

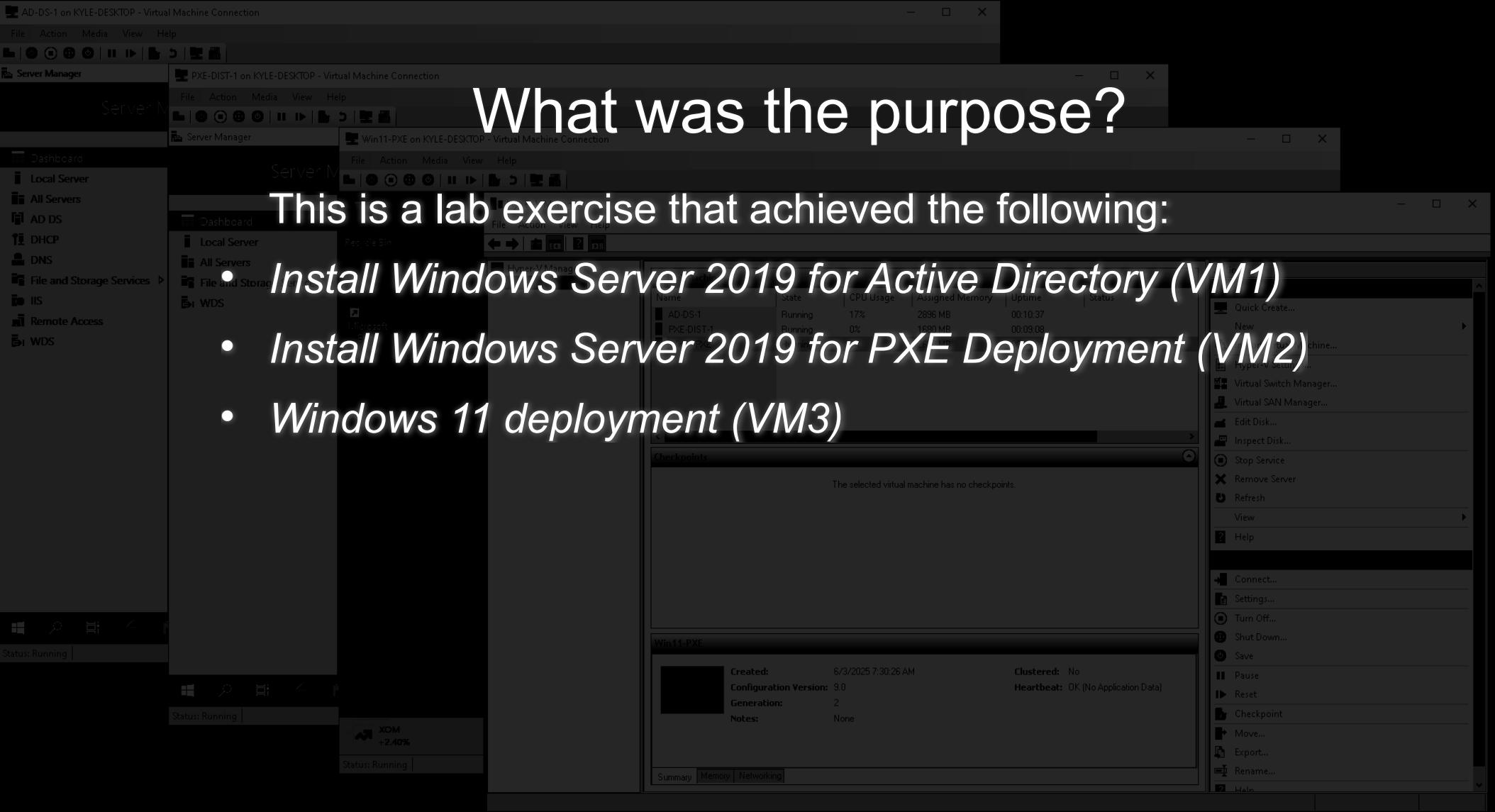
# Windows PE & PXE Deployment in AD DS

Deploying Windows 10/11 via PXE from a  
Microsoft Deployment Server in an Active  
Directory Domain System.

This presentation, and more, can be found on my GitHub:

<https://github.com/kylekoch012186>

PXE Deployment Lab



File Action Media View Help

Server Manager

PXE-DIST-1 on KYLE-DESKTOP - Virtual Machine Connection

File Action Media View Help

Server Manager

Win11-PXE on KYLE-DESKTOP - Virtual Machine Connection

File Action Media View Help

Hyper-V Manager

Dashboard

Local Server

All Servers

AD DS

DHCP

DNS

File and Storage Services >

IIS

Remote Access

WDS

Recycle Bin

Microsoft Edge

Virtual Machines

Name	State	CPU Usage	Assigned Memory	Uptime	Status
AD-DS-1	Running	17%	2096 MB	00:10:37	
PXE-DIST-1	Running	0%	1680 MB	00:09:08	
Win11-PXE	Running	0%	2602 MB	00:04:03	

Checkpoints

The selected virtual machine has no checkpoints.

