**UD10. 1 Activities**

**Exercise 1**

**You have to indicate which commands you must use to carry out the following instructions. If there is a command that is not in the Aules documentation, you have the task of looking for it.**

The network interface name to use in the commands will be eth0 or <interface>.

**1. Display information for all network interfaces: “**ip a” *or* “ip addr show”

**2. Display information for a specific network interface: “**ip a show eth0” *or “*ip a list eth0”

**3. Assign an IP address to a network interface:** “ip a add <address/mask> dev <interface>”

**4. Remove an IP address from a network interface:** “ip a del <address> dev <interface>”

**5. Set a static route:** “ip route add <ip/mask> via <gatewayIP>” *or* “ip route add <ip/mask> dev <interface>”

**6. Show the current routes:** “ip r” *or* “ip route show”

**7. Ping a host :** “ping <destination>” 🡪 ex: ping www.google.es // ping 216.239.38.120

**8. Specify the number of packets to send:** “ping -c <number> <destination>”

**9. Specify the packet size:** “ping -s <packetsize> <destination>” 🡪 the default packet size is 56 data bytes.

**10. Perform a continuous ping:** “ping <destination>”

**11. Display detailed information for each packet:** “ping -D <destination>” 🡪 -v gives verbose output for each packet, including round-trip times, TTL and other details.

**Exercise 2**

**You have to indicate which commands you must use to carry out the following instructions. If there is a command that is not in the Aules documentation, you have the task of looking for it.**

**1. Start a ssh session with a specific user and remote host:** “ssh <user>@<IP or domain>”

**2. Specify a different port than the default (22):** “nano /etc/ssh/sshd\_config” to edit the ssh\_config file. Then, where it says “#Port22”, delete the # and change the 22 to the desired new port.

ssh -p <portnumber> <user>@<domain>

**3. Start a ssh session with a private key:** “ssh -i /pathToPrivateKey <user>@<IP or domain>”

**4. Run a command on a remote server and exit immediately after:** “ssh -t -q <user>@<IP or domain> <command>”

**Exercise 3**

**You have to indicate which commands you must use to carry out the following instructions. If there is a command that is not in the Aules documentation, you have the task of looking for it.**

**1. Connect to a remote server:** “sftp <user>@<IP or domain>”

**2. Download a file from the remote server:** “get <remoteFile>”

**3. Load a file in the remote server:** “put <localFile>”

**4. List the file in the remote folder:** “ls <path>” or just “ls”

**5. Navigate the remote folder “computer-systems-remote”:** “cd computer-systems-remote”

**6. Exit the connection to the remote server:** “exit”

**UD10. 2 Activities**

**1. CURL**

**Part 1**

**Specify the CURL command to retrieve the post with the id 5 from jsonplaceholder remembering that the URL for it is https://jsonplaceholder.typicode.com/posts**

“curl https://jsonplaceholder.typicode.com/posts/5”

**Part 2**

**Specify the CURL commands to create a post in jsonplaceholder and, after it, retrieve it. This is the documentation for it:** [**https://jsonplaceholder.typicode.com/guide/**](https://jsonplaceholder.typicode.com/guide/)

To post a new post:

“curl -X POST -H “Content-Type: application/json” -d ‘{“title”: “Mi nuevo post”, “body”: “Este es mi nuevo post”, “userId”: 1}’ https://jsonplaceholder.typicode.com/posts”

Aparece el post creado, y también el id asignado. Para recuperar el post, tenemos que usar ese id en el comando curl. En este caso, el id asignado ha sido 101.

