Hands-on Lab: Working with Networking Commands

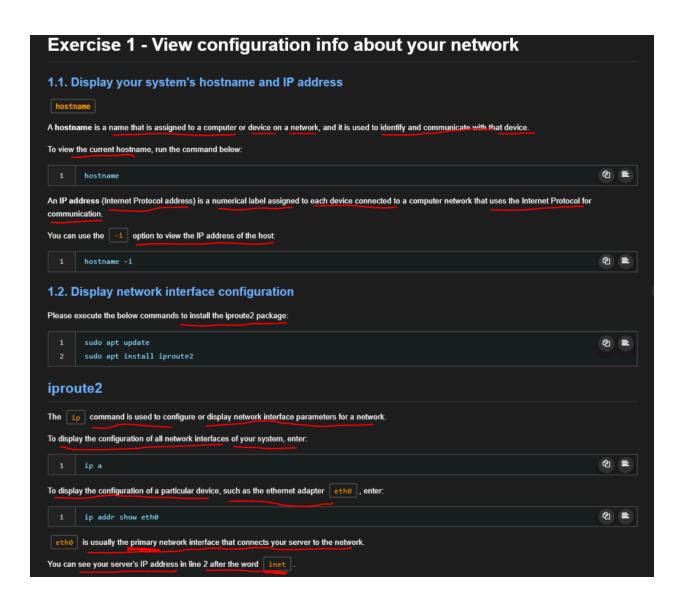


Estimated time needed: 30 minutes

Learning Objectives

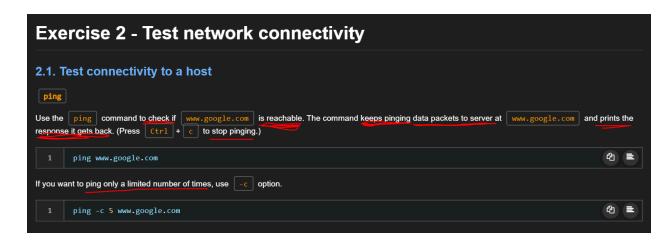
After completing this lab, you will be able to:

- View your network configuration using the hostname and ip commands
- Test a network connection using the ping command
- Transfer data using the curl and wget commands



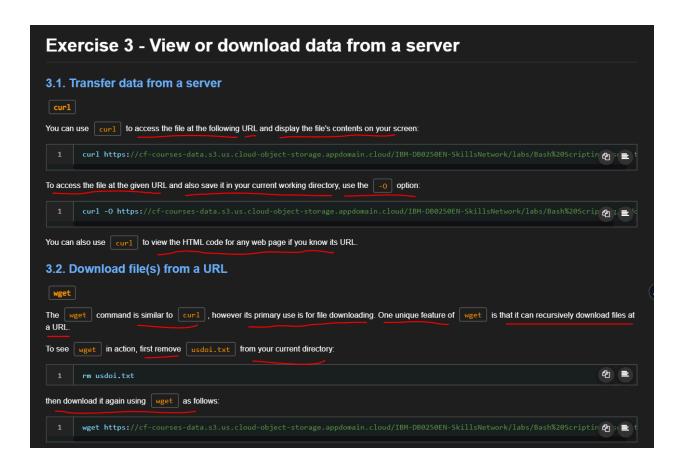
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theia@theia-naimbenalaya: /home/project
                                                   > theia@theia-naimbenalaya: /hor
aya: /home/project
theia@theia-naimbenalaya:/home/project$ hostname
theia-naimbenalaya
theia@theia-naimbenalaya:/home/project$ hostname -i
172.22.185.97
theia@theia-naimbenalaya:/home/project$ sudo apt update
sudo apt install iproute2
Get:2 https://download.docker.com/linux/ubuntu jammy InRelease [48.8 kB]
Get:1 https://apt.llvm.org/jammy llvm-toolchain-jammy-17 InRelease [6833
Get:4 https://deb.nodesource.com/node_20.x nodistro InRelease [12.1 kB]
Get:5 https://download.docker.com/linux/ubuntu jammy/stable amd64 Package
Get:6 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
Get:8 https://apt.llvm.org/jammy llvm-toolchain-jammy-17/main amd64 Packa
Get:9 https://deb.nodesource.com/node 20.x nodistro/main amd64 Packages [
Get:10 https://repo.mongodb.org/apt/ubuntu jammy/mongodb-org/6.0 InReleas
Get:3 https://apache.jfrog.io/artifactory/cassandra-deb 40x InRelease [39
Get:11 https://ppa.launchpadcontent.net/deadsnakes/ppa/ubuntu jammy InRel
Get:12 https://ppa.launchpadcontent.net/mozillateam/ppa/ubuntu jammy InRe
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Get:14 https://repo.mongodb.org/apt/ubuntu jammy/mongodb-org/6.0/multiver
s [99.4 kB]
Get:15 https://ppa.launchpadcontent.net/ondrej/php/ubuntu jammy InRelease
Get:16 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [127 kB
Get:18 https://apache.jfrog.io/artifactory/cassandra-deb 40x/main amd64 P
Get:19 https://ppa.launchpadcontent.net/deadsnakes/ppa/ubuntu jammy/main
33.2 kB]
Get:20 https://repo.mongodb.org/apt/ubuntu jammy/mongodb-org/6.0/multiver
s [96.0 kB]
Get:21 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 k
Get:22 https://ppa.launchpadcontent.net/mozillateam/ppa/ubuntu jammy/main
```