Win11-PXE

Created: 6/3/2025 7:30:26 AM Clustered: No

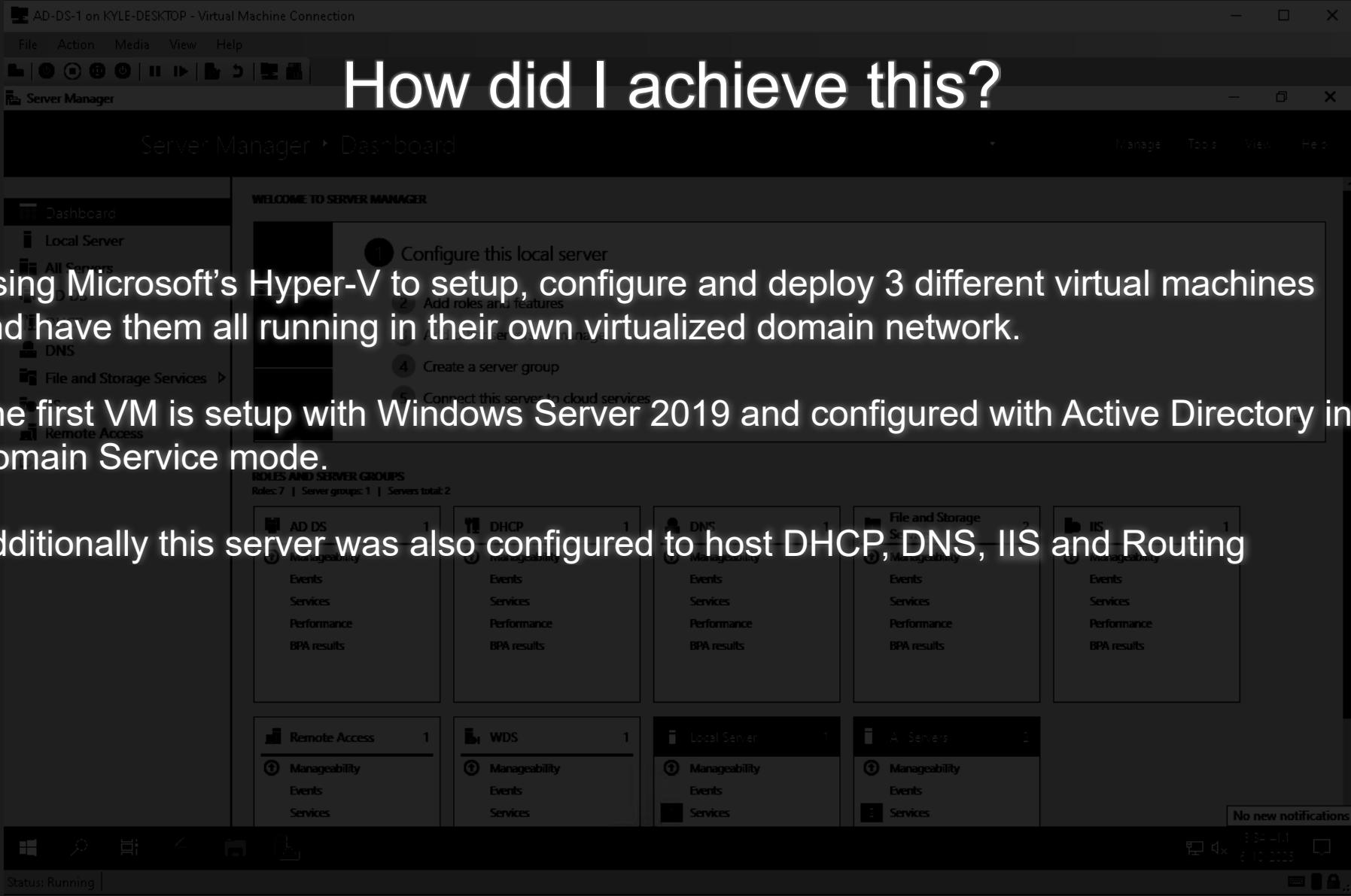
Configuration Version: 9.0 Heartbeat: OK (No Application Data)

Generation: 2 Notes: None

Summary Memory Networking

Actions

- KYLE-DESKTOP
  - Quick Create...
  - New
  - Import Virtual Machine...
  - Hyper-V Settings...
  - Virtual Switch Manager...
  - Virtual SAN Manager...
  - Edit Disk...
  - Inspect Disk...
  - Stop Service
  - Remove Server
  - Refresh
  - View
  - Help
- Win11-PXE
  - Connect...
  - Settings...
  - Turn Off...
  - Shut Down...
  - Save
  - Pause
  - Reset
  - Checkpoint
  - Move...
  - Export...
  - Rename...
  - Help



# How did I achieve this?

Server Manager ▶ Dashboard

Manage Tools View Help

Using Microsoft's Hyper-V to setup, configure and deploy 3 different virtual machines and have them all running in their own virtualized domain network.

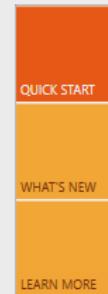
The first VM is setup with Windows Server 2019 and configured with Active Directory in Domain Service mode.

Additionally this server was also configured to host DHCP, DNS, IIS and Routing



- Dashboard
- Local Server
- All Servers
- AD DS
- DHCP
- DNS
- File and Storage Services
- IIS
- Remote Access
- WDS

## WELCOME TO SERVER MANAGER



- Configure this local server
- Add roles and features
- Add other servers to manage
- Create a server group
- Connect this server to cloud services

Hide

## ROLES AND SERVER GROUPS

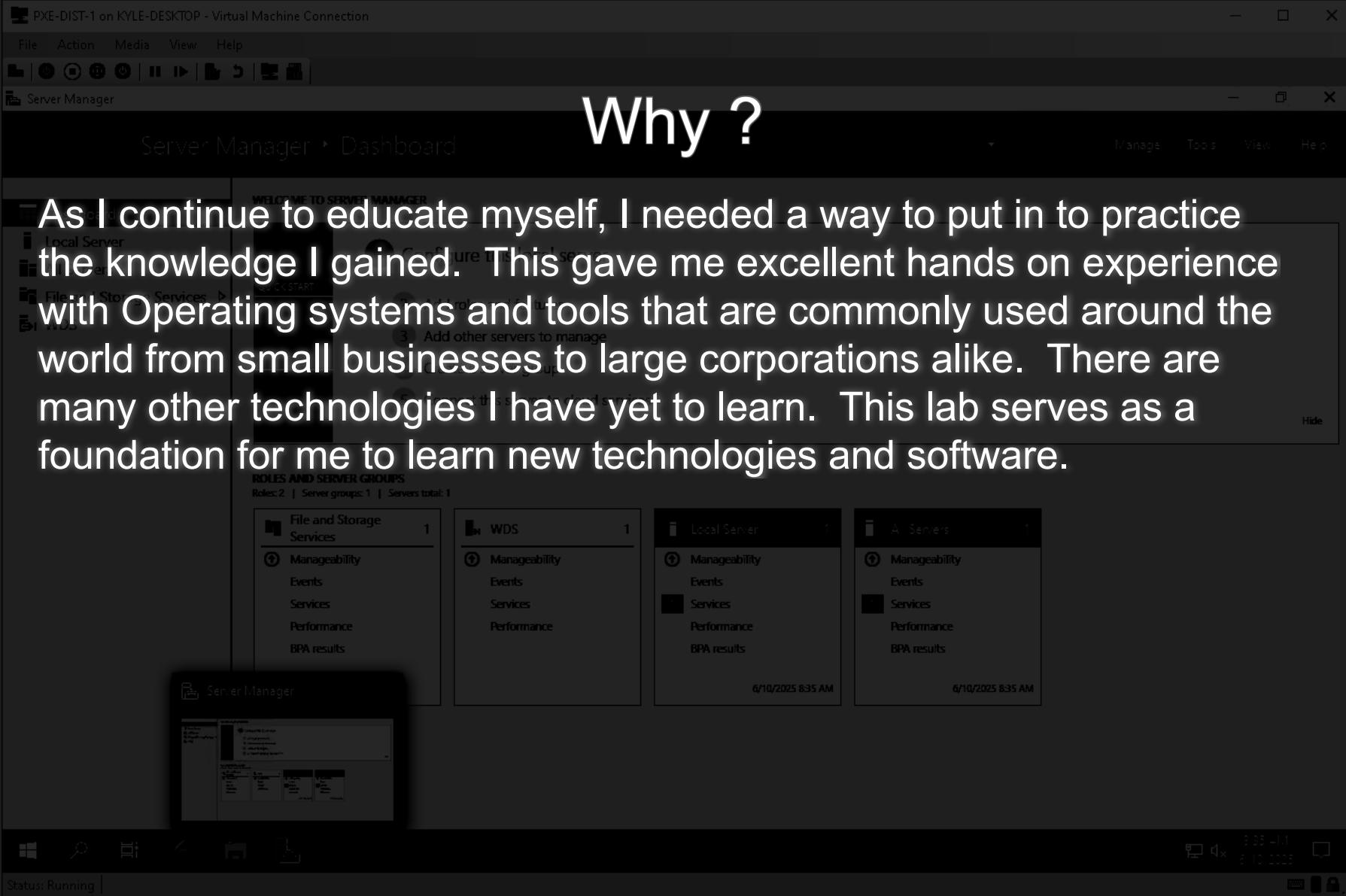
Roles: 7 | Server groups: 1 | Servers total: 2

