

T Level Technical Qualification in Digital Support Services

Occupational specialism assessment (OSA)

Digital Infrastructure

Assignment 2 - Distinction

Guide standard exemplification materials

T Level Technical Qualification in Digital Support Services Occupational specialism assessment

Guide standard exemplification materials

Digital Infrastructure

Assignment 2

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Introduction

The material within this document relates to the Digital Infrastructure occupational specialism sample assessment. These exemplification materials are designed to give providers and students an indication of what would be expected for the lowest level of attainment required to achieve a pass or distinction grade.

The examiner commentary is provided to detail the judgements examiners will undertake when examining the student work. This is not intended to replace the information within the qualification specification and providers must refer to this for the content.

In assignment 2, the student must first consider a list of job requests and prioritise them, before actioning the requests. The second task requires them to produce an instructional document and video that can be used by new employees to the company.

After each live assessment series, authentic student evidence will be published with examiner commentary across the range of achievement.

Assignment 2

Scenario

Willow Technology is planning an upgrade on the backend servers. As part of this upgrade, a small test system needs to be developed that can be used to test the compatibility with the existing backend systems and explore the features of the latest server operating system.

During this assignment you will be required to undertake 2 practical tasks covering cable creation, and the installation and configuration for the new test system that will be used to simulate the new network.

Task 1

It is recommended that you spend 20 minutes on this task.

(4 marks)

Instructions for students

Before you create the test system, a custom length network cable needs to be created to enable the test system to connect to a network port.

You have been provided with a length of Cat5e ethernet cable, 4 x RJ45 ends and suitable cable creation tools.

You need to:

- create a straight through network cable
- provide annotated evidence that the cable has been created correctly
- test that the cable works and provide suitable evidence of the process of validating your cable

You will have access to the following equipment:

- a 1m length of Cat5e ethernet cable
- four RJ45 connectors
- cable creation tools – crimping tool, cable cutter
- network cable tester
- digital camera
- word processing software

Evidence required for submission to NCFE

Annotated photographic evidence of the following stages of cable creation should be provided:

- both RJ45 ends have the strands of cable in the correct order and forming a good connection
- an image of each cable strand being tested on the cable tester to verify connection

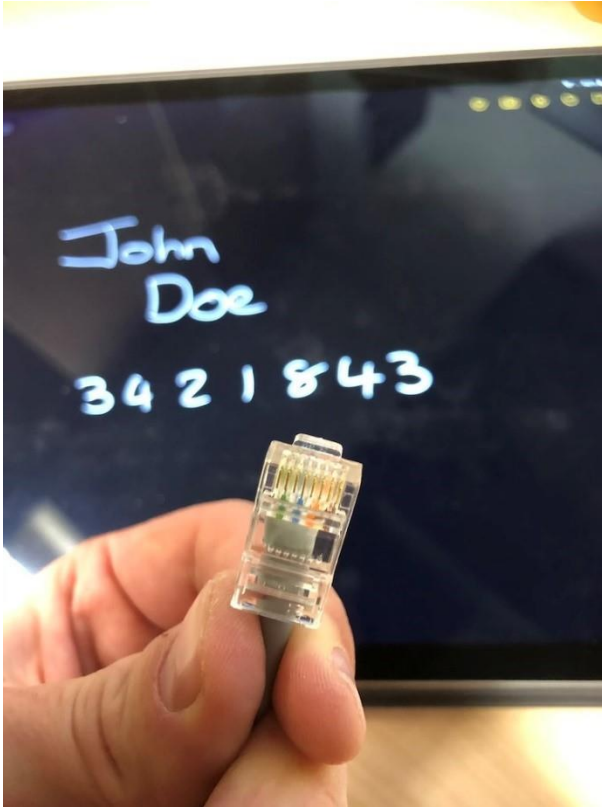
Note: this will require 8 or 9 images depending on the cable testing device used.

Student evidence

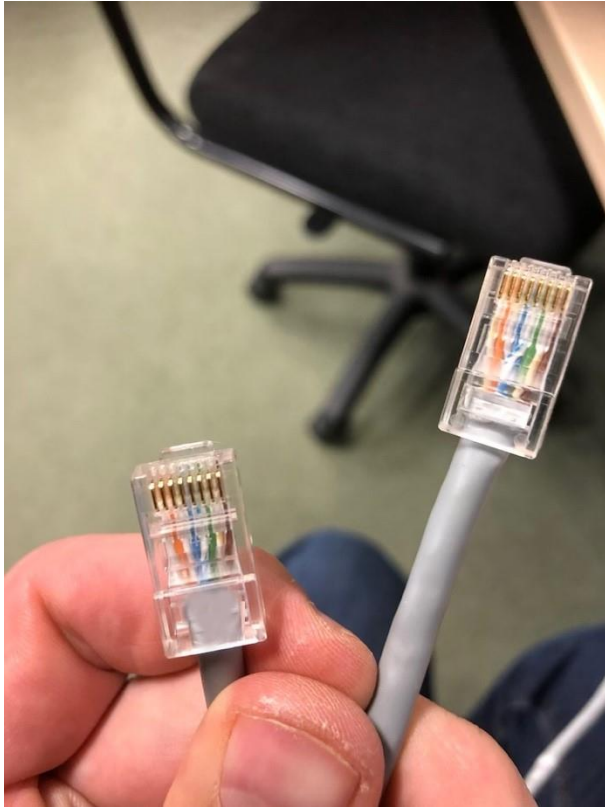
Task 1

RJ45 connected

All the copper connectors connect with the cable
< Covered in the single photograph below >
All the ends of the cable are arranged correctly

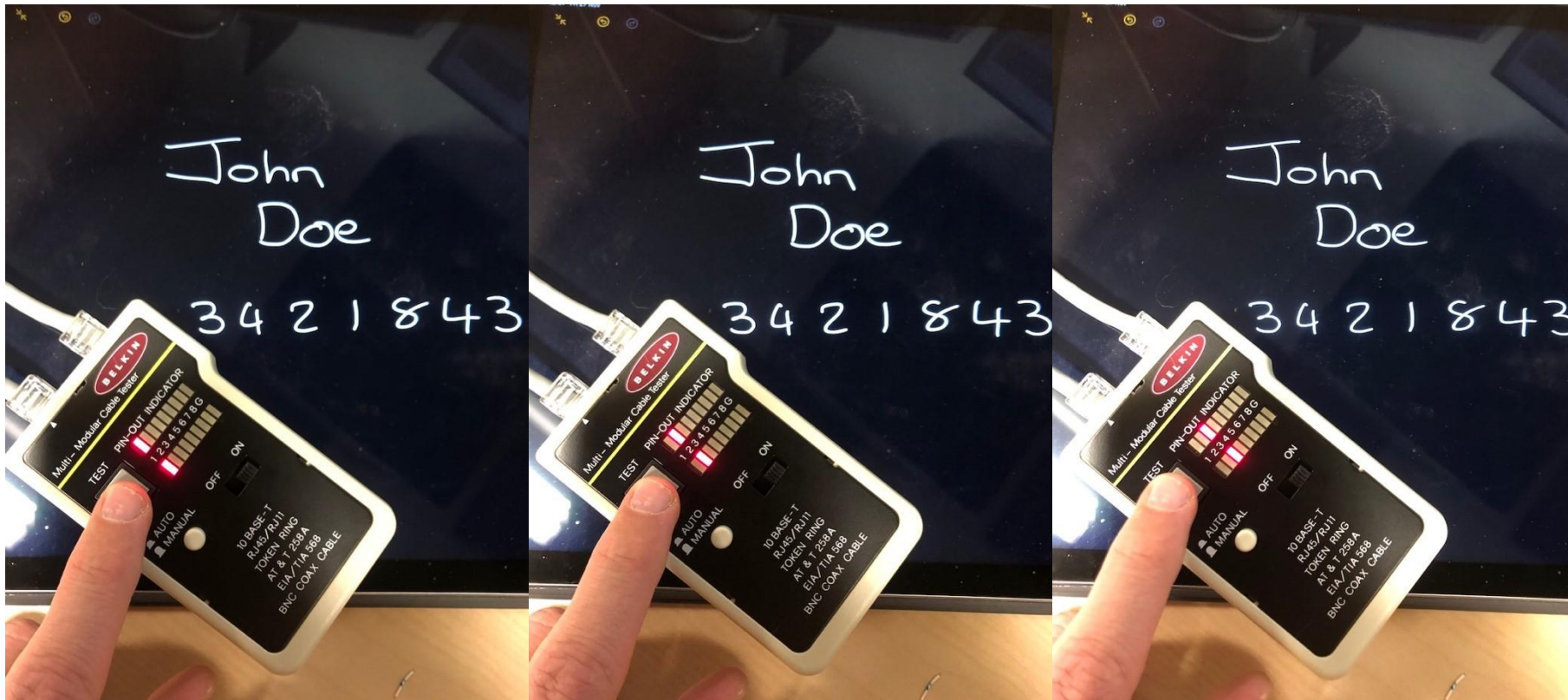


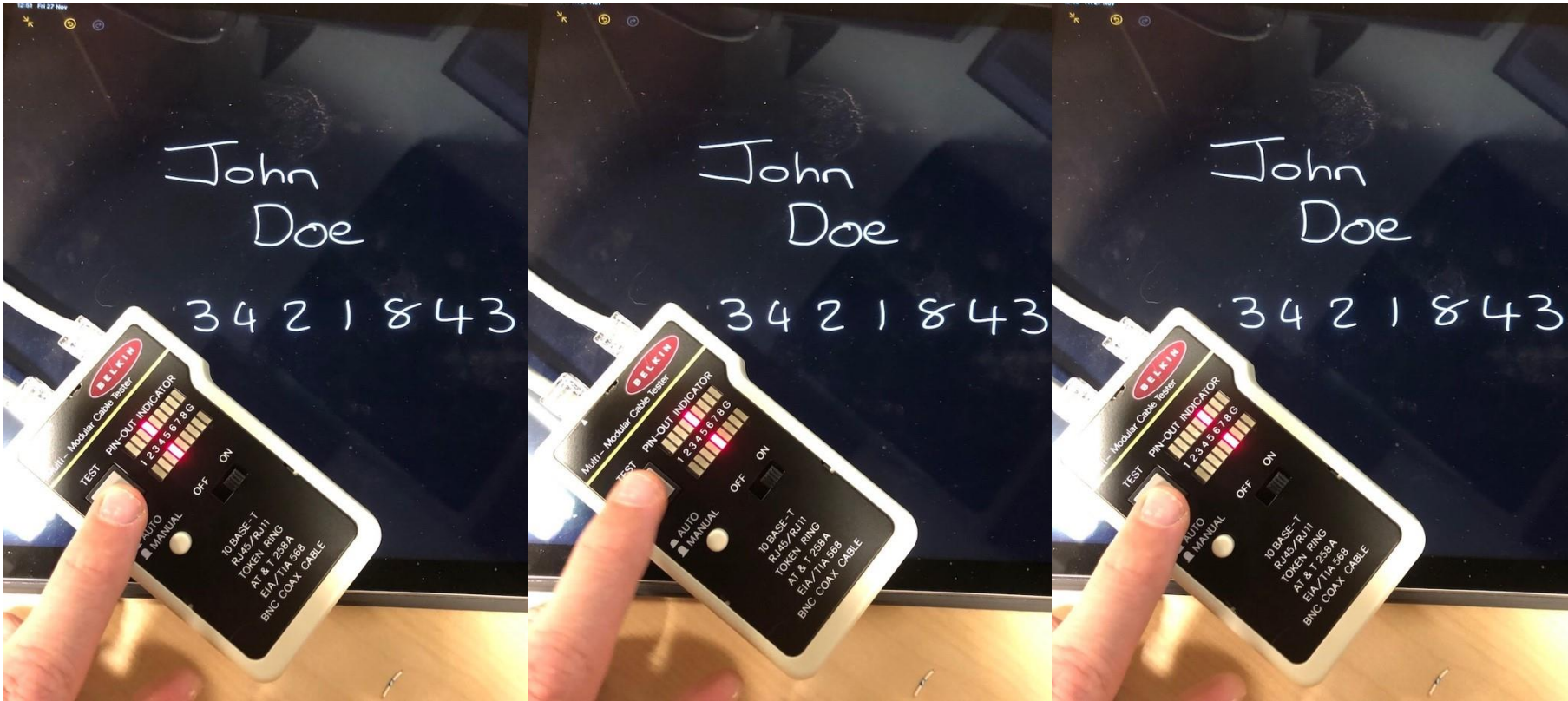
The plastic cover is at the right depth to catch under the fixing in the RJ45 end.

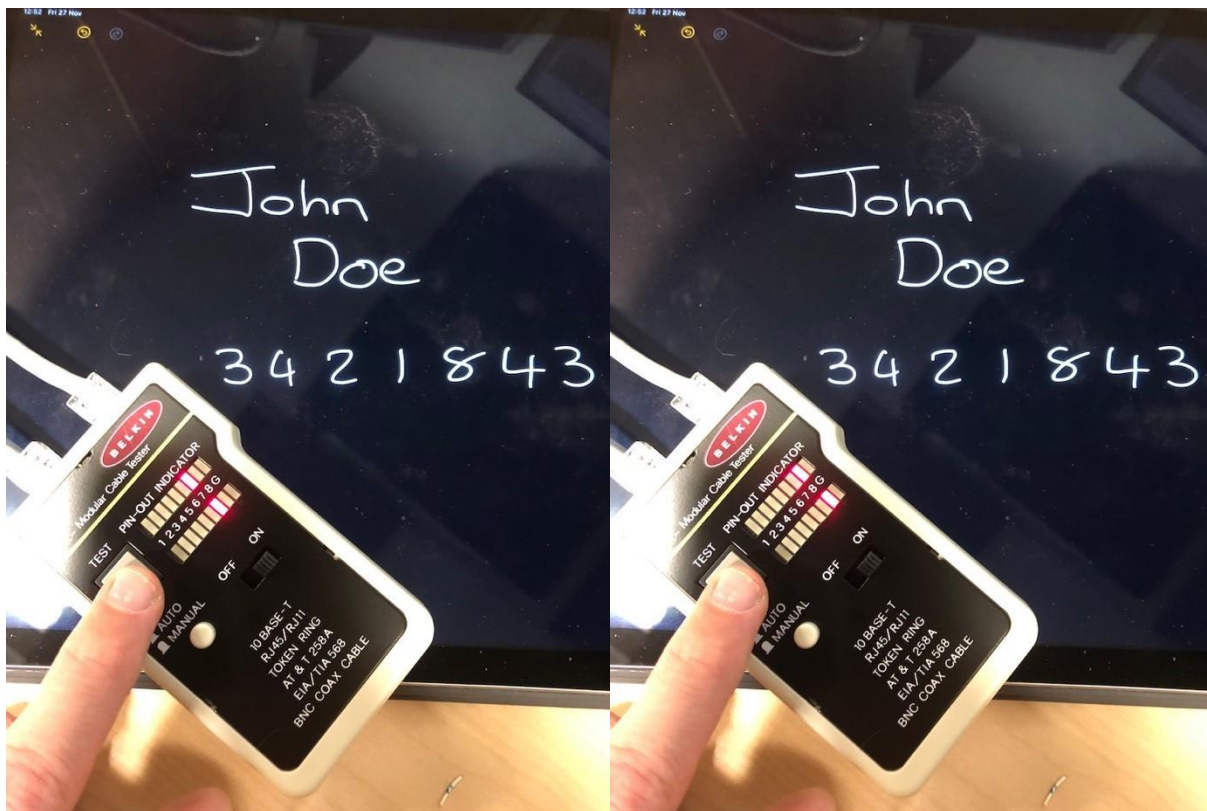


Cable testing

The cable tester lights show that each strand is working correctly.







These photos show that the cable is made correctly and tested as working. Each photo shows one of the pins and confirms a signal can be carried on each wire in the cable.

Task 2

Essential information

It is recommended that you spend 5 hours 40 minutes on this task.

(49 marks)

Equipment

You have been provided with 4 computers. These might be 4 physical machines, or 1 machine with 4 virtual machines. You are required to develop the test system based on the specification outlined by your line manager.

The following information regarding the implementation of the network has been provided:

- Server01 – this will be the domain controller, DNS and DHCP server, no operating system installed
- Server02 – secondary server, file server and another role server, no operating system installed
- PC01 – desktop machine, no operating system installed
- PC02 – desktop machine, operating system pre-installed
- one wireless device, for example, wireless printer, media sender or IP camera recommended
- one optional access point/wireless router/wireless print server
- In addition, you will have access to:
 - digital camera
 - word processing software
 - sample files for step C

Network information

The following information outlines the settings you will need to use when configuring the network:

- Subnet – 255.0.0.0
- Server01 IP address --10.1.1.1 and 10.1.1.2

- Server02 IP address – 10.1.1.3
- DHCP scope – 10.1.1.5-10.1.1.10
- default gateway – 10.1.1.254 (no internet access provided)

Evidence required for submission to NCFE

you must take print screens and/or photographs of the processes you have carried out

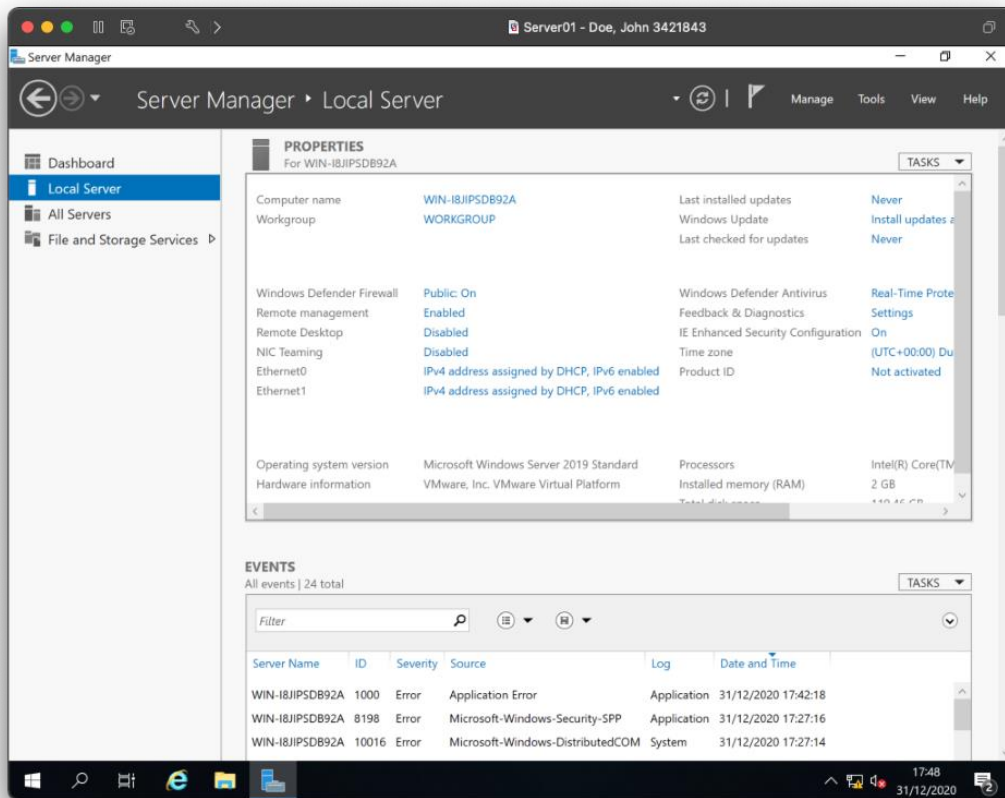
- use the tick box in the evidence required column to ensure that all the required print screens and/or photographs have been provided

Student evidence

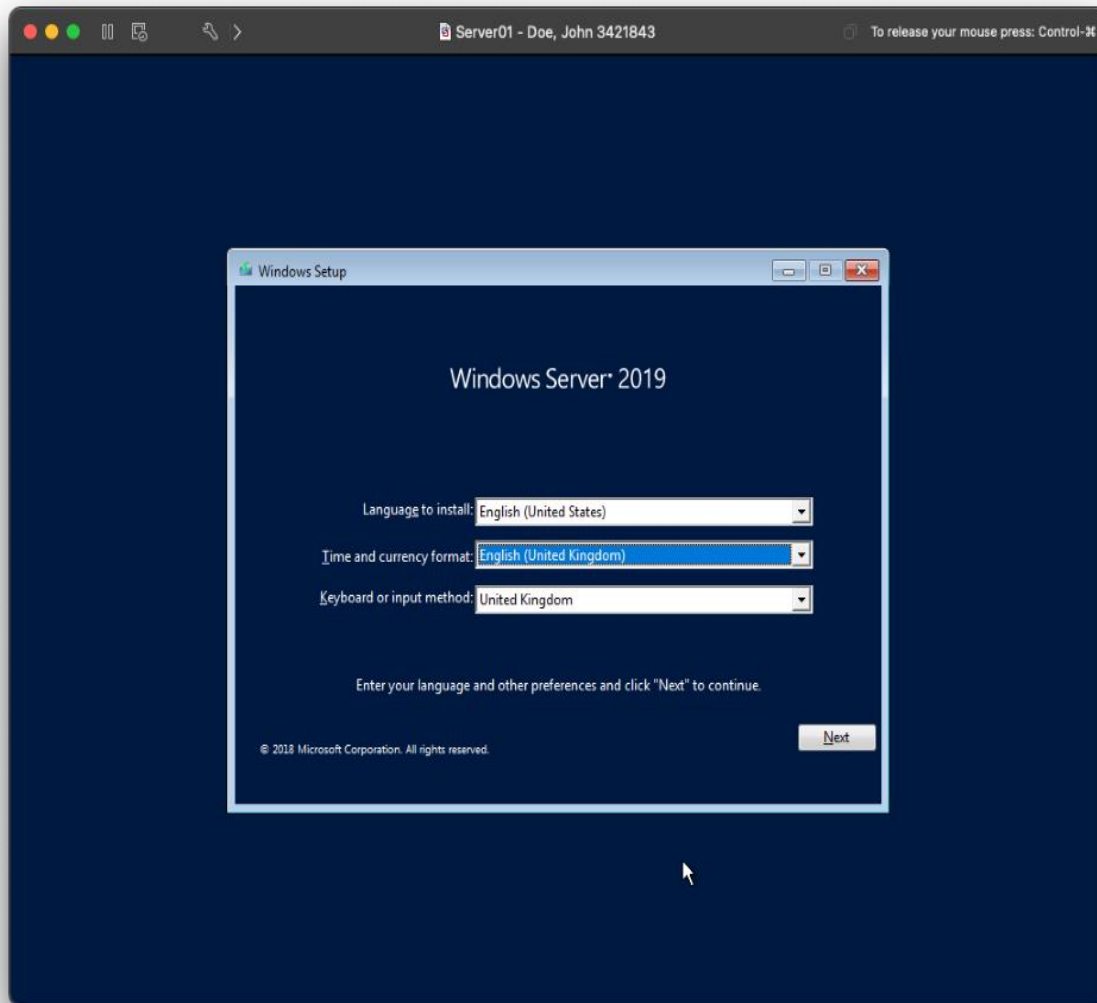
Step A

Server01 installation and configuration

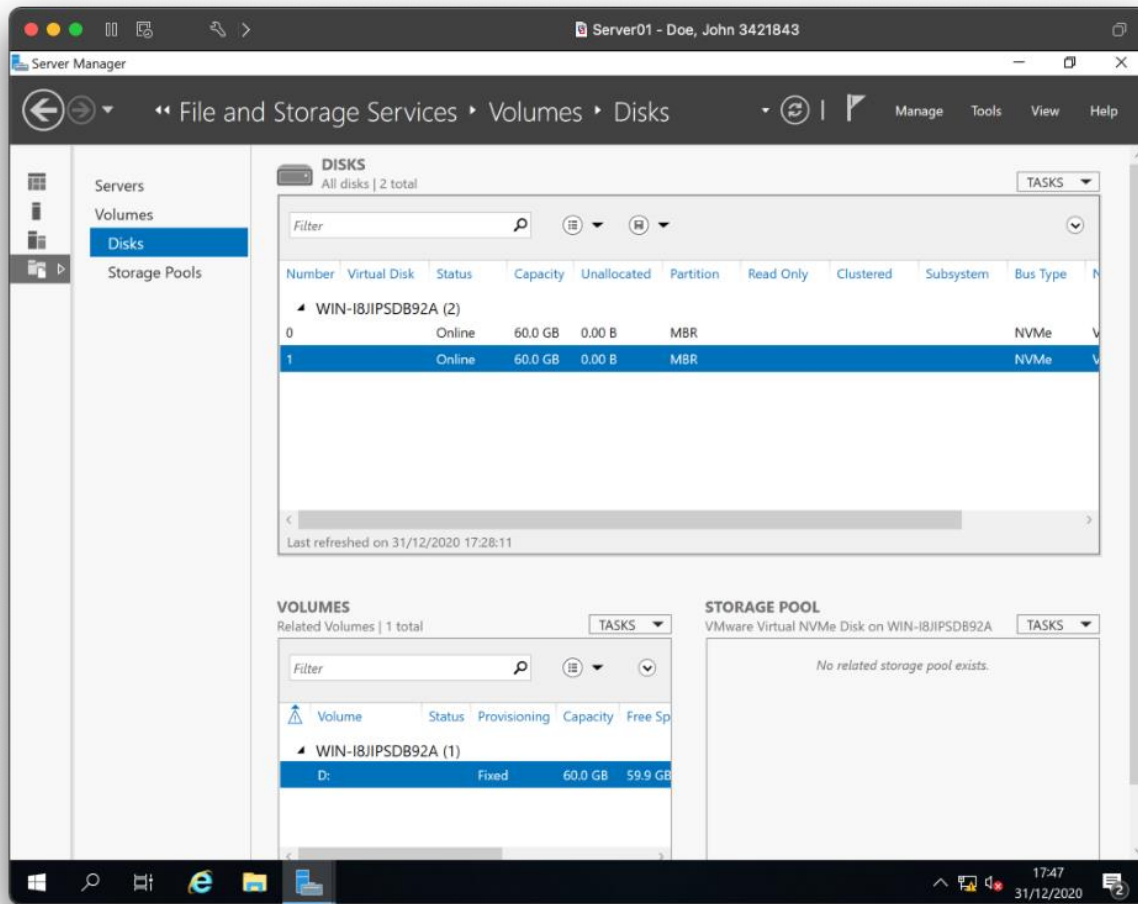
This image demonstrated that the operating system has been installed