```
theia@theia-naimbenalaya:/home/project$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 10
aa
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: tunl0@NONE: <NOARP> mtu 1480 qdisc noop state DOWN group default qlen 1000
    link/ipip 0.0.0.0 brd 0.0.0.0
3: eth0@if866: <BROADCAST,MULTICAST,UP,LOWER UP> mtu 1480 qdisc noqueue state UP group de
fault qlen 1000
   link/ether 42:24:cd:8c:f9:d7 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 172.22.185.97/32 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::4024:cdff:fe8c:f9d7/64 scope link
       valid_lft forever preferred_lft forever
theia@theia-naimbenalaya:/home/project$ ip addr show eth0
3: eth0@if866: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1480 qdisc noqueue state UP group de
fault qlen 1000
    link/ether 42:24:cd:8c:f9:d7 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 172.22.185.97/32 scope global eth0
     valid_lft forever preferred_lft forever
    inet6 fe80::4024:cdff:fe8c:f9d7/64 scope link
      valid_lft forever preferred_lft forever
theia@theia-naimbenalaya:/home/project$
```



```
b theia@theia-naimbenalaya: /home/project
                                                 theia@theia-naimbenalaya:/home/project$ ping www.google.com
PING www.google.com (142.251.167.103): 56 data bytes
64 bytes from 142.251.167.103: icmp_seq=0 ttl=104 time=2.093 ms
64 bytes from 142.251.167.103: icmp_seq=1 ttl=104 time=1.708 ms
64 bytes from 142.251.167.103: icmp_seq=2 ttl=104 time=1.638 ms
64 bytes from 142.251.167.103: icmp seq=3 ttl=104 time=1.718 ms
64 bytes from 142.251.167.103: icmp seq=4 ttl=104 time=1.582 ms
64 bytes from 142.251.167.103: icmp_seq=5 ttl=104 time=1.593 ms
64 bytes from 142.251.167.103: icmp_seq=6 ttl=104 time=1.712 ms
64 bytes from 142.251.167.103: icmp_seq=7 ttl=104 time=1.874 ms
64 bytes from 142.251.167.103: icmp seq=8 ttl=104 time=1.843 ms
64 bytes from 142.251.167.103: icmp seq=9 ttl=104 time=1.731 ms
64 bytes from 142.251.167.103: icmp seq=10 ttl=104 time=1.725 ms
64 bytes from 142.251.167.103: icmp_seq=11 ttl=104 time=1.786 ms
64 bytes from 142.251.167.103: icmp seq=12 ttl=104 time=1.808 ms
64 bytes from 142.251.167.103: icmp seq=13 ttl=104 time=1.862 ms
64 bytes from 142.251.167.103: icmp_seq=14 ttl=104 time=1.530 ms
64 bytes from 142.251.167.103: icmp_seq=15 ttl=104 time=1.609 ms
64 bytes from 142.251.167.103: icmp_seq=16 ttl=104 time=1.726 ms
64 bytes from 142.251.167.103: icmp_seq=17 ttl=104 time=1.700 ms