AD DS 1	DHCP 1	DNS 1	File and Storage Services 2	IIS 1
<ul style="list-style-type: none"><li>Manageability</li><li>Events</li><li>Services</li><li>Performance</li><li>BPA results</li></ul>				

Remote Access 1	WDS 1	Local Server 1	All Servers 2
<ul style="list-style-type: none"><li>Manageability</li><li>Events</li><li>Services</li></ul>	<ul style="list-style-type: none"><li>Manageability</li><li>Events</li><li>Services</li></ul>	<ul style="list-style-type: none"><li>Manageability</li><li>Events</li><li>1 Services</li></ul>	<ul style="list-style-type: none"><li>Manageability</li><li>Events</li><li>2 Services</li></ul>

No new notifications

8:34 AM  
6/10/2025



# Why ?

[File](#) [Action](#) [Media](#) [View](#) [Help](#)[Server Manager](#)

Server Manager ▶ Dashboard

▼ Manage Tools View Help

**WELCOME TO SERVER MANAGER**

**QUICK START**

- 1 Configure this local server
- 2 Add roles and features
- 3 Add other servers to manage
- 4 Create a server group
- 5 Connect this server to cloud services

[WHAT'S NEW](#)

[LEARN MORE](#)

**ROLES AND SERVER GROUPS**

Roles: 2 | Server groups: 1 | Servers total: 1

Category	Count
File and Storage Services	1
WDS	1
Local Server	1
All Servers	1

**File and Storage Services** 1

- Manageability
- Events
- Services
- Performance
- BPA results

**WDS** 1

- Manageability
- Events
- Services
- Performance

**Local Server** 1

- Manageability
- Events
- 1 Services
- Performance
- BPA results

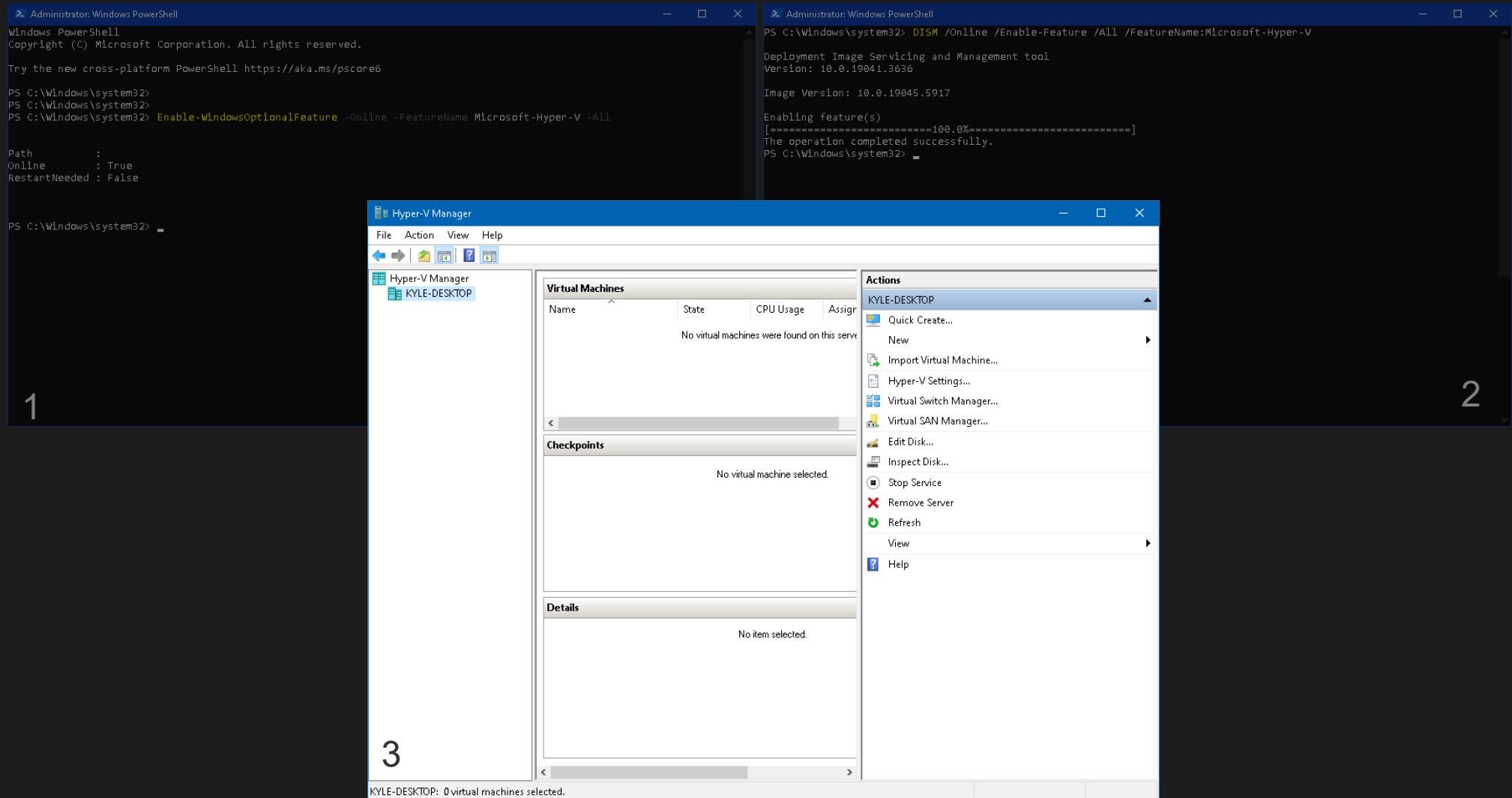
**All Servers** 1

- Manageability
- Events
- 1 Services
- Performance
- BPA results

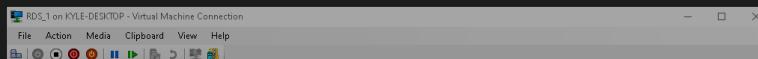
**Server Manager**

8:35 AM  
6/10/2025

# Section 1 - Installing Hyper-V using PowerShell



# Section 2 - Installing Windows Server 2019 (Evaluation)

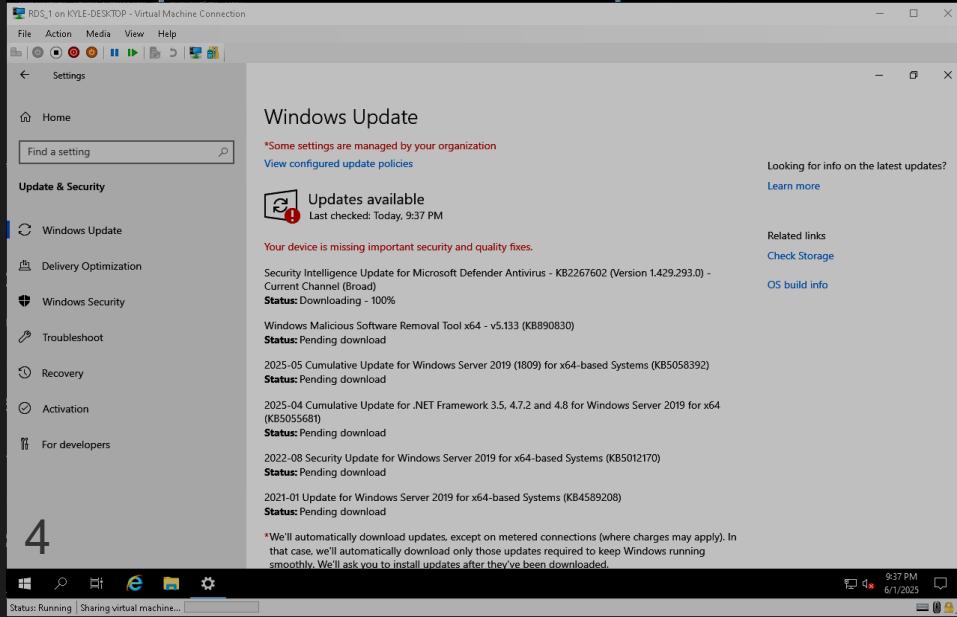


1

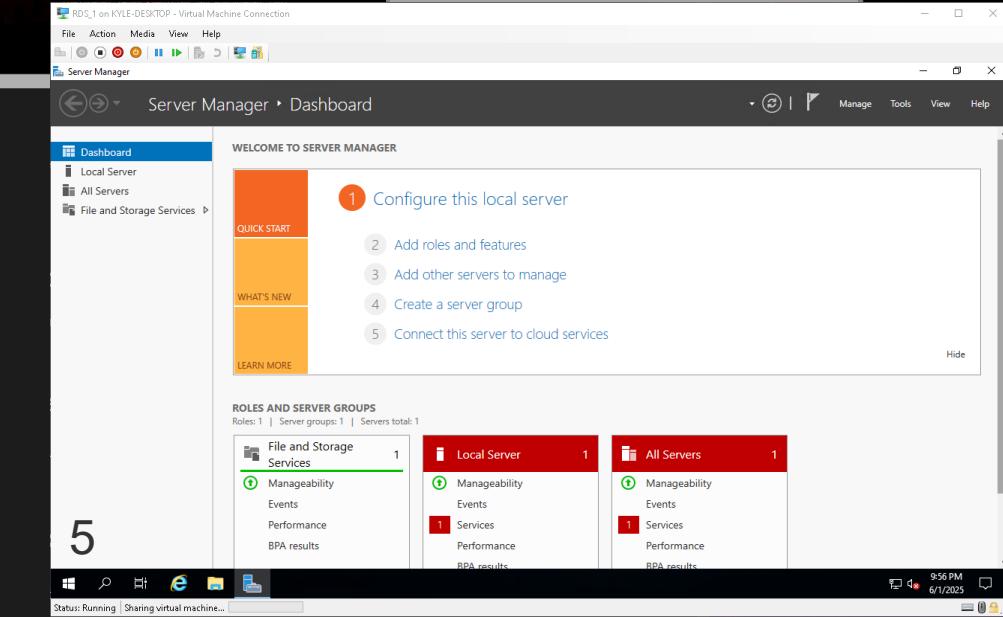
3



2



4



5

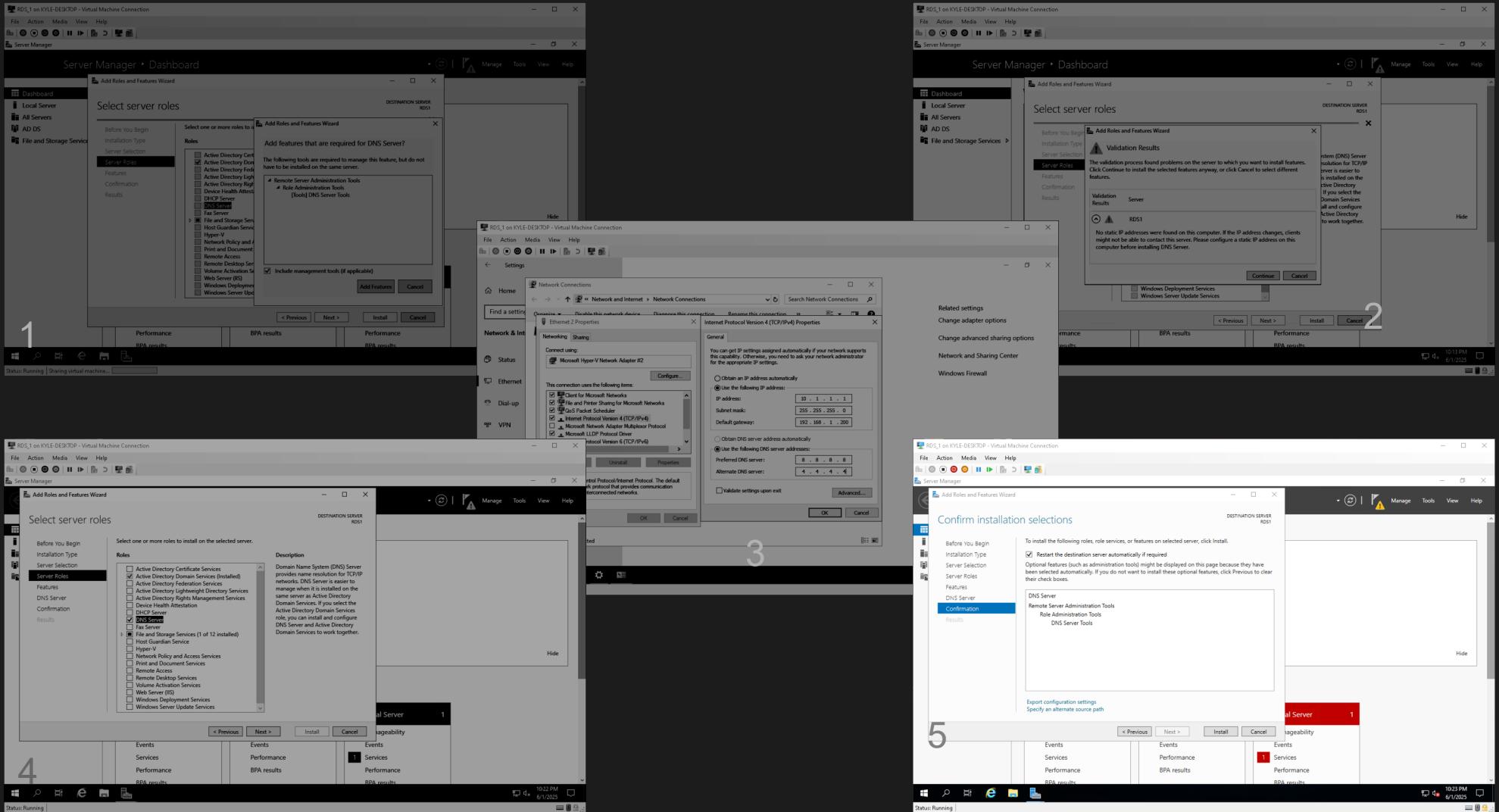
# Section 3 - Configuring Active Directory, Domain Services, DNS, and Routing