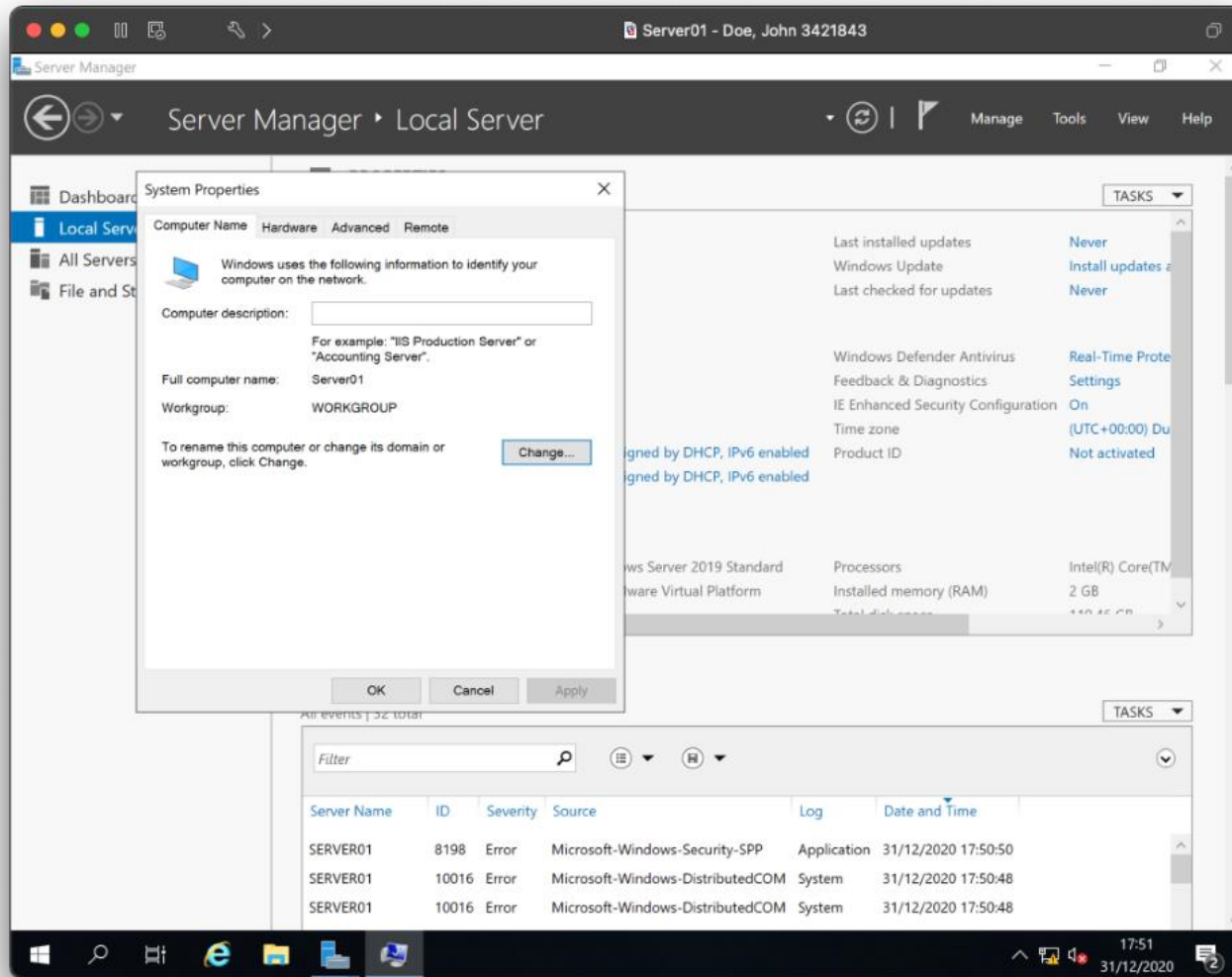
This photo demonstrates that I have selected the suitable region and language settings.



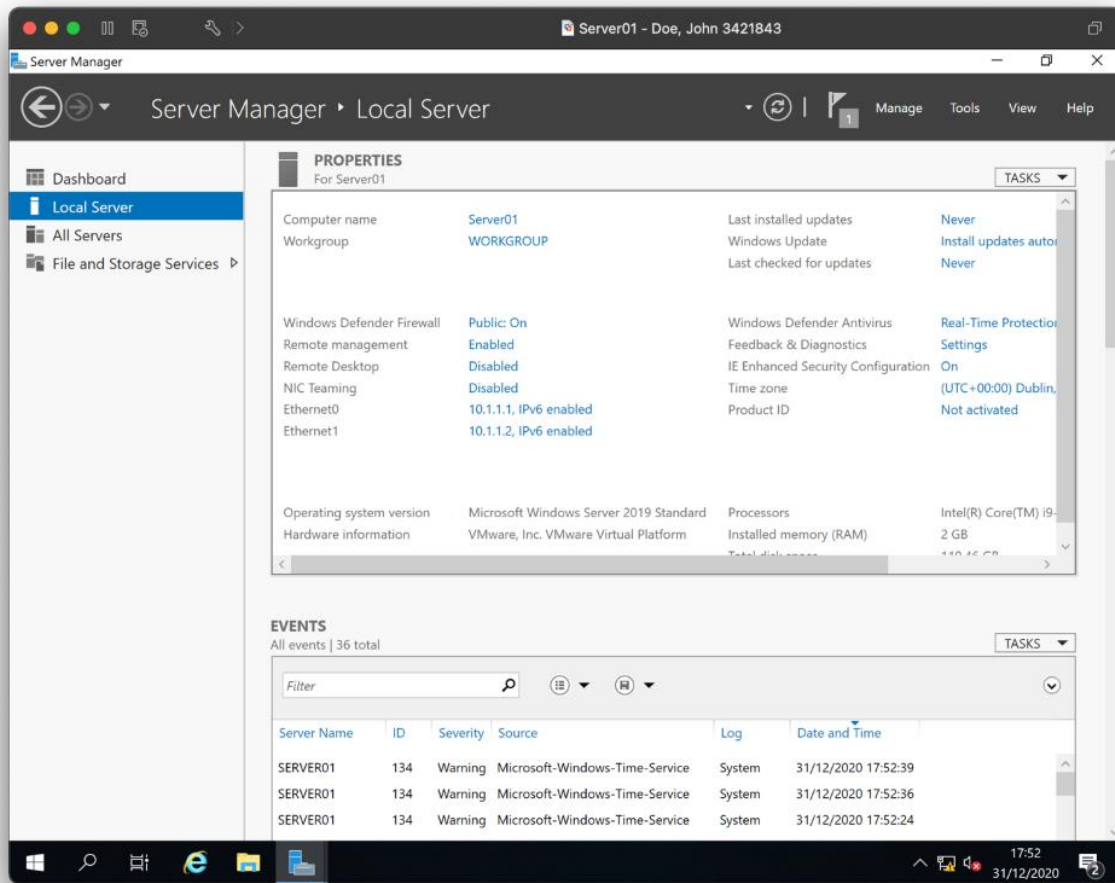
This image demonstrates that I have configured the disk partitions.



This photo demonstrates that the machine has been named correctly.

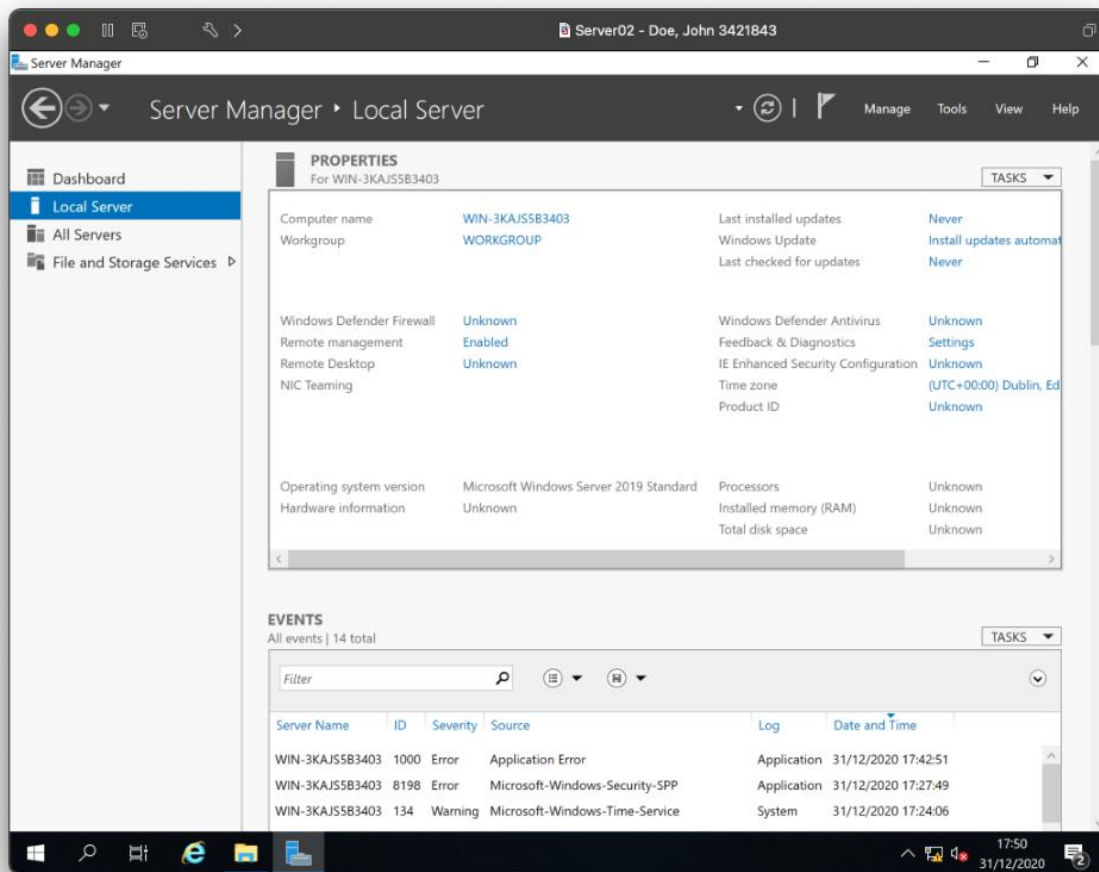


This photo demonstrates the fixed IP addressing set on the virtual machines.

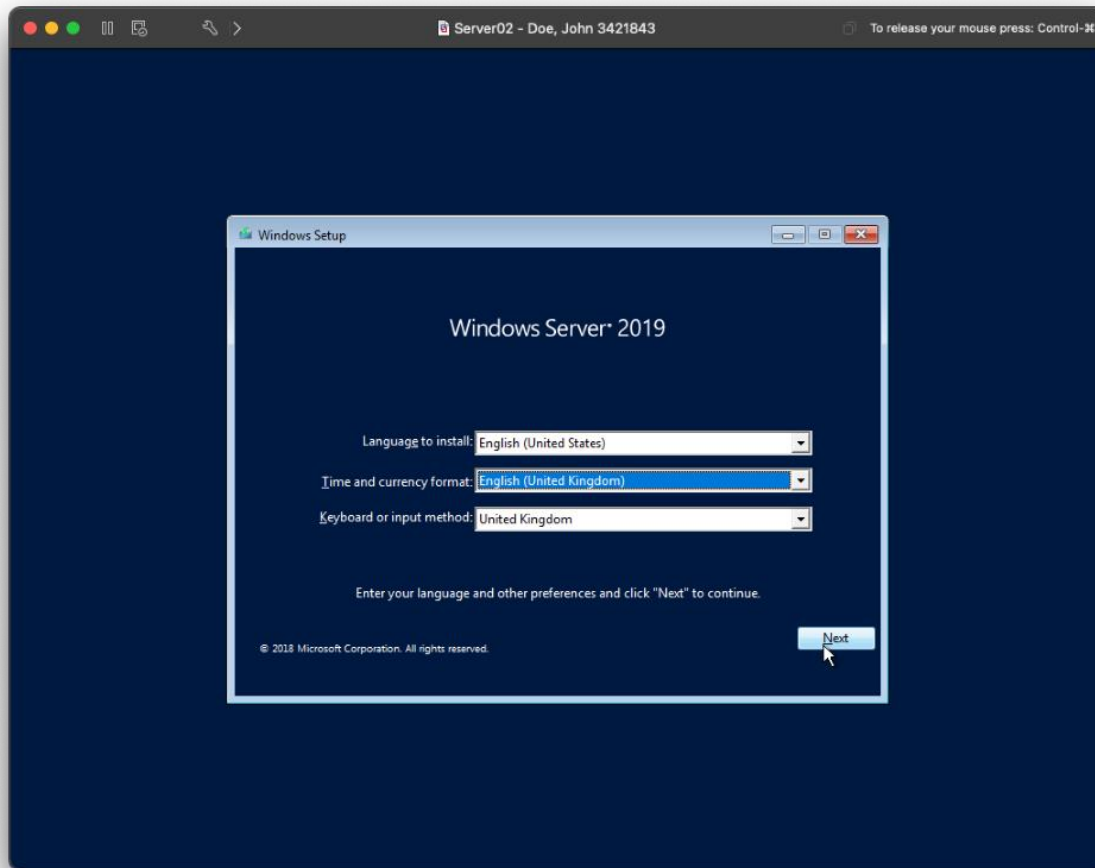


Server02 installation and configuration

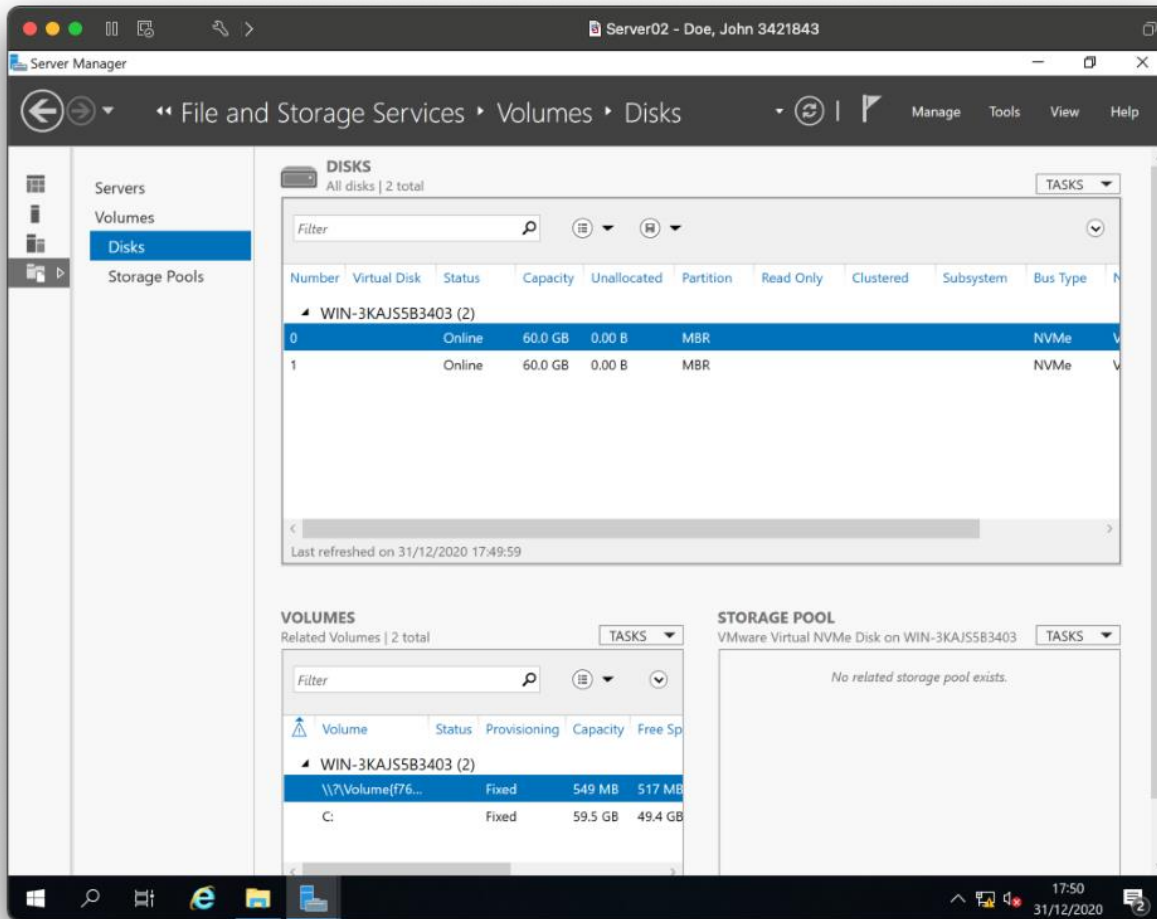
This photo demonstrates that the operating system has been installed.



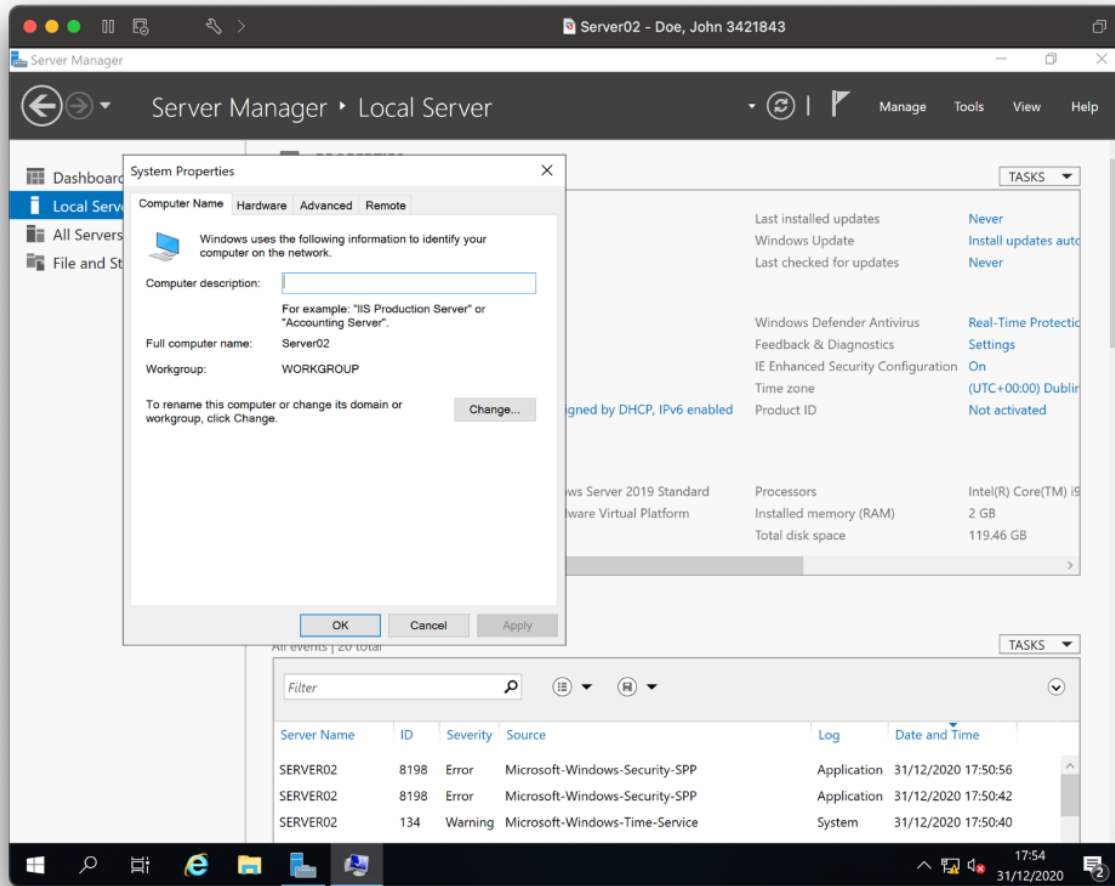
This photo demonstrates that I have selected the suitable region and language settings.