**After it, the answer will specify the id of the newly created post. To retrieve it, you can use the command** **of Part 1 changing the id to the one answered by the server.**

“curl https://jsonplaceholder.typicode.com/posts/101”

**Part 3**

**Delete the post that you previously created in the part 2. Specify the CURL command to do it.**

“curl -X DELETE https://jsonplaceholder.typicode.com/posts/101

**2. WGET**

**Part 1**

**Try to download the posts from jsonplaceholder using wget. Specify which command would you need to do it.**

“wget https://jsonplaceholder.typicode.com/posts

**Part 2**

**Try to download the post with id 5 from jsonplaceholder using wget. Specify which command would you need to do it.**

“wget https://jsonplaceholder.typicode.com/posts/5”

**Part 3**

1. **How can you create a post using wget?**

“wget --post-file=data.json https://jsonplacehlder.typicode.com/posts”

“wget --post-data=”contenido a postear” https://jsonplacehlder.typicode.com/posts”

1. **Which are the differences between wget and curl?**

* The main difference is that WGET only works with HTTP and FTP, whereas CURL works with many different protocols and their specificities.
* wget is not as flexible or commonly used as Curl to send data to servers.
* wget is primarily used to download files from Internet, not to create posts, wheres curl is more flexible for interacting with web services, since it supports various protocols (HTTP, HTTPS, FTP, etc)
* wget lacks native support for sending HTTP POST requests, wheres curl supports multiple HTTP methods like POST, GET, PUT, DELETE…

**3. WGET II**

**Try to download the whole old spacejam website using WGET. You will try to look at the arguments you can specify to achieve it. The URL of the old website is the next one:** **https://www.spacejam.com/1996/**

“wget --recursive <https://www.spacejam.com/1996/>”

Mirar solución de Aules

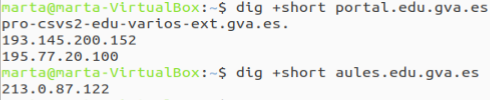
**4. DIG**

**Part 1**

**Specify the command to get ONLY the IP that resolves of the domain name “portal.edu.gva.es” and “aules.edu.gva.es”. Do they have the same or different IPs? What does that mean?**

“dig +short portal.edu.gva.es”

“dig +short aules.edu.gva.es”



They have different Ips. It means that they are hosted on different servers, or that they have different IP configurations.

**They are not the same, because they are being hosted in different servers.**

**Part 2**

**Specify the command to get the path that the DNS query takes from the local machine to the authorative DNS server for the domains “portal.edu.gva.es” and “aules.edu.gva.es”.**

**Are they the same? What does that mean?**

Instalar traceroute antes de usar los comandos:

“sudo apt install traceroute”

“dig +trace portal.edu.gva.es”

“dig +trace aules.edu.gva.es”

**Part 3**

**1. Edit the file at /etc/resolv.conf and set the first nameserver to the address 8.8.8.8**

“sudo nano /etc/resolv.conf”

**2. Repeat the dig trace.**

“dig +trace portal.edu.gva.es” and “dig +trace aules.edu.gva.es”

**3. Is it different from before? Do you know what’s happening?**

I don’t know.

**Part 4**

**1. Modify your hosts file so the domain aules.edu.gva.es is mapped to the address 127.0.0.1.**

“sudo nano /etc/hosts”

cambiar el “localhost” y escribir “aules.edu.gva.es”

guardar y salir

**2. Try the dig again to checkout if it works.**

Sale lo mismo que antes.

**3. Try to access aules. What’s happening?**

No se puede conectar.

The request is directed to the loopback interface of the computer.

**5. RSYNC**

**Part 1**

**Specify the command to synchronize in your local folder** **/home/youruser/backupsamba a samba that it’s mounted in the path /mnt/remotesamba/.**

“rsync /mnt/remotesamba/ /home/youruser/backupsamba”

**Part 2**

**Specify the command to synchronize in your local folder “/****home/youruser/remotejohn” a remote folder accessible through ssh in the path “/home/john/files” if the IP of the computer is 172.21.17.45.**

“rsync [john@172.21.17.45:/home/john/files](mailto:john@172.21.17.45:/home/john/files) /home/youruser/remotejohn”

“-e ssh” specifies the remote shell to use (SSH in this case)

optionally we can add “-avz” in front of “-e ssh”

-a 🡪 archive mode: preserves permissions, ownerships, timestaps, etc.

-v 🡪 Verbose mode: provides more detailed output during sync.

-z 🡪 compress file data during the transfer to reduce the amount of data sent over the network.