64 bytes from 142.251.167.103: icmp_seq=18 ttl=104 time=1.869 ms
64 bytes from 142.251.167.103: icmp seq=19 ttl=104 time=1.768 ms
64 bytes from 142.251.167.103: icmp_seq=20 ttl=104 time=1.761 ms
64 bytes from 142.251.167.103: icmp seq=21 ttl=104 time=1.678 ms
64 bytes from 142.251.167.103: icmp seq=22 ttl=104 time=1.613 ms
64 bytes from 142.251.167.103: icmp_seq=23 ttl=104 time=1.830 ms
64 bytes from 142.251.167.103: icmp_seq=24 ttl=104 time=1.649 ms
64 bytes from 142.251.167.103: icmp_seq=25 ttl=104 time=1.736 ms
64 bytes from 142.251.167.103: icmp_seq=26 ttl=104 time=1.571 ms
64 bytes from 142.251.167.103: icmp_seq=27 ttl=104 time=1.676 ms
64 bytes from 142.251.167.103: icmp_seq=28 ttl=104 time=1.834 ms
64 bytes from 142.251.167.103: icmp_seq=29 ttl=104 time=1.681 ms
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64 bytes from 142.251.167.103: icmp_seq=76 ttl=104 time=1.634 ms
64 bytes from 142.251.167.103: icmp_seq=77 ttl=104 time=1.778 ms
64 bytes from 142.251.167.103: icmp_seq=78 ttl=104 time=1.751 ms
64 bytes from 142.251.167.103: icmp_seq=79 ttl=104 time=1.736 ms
64 bytes from 142.251.167.103: icmp_seq=80 ttl=104 time=1.831 ms
^C--- www.google.com ping statistics ---
81 packets transmitted, 81 packets received, 0% packet loss
round-trip min/avg/max/stddev = 1.521/1.728/2.093/0.103 ms
theia@theia-naimbenalaya:/home/project$ ping -c 5 www.google.com
PING www.google.com (142.251.167.103): 56 data bytes
64 bytes from 142.251.167.103: icmp_seq=0 ttl=104 time=2.364 ms
64 bytes from 142.251.167.103: icmp_seq=1 ttl=104 time=1.598 ms
64 bytes from 142.251.167.103: icmp_seq=2 ttl=104 time=1.746 ms
64 bytes from 142.251.167.103: icmp_seq=3 ttl=104 time=1.885 ms
64 bytes from 142.251.167.103: icmp_seq=4 ttl=104 time=1.864 ms
--- www.google.com ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max/stddev = 1.598/1.891/2.364/0.257 ms
```

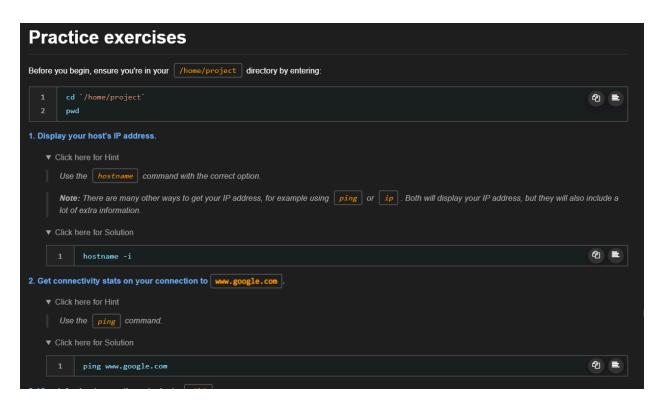


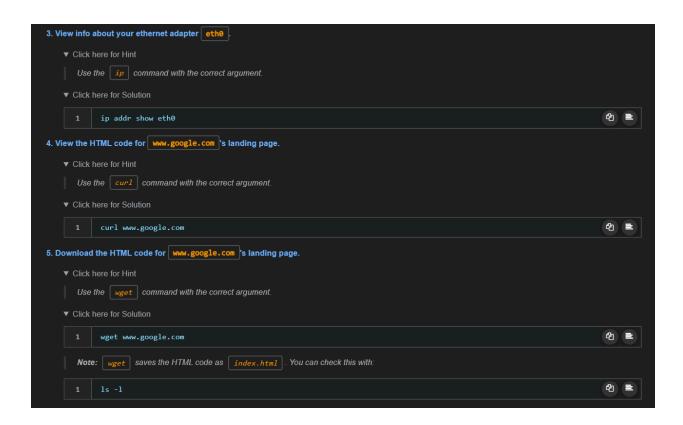
aya: /home/project × 🕥 theia@theia-naimbenalaya: /home/project

theia@theia-naimbenalaya:/home/project\$ curl https://cf-courses-data.s3.us.cloud-object-s torage.appdomain.cloud/IBM-DB0250EN-SkillsNetwork/labs/Bash%20Scripting/usdoi.txt The unanimous Declaration of the thirteen united States of America, When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.--That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, --That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes; and accordingly all experience hath shewn, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security.