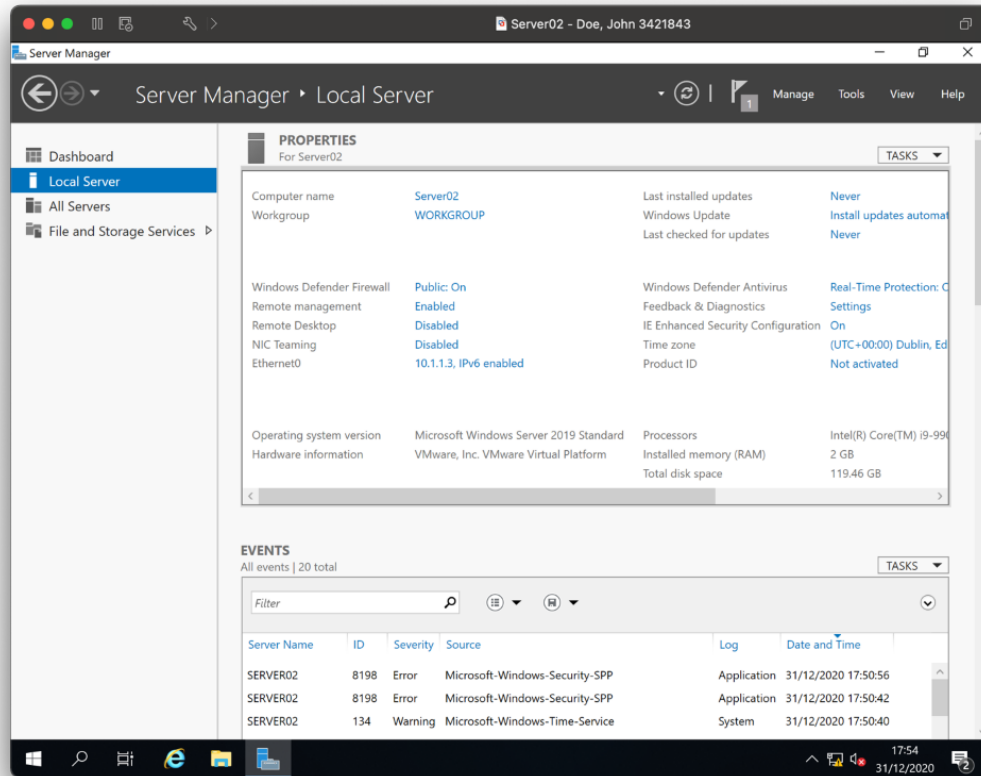
This demonstrates that I have configured the relevant disk partitions.



This photo demonstrates that the machine has been named correctly.

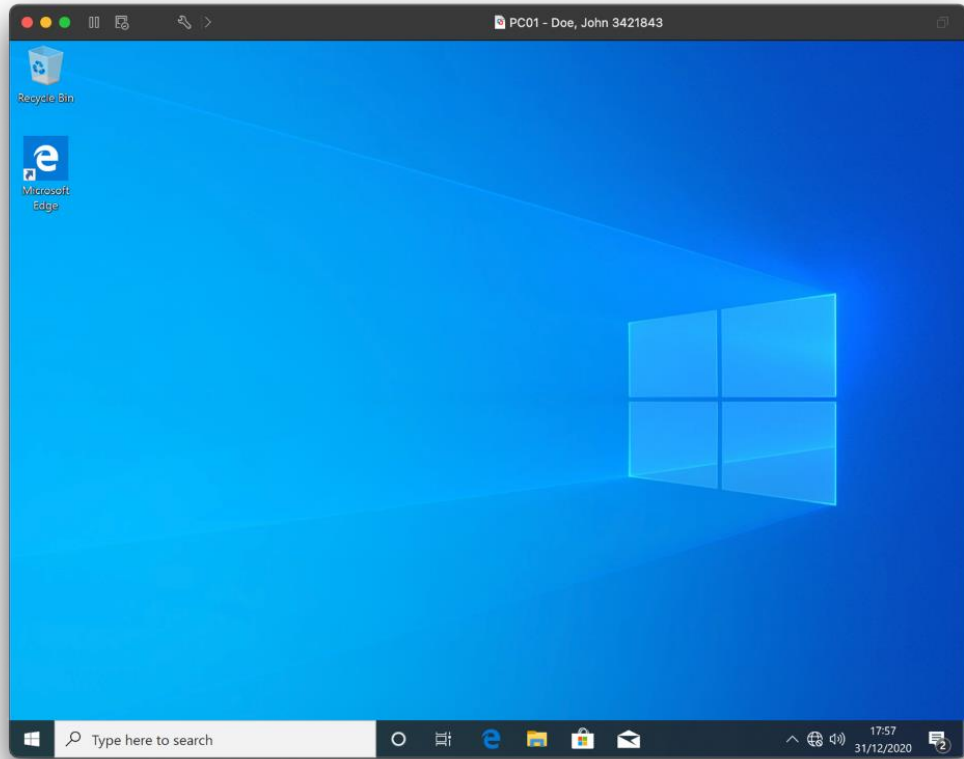


This photo demonstrates that I have used fixed IP addressing.

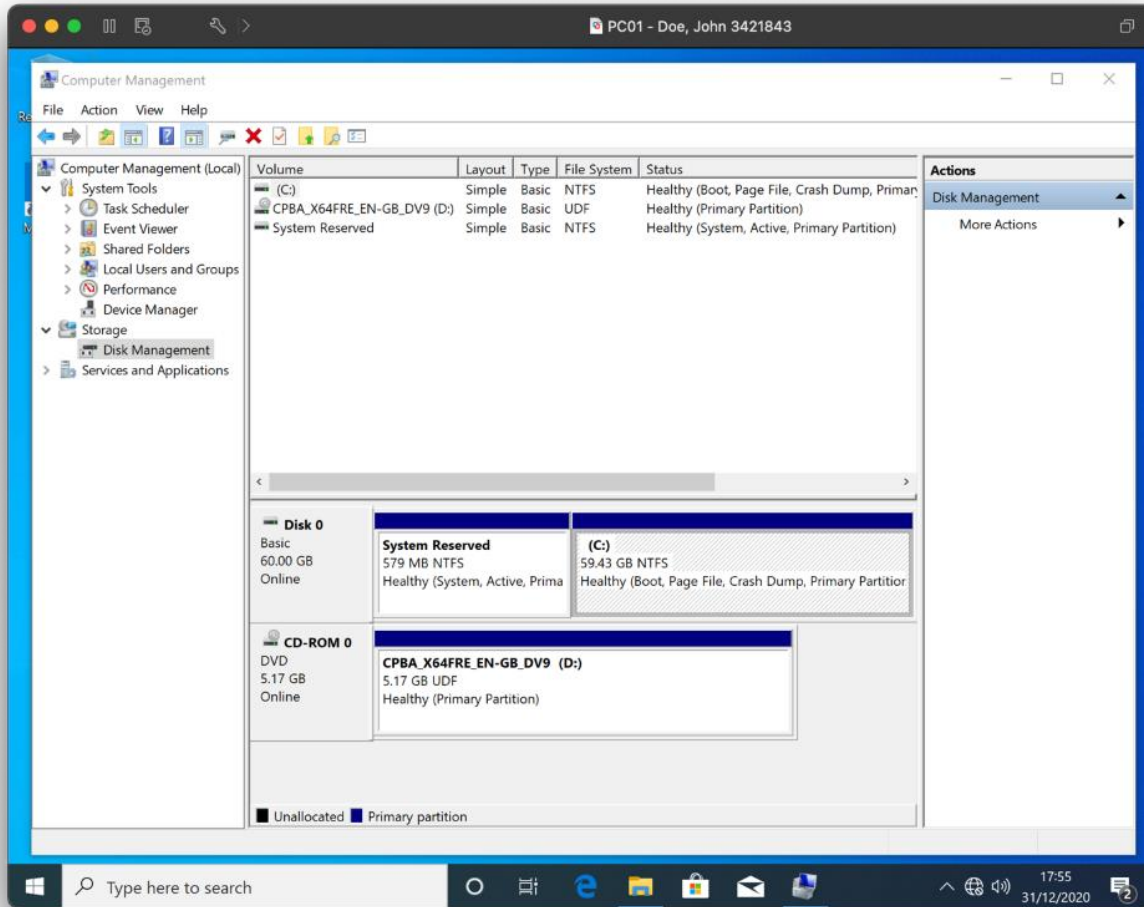


PC01 installation and configuration

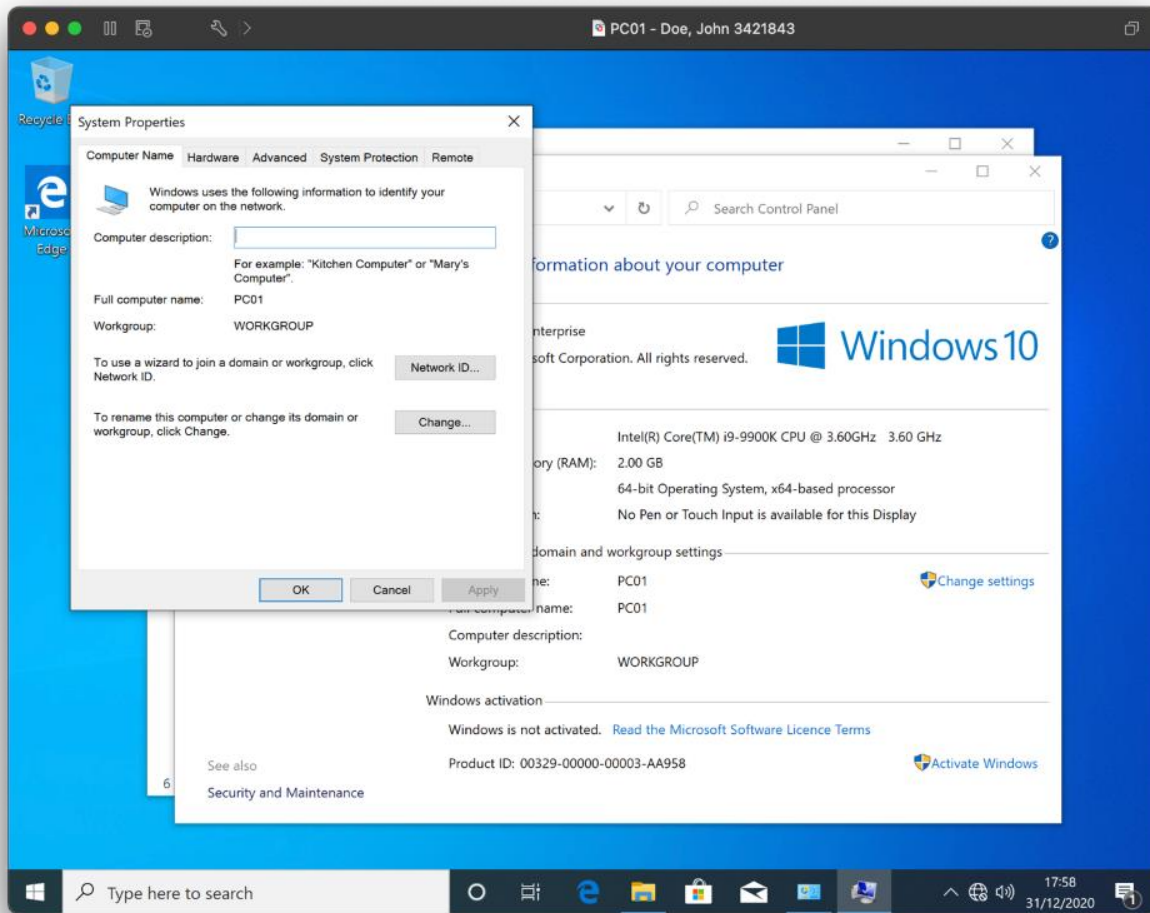
This photo demonstrates that the operating system has been installed.



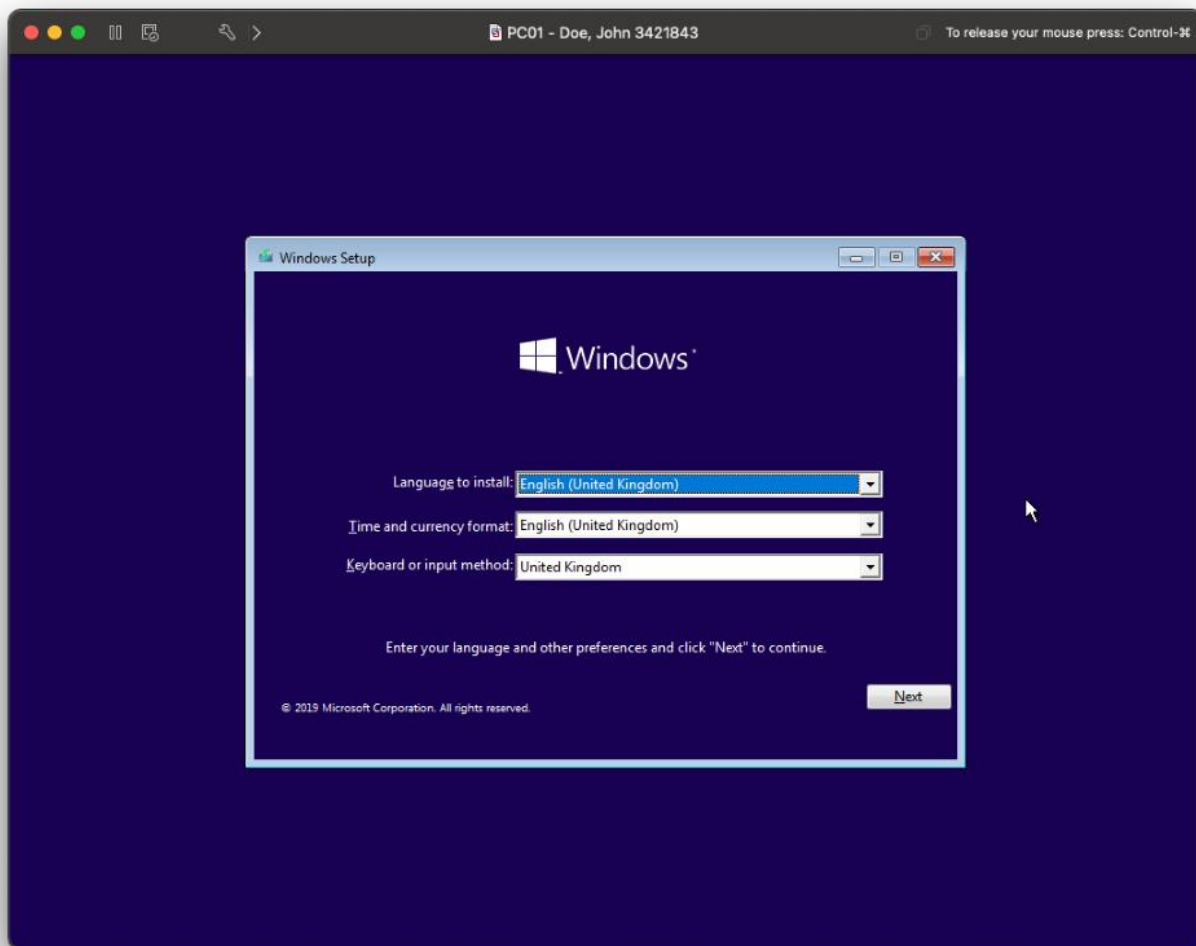
This photo demonstrates that I have configured the disk partitions.



This photo demonstrates that the machine has been named correctly.



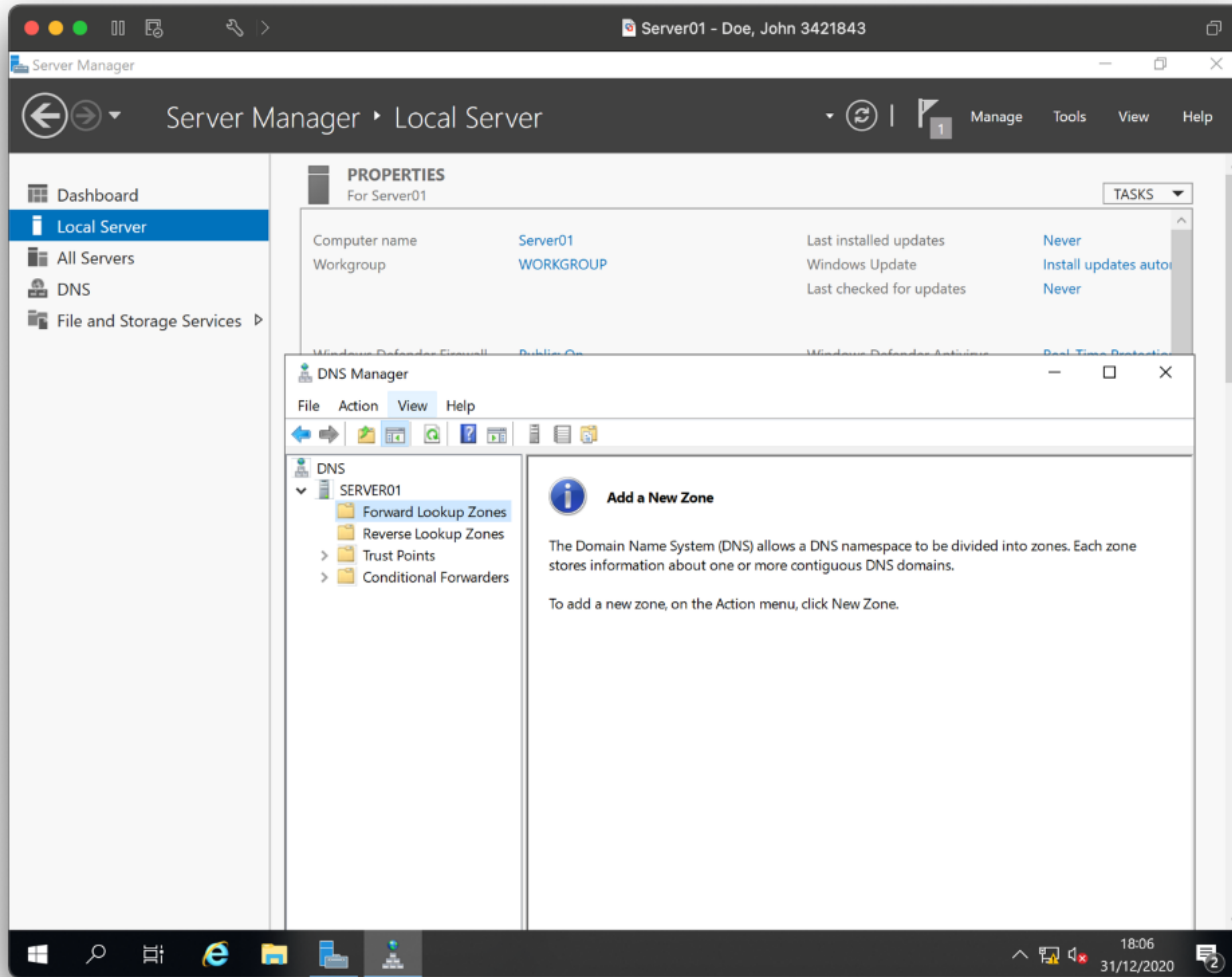
This photo demonstrates that suitable region and language settings have been applied.

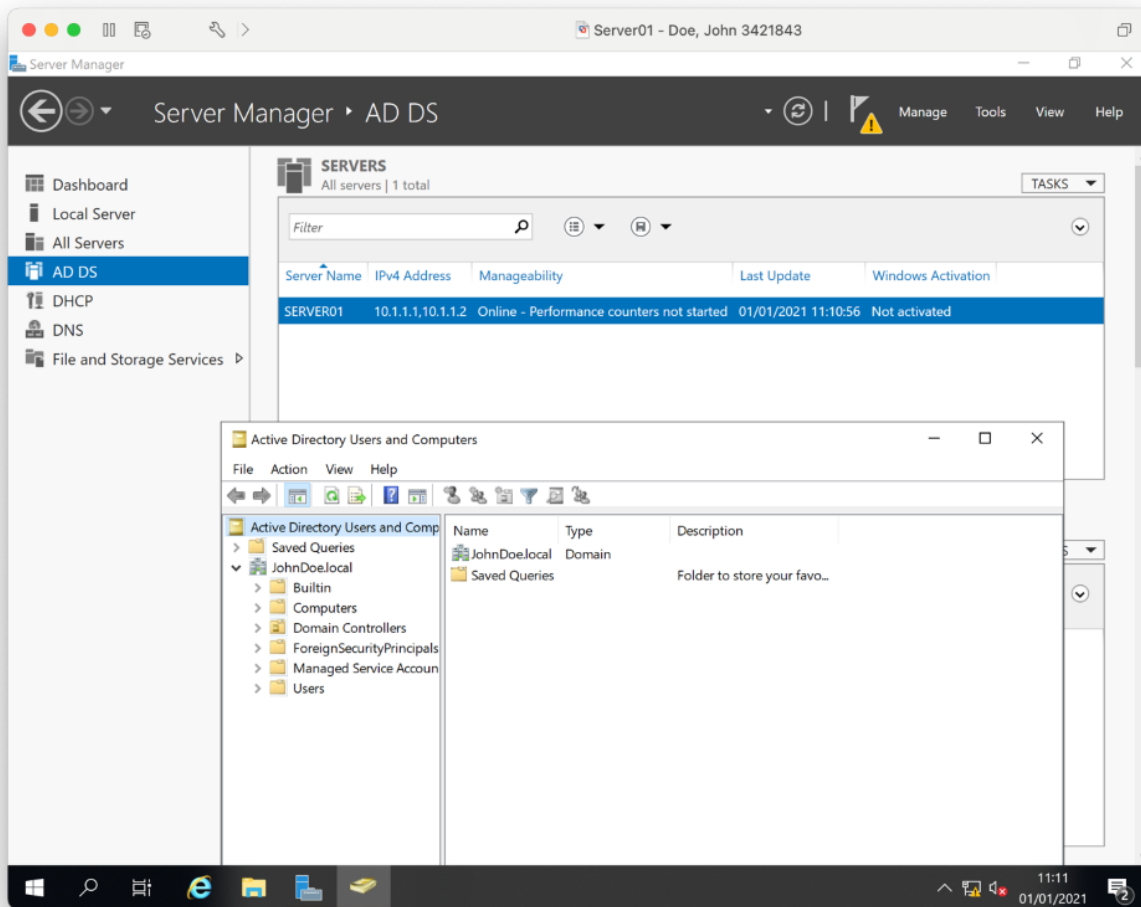


Step B

This photo demonstrates that DNS has been configured so that my machines can access the internet.