The image displays five numbered windows illustrating the configuration process:

- Step 1:** Shows the "Add Roles and Features Wizard" for "Server Roles". It lists "Domain Services" as a required feature under "Before you begin".  
Screenshot URL: [Screenshot 1](#)
- Step 2:** Shows the "Active Directory Domain Services Configuration Wizard" at the "Prerequisites Check" step. It indicates that all prerequisite checks have passed successfully.  
Screenshot URL: [Screenshot 2](#)
- Step 3:** Shows the "Domain Controller Options" step of the wizard, where the target server is set to "RDS1" and the forest functional level is set to "Windows Server 2016".  
Screenshot URL: [Screenshot 3](#)
- Step 4:** Shows the "Review Options" step of the wizard, detailing the deployment configuration: "Configure this server as the first Active Directory domain controller in a new forest", "The new domain name is 'my.homelab.com'", "The NetBIOS name of the domain: HOMELAB", "Forest Functional Level: Windows Server 2016", "Domain Functional Level: Windows Server 2016", and "Additional Options: Global catalog: Yes, DNS Server: Yes, Create DNS Delegation: No".  
Screenshot URL: [Screenshot 4](#)
- Step 5:** Shows the final "Prerequisites Check" step of the wizard, confirming that all prerequisites have passed successfully and providing a note about network adapter IP assignments.  
Screenshot URL: [Screenshot 5](#)

At the bottom of the image, the Windows taskbar shows the status "Status: Running" and the date/time "10:31 PM 6/1/2025".

# Section 4 : Setting up DNS



# Section 5 : Setting up Windows Routing

The screenshot displays a Windows Server 2012 R2 desktop environment with multiple windows open:

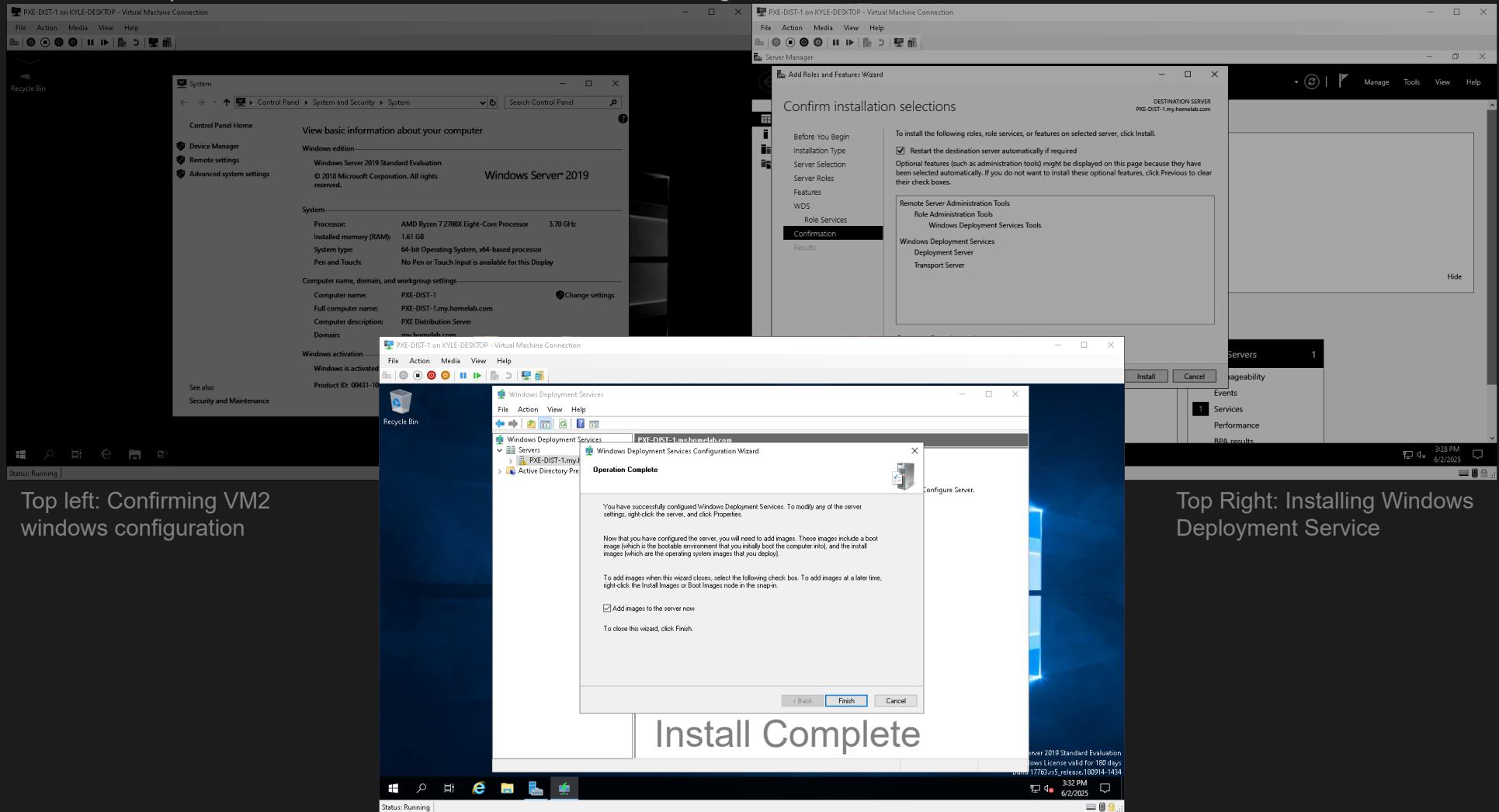
- Server Manager Dashboard:** Shows the "WELCOME TO SERVER MANAGER" screen with steps to "Configure this local server". It lists "Local Server", "All Servers", "AD DS", "DNS", "File and Storage Services", "IIS", and "Remote Access".
- Routing and Remote Access Server Setup Wizard:** The "Welcome to the Routing and Remote Access Server Setup Wizard" step is shown. It states: "This wizard helps you set up your server so that you can connect to other networks and allow connections from remote clients. To continue, click Next." Below are sections for "AD DS", "DNS", and "File and Storage Services".
- Routing and Remote Access Management Console:** The "General" tab is selected under "Network Interfaces". It shows:

