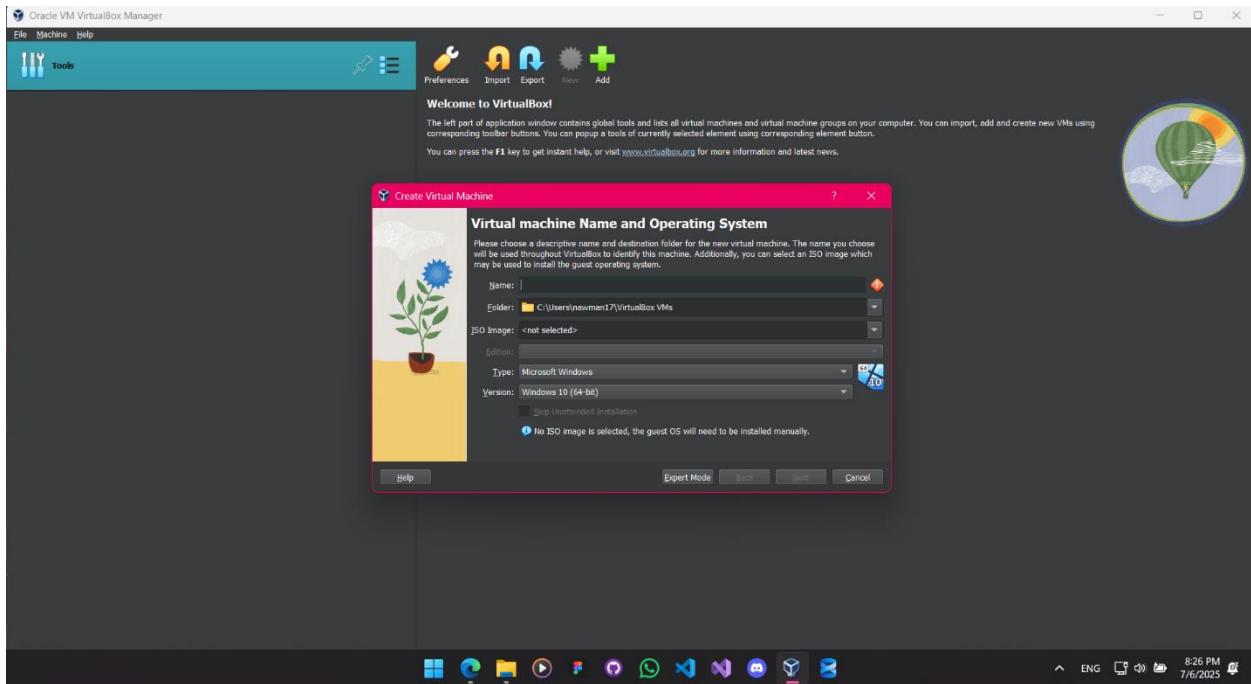


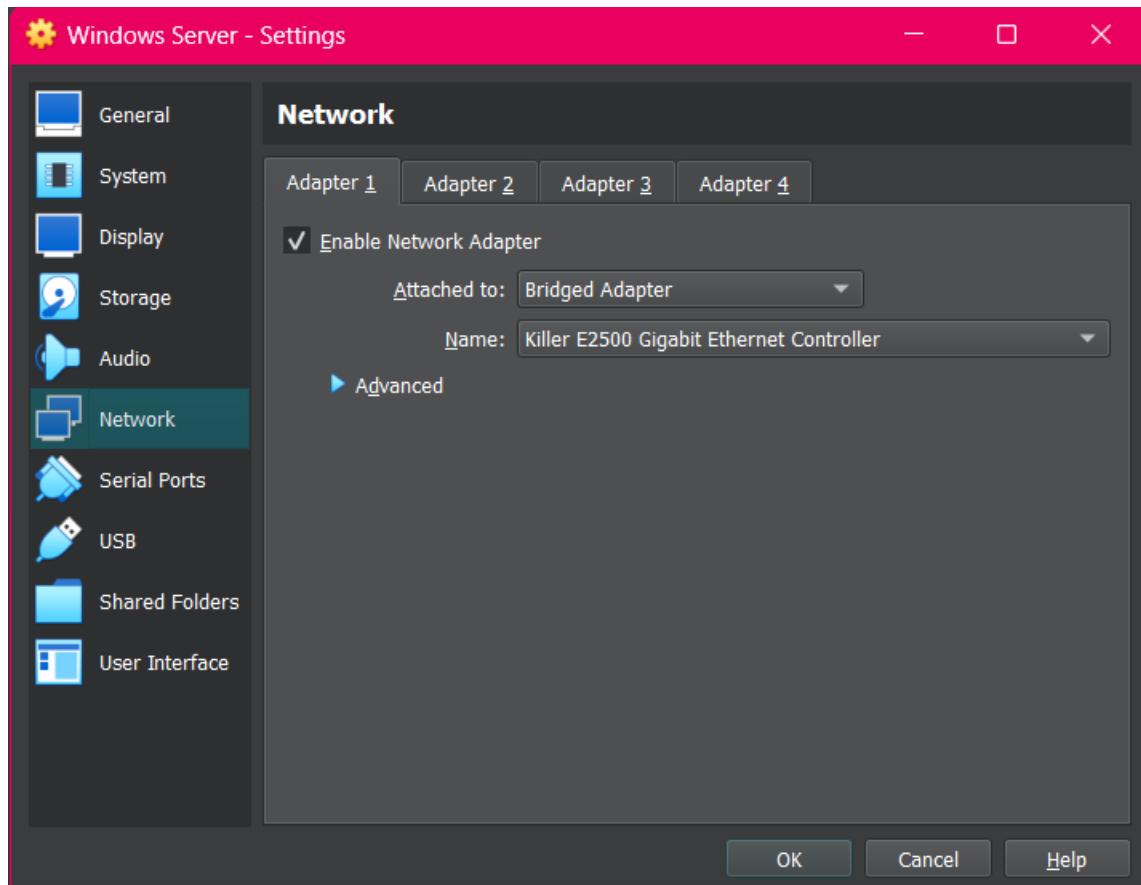
Active Directory and a Website on Windows Server Project - Lab

1. Home Lab Requirements

- Oracle VM VirtualBox / VMware
- 2 VMs:
 - Windows Server 2019/2022 (Domain Controller + Website)
 - Windows 10/11 (Client machine)
- Internal Network via NAT or Bridged Adapter
- Static IP setup on Server VM



Creating Virtual Machine on Oracle VM



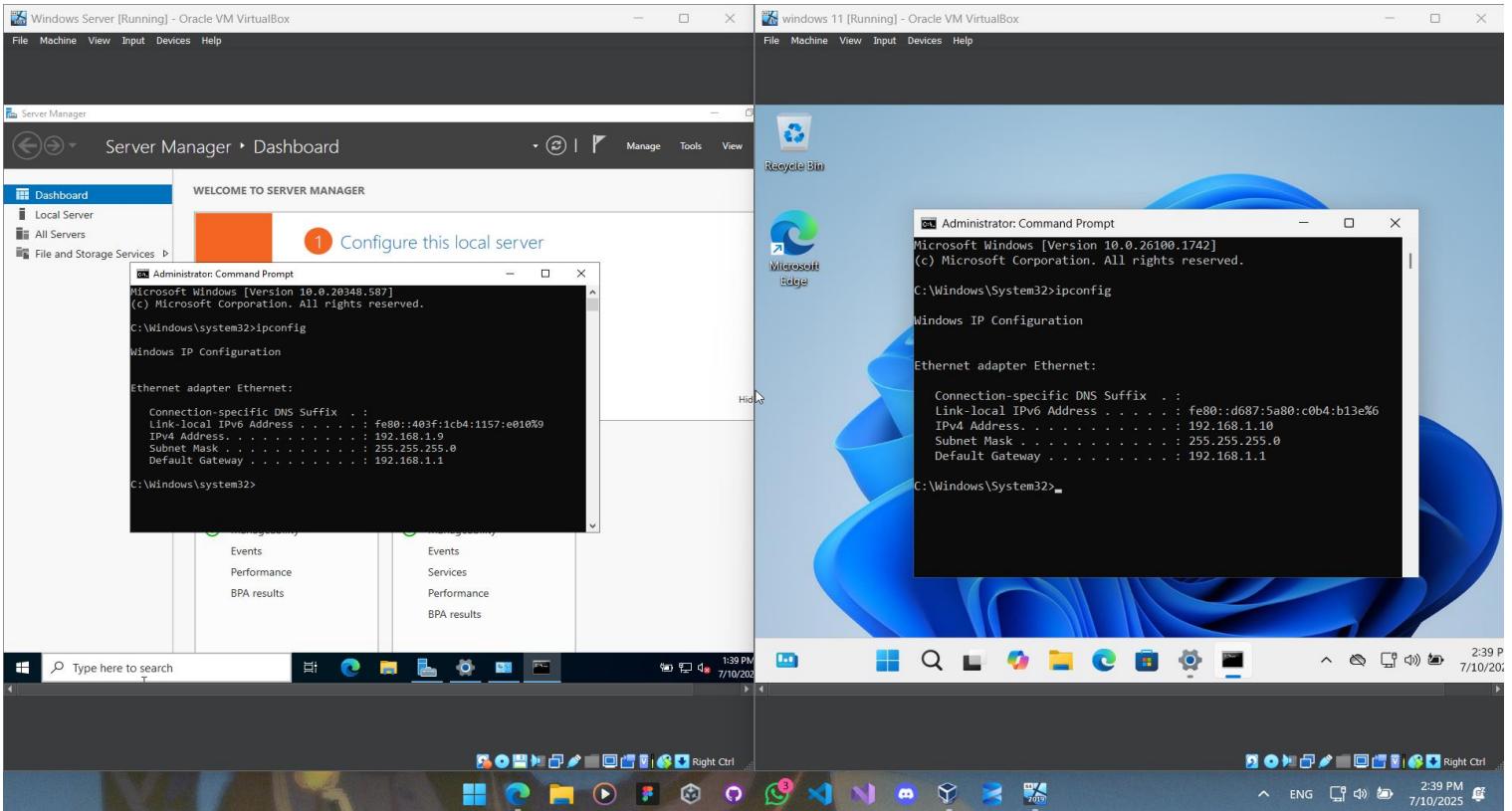
Put both VMs on the same network
(Bridged Adapter)