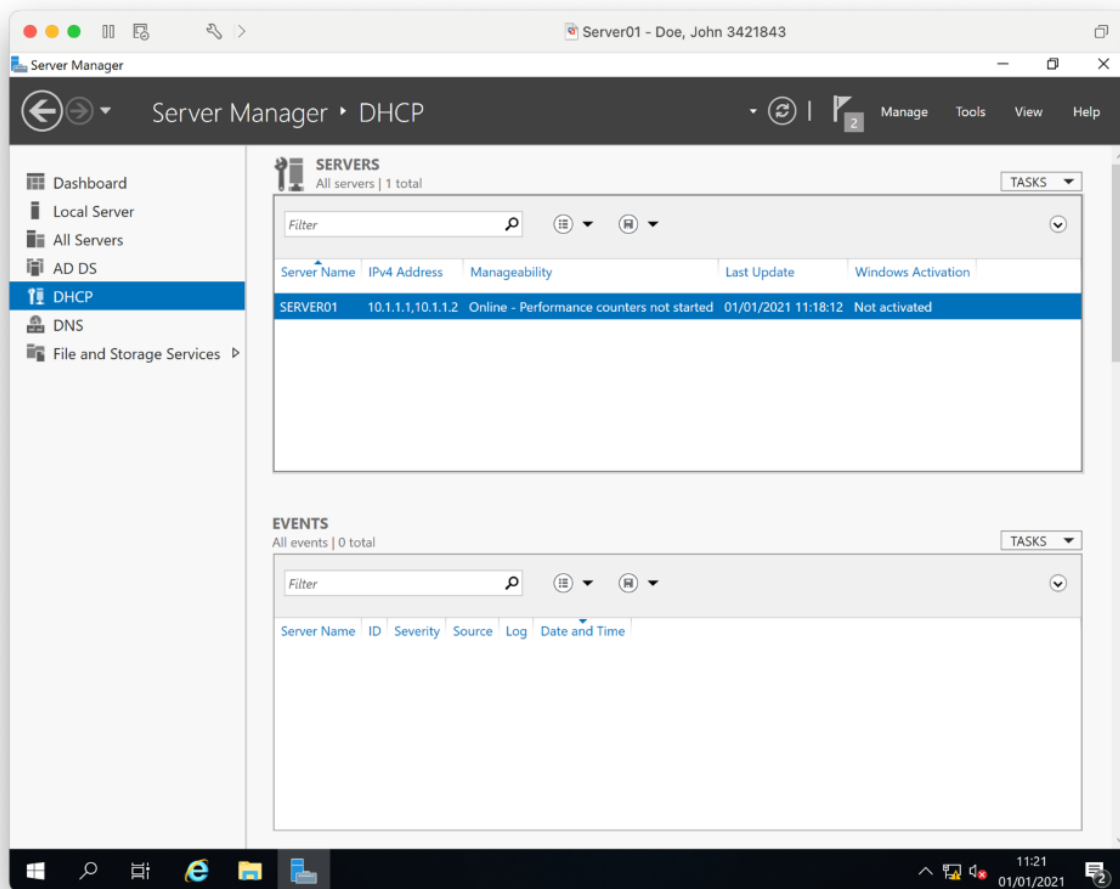
This photo demonstrates that the Directory service has been configured to manage users.



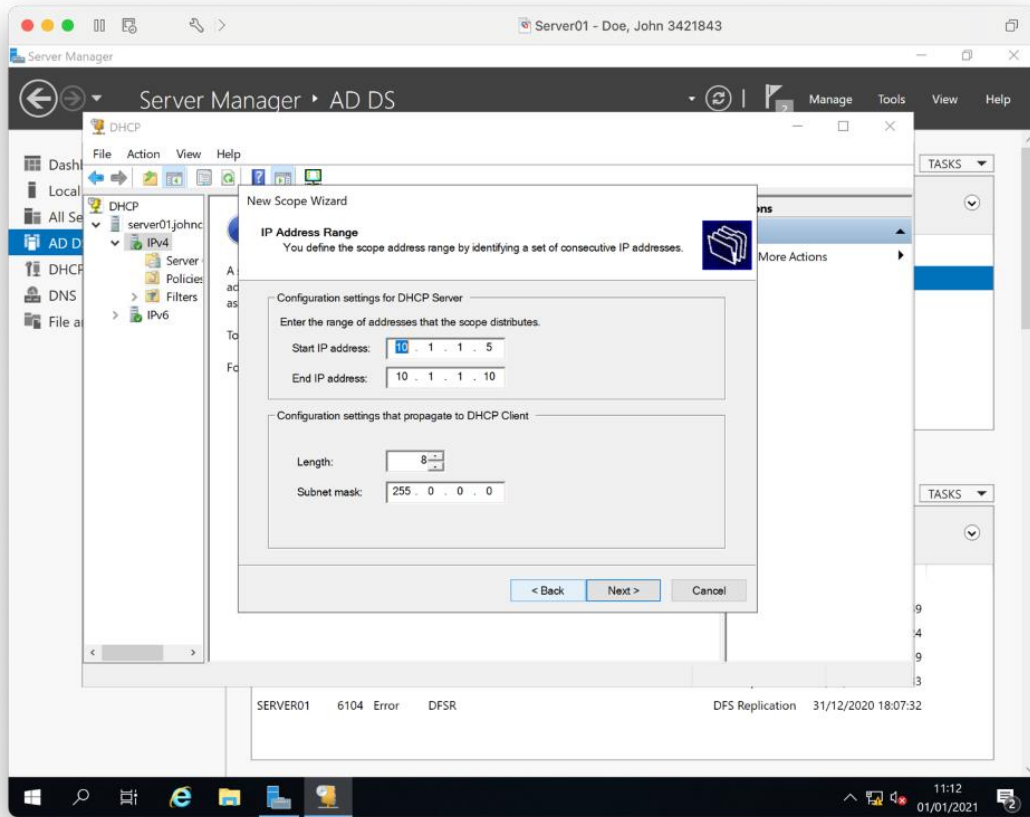


DHCP

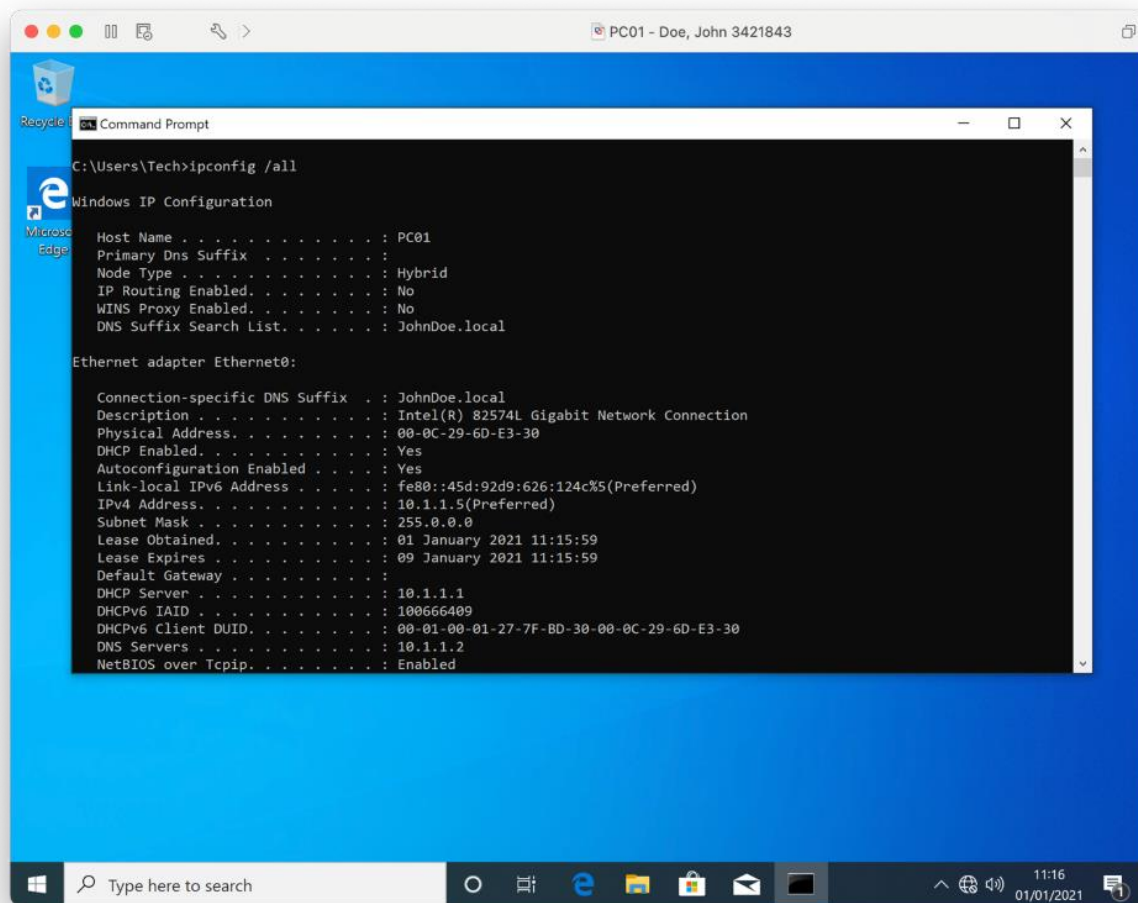
This photo demonstrates that DHCP service has been installed to allow automatic IP addressing.



I have configured the DHCP scope with the settings 10.1.1.5-10.1.1.10 for this network.

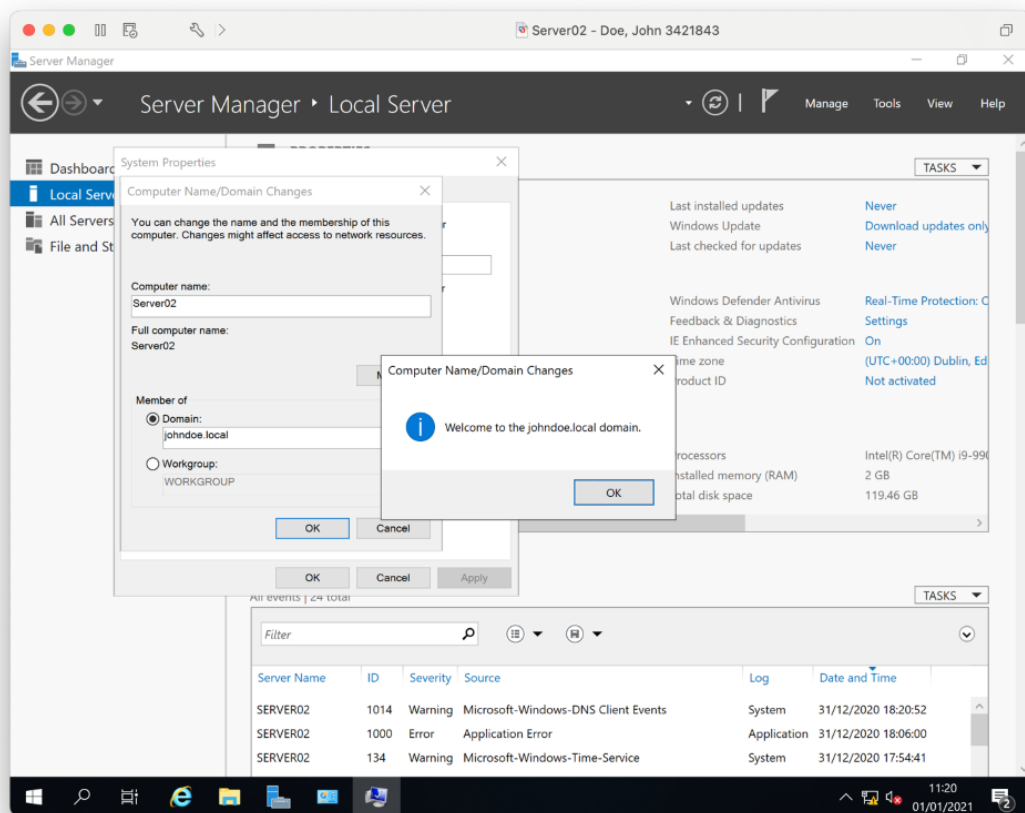


PC01 has been assigned a DHCP address and this has been confirmed using IPCONFIG/ALL.

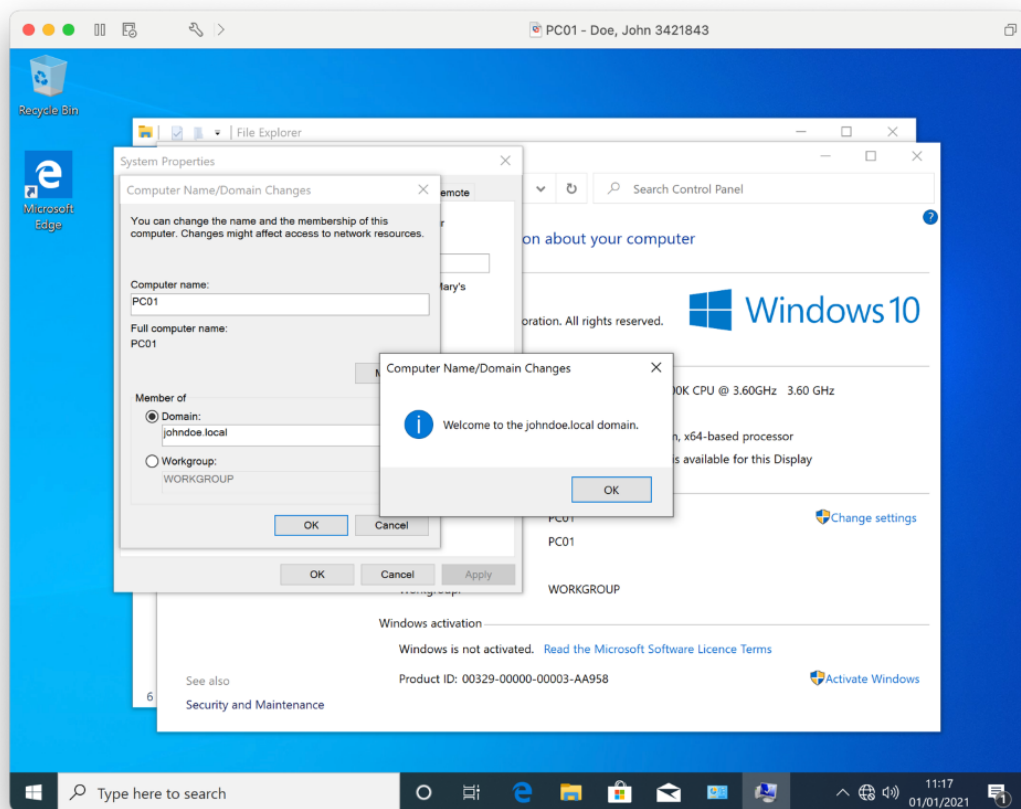


Domain joins

This image confirms that Server02 domain joined to (FirstnameSurname).local.

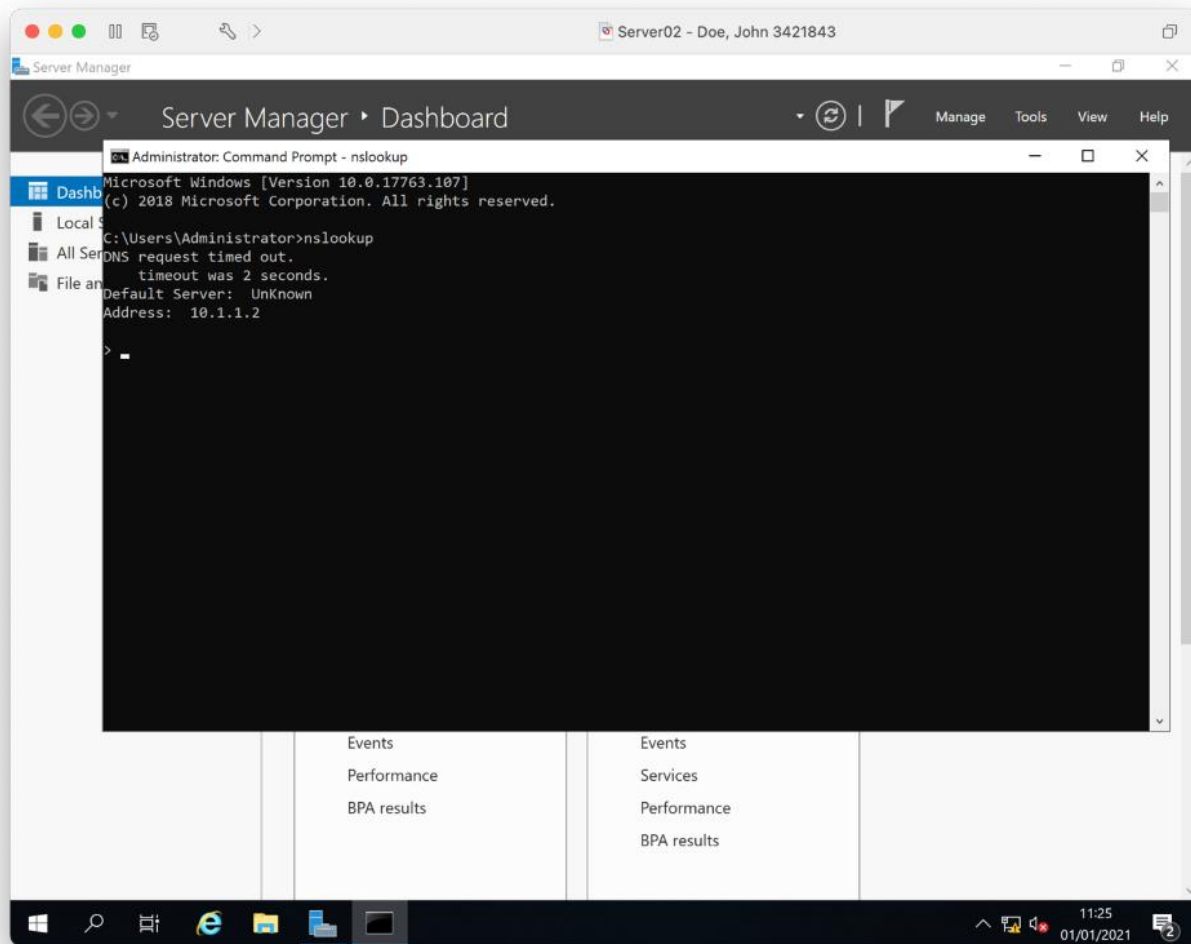


PC01 domain joined at logon to (FirstnameSurname).local.



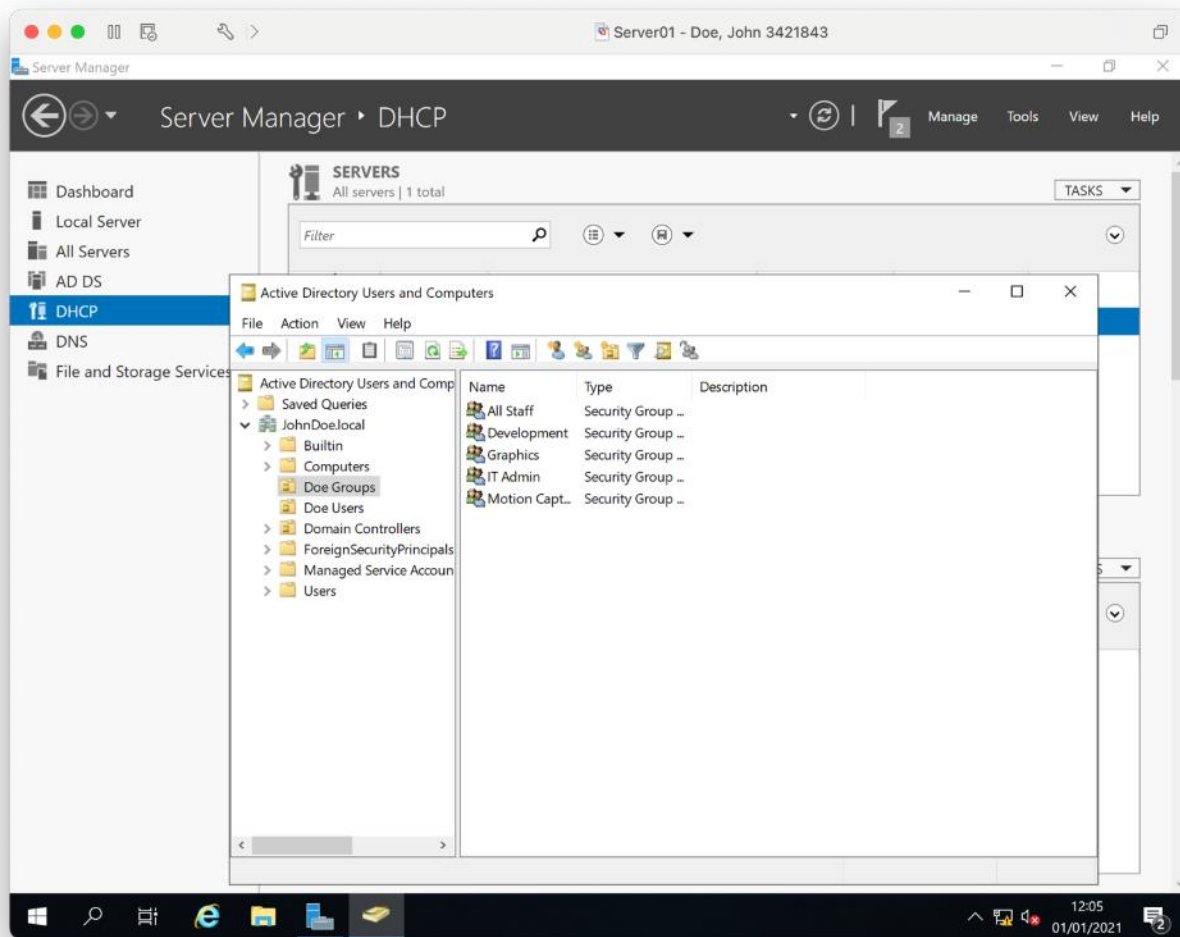
Reverse lookup

Server02 successfully completed a reverse lookup using NSLOOKUP to Server01.



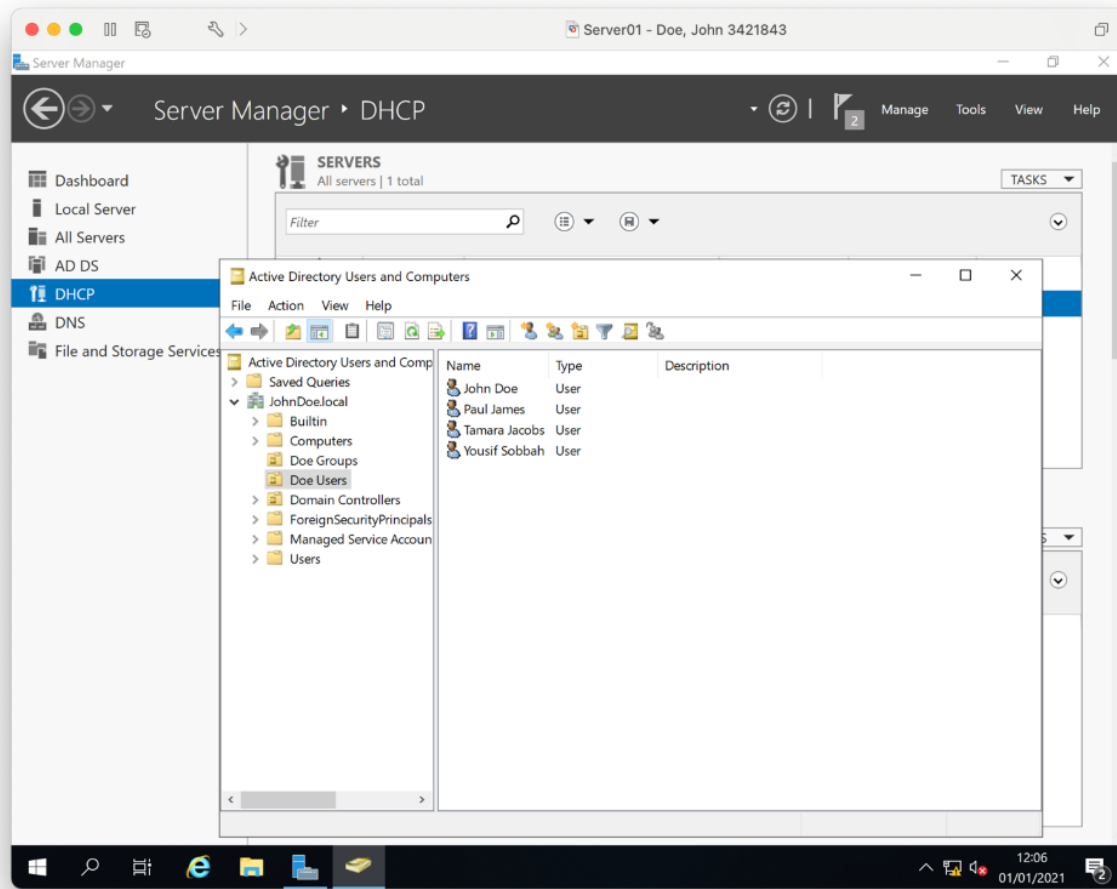
Step C

This image demonstrates a group creation within AD.

