pwd	
Expected: Working directory printed	
Run: quit	
Expected: Goodbye	
	(Keep Server running)

Test Case 3: Invalid Client Private Key on Tux

Client	Server
In ./Client: Run cp client_private_key.pem backup (Enter y to overwrite if prompted)	
Delete a row from ./Client/client_private_key.pem	
In ./Client: Run python3 driver.py	
Expected: Authentication Failed	
In ./Client: Run cp backup client_private_key.pem (Enter y to overwrite if prompted)	
In ./Client: Run python3 driver.py	
Expected: Successfully authorized. Server response: test_client_name,<session_key> hostname>	Expected: Handling request from <client_hostname> (actual hostname, not clientname)
Run: quit	
Expected: Goodbye	
	(Keep Server running)

Test Case 4: Invalid Client Public Key on Tux

Client	Server
	In ./Server: Run cp client_public_key.pem backup (Enter y to overwrite if prompted)
	Delete a row from ./Server/client_public_key.pem
In ./Client: Run python3 driver.py Expected: Authentication Failed	
	In ./Server: Run cp backup client_public_key.pem (Enter y to overwrite if prompted)
In ./Client: Run python3 driver.py Expected: Successfully authorized. Server response: test_client_name,<session_key> hostname>	Expected: Handling request from <client_hostname> (actual hostname, not clientname)
Run: quit Expected: Goodbye	
	(Keep Server running)

Test Case 5: Invalid Server Private Key on Tux

Client	Server
	In ./Server: Run cp server_private_key.pem backup (Enter y to overwrite if prompted)
	Delete a line from ./Server/server_private_key.pem
In ./Client: Run python3 driver.py Expected: Authentication Failed	
	In ./Server: Run cp backup server_private_key.pem (Enter y to overwrite if prompted)
In ./Client: Run python3 driver.py Expected: Successfully authorized. Server response: test_client_name,<session_key> hostname>	Expected: Handling request from <client_hostname> (actual hostname, not clientname)
Run: quit Expected: Goodbye	
	(Keep Server running)

Test Case 6: Invalid Server Public Key on Tux

Client	Server
In ./Client: Run cp server_public_key.pem backup (Enter y to overwrite if prompted)	
Delete a line from ./Client/server_public_key.pem	
In ./Client: Run python3 driver.py	
Expected: Authentication Failed	
In ./Client: Run cp backup server_public_key.pem	
In ./Client: Run python3 driver.py	
Expected: Successfully authorized. Server response: test_client_name,<session_key> hostname>	Expected: Handling request from <client_hostname> (actual hostname, not clientname)
Run: quit	
Expected: Goodbye	
	<i>(Keep Server running)</i>

Test Case 7: Adding a Second Client

Client	Server
Open ./Client/settings.json and change the value of the "clientName" key to client2	
In ./Client: Run python3 driver.py	
Expected: Authentication Failed	
	In . : Run python3 keygen.py client2private.pem client2public.pem
In . : Run mv client2private.pem Client	
Open ./Client/settings.json and change the value of the "clientPrivateKey" key to client2private.pem	
	In . : Run mv client2public.pem Server
	Open ./Server/clients.json and add the following entry: "client2": "client2public.pem"
In ./Client: Run python3 driver.py	
Expected: Successfully authorized. Server response: client2,<session_key> hostname>	Expected: Handling request from <client_hostname> (actual hostname, not clientname)