2. Inside each VM:

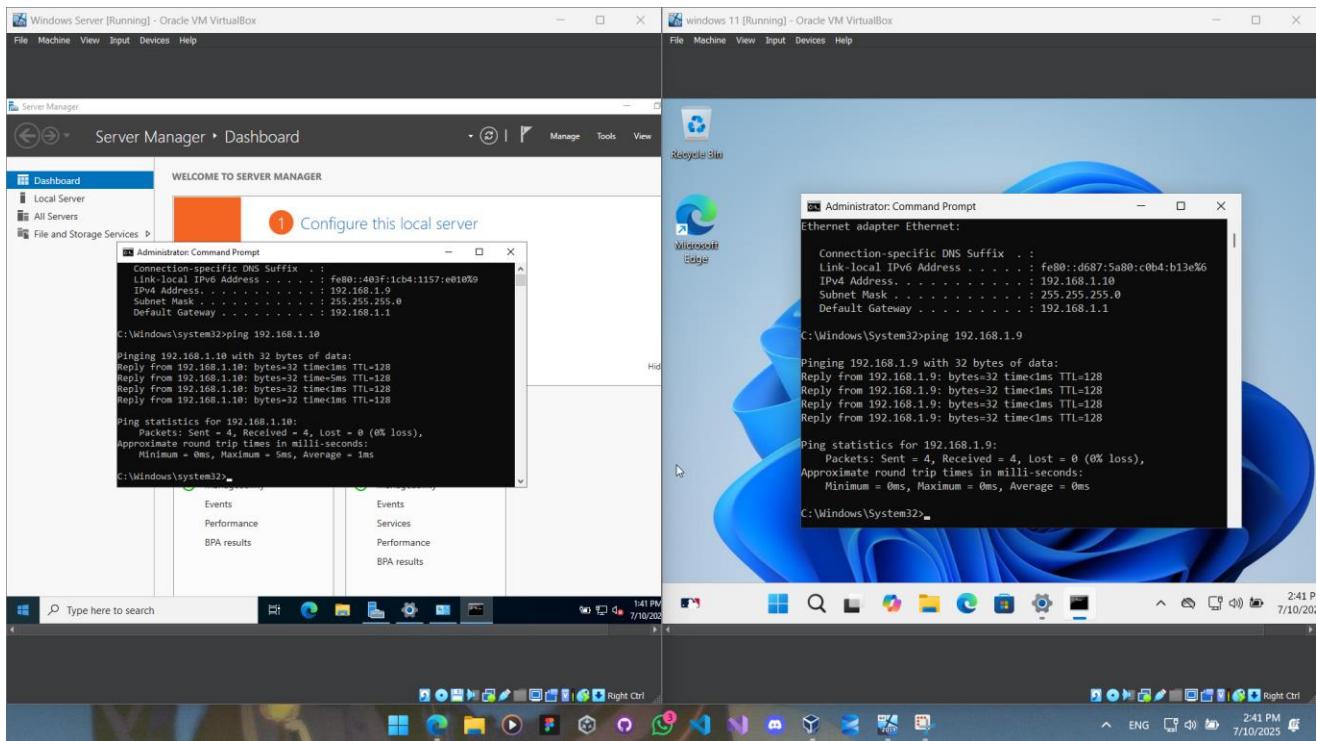
- On Window Server open CMD write this line