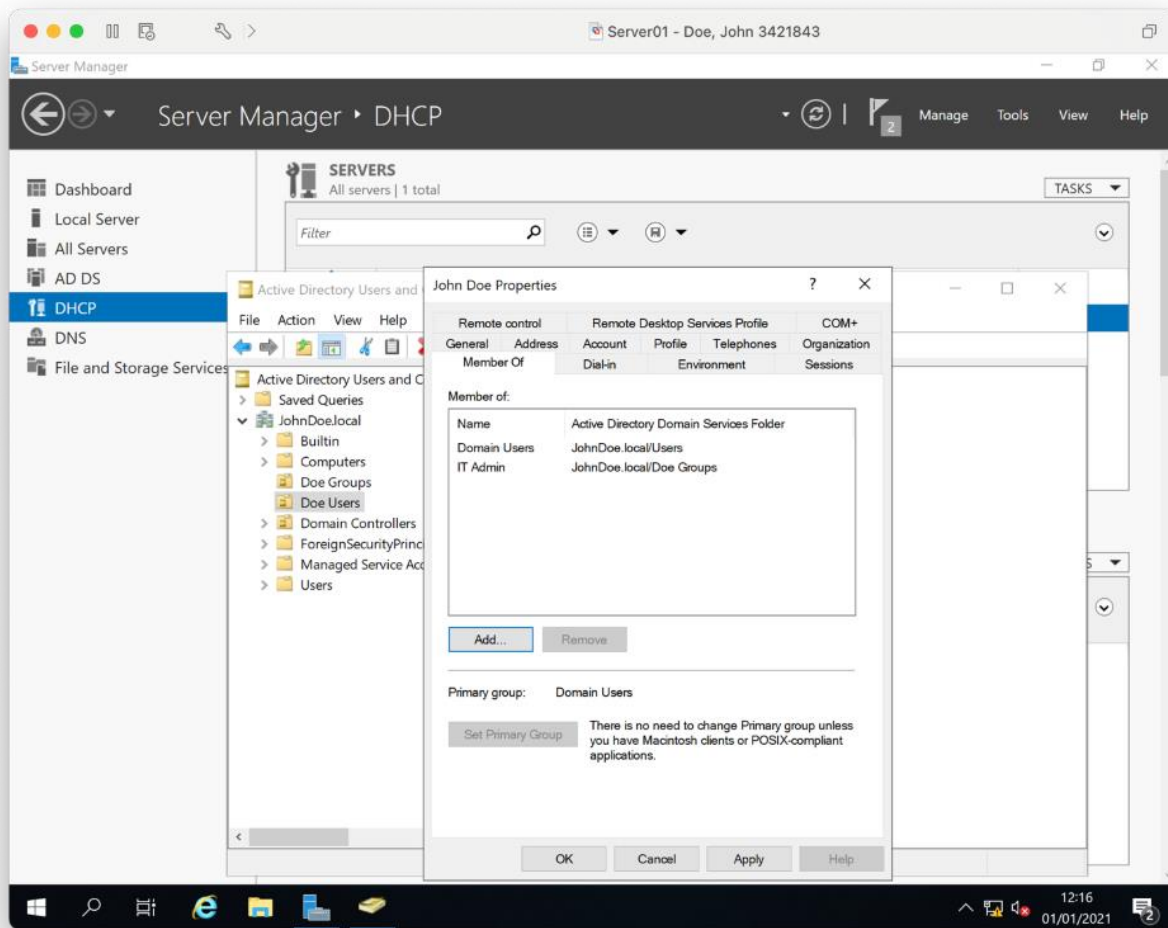


User creation

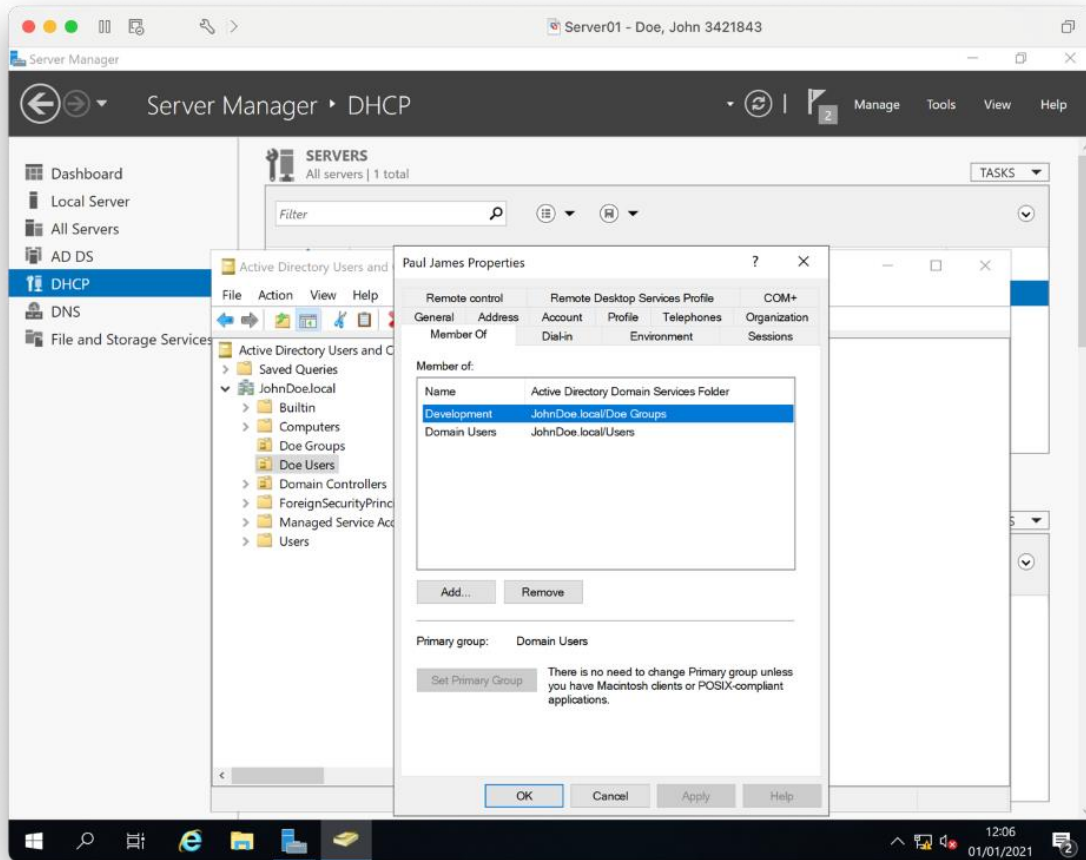
Users - Your first and surname, Paul James, Tamara Jacob and Yousif Sobbah has been created.



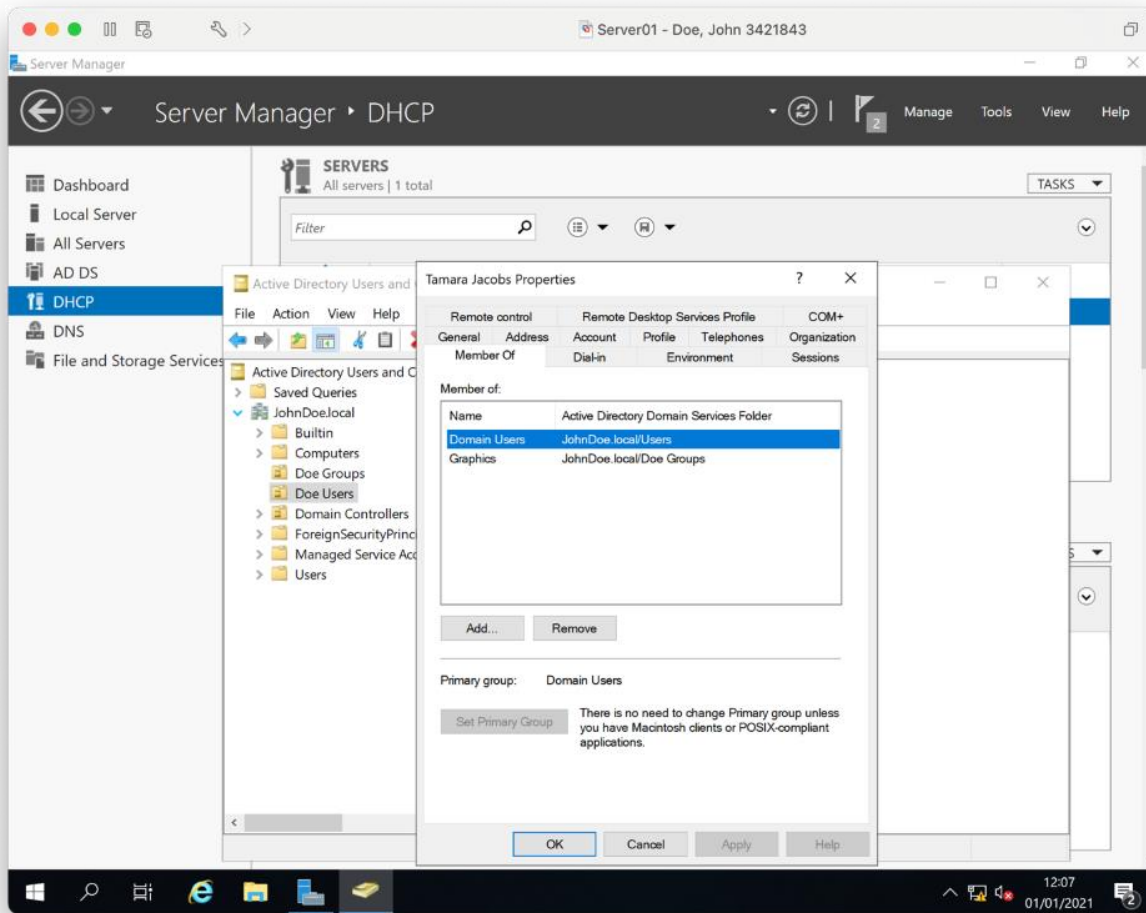
Your first and surname is now a member of the group IT admin.



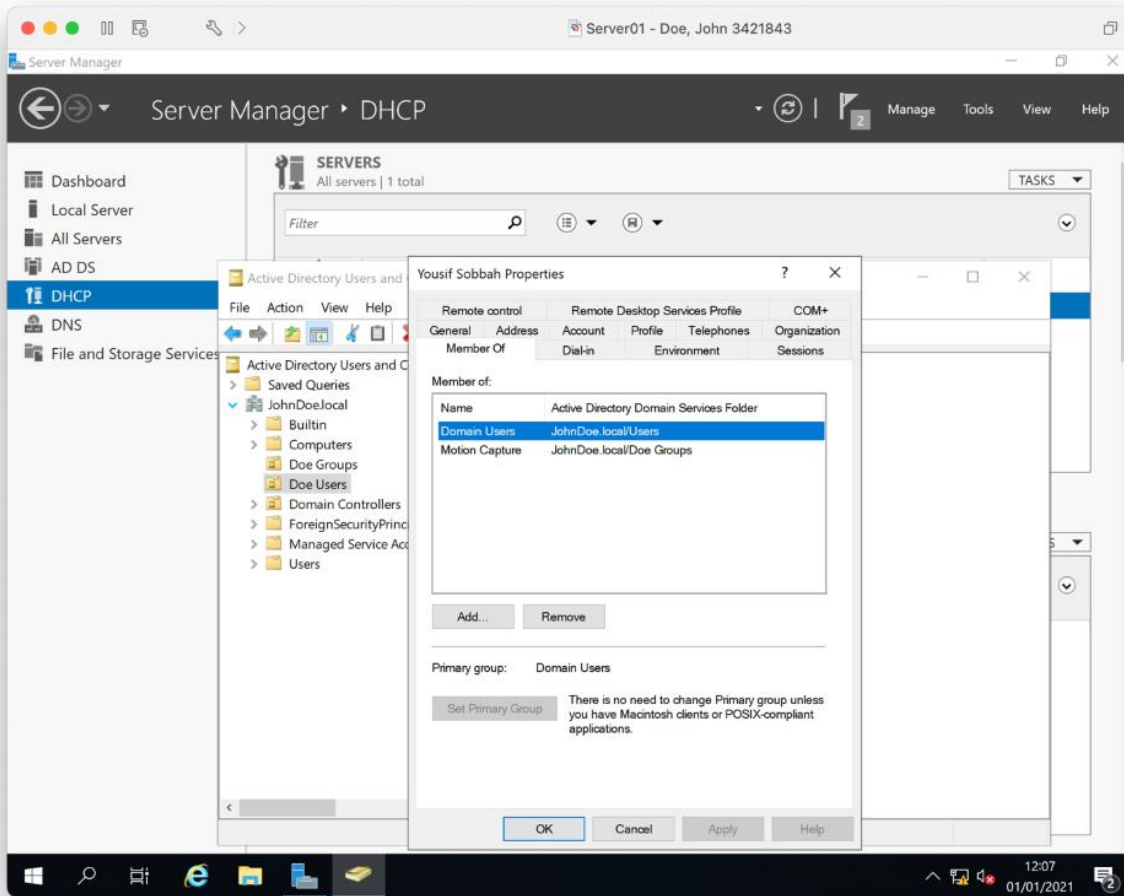
Paul James is now a member of the group Development.



Tamara Jacobs is now a member of the group Graphics

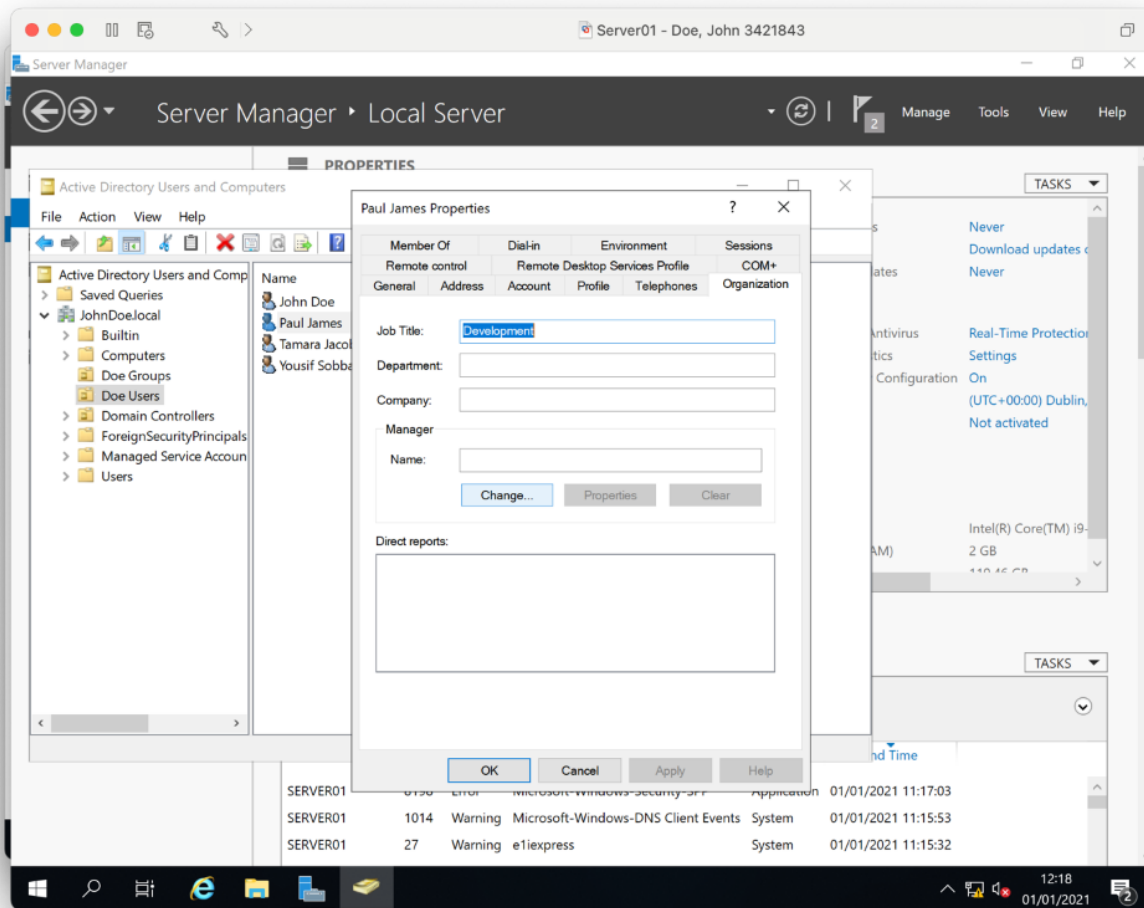


Yousif Sobbah is now a member of the group Motion Capture.

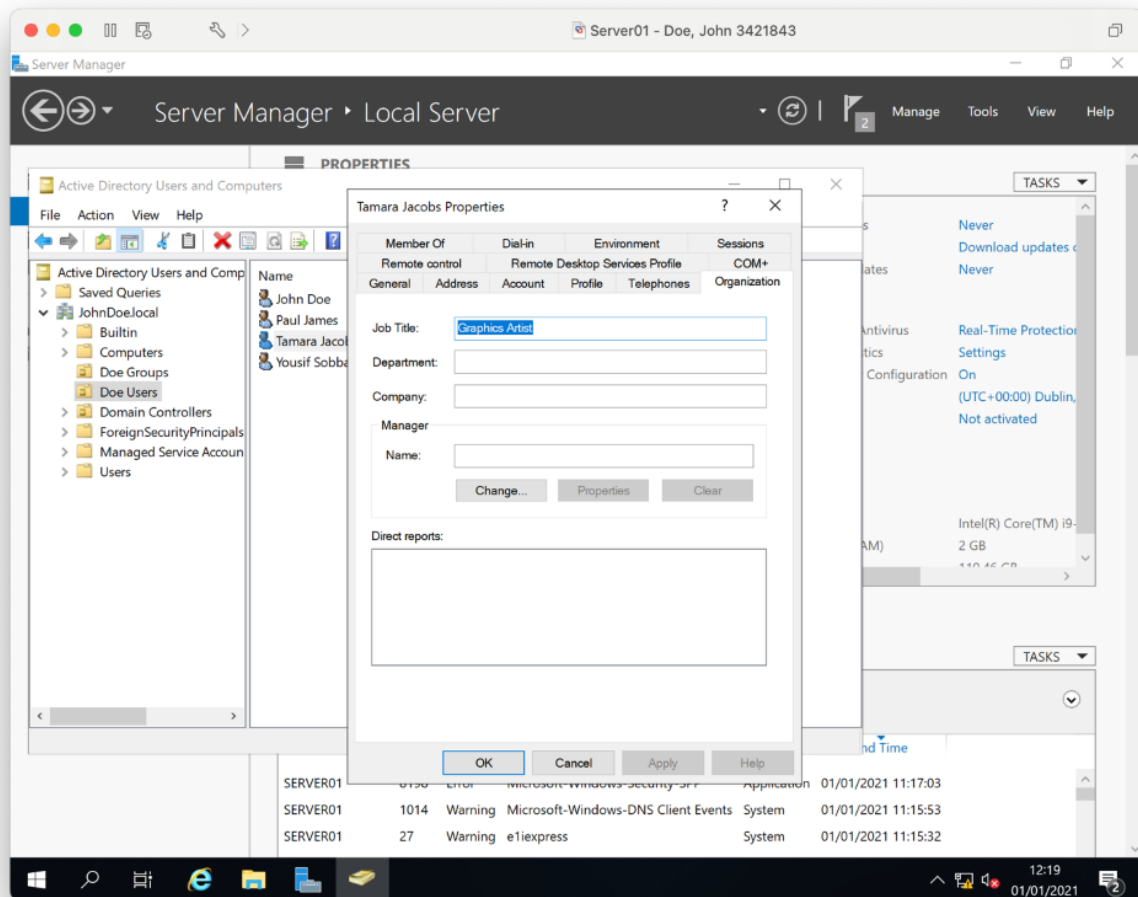


User your first and surname has the job description of IT admin.

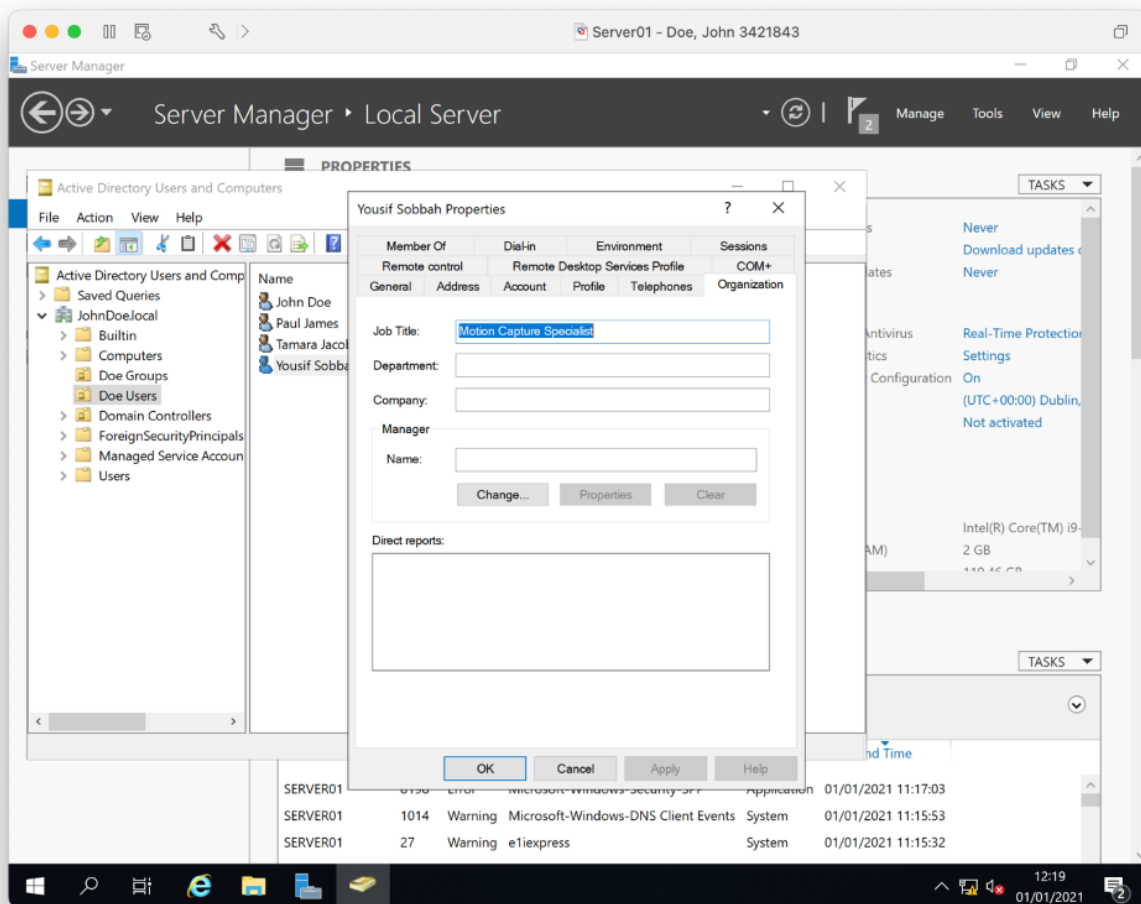
Paul James has the job description of development



Tamara Jacobs has the job description of graphics artist.