Interface	Type	IP Address
VM_WAN	Dedicated	192.168.1.200
VM_LAN	Dedicated	10.1.1.1
Loopback	Loopback	127.0.0.1
Internal	Internal	Not available
- File and Storage Services:** A summary table showing "Manageability", "Events", "Services", and "Performance" for AD DS, DNS, and File and Storage Services.
- IIS:** A summary table showing "Manageability", "Events", "Services", and "Performance" for IIS.
- Remote Access:** A summary table showing "Manageability", "Events", "Services", and "Performance" for Remote Access.
- Local Server:** A summary table showing "Manageability", "Events", "Services", and "Performance" for Local Server.

The taskbar at the bottom shows the Start button, search bar, task view, and pinned icons for File Explorer, File History, Task Scheduler, Task View, Task Manager, and Control Panel. The status bar indicates "Status: Running". The system tray shows the date and time as "12:32 PM 6/2/2025" and includes icons for battery, signal strength, and notifications.

# Section 6a : Installing Windows Deployment Service

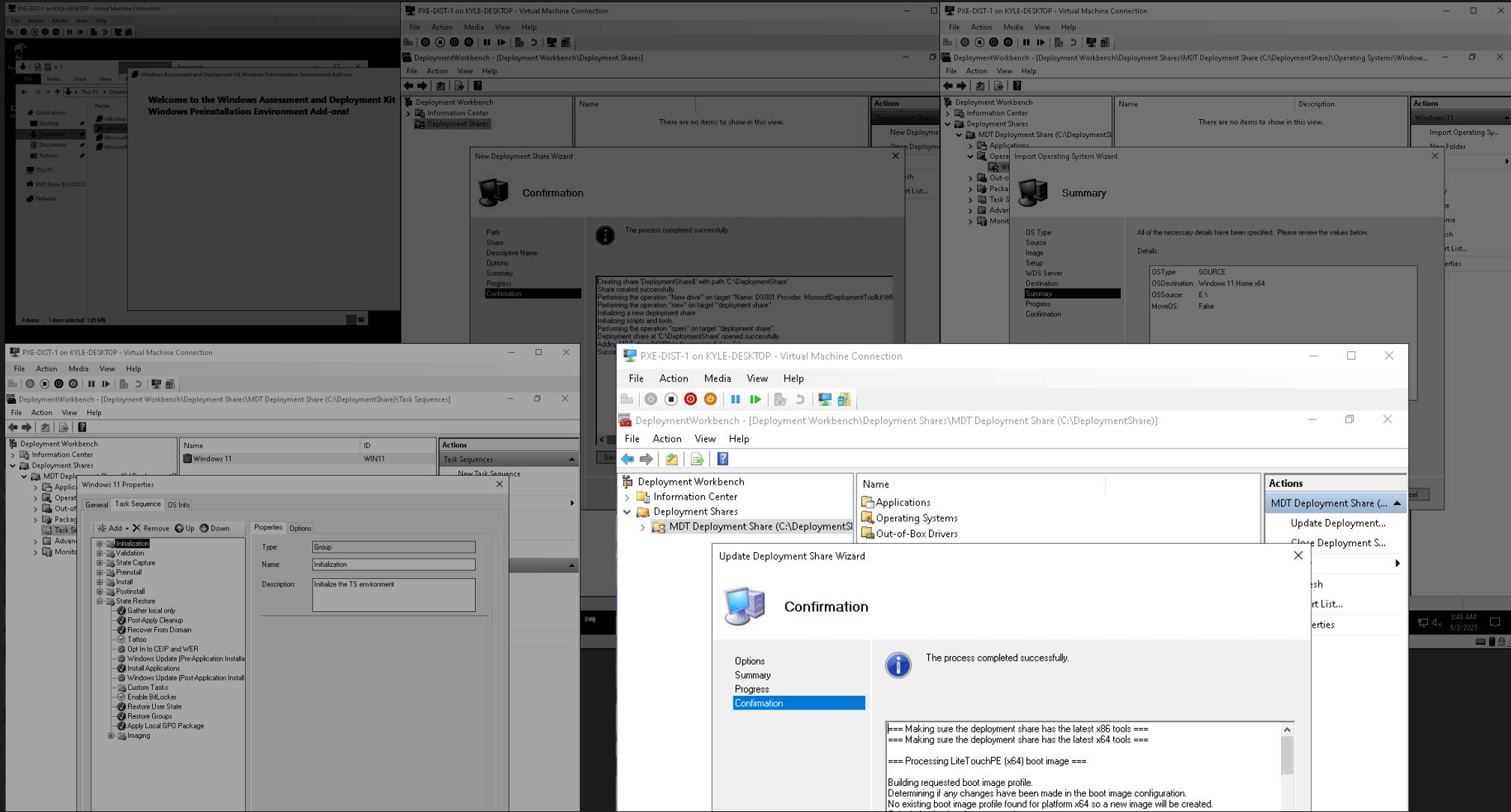
*Setup of VM2 and Windows server install done in background as its the same as the Domain Server from Section 1*