>ipconfig

>ping <192.168.1.10> ← This Staff computer Ip



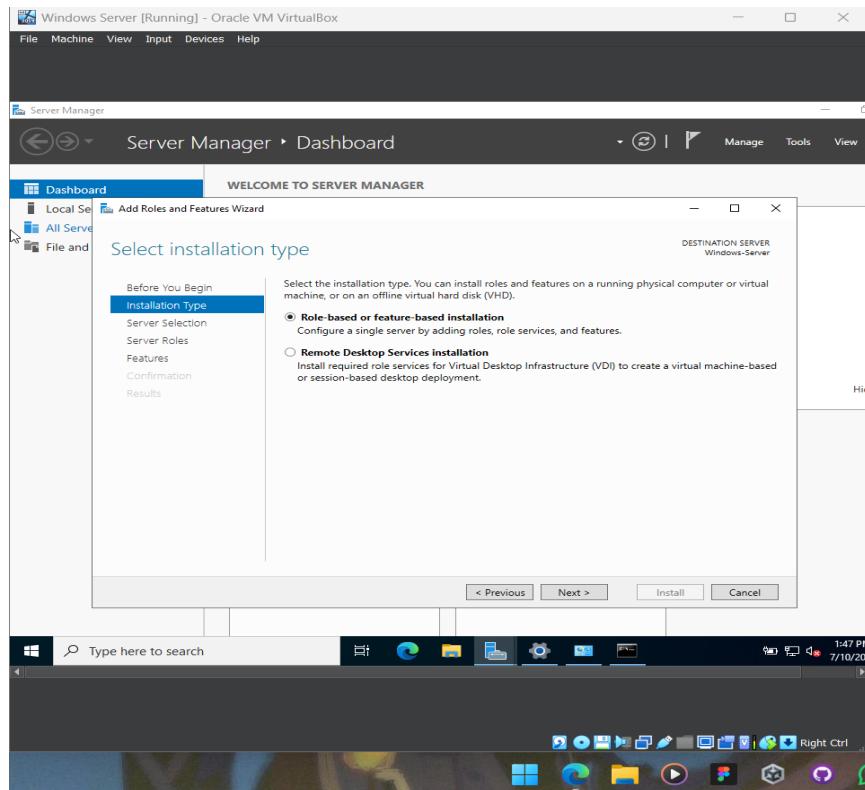
Ipconfig on both machine

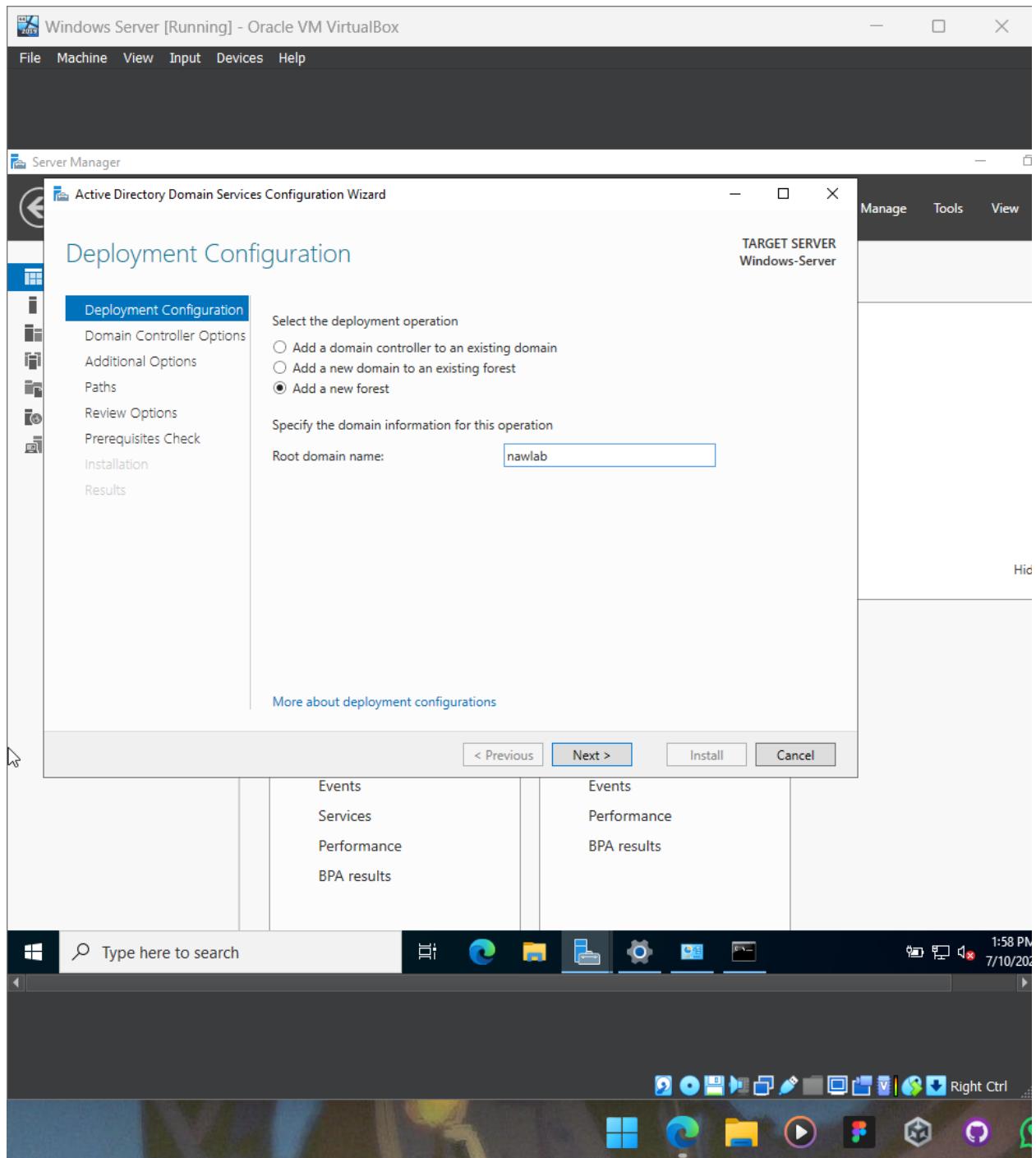


ping each other to check

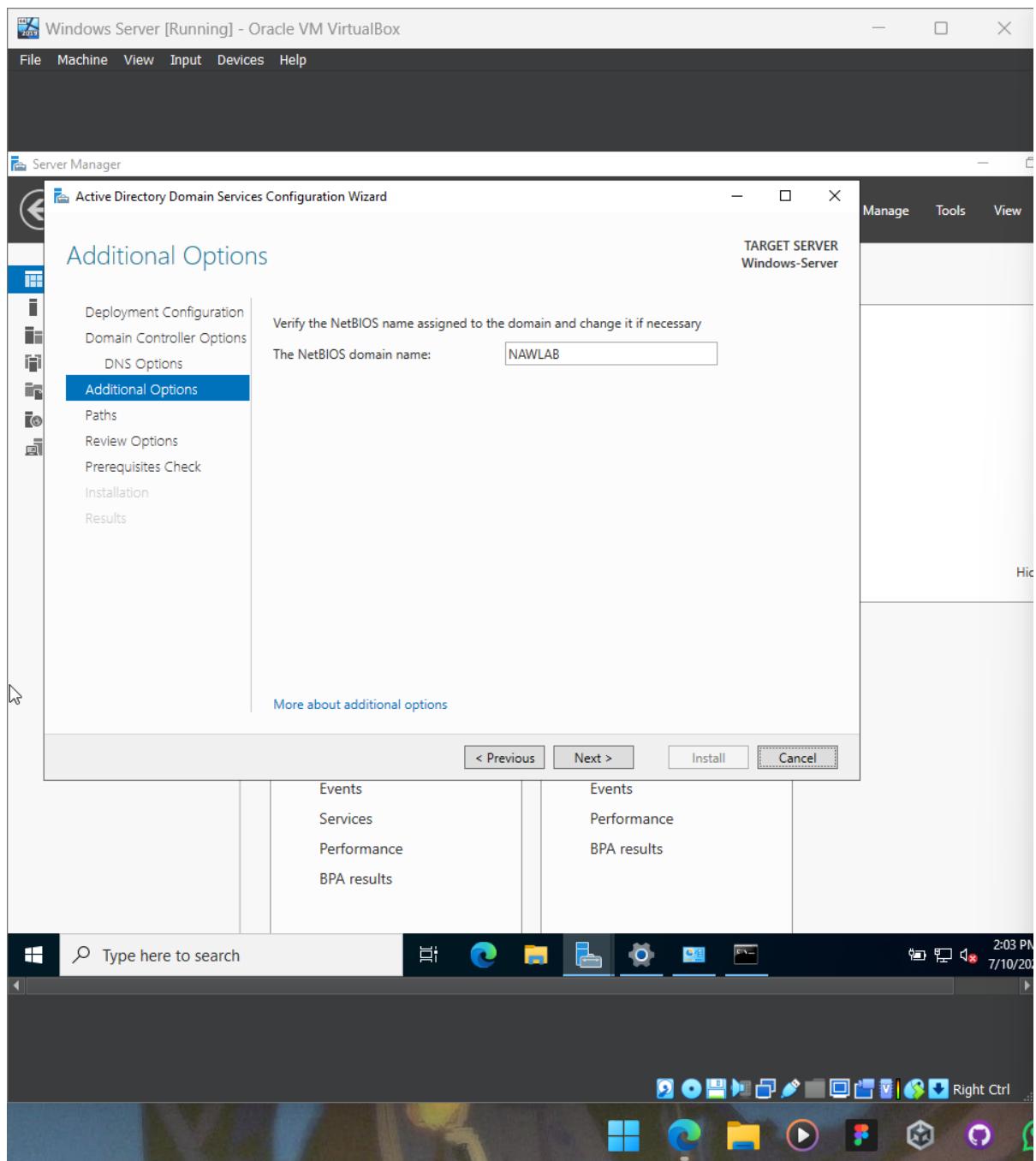
3. Promote Server to Domain Controller:

- Open Server Manager
- Click “Add Roles and Features”
 - i. Install:
 1. Active Directory Domain Services
- After install, click Promote this server to a domain controller
- Choose “Add new forest”
- Root domain: nawlab.local (or your own)
- Set DSRM password