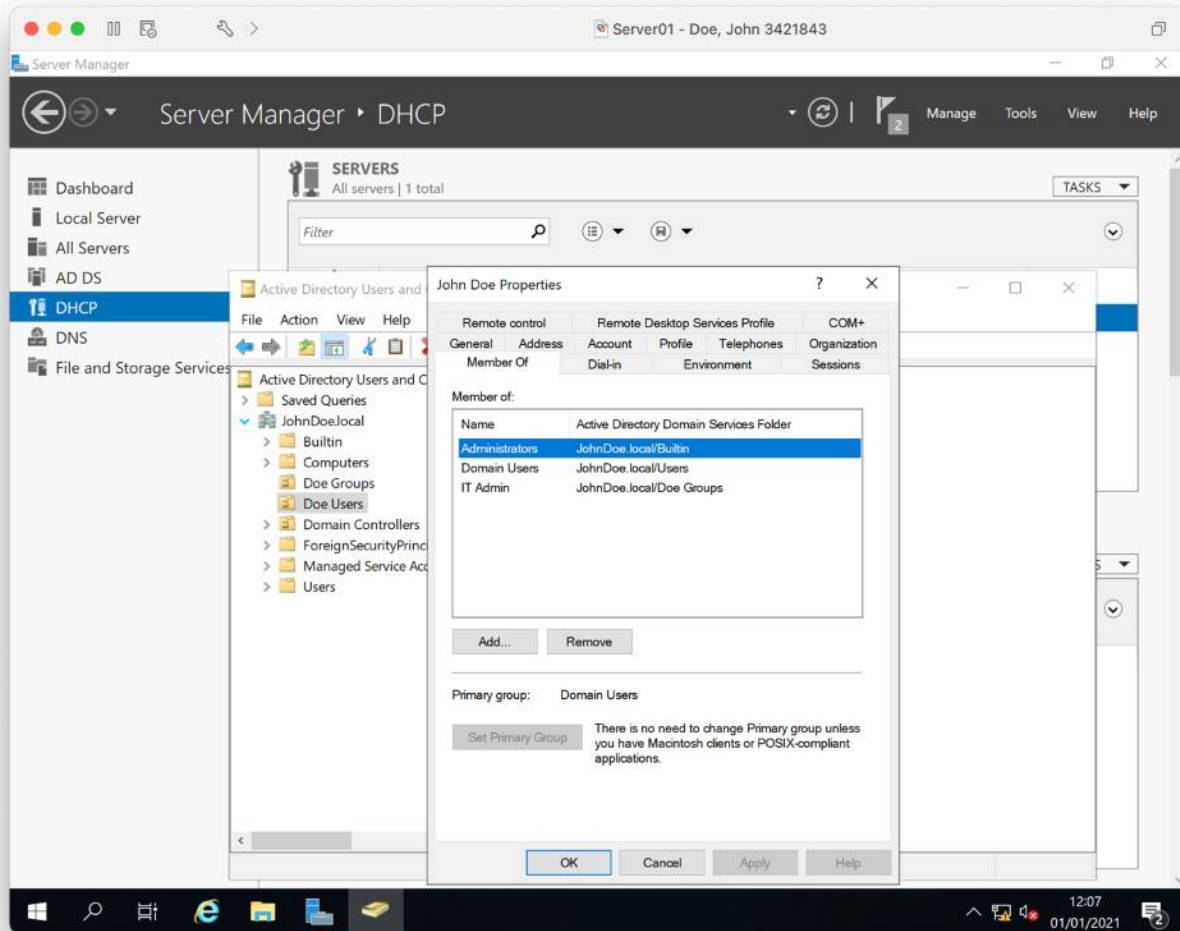


Yousif Sobbah has the job description of motion capture specialist.

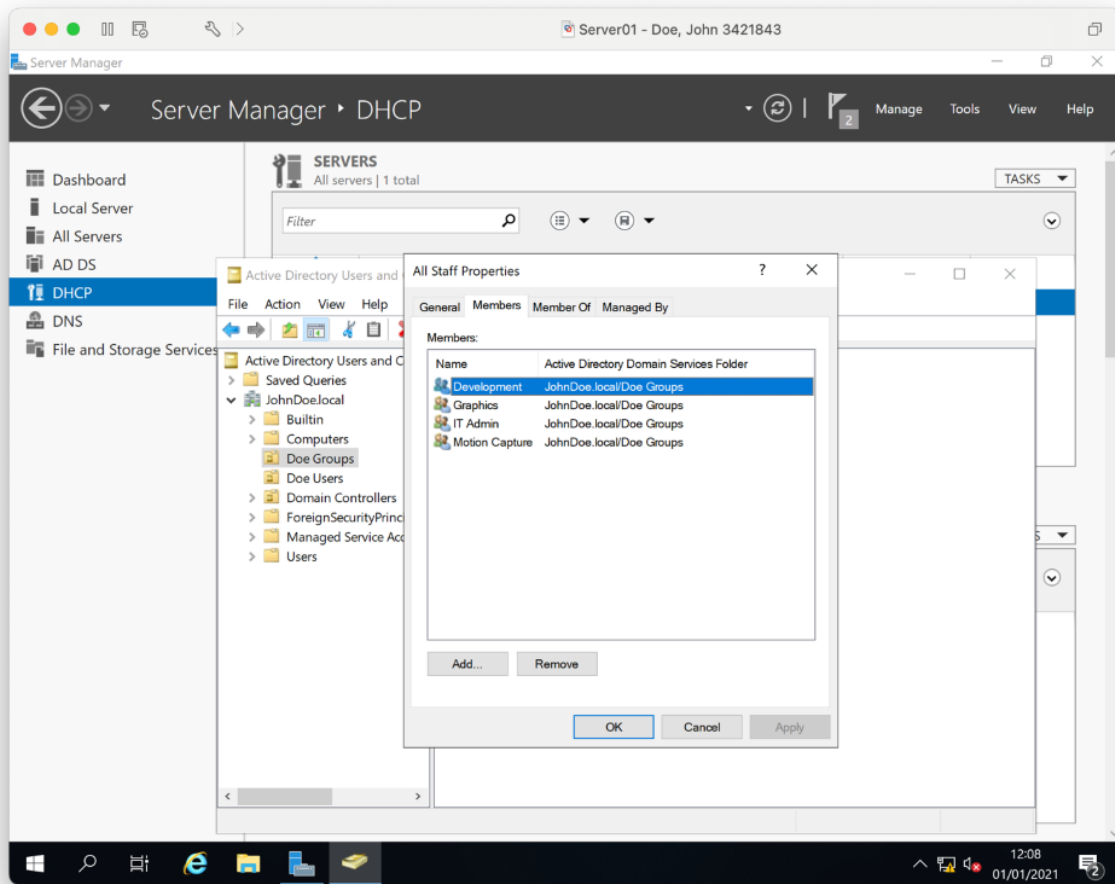


Your first and surname has been made an administrator.

Staff added to groups

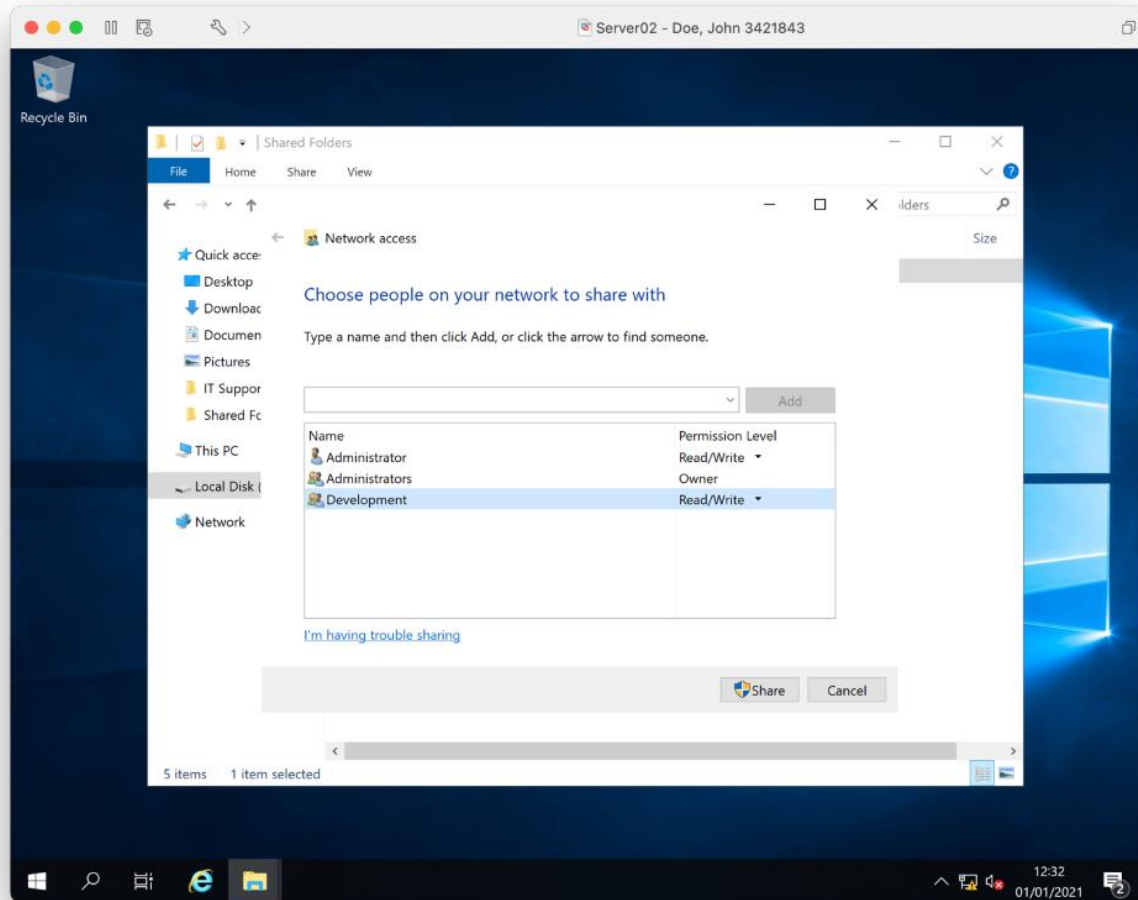


The groups development, graphics, motion capture, IT admin have been added to the all staff groups to allow for group permissions to be used.

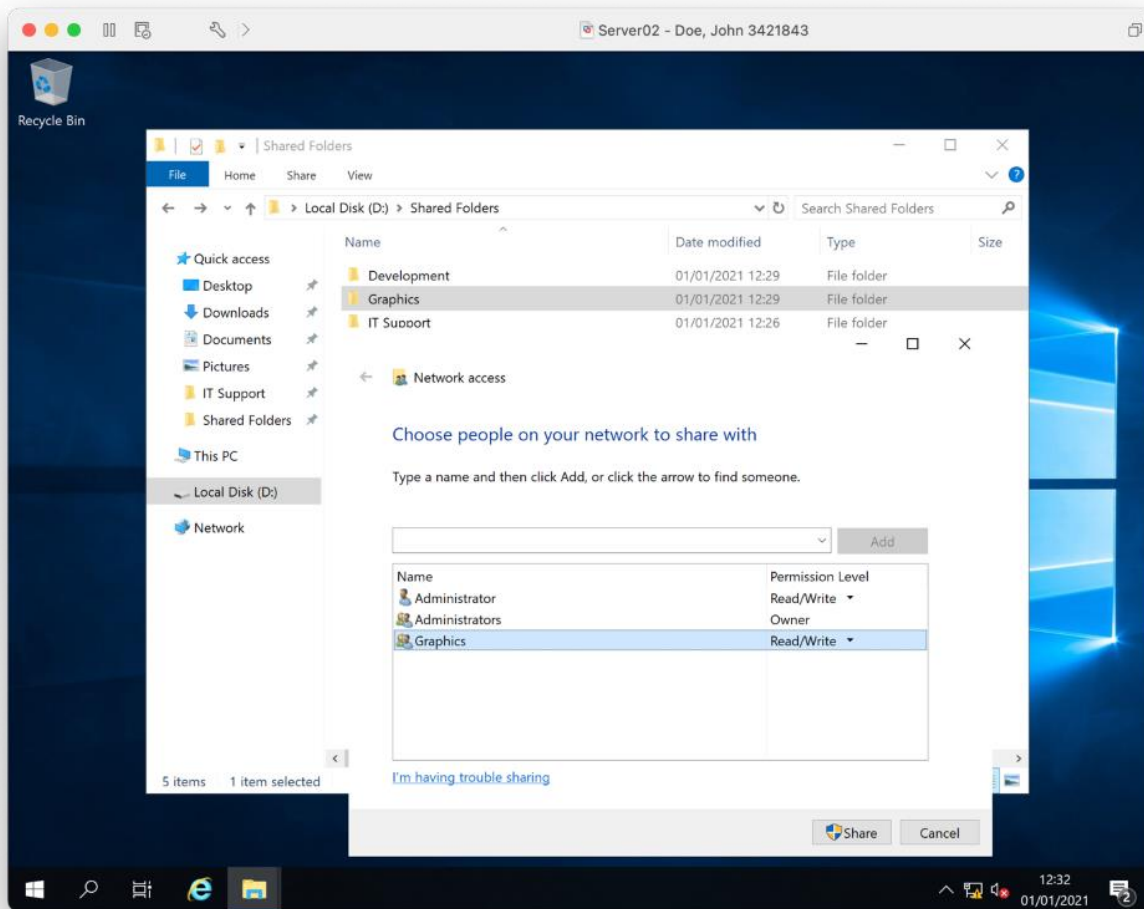


Folder permissions

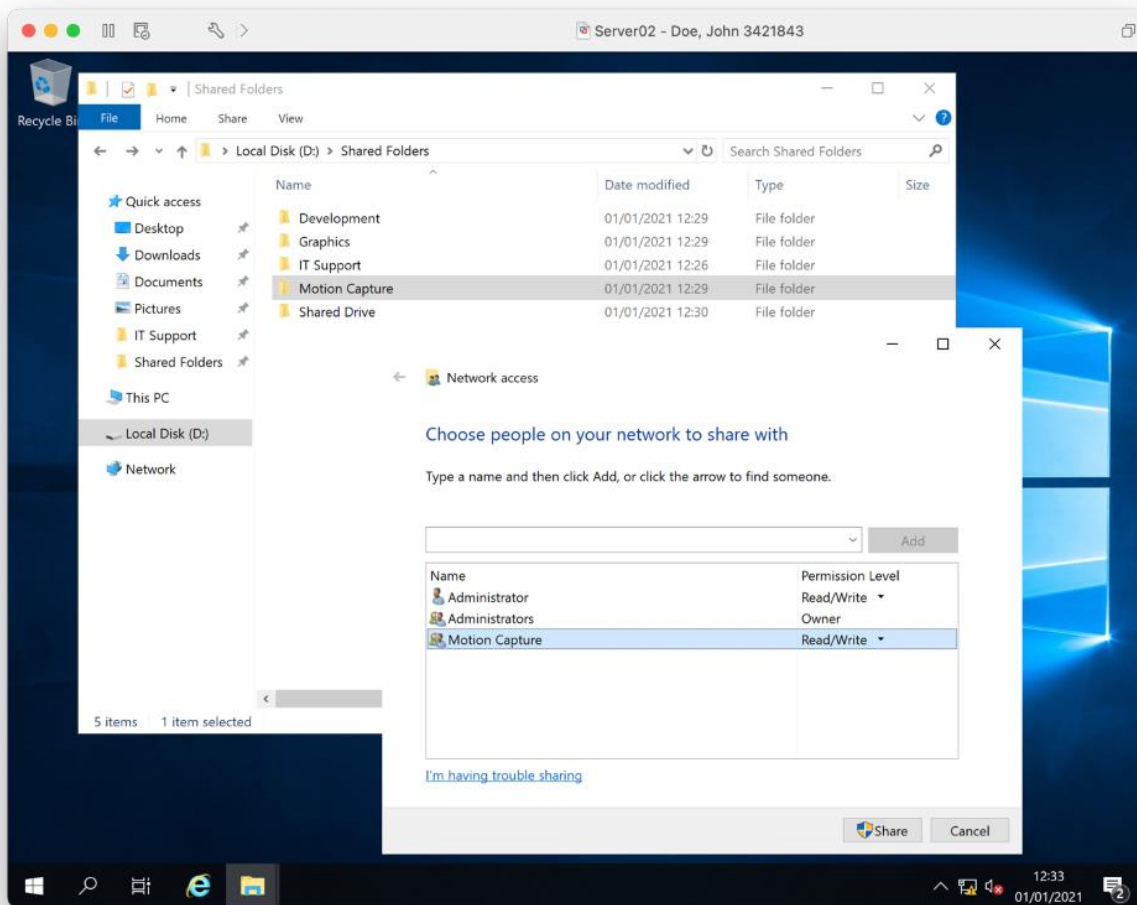
Development folder has the group development added with read and write permission.



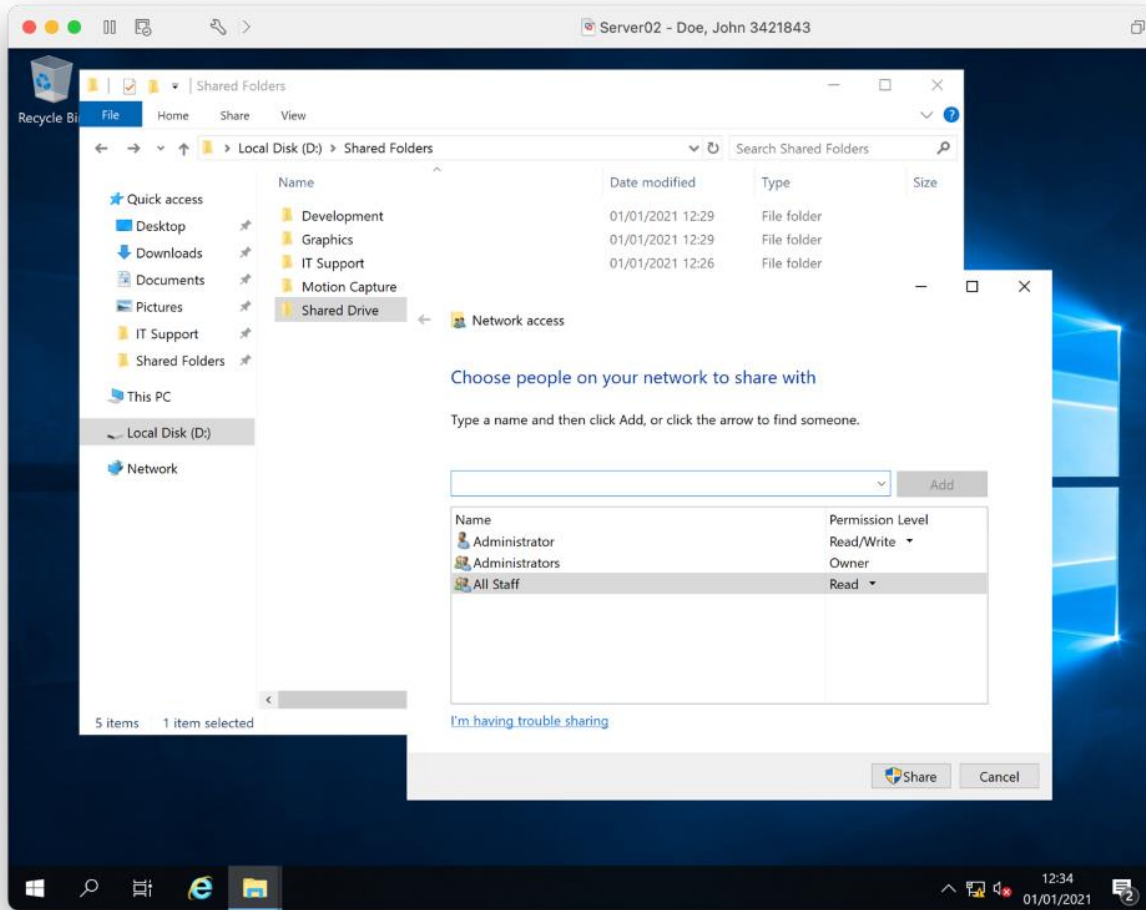
Graphics has the group graphics added with read and write permission.



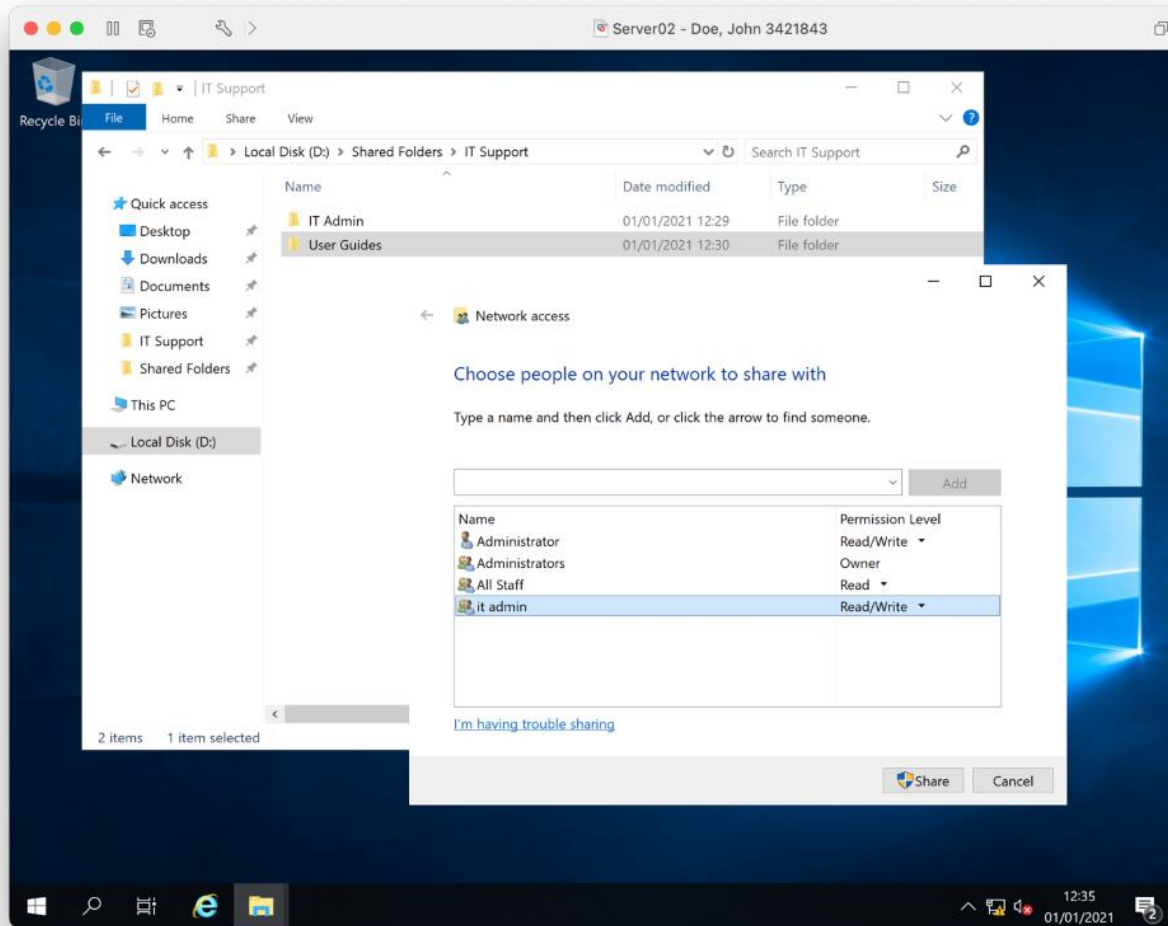
Motion capture has the group motion capture added with read and write permission.



