

## 1. LOCAL SERVER ENVIROMENT

### TWO VM MACHINES

UBUNTU SERVER

IP = 10.0.2.17

USERNAME = ubuntu

PASSWORD = ubuntu

WINDOWS SERVER 2022

IP = 10.0.2.16

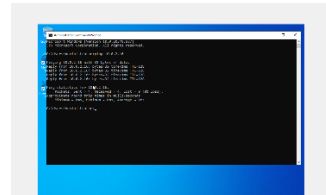
USERNAME = Administrator

PASSWORD = HSC@Server

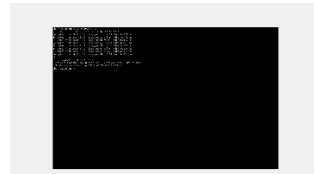
### PING

Set up Nat Network for both VM's

Windows Server 2022 → COMMAND = ping 10.0.2.17



Ubuntu Server → COMMAND = ping 10.0.2.16



### SHARED FOLDER

Ubuntu Server

Terminal Commands → `sudo apt update && sudo apt upgrade -y && sudo apt autoremove -y && sudo apt autoclean -y`

`sudo apt install smbclient && sudo apt install cifs-utils`

Windows Server →

Download SMB 1.0/cifs file sharing support in server manager at roles and features

win key + R , type in secpol.msc . Go to Local Policies - > Security Options - scroll till you see Network Security LAN Manager authentication level click and select 'send LM & NTLM responses' -> scroll up to Network access sharing and security model for local accounts & select classic 'local users authenticate as themselves

win key + R type in regedit -> select HKEY\_LOCAL\_MACHINE -> SYSTEM -> CurrentControlSet -> Control -> Lsa under Lsa click LmCompatibilityLevel & make sure Value data is set to 0

## REBOOT WINDOWS SERVER

win + R type in C: click enter -> make a new file called test -> go into test file and create text document -> go back to test file right click on it and then select properties -> sharing -> click sharing and click share -> click on test and click on done

## Ubuntu Server →

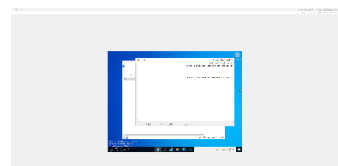
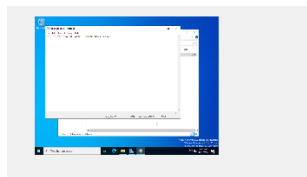
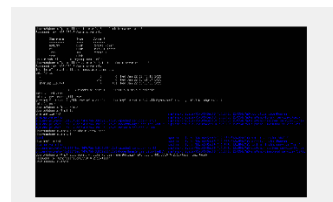
### SHARED FOLDER

Terminal -> smbclient -L 10.0.2.16 -U Administrator -p 445 (this is to test if last processes worked) -> smbclient //10.0.2.16/test -U Administrator -p 445 -> connected to windows SMB ' File Sharing ' -> type in ls -> you should see the text document created in the test folder -> lcd /tmp/ -> get sharingFile.txt -> exit

cat /tmp/sharingFile.txt -> mkdir /tmp/Jacob -> sudo mount -t cifs -o username=Administrator,port=445 //10.0.2.16/test /tmp/Jacob -> cd /tmp/Jacob -> ls -> sudo nano sharingFile.txt.txt -> enter ubuntu Line

## Windows Server 2022 →

win + R type in c: -> click on test -> click on sharingFile.txt and BOOM SHARED FOLDER ACCESS BETWEEN TWO GUEST VM OPERATING SYSTEMS



## 2. SERVER CONFIGURATION AND SECURITY

### Ubuntu server

### UFW FIREWALL

Terminal → `sudo apt install ufw -> sudo systemctl start ufw` (NO CONFIGURATION NEEDED FOR CHALLENGE)



Windows Server 2022 →

### SSH-KEY-BASED AUTHENTICATION

Download Putty & Puttygen -> generate private and public keys -> copy private key to a Documents folder and copy the public key to file named pubkey & put it in smb share file -> log onto ubuntu machine

Ubuntu Server

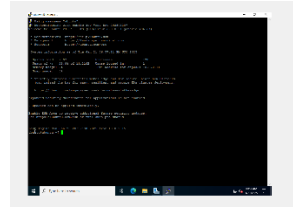
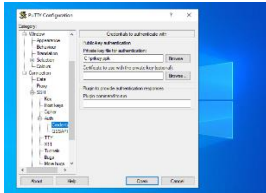
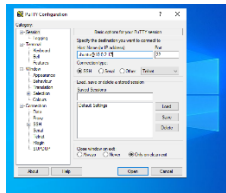
Terminal → `sudo apt install ssh` (this is so you get the right config file `sshd_config` to configure keys)

Go to smb shared folder and type in -> get pubkey.. -> put pub key in .ssh directory + `cp pubkey ~/.ssh`  
-> go to .ssh directory and type in + `cat pubkey >> authorized_keys` -> cat authorized keys & make sure you have the proper public keys . `cd /etc/ssh/ -> sudo nano sshd_config -> uncomment PermitRootLogin and put prohibit-password in front of it , uncomment passwordAuthentication and put no in front of it, uncomment PubKeyAuthentication make it equal to yes . save file -> sudo systemctl restart ssh`



Windows →

load up putty and type in `ubuntu@10.0.2.17` dont click open -> scroll to ssh -> Auth -> credentials -> click on browse for private key file for authentication -> plug in private key -> click open -> save session & name it for future purposes -> BOOM SSH Key based authentication !!