--Such has been the patient sufferance of these Colonies; and such is now the necessity which constrains them to alter their former Systems of Government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having in direct object the establishment of an absolute Tyranny over these States. To prove this, let Facts be submitted to a candid world.

Colonies are, and of Right ought to be Free and Independent States; that they are Absolved from all Allegiance to the British Crown, and that all political connection between them and the State of Great Britain, is and ought to be totally dissolved; and that as Free and Independent States, they have full Power to levy War, conclude Peace, contract Alliances, establish Commerce, and to do all other Acts and Things which Independent States may of right do. And for the support of this Declaration, with a firm reliance on the protection of divine Providence, we mutually pledge to each other our Lives, our Fortunes and our sacred Honor. theia@theia-naimbenalaya:/home/project\$ curl -0 https://cf-courses-data.s3.us.cloud-objec t-storage.appdomain.cloud/IBM-DB0250EN-SkillsNetwork/labs/Bash%20Scripting/usdoi.txt % Total % Received % Xferd Average Speed Time Time Time Current Dload Upload Total Left Speed Spent 100 8121 100 8121 0 87024 0 --:--: 87322 0 theia@theia-naimbenalaya:/home/project\$ rm usdoi.txt theia@theia-naimbenalaya:/home/project\$ wget https://cf-courses-data.s3.us.cloud-object-s torage.appdomain.cloud/IBM-DB0250EN-SkillsNetwork/labs/Bash%20Scripting/usdoi.txt -2025-06-30 19:09:06-- https://cf-courses-data.s3.us.cloud-object-storage.appdomain.clo ud/IBM-DB0250EN-SkillsNetwork/labs/Bash%20Scripting/usdoi.txt Resolving cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud (cf-courses-data.s3. us.cloud-object-storage.appdomain.cloud)... 169.63.118.104, 169.63.118.104 Connecting to cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud (cf-courses-data .s3.us.cloud-object-storage.appdomain.cloud)|169.63.118.104|:443... connected. HTTP request sent, awaiting response... 200 OK Length: 8121 (7.9K) [text/plain] Saving to: 'usdoi.txt' usdoi.txt in 0s 2025-06-30 19:09:06 (3.27 GB/s) - 'usdoi.txt' saved [8121/8121] theia@theia-naimbenalaya:/home/project\$





Summary

In this lab, you learned how to:

- View your network configuration using the hostname and ip commands
- Transfer data using the curl and wget commands