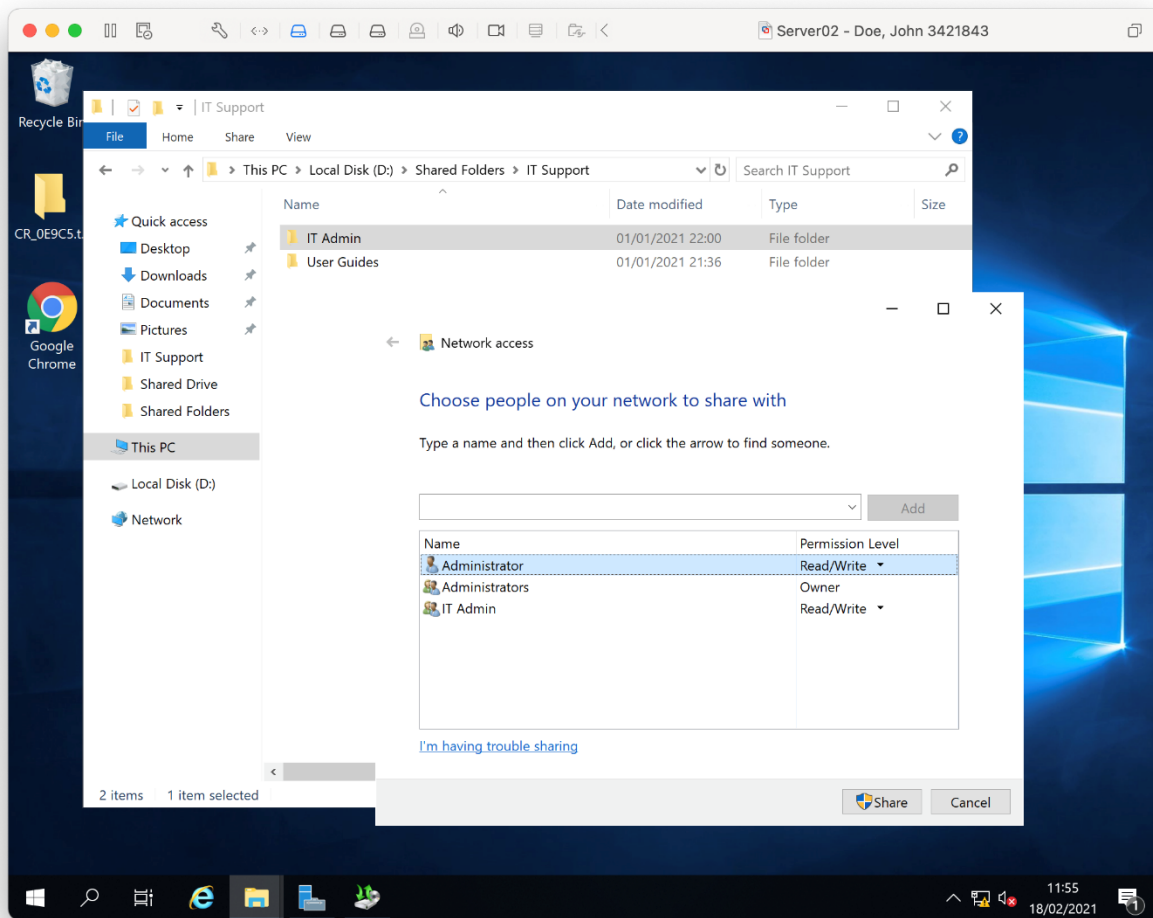
Shared drive has the group all staff added with read permission.



User guides has the group all staff added with read permission and IT admin added with read and write permission.



IT admin has the group IT admin added with read and write permission for IT admin.



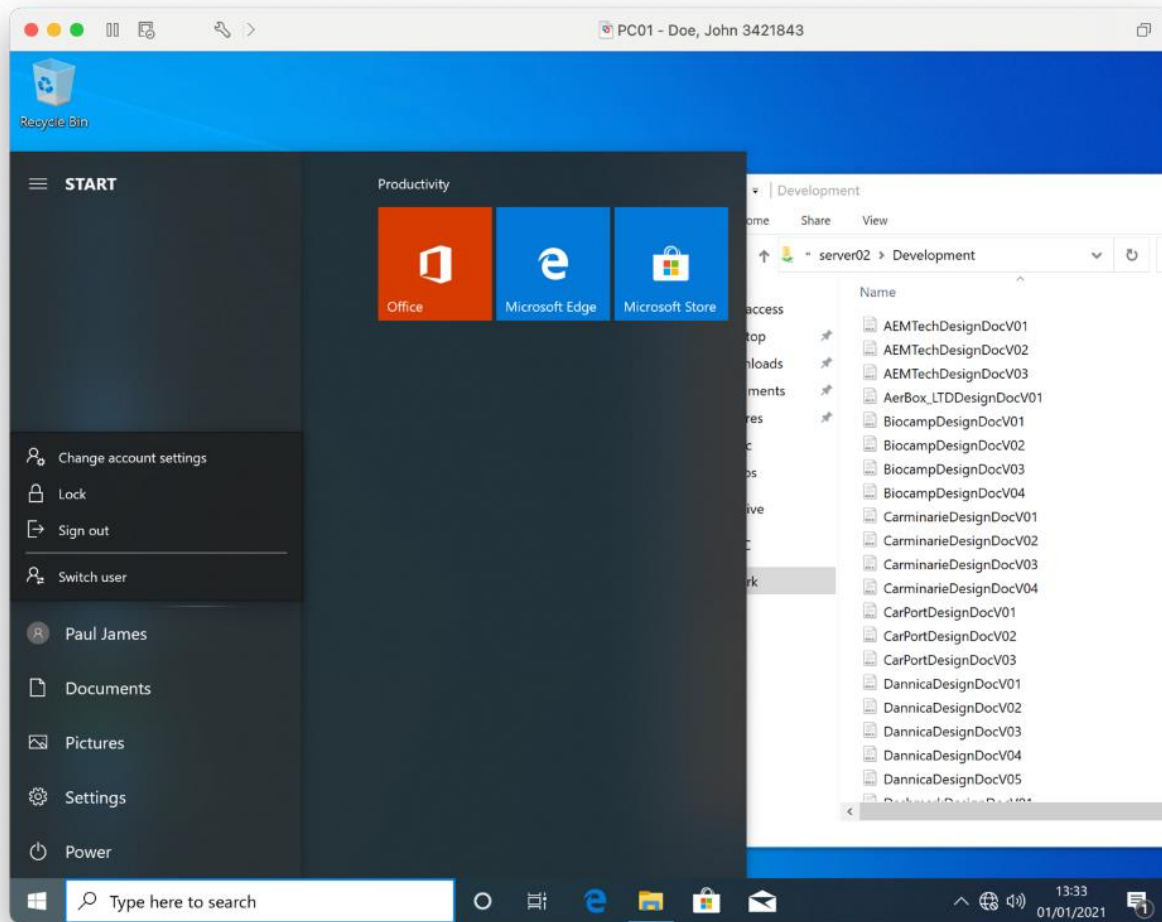
Folder testing

Add more rows to the table as required

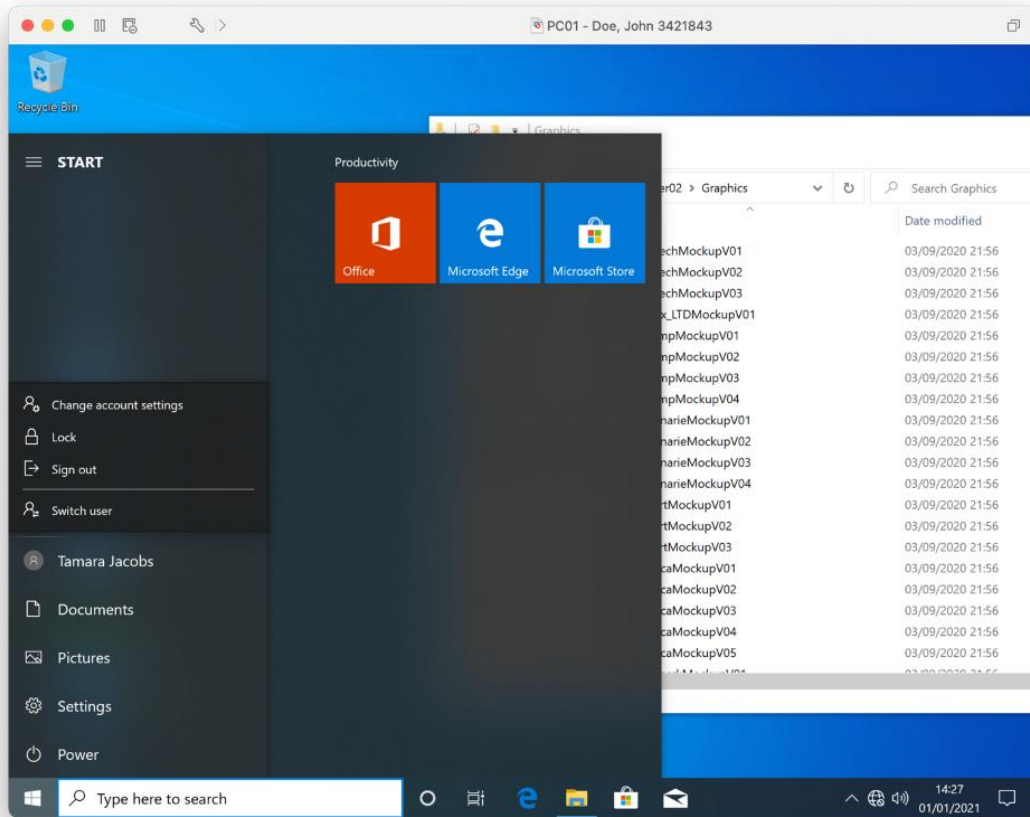
Test ID	Folder being tested	User account (Test data)	Test description and expected outcome	Actual outcome
1	Development	Paul James	Testing that a valid member of the development group as read access	The user was able to read files stored in the folder
2	Graphics	Tamara Jacobs	Testing that a valid member of the graphics group as read access	The user was able to read files stored in the folder
3	Motion capture	Yousif Sobbah	Testing that a valid member of the motion capture group as read access	The user was able to read files stored in the folder
4	Shared drive	Tamara Jacobs	Testing that a valid member of the all staff group as read access	The user was able to read files stored in the folder
5	User guides	Tamara Jacobs	Testing that a valid member of the all staff group as read access	The user was able to read files stored in the folder
6	User guides	Your first and Surname	Testing that a valid member of the IT admin group as read access	The user was able to read files stored in the folder
7	IT admin	Your first and Surname	Testing that a valid member of the IT admin group as read access	The user was able to read files stored in the folder
8	Development	Paul James	Testing that a valid member of the development group has read and write access	The user was able to write to files stored in the folder
9	Graphics	Tamara Jacobs	Testing that a valid member of the graphics has read and write access	The user was able to write to files stored in the folder
10	Motion capture	Yousif Sobbah	Testing that a valid member of the motion capture group as read and write access	The user was able to write to files stored in the folder
11	User guides	Your first and Surname	Testing that a valid member of the IT admin group as read and write access	The user was able to write to files stored in the folder
12	IT admin	Your first and surname	Testing that a valid member of the IT admin group as read and write access	The user was able to write to files stored in the folder
13	Development	Tamara Jacobs	Testing to see if an invalid user has read access	The user was unable to write to files stored in the folder

14	Graphics	Yousif Sobbah	Testing to see if an invalid user has read access	The user was unable to read files stored in the folder
15	Motion capture	Paul James	Testing to see if an invalid user has read access	The user was unable to read files stored in the folder
16	User guides	Tamara Jacobs	Testing to see if an invalid user has read access	The user was unable to read files stored in the folder
17	IT admin	Tamara Jacobs	Testing to see if an invalid user has read access	The user was unable to read files stored in the folder

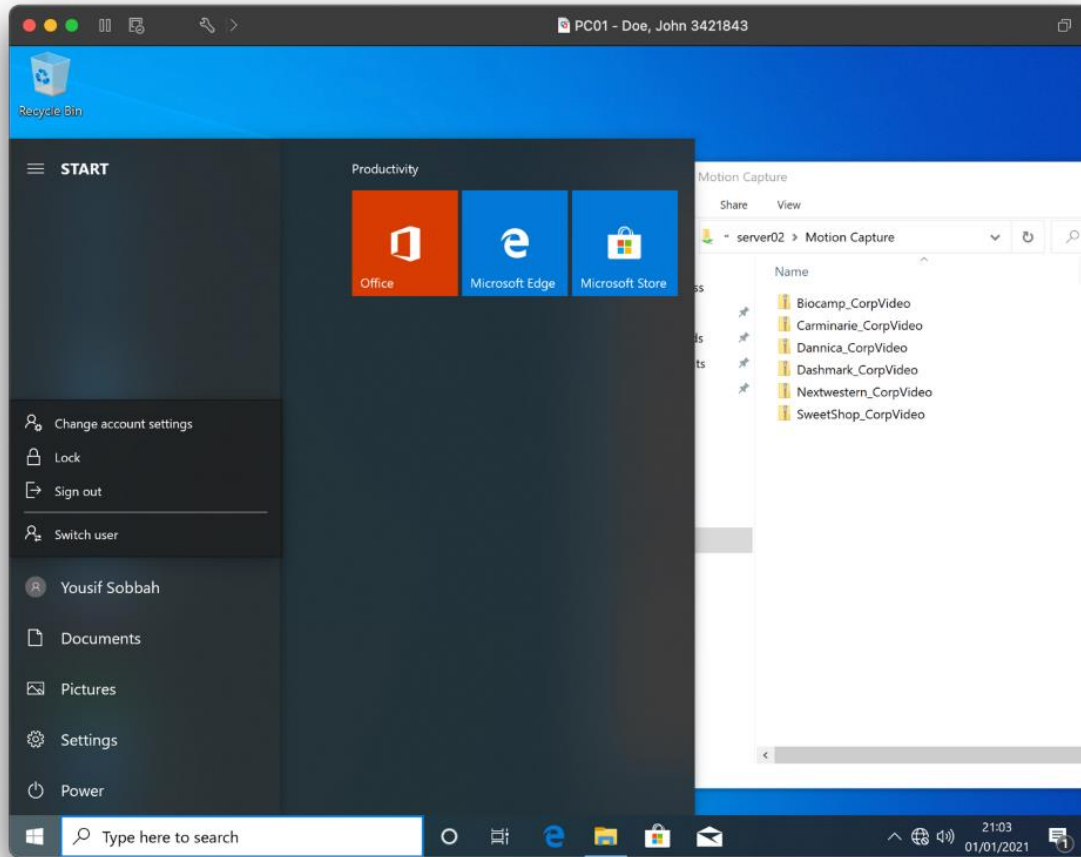
Print screen showing the result of test number 1, showing the folder opens correctly.



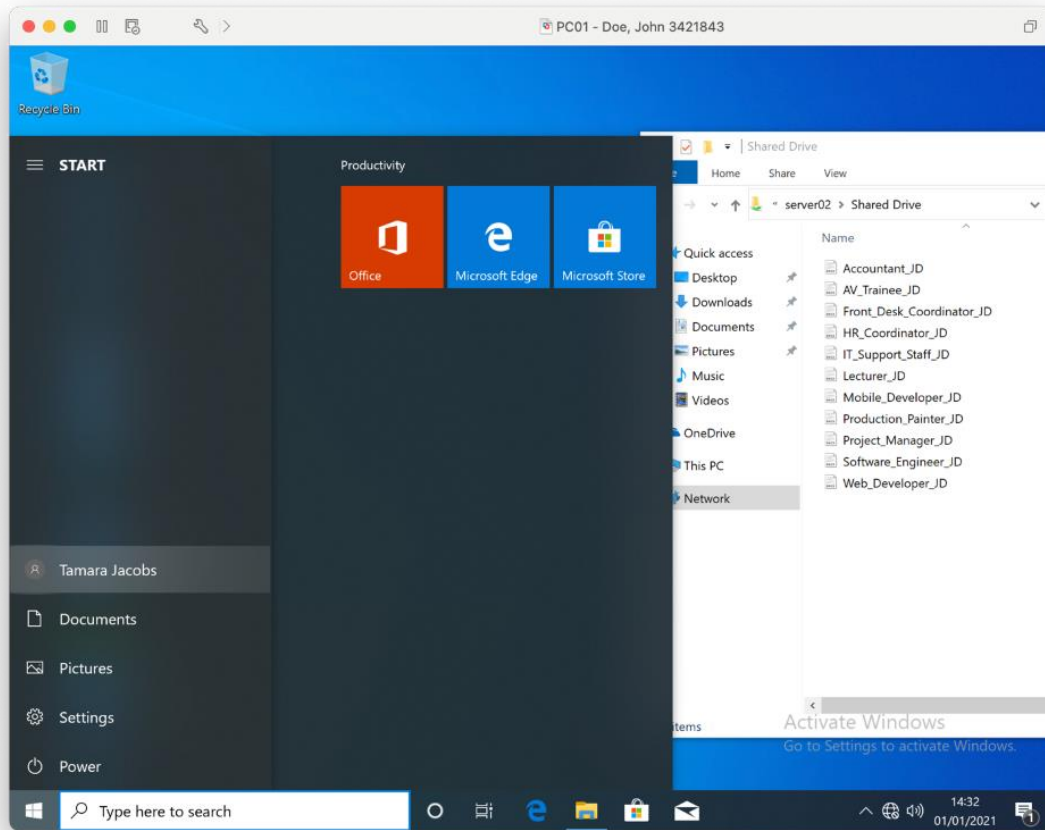
Print screen showing the result of test number 2, showing the folder opens correctly.



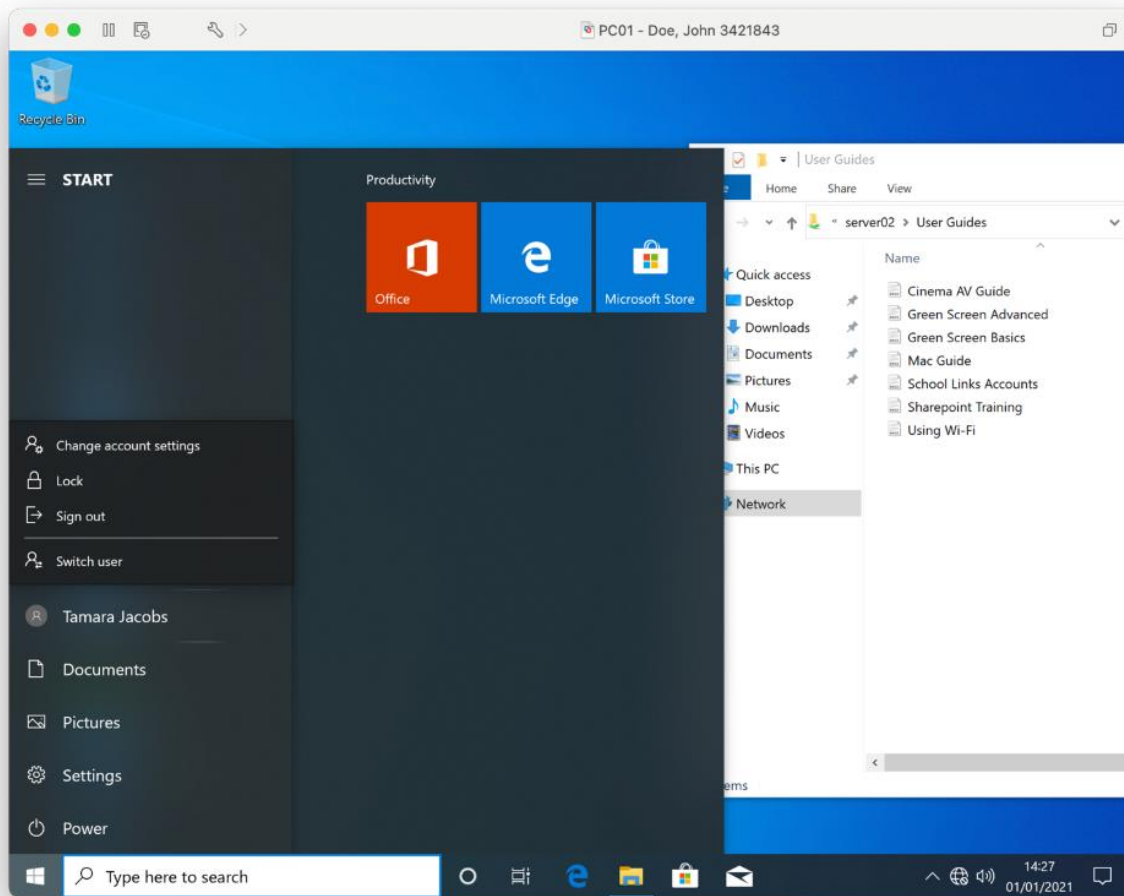
Print screen showing the result of test number 3, showing the folder opens correctly.