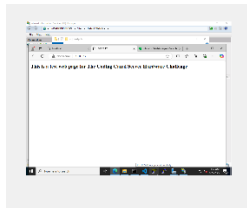


## Ubuntu Server

### APACHE

Terminal → `sudo apt install apache2` -> `sudo systemctl start apache2` -> `cd /var/www/html` -> `sudo nano index.html` -> code a simple webpage etc -> `sudo systemctl restart apache2`

Type in Ubuntu Server IP : 10.0.2.17

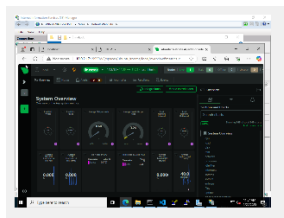


## Ubuntu Server

### NETDATA

Terminal → `sudo apt install netdata` -> `sudo nano /etc/netdata/netdata_conf` -> change ip to ubuntu server IP -> `sudo systemctl restart netdata` -> make sure netdata is running + `sudo systemctl status netdata` -> if not `sudo systemctl start netdata`

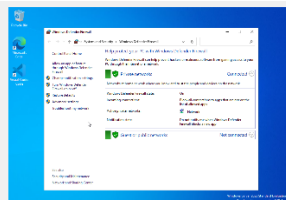
go to 10.0.2.17:19999



## Windows Server

### FIREWALL

Search → Windows Firewall -> make sure it is active (NO CONFIGURATION NEEDED FOR CHALLENGE)

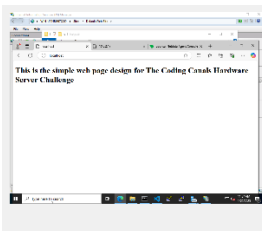


Windows Server →

## IIS WEBSITE

download iis web server in server manager

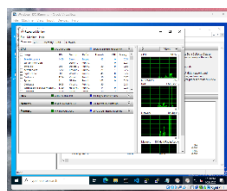
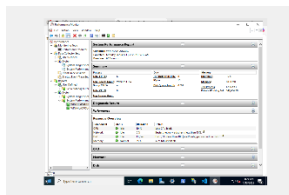
load up internet information services manager -> click on default web site and click on default document and move index.html to top by right clicking on file and selecting move up - > make a index.html file to show test code ( HTML test etc... ) (download vss code to do so) (download html plugin) make file and save it to c:\inetpub\wwwroot -> Directory browsing + enable -> done



Windows Server 2022 →

## PERFORMANCE MONITOR

Search Windows Performance Monitor -> click System + enable

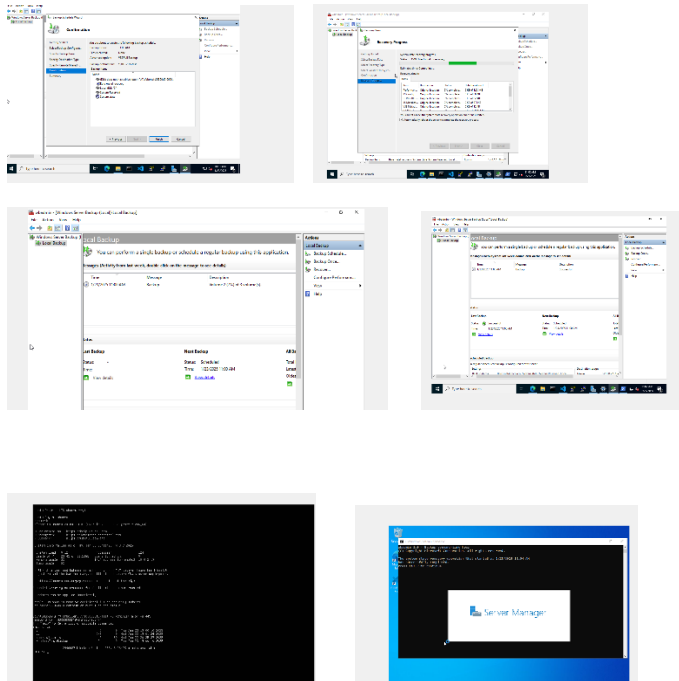


Windows Server 2022 →

## WINDOWS SERVER BACKUP

Install Windows Server backup feature option

Data Backup schedule/Retention Policy - > Once per day at 11:00am

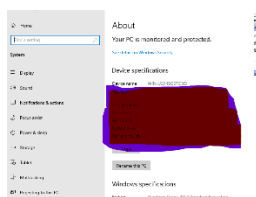
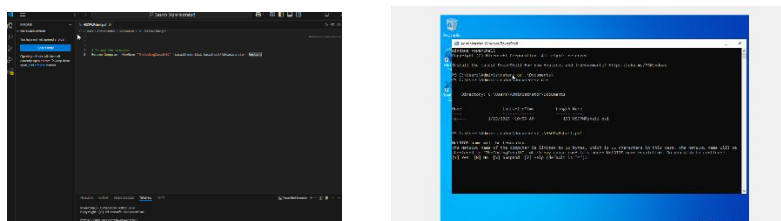


### 3. AUTOMATION AND DOCUMENTATION

Windows Server 2022 →

#### POWERSHELL SCRIPTS FOR WINDOWS CONFIGURATION

Load VsCode -> download PowerShell plugin -> make power shell script for windows configuration - > save file - > open PowerShell terminal as administrator - > load power shell file and run it



Device specifications

Device name TheCodingCanalHSC

Processor

Installed RAM

Device ID

Product ID

System type

Pen and touch