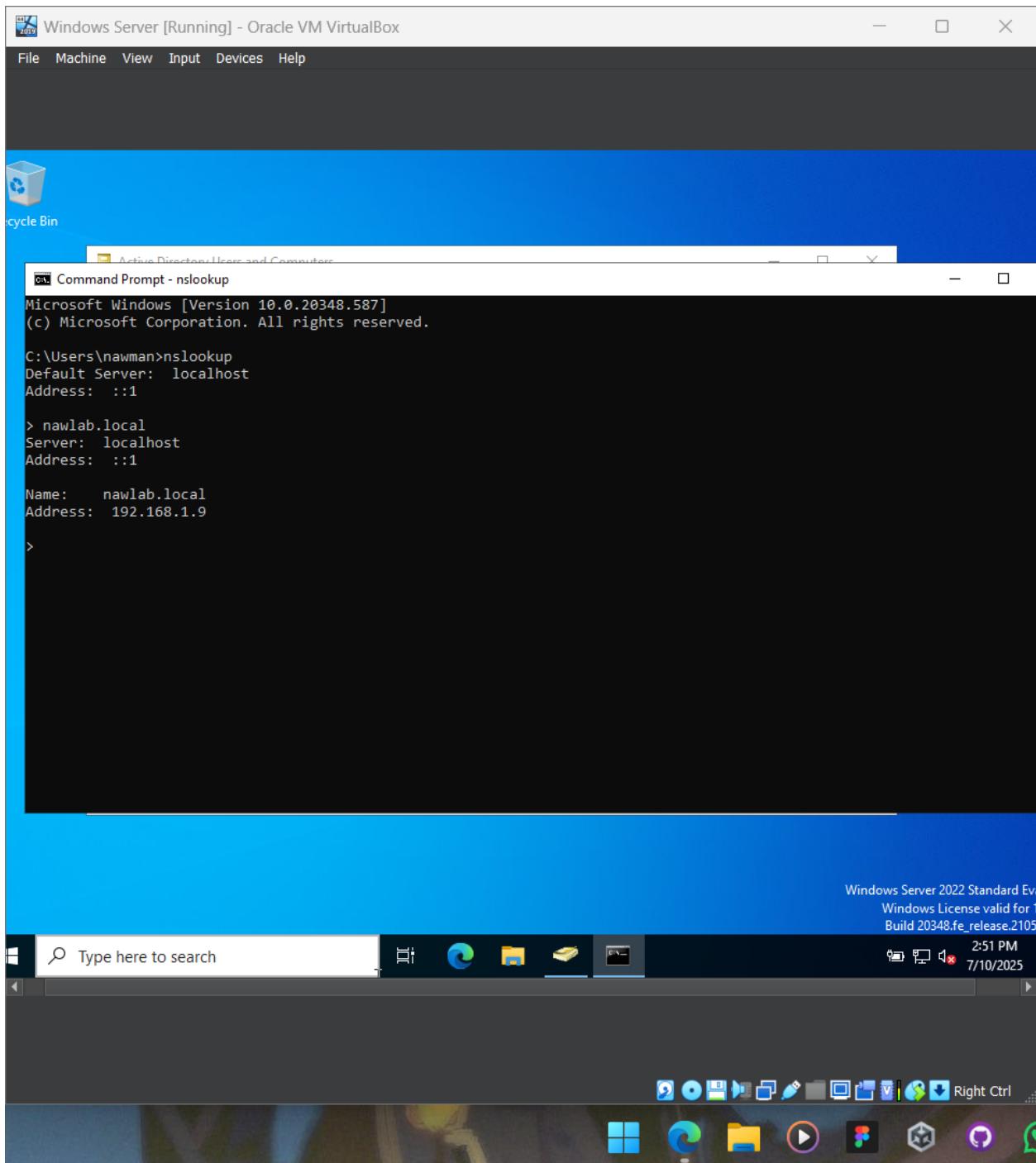




Setup Domain name and
password

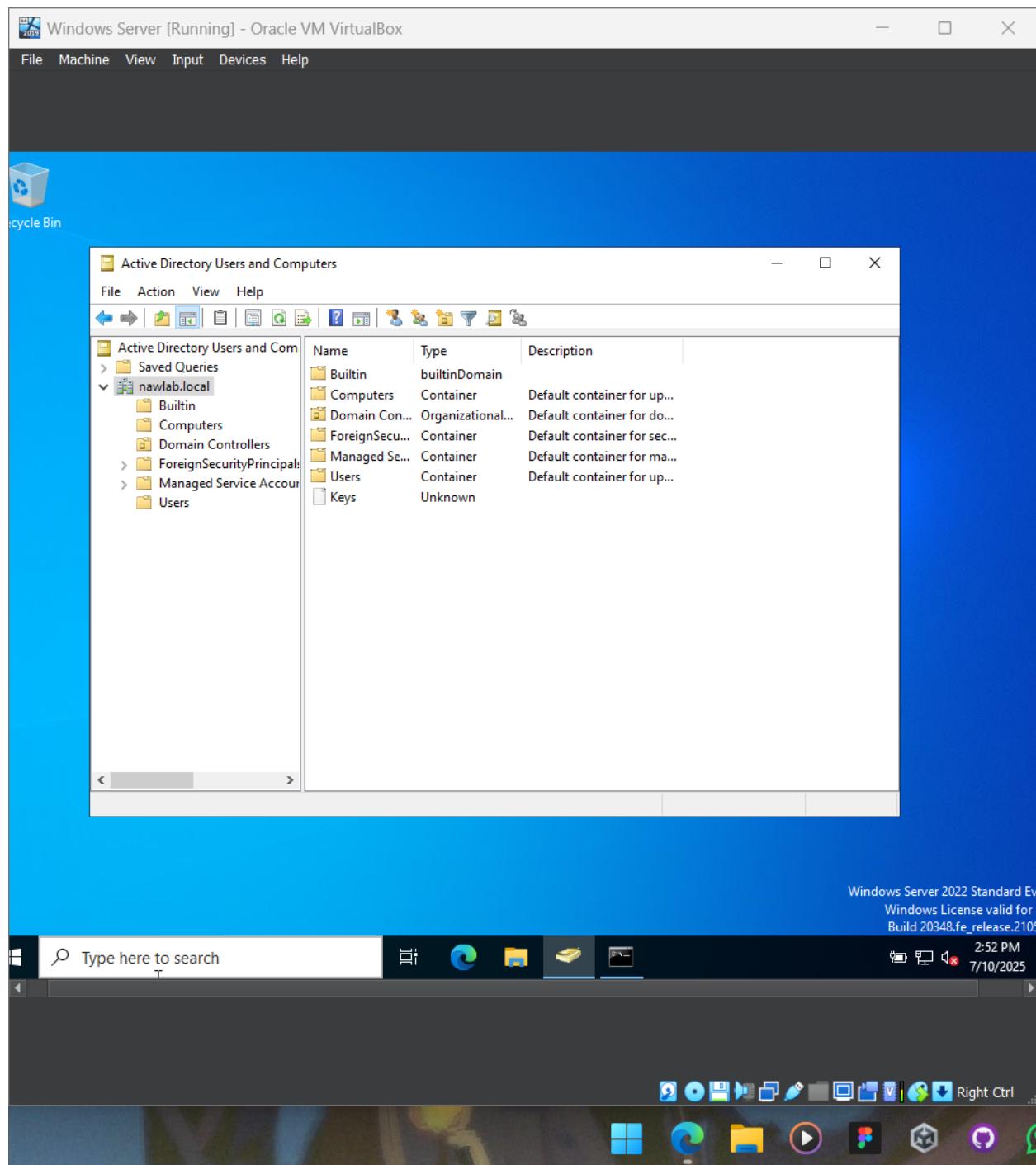


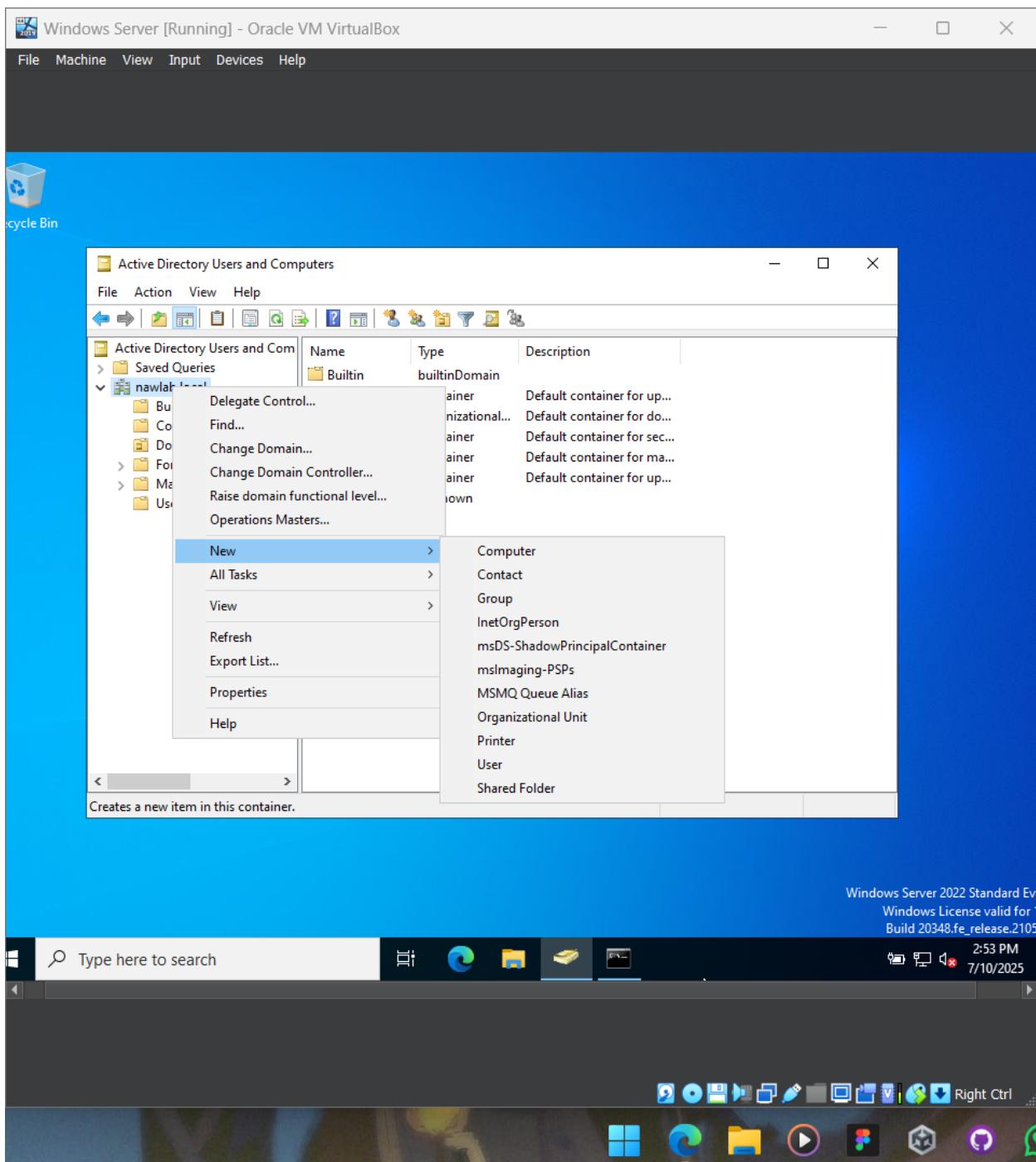
4. Setup DNS



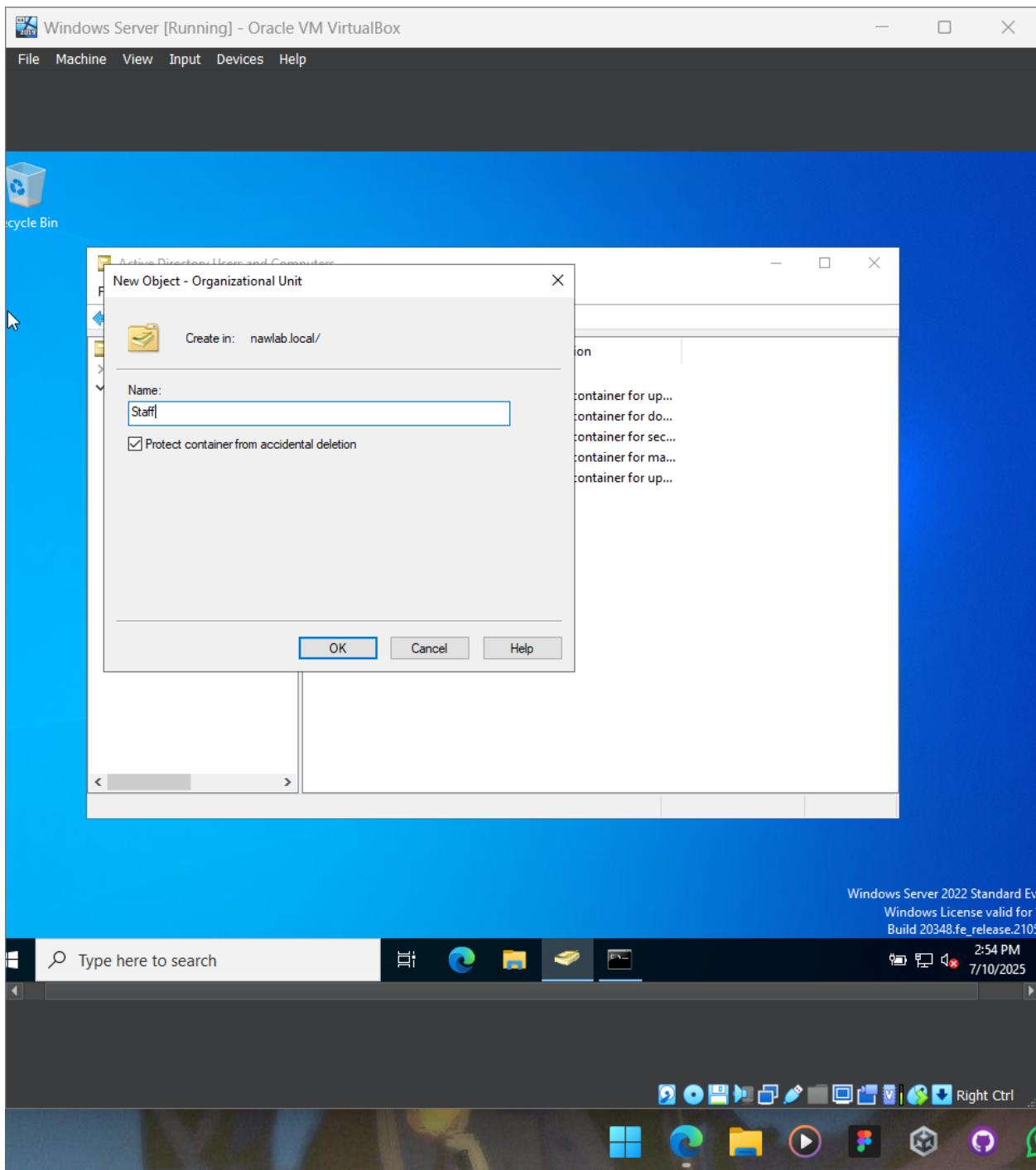
5. Create Users, Groups, and OUs:

- Right-click nawlab.local > New > Organizational Unit
- Right-click OU > New > User