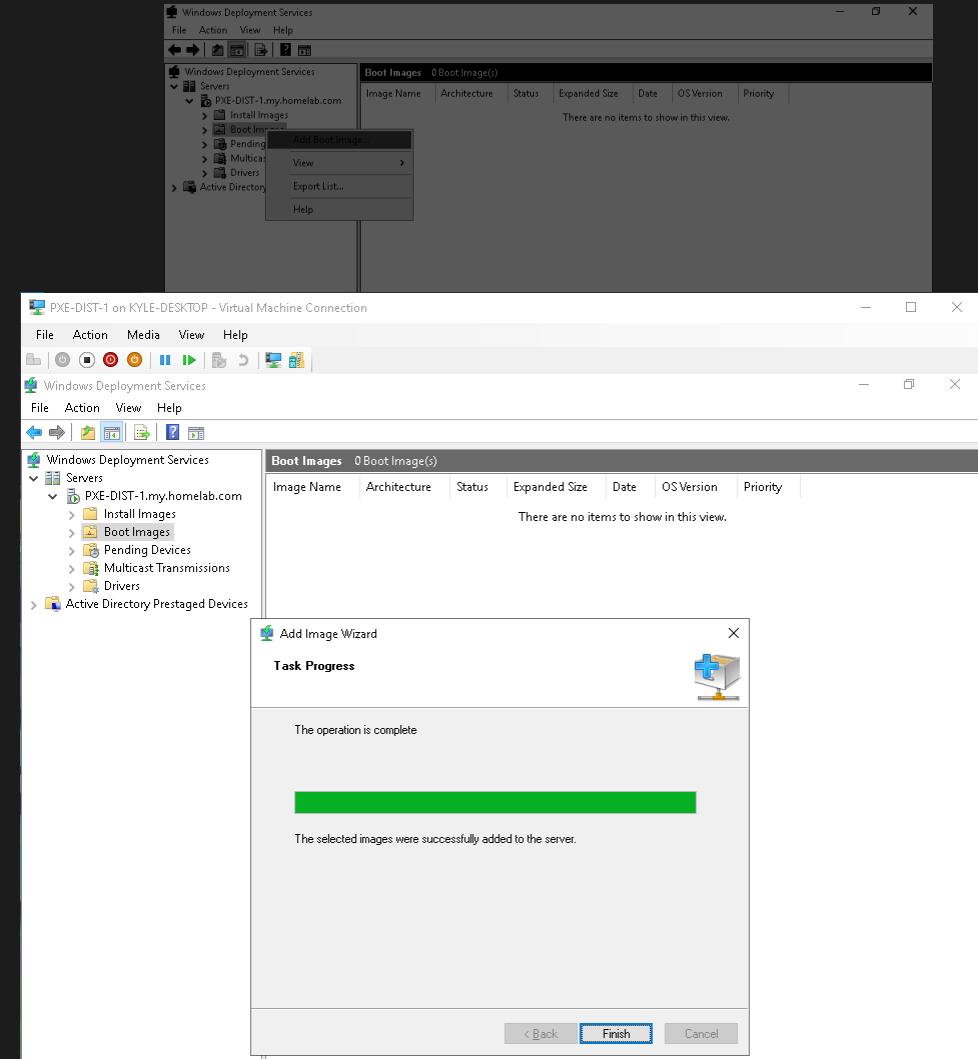
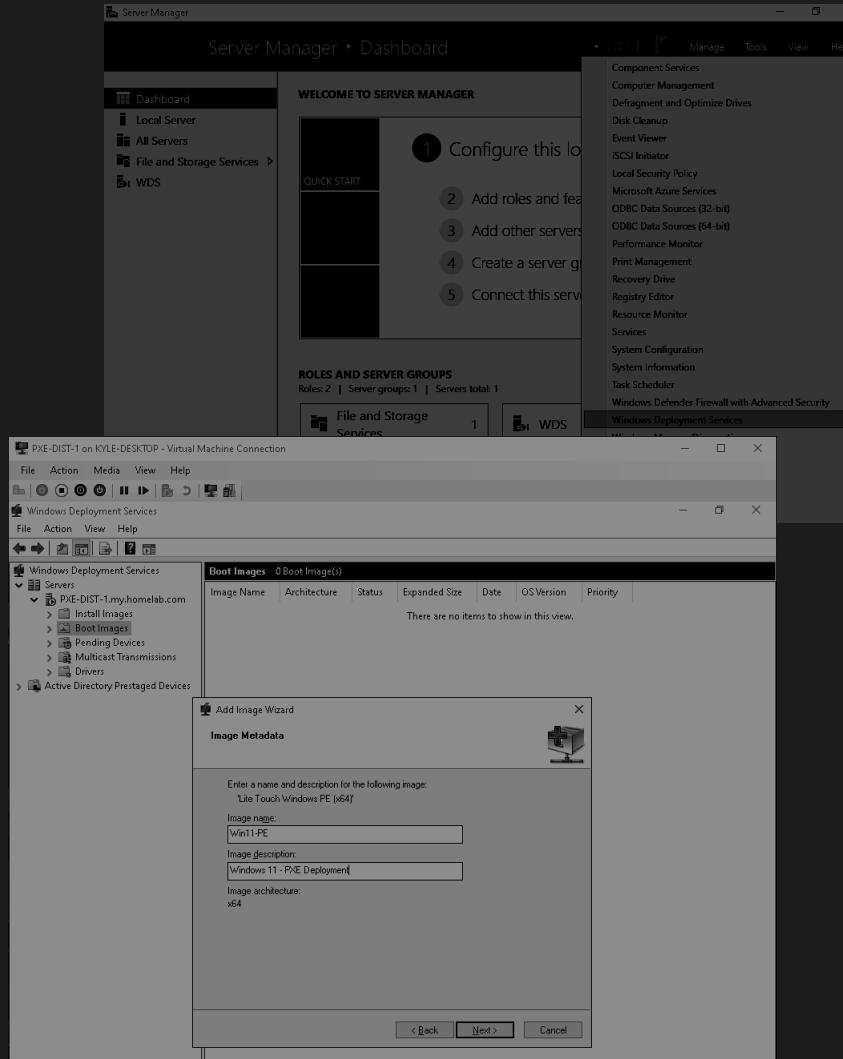
Top left: Confirming VM2 windows configuration

