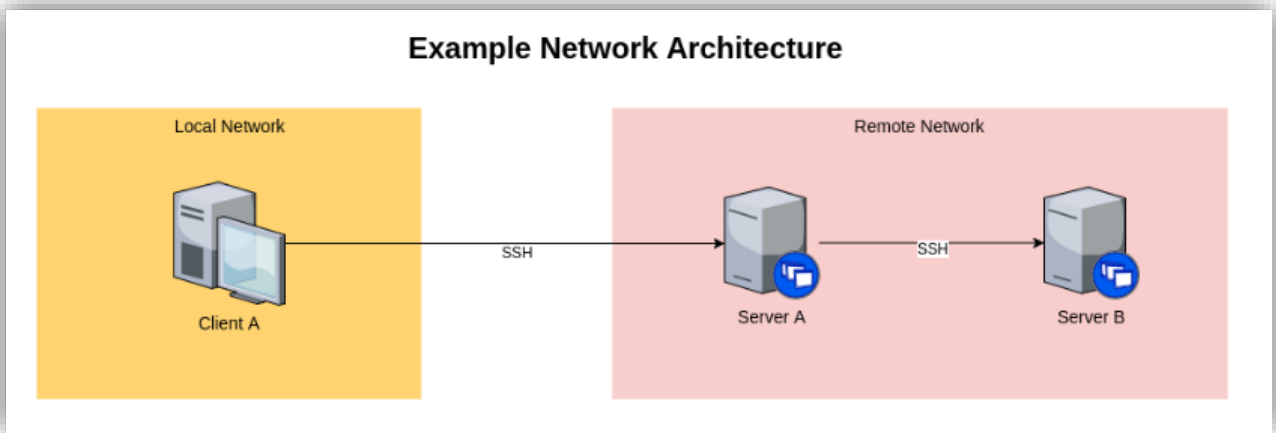


How to access a service running on a remotely unreachable port?

Requirements

- The remote computer must always be connected and have a network connection.
- Client and server (SSH) applications need to be installed and activated.
- You need the IP address or remote machine name to qualify to connect.
- You must have permission to access the remote computer.
- As firewall settings, you must allow a remote connection.
- The server A already has an SSH connection created with server B.

Consider the example below and execute the commands to establish the connection.



- 1- "Provide the set of commands that allow the service to be accessed...Provide a document, in english, explaining each of the commands, their possible outputs":

Run the command:

```
ssh -L local_port: remote_address: remote_port username@remoteserver.com
```

Where:

- ✓ **L:** Local listening side.
- ✓ **Local Port:** Local port that will be used in the tunnel and will be informed in the browser (Client A)
- ✓ **Remote Addresses:** Address of the server you want to access (Server B)
- ✓ **Remote Port:** Port number you want to access (Server B)
- ✓ **username@server.com:** Your user on the remote hop server (Server A)

Example:

Username Server A	Client A	Server A	Server B
joana.lima	192.168.1.20	200.143.150.100	200.143.150.102

Command: `ssh -L 80: 200.143.150.102: 8000 joana.lima@200.143.150.100`

2- "... including failures, and why you chose them"

Possible failures and solutions:

System Log Message:	Connection timed out
Cause:	A connection timeout indicates that the client attempted to establish a network socket to the SSH server, but the server failed to respond within the timeout period.
Action:	<p>Verify that the host IP address is correct.</p> <p>Make sure your network supports connectivity through the SSH port you are using. Some public networks may block port 22 or custom SSH ports.</p> <p>You can do this, for example, by testing other hosts using the same port with a known working SSH server.</p>

System Log Message:	Could not resolve hostname example.com: Name or service not known
Cause:	SSH host can't be mapped to a network address
Action:	<p>Verify the hostname is properly spelled. Typographical errors can strike at any time.</p> <p>Verify that you can resolve the hostname on your client machine using the system ping command.</p> <p>Using third party sites like WhatsMyDns.net to check beyond your own DNS caching can also help confirm the results.</p>

3- How you would change the architecture/solution to provide permanent access, in the case users in Local Network start to perform heavy usage of application in Server B?

A good solution to this would be to use Proxy Command. An excellent explanation of this can be seen at the following link:

https://en.wikibooks.org/wiki/OpenSSH/Cookbook/Proxies_and_Jump_Hosts#ProxyCommand_with_Netcat