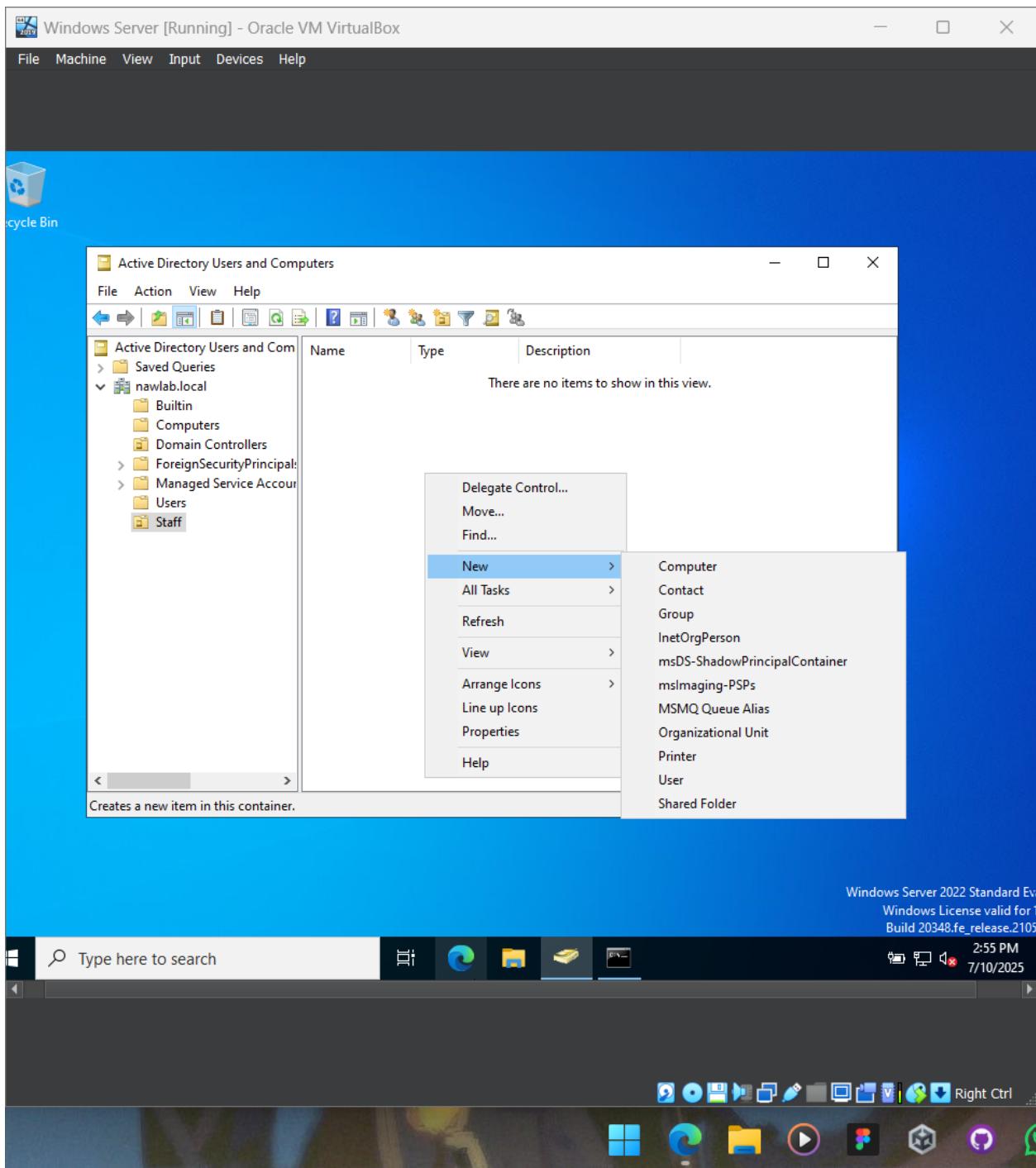




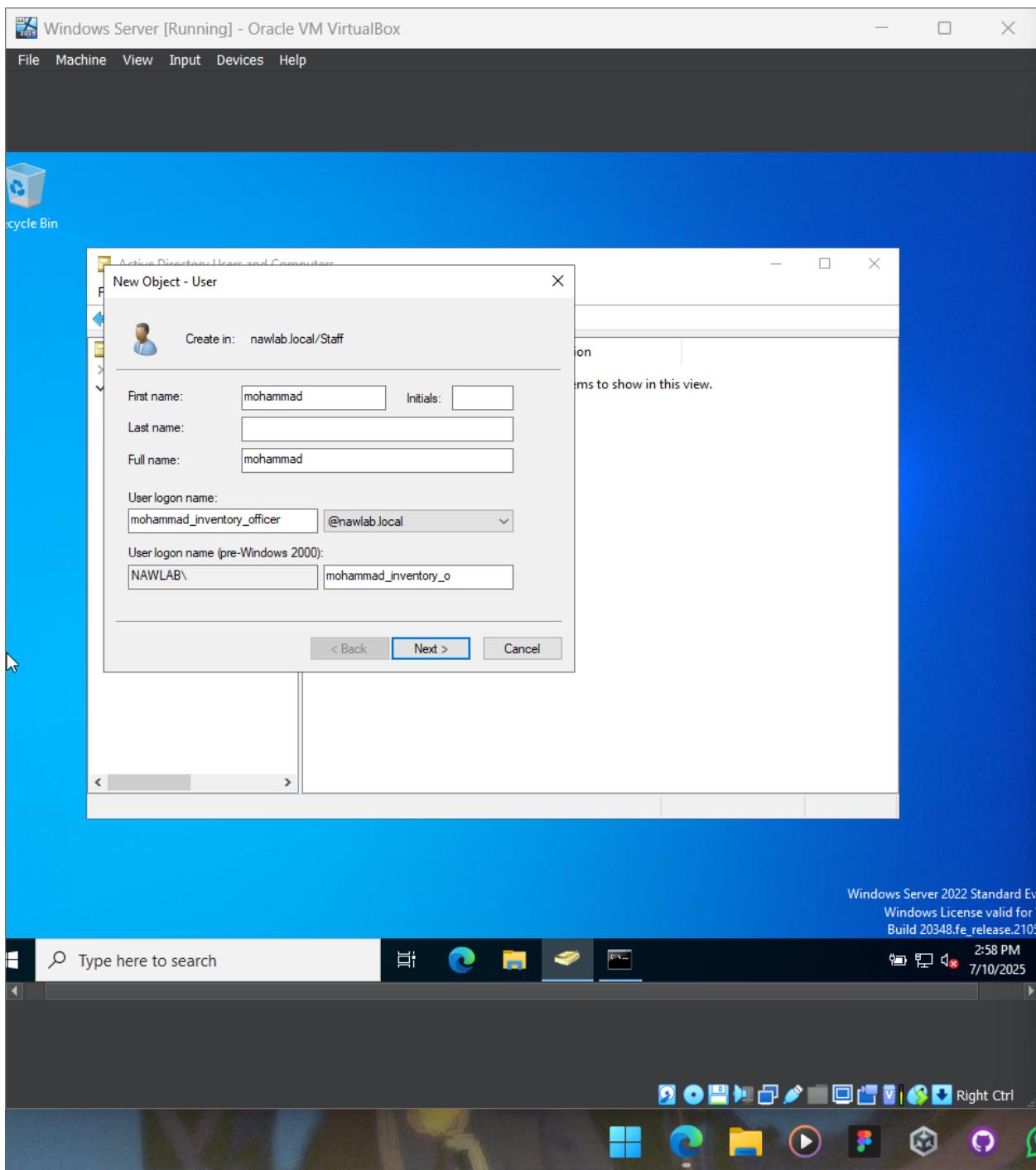
Create a new Organizational unit



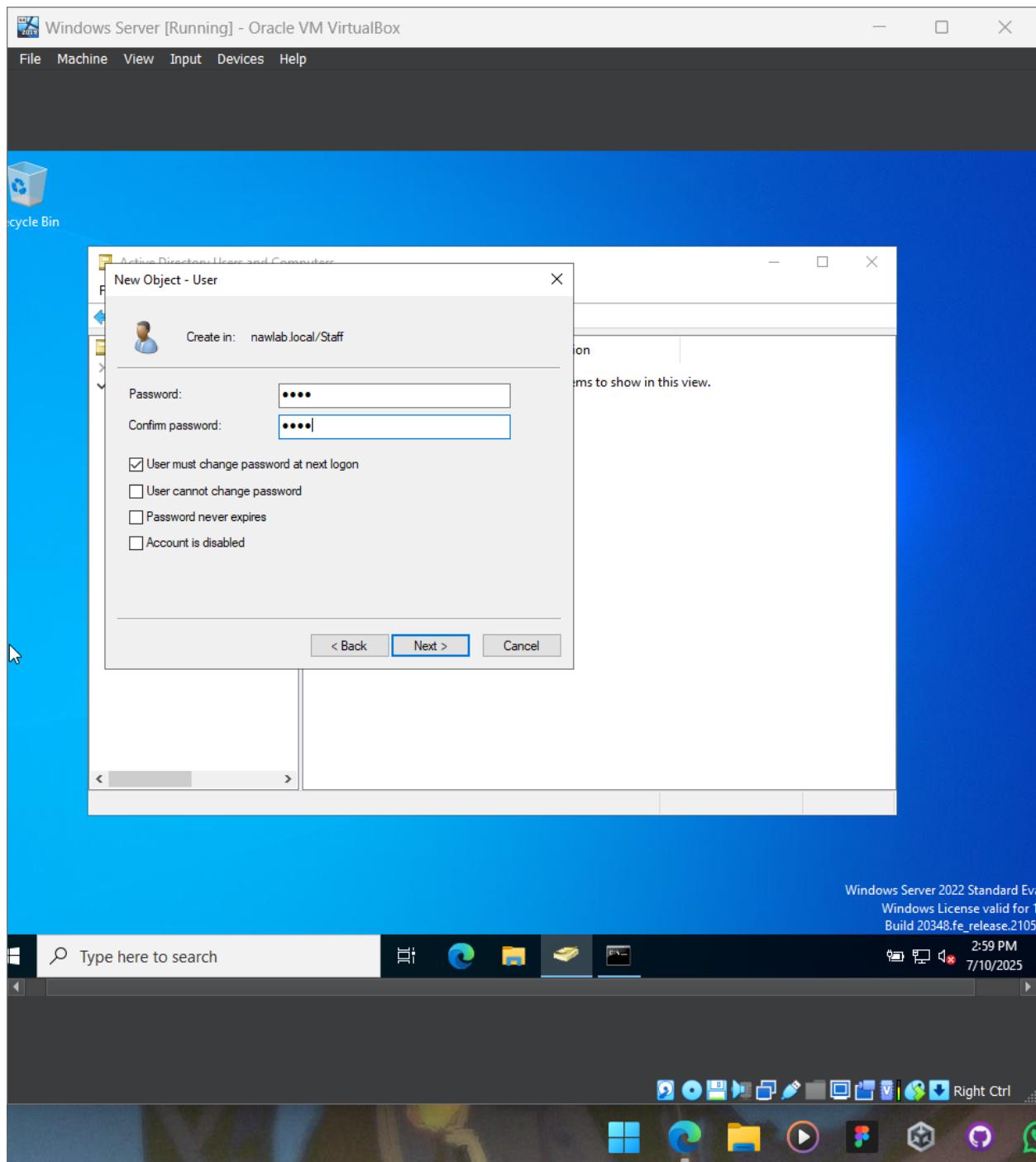
Naming the organization



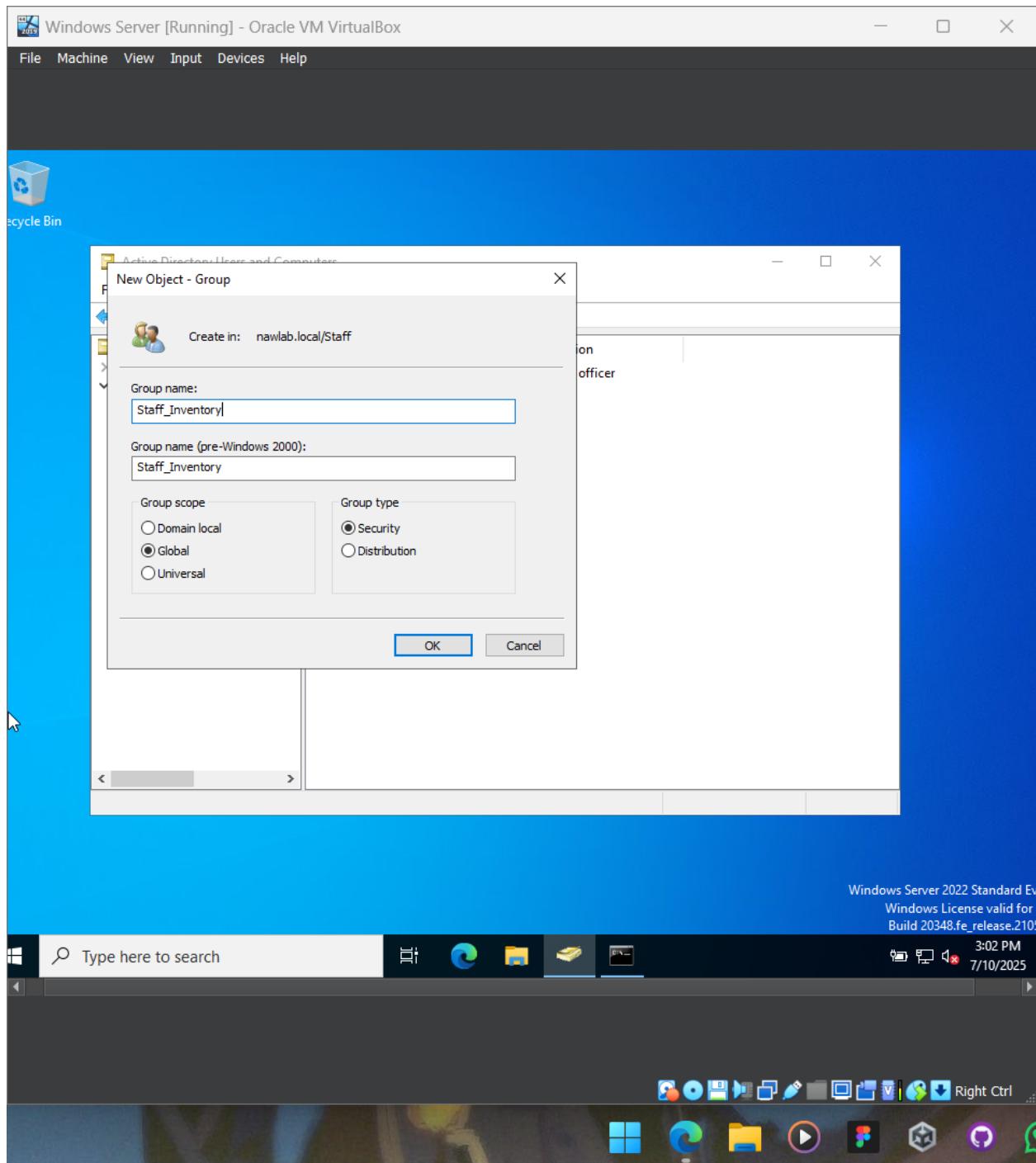
Create a new user



User information



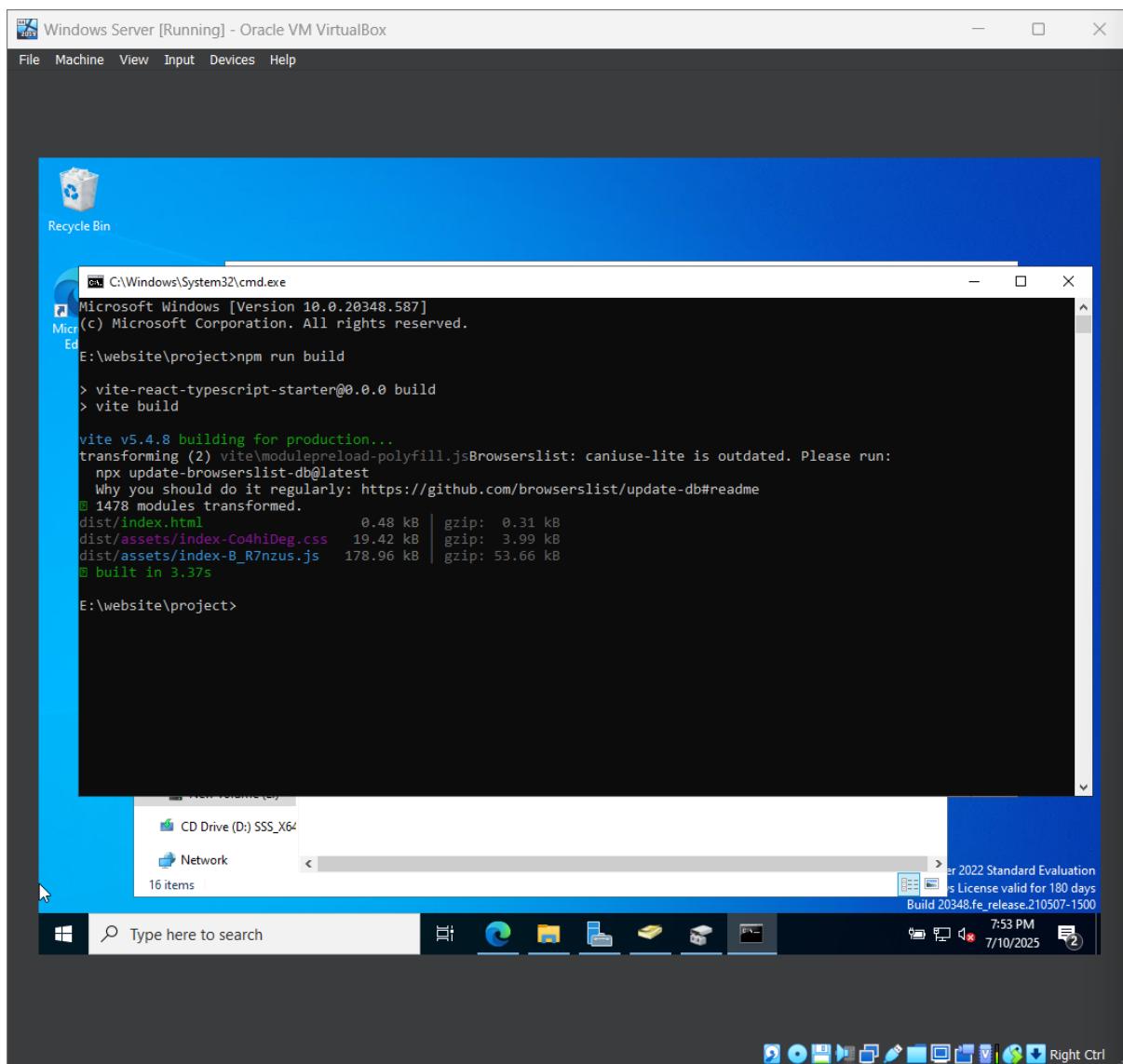
Setting a user password with the option that the user must change the password at next logon



Create a new group and then add user
in it

6. Install node.js to run the project:

- <https://nodejs.org>
- Download the LTS version
- Then check the version on CMD
 - > node -v
 - > npm -v
- Then Navigate to project folder then run this on CMD
 - > npm install → This will read the package.json and install all the required packages
 - > npm run dev