Top Right: Installing Windows Deployment Service

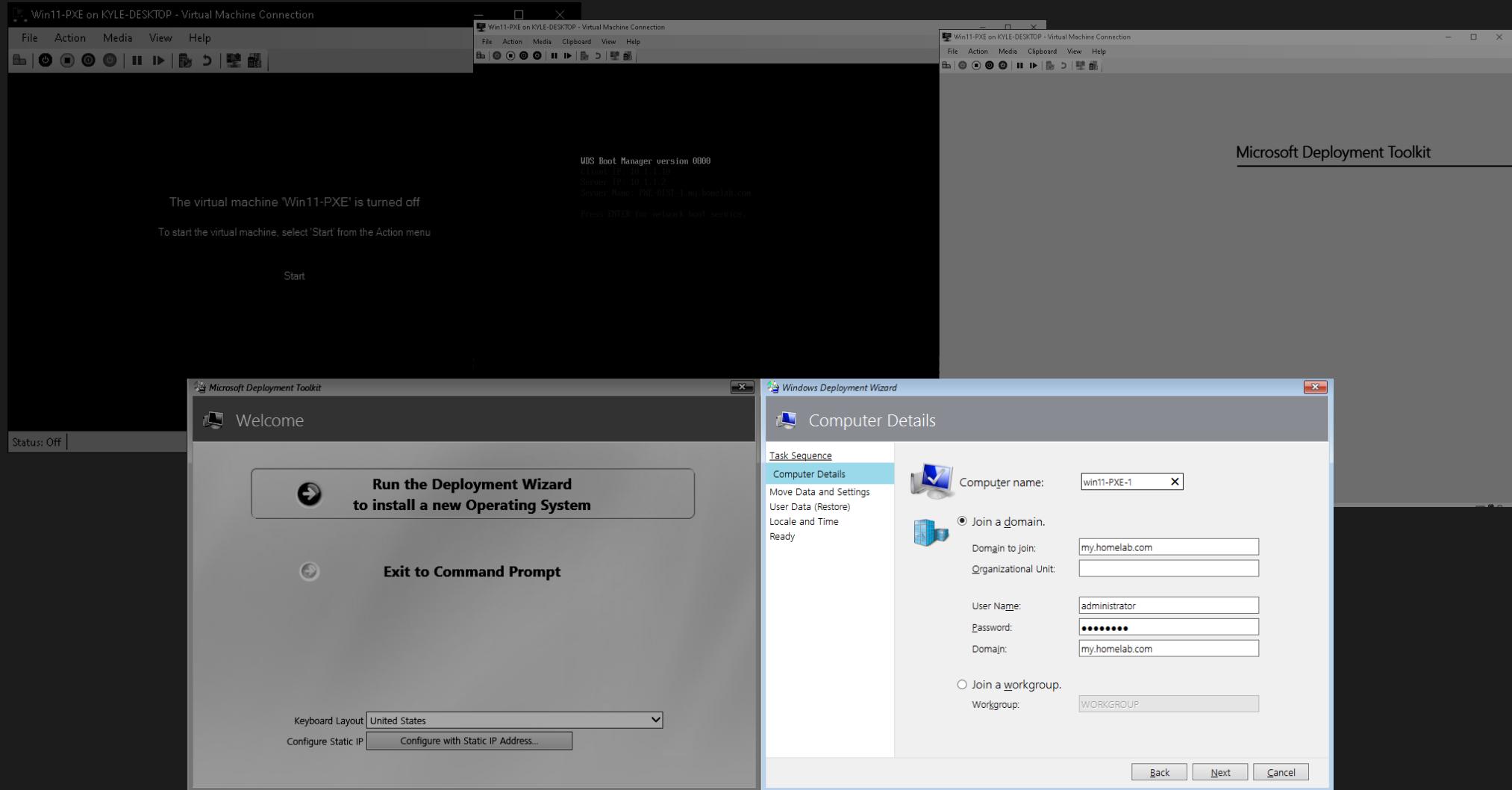
## Section 6b : Installing Deployment Workbench and creating the share



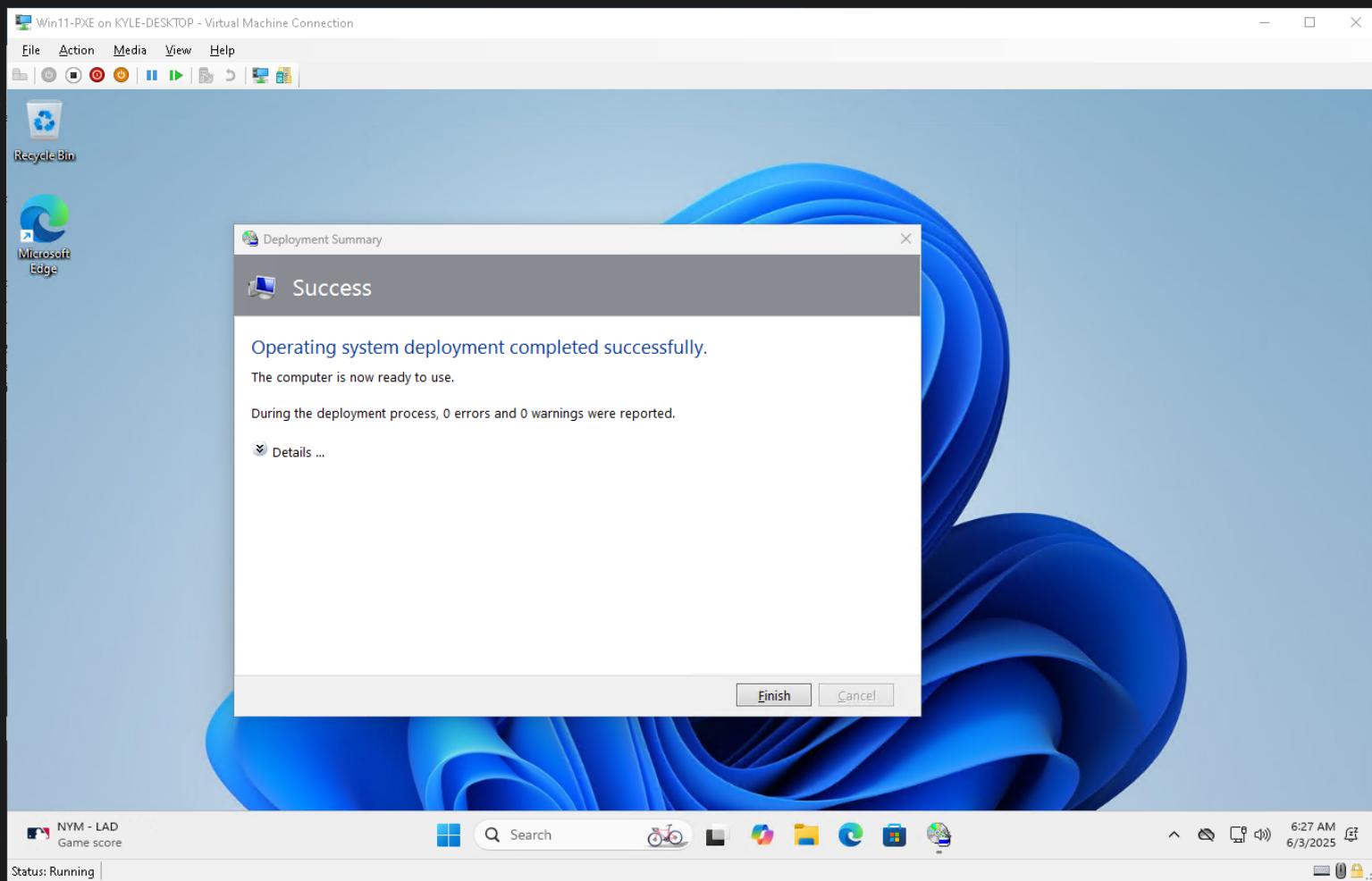
# Section 6c : Creating the Deployment Share



# Section 7 : Deploying Windows 11 via PXE



# Finale : Network Deployment Successful!



## Close Out

This lab was fun to complete. There were a few bumps in the road but with research and persistence I was able to find a resolution. This slide show merely shows a snippet of the resources I put together. The full set of screenshots, for this lab, are available on my GitHub page linked below. In the repository, each of the screenshots are broken down by section. Each section coincides with the sections outlined by this power-point. There are also simple descriptor files that notate each and every screenshot to make it easy to follow along.

Thank you for taking the time to view this presentation!

Kyle Koch

GitHub : [https://github.com/kylekoch012186/PXE\\_Deployment\\_Lab](https://github.com/kylekoch012186/PXE_Deployment_Lab)