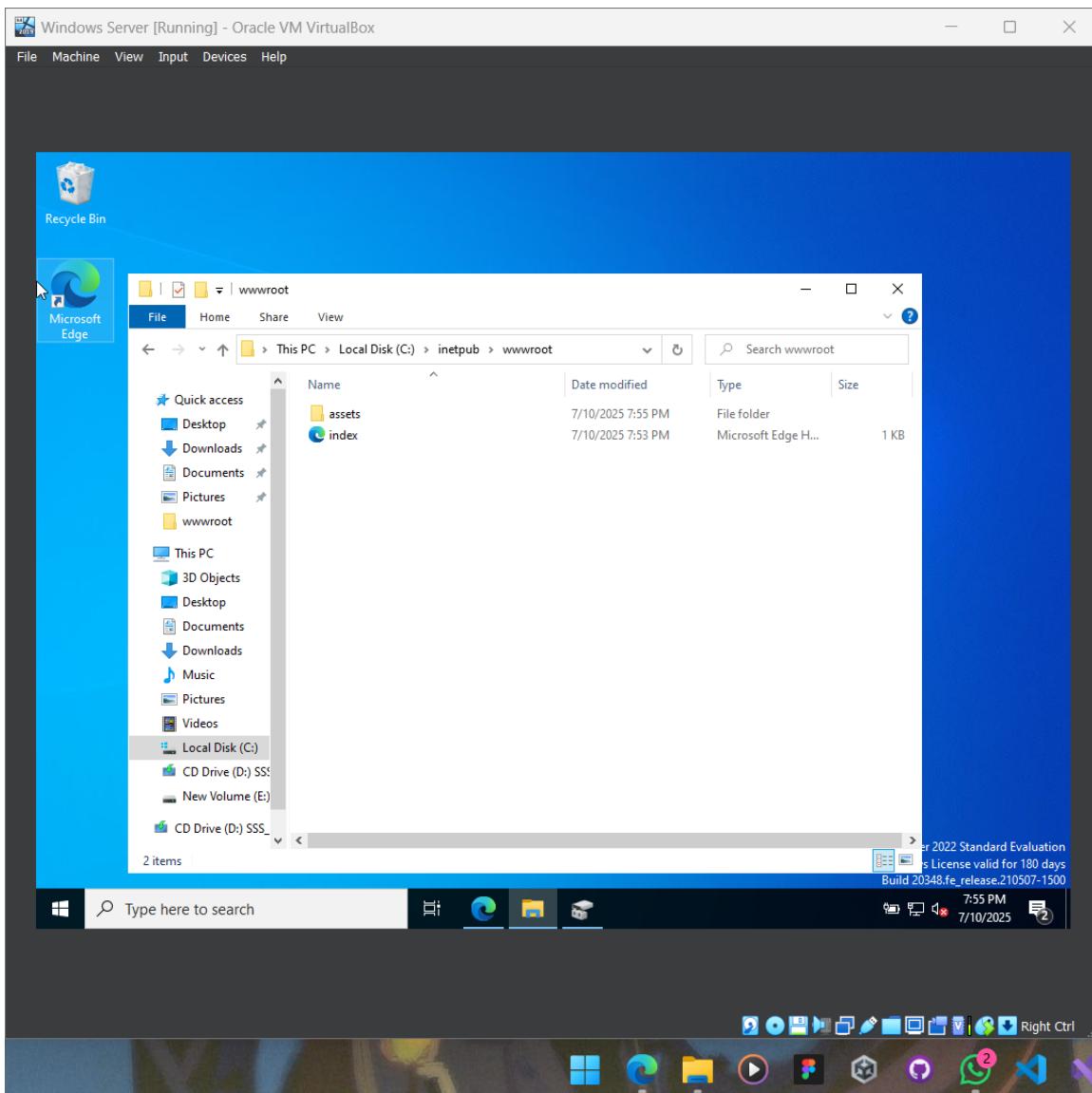


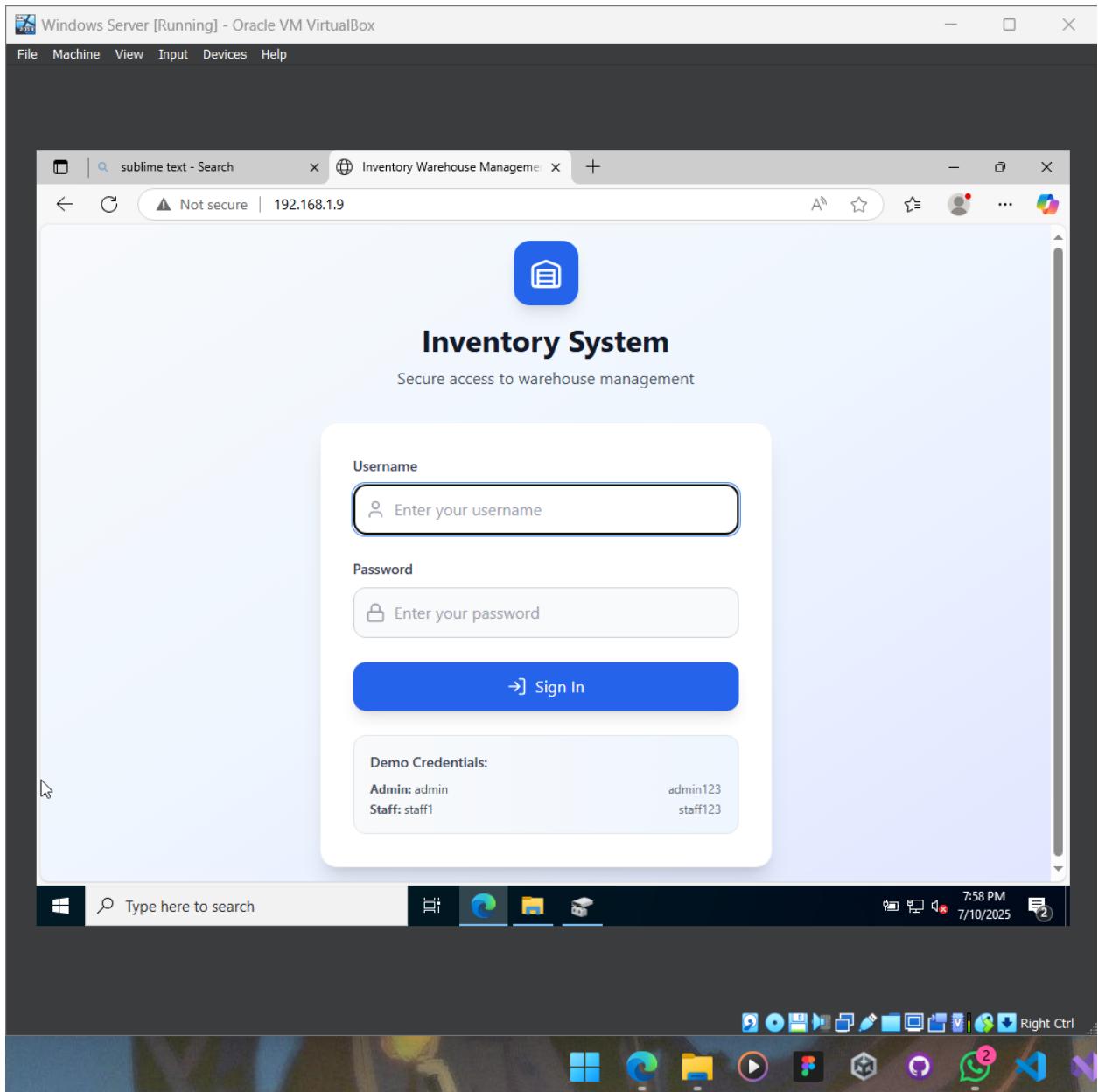
Building the website project

- Copy the dist folder contents to:
➢ C:\inetpub\wwwroot\

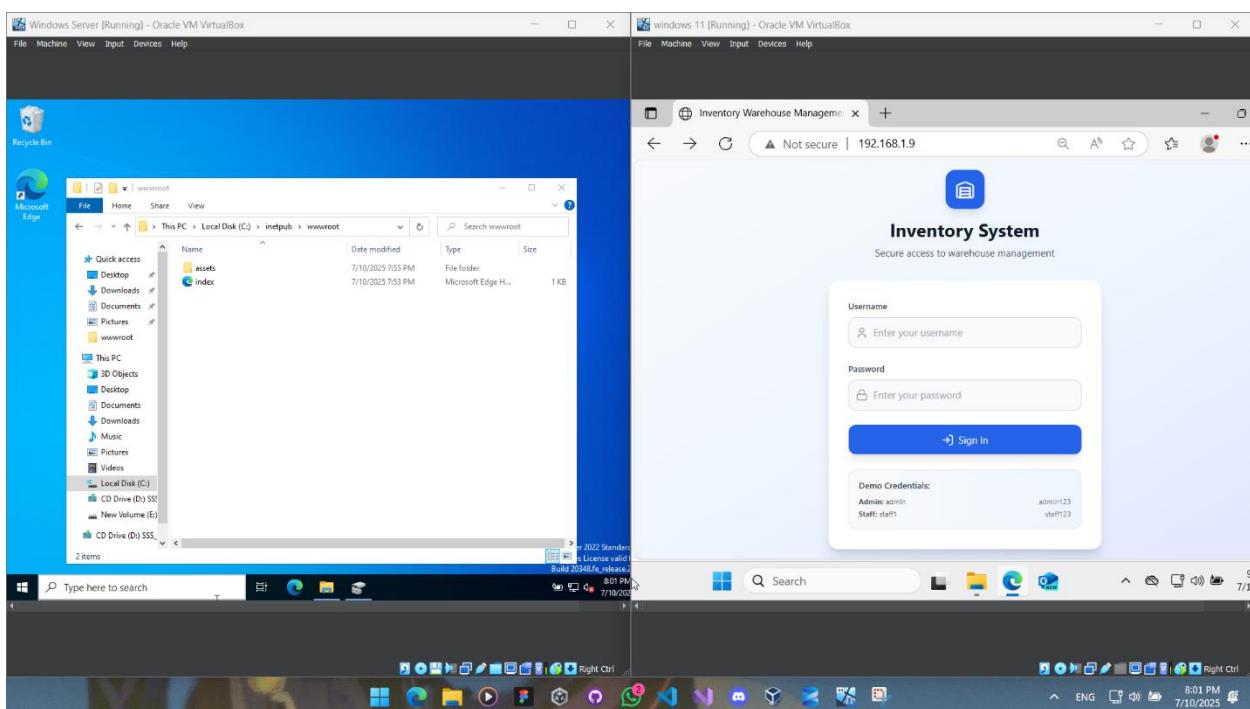
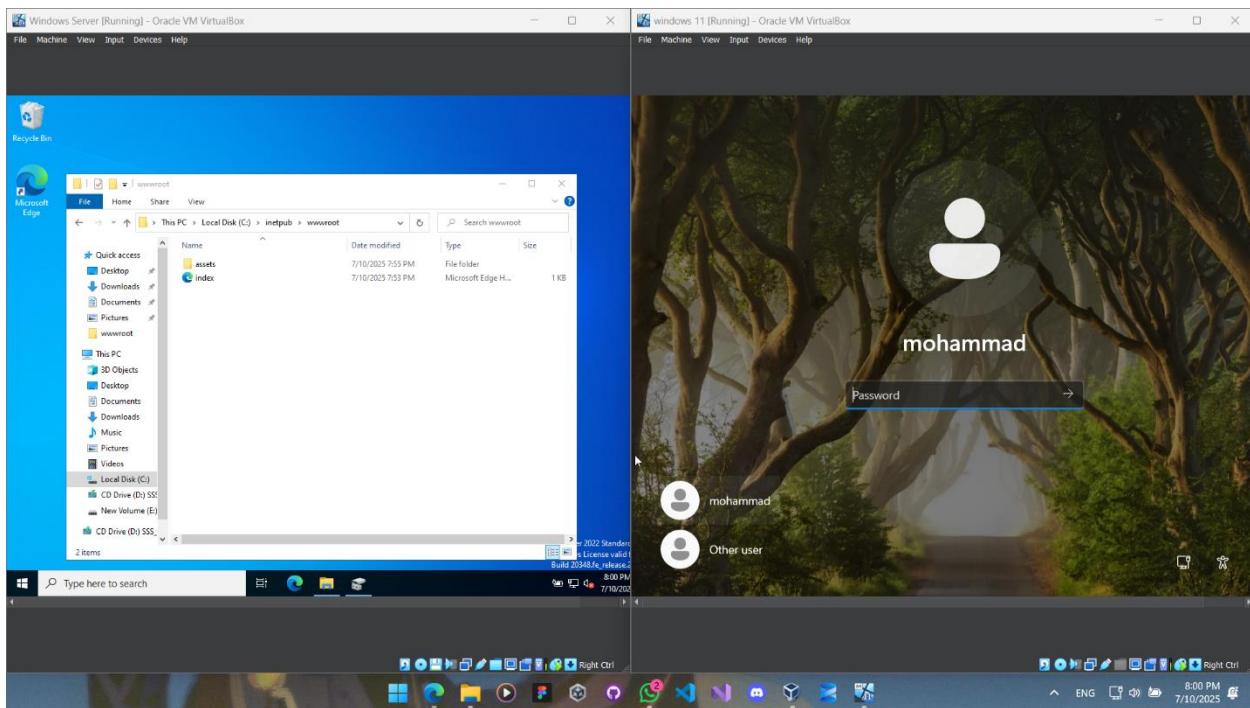
paste this inside like this:

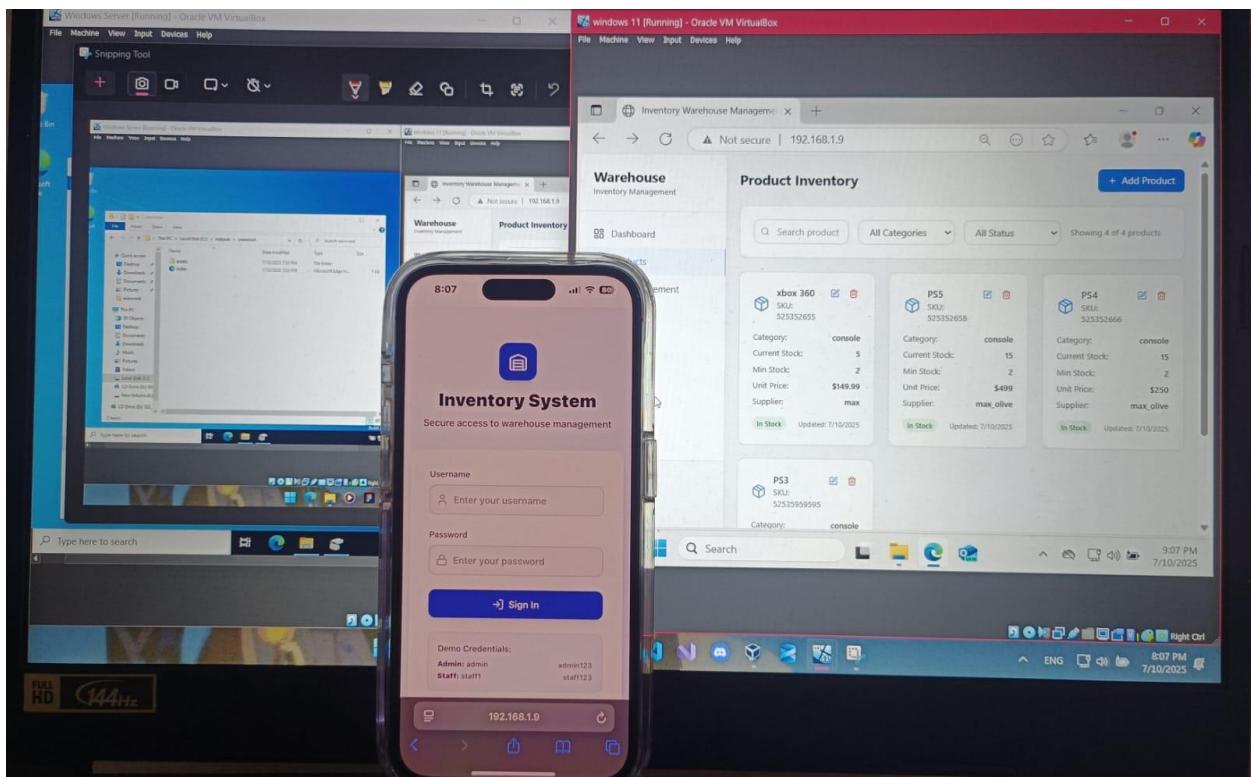
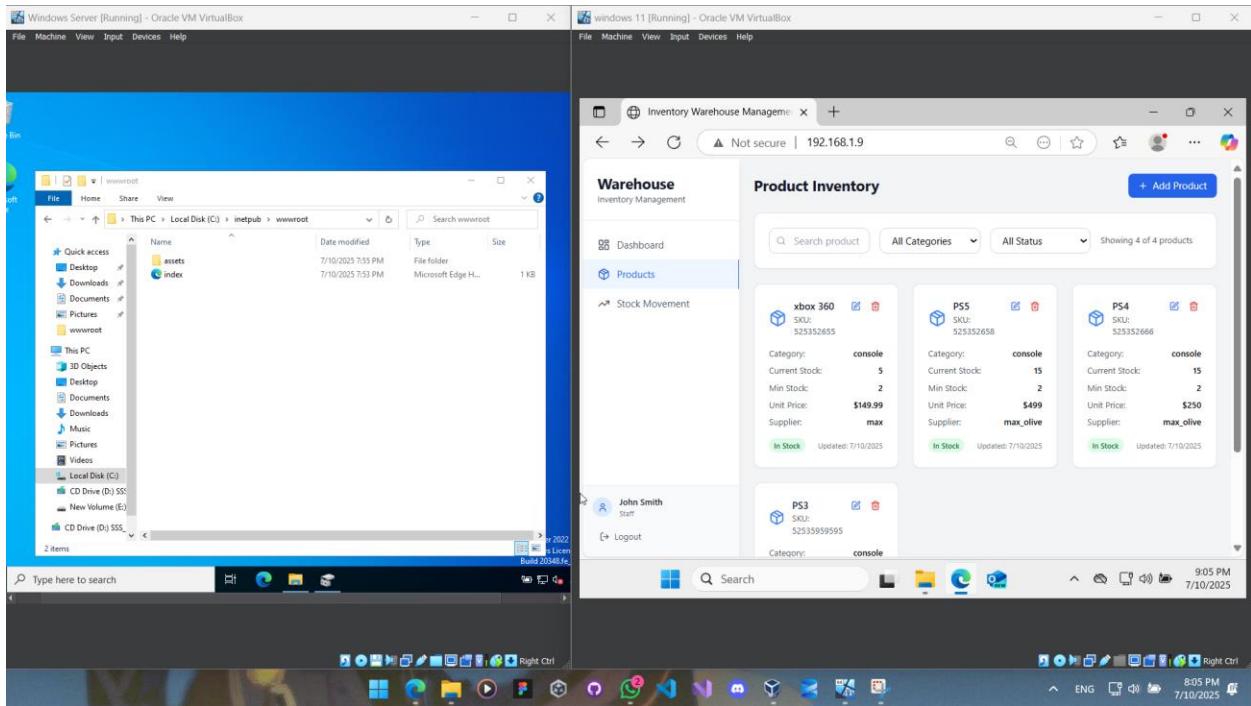
```
> C:\inetpub\wwwroot\
    └── index.html
    └── assets/
        ├── index-xxxx.js
        └── index-xxxx.css|
```





Testing 192.168.1.9 on window server browser





Final result

Project Summary

by Nawman Ahmad

I successfully designed and implemented a complete IT support lab environment using Windows Server technologies. Key achievements include:

- Installed and configured Windows Server 2019 as a Domain Controller and DNS server in a virtualized setup
- Created and managed user accounts, security groups, and organizational units using Active Directory
- Joined a Windows 10 Staff VM to the domain and enforced security settings via Group Policy Objects (GPO)
- Hosted a local intranet website using IIS, ensuring access across devices within the same Wi-Fi network
- Configured bridged network adapters to simulate a real LAN environment between server and client machines
- Documented lab topology, IP addressing scheme, and Group Policy configurations for future reference and replication