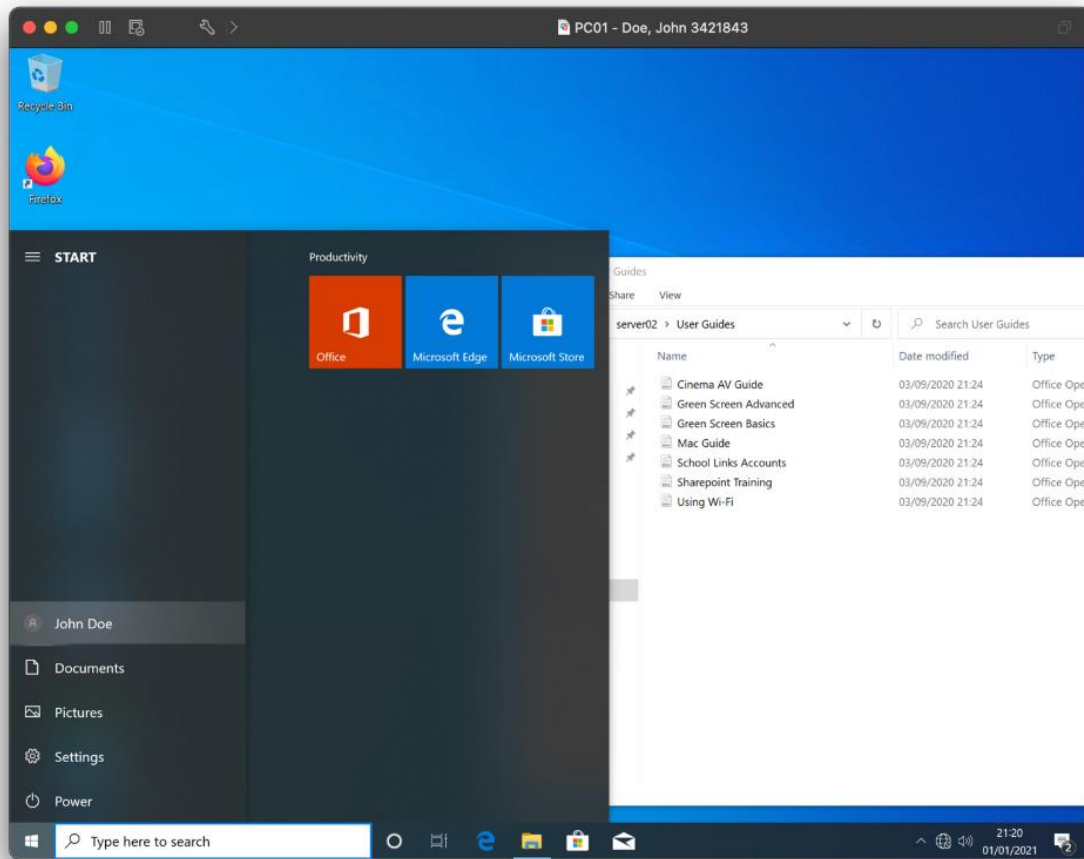
Print screen showing the result of test number 4, showing the folder opens correctly.



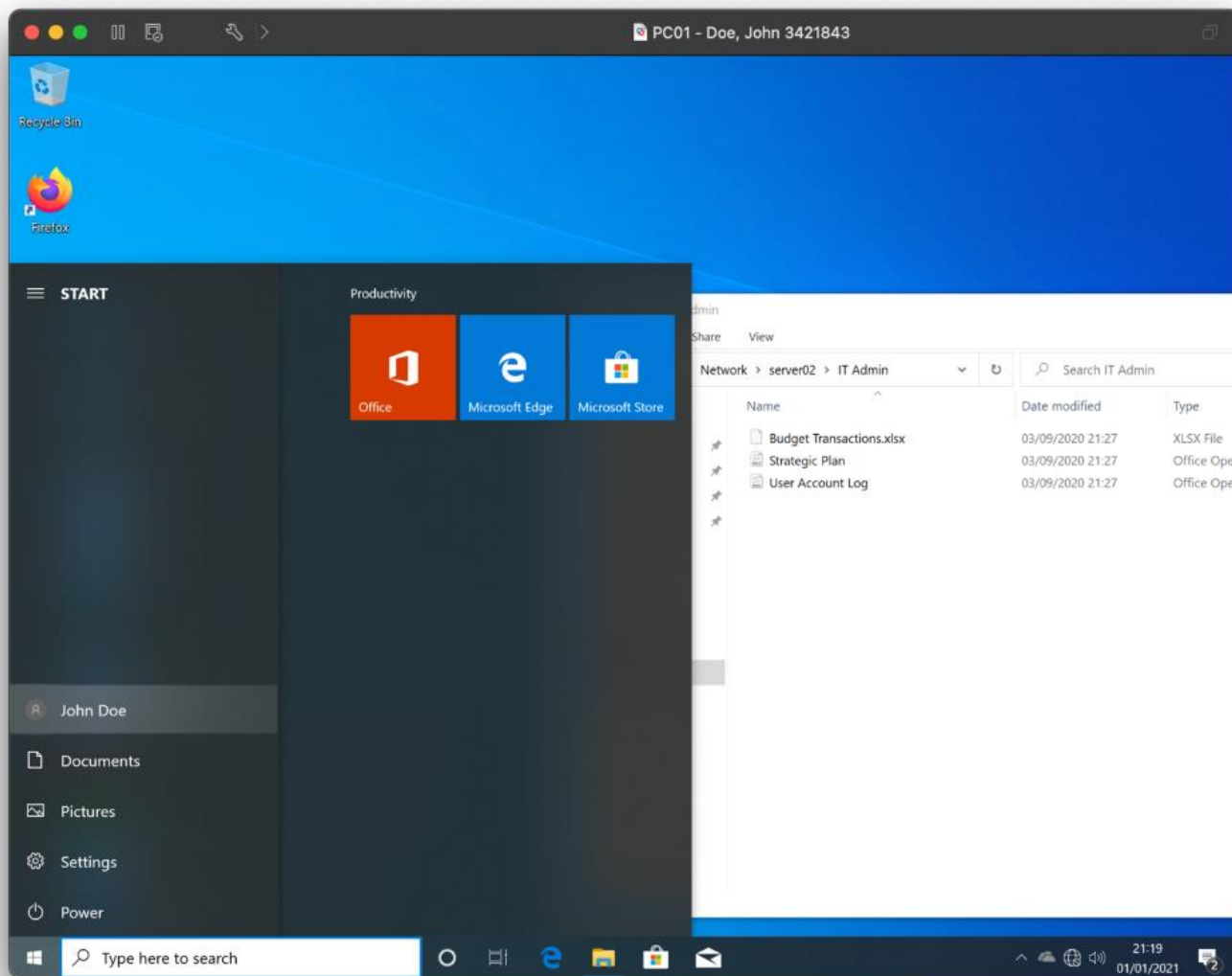
Print screen showing the result of test number 5, showing the folder opens correctly.



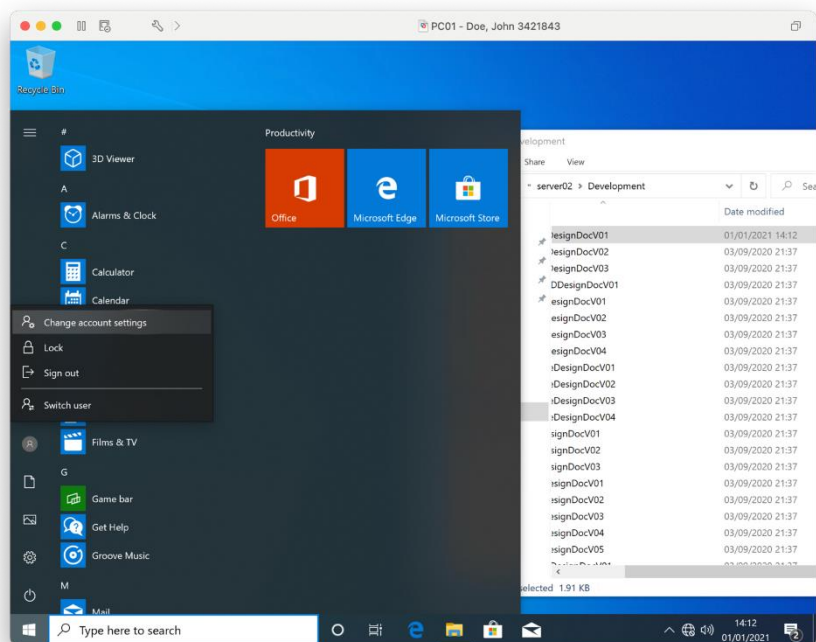
Print screen showing the result of test number 6, showing the folder opens correctly.



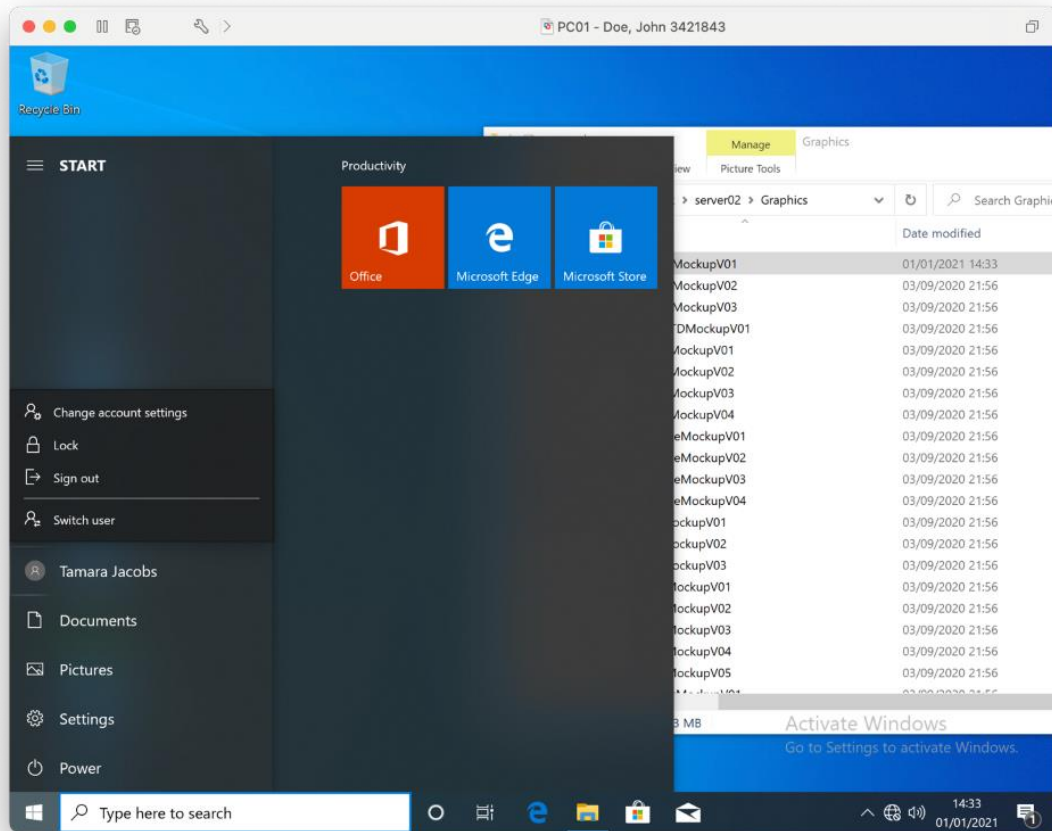
Print screen showing the result of test number 7, showing the folder opens correctly.



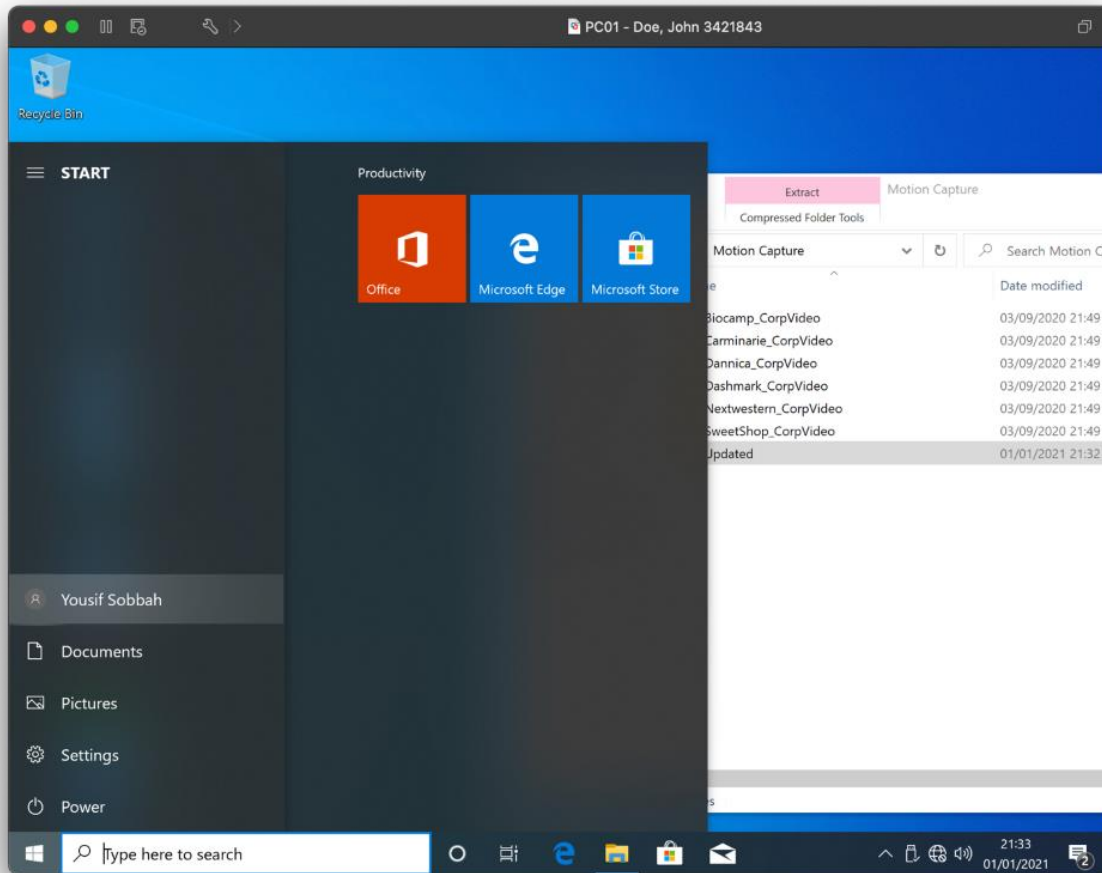
Print screen showing the result of test number 8, showing the file has been opened and saved back correctly.



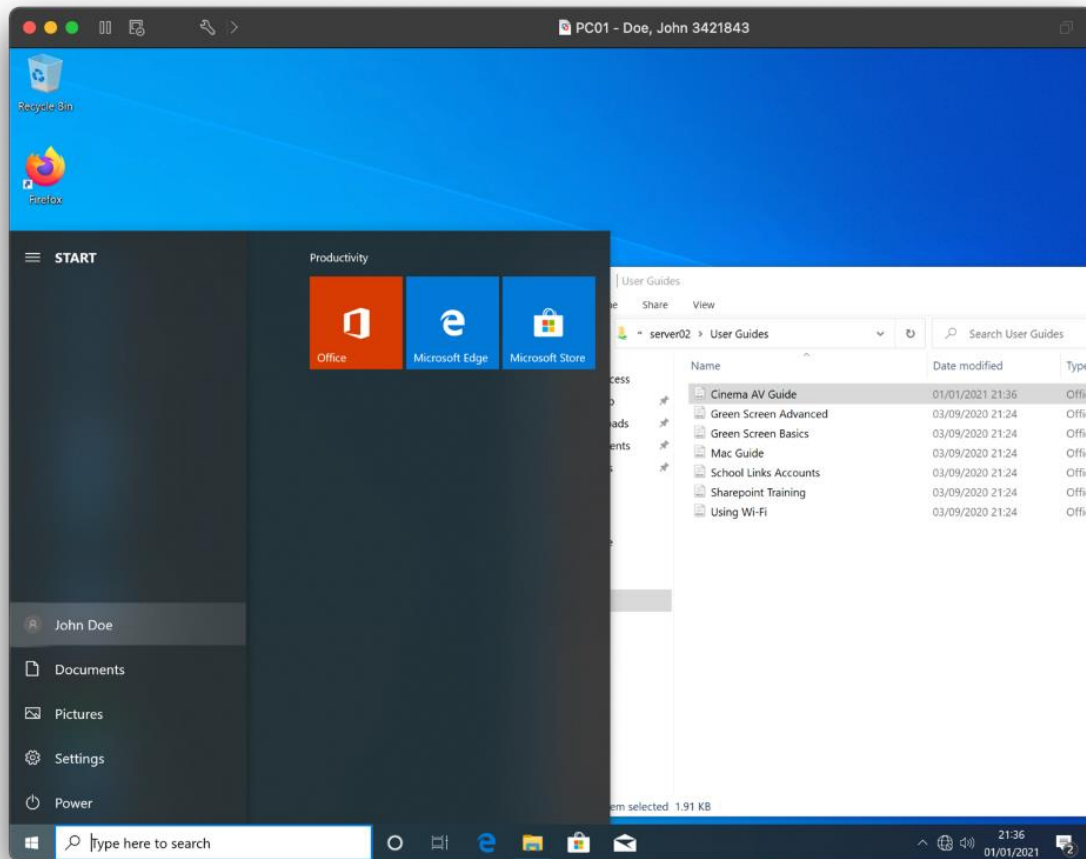
Print screen showing the result of test number 9, showing the file has been opened and saved back correctly.



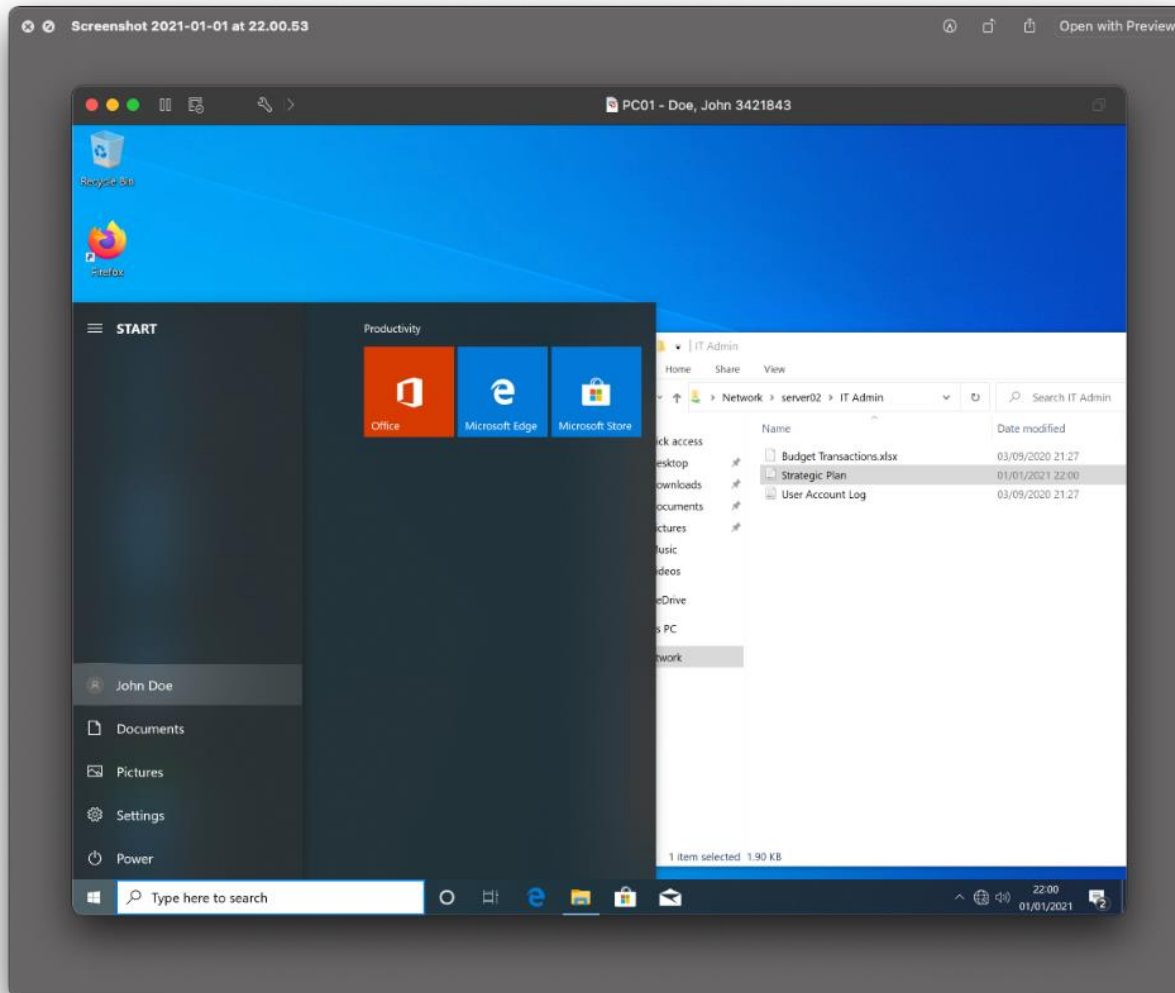
Print screen showing the result of test number 10, showing the file has been opened and saved back correctly.



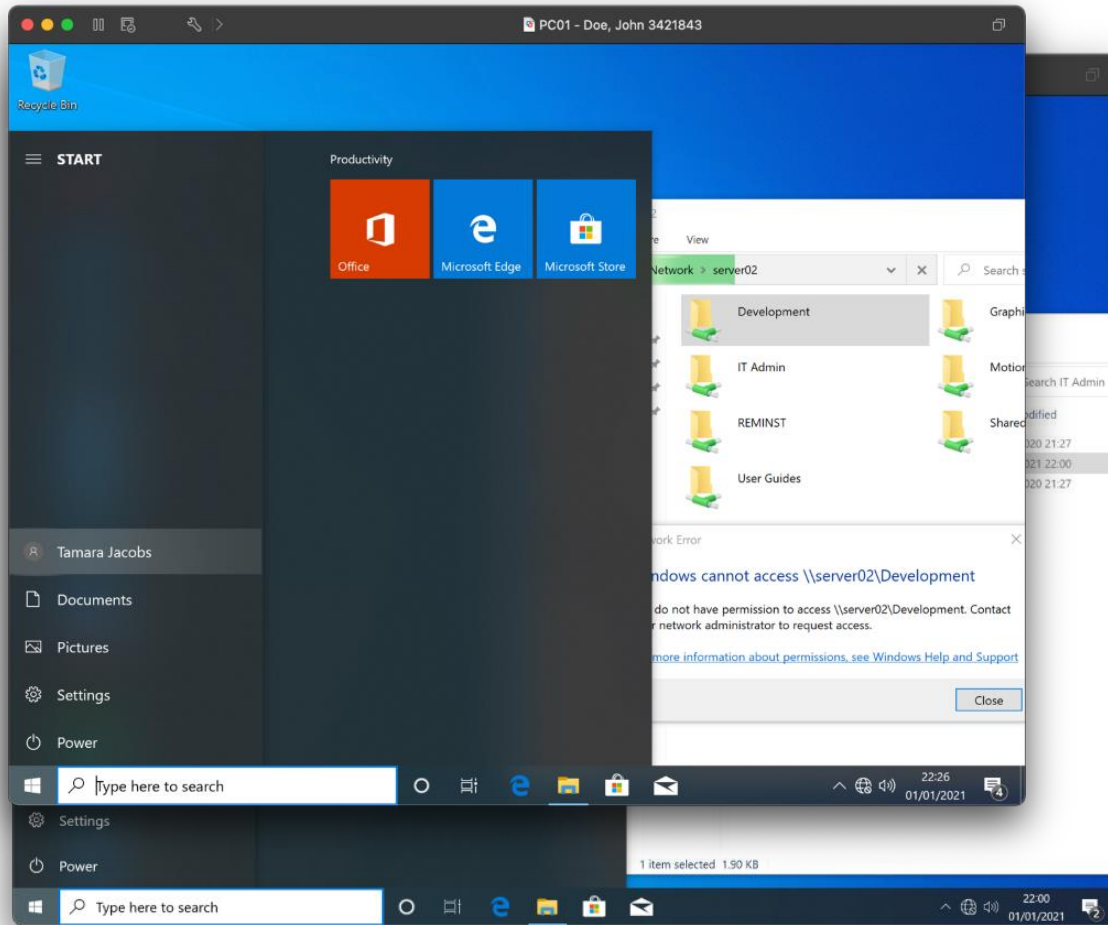
Print screen showing the result of test number 11, showing the file has been opened and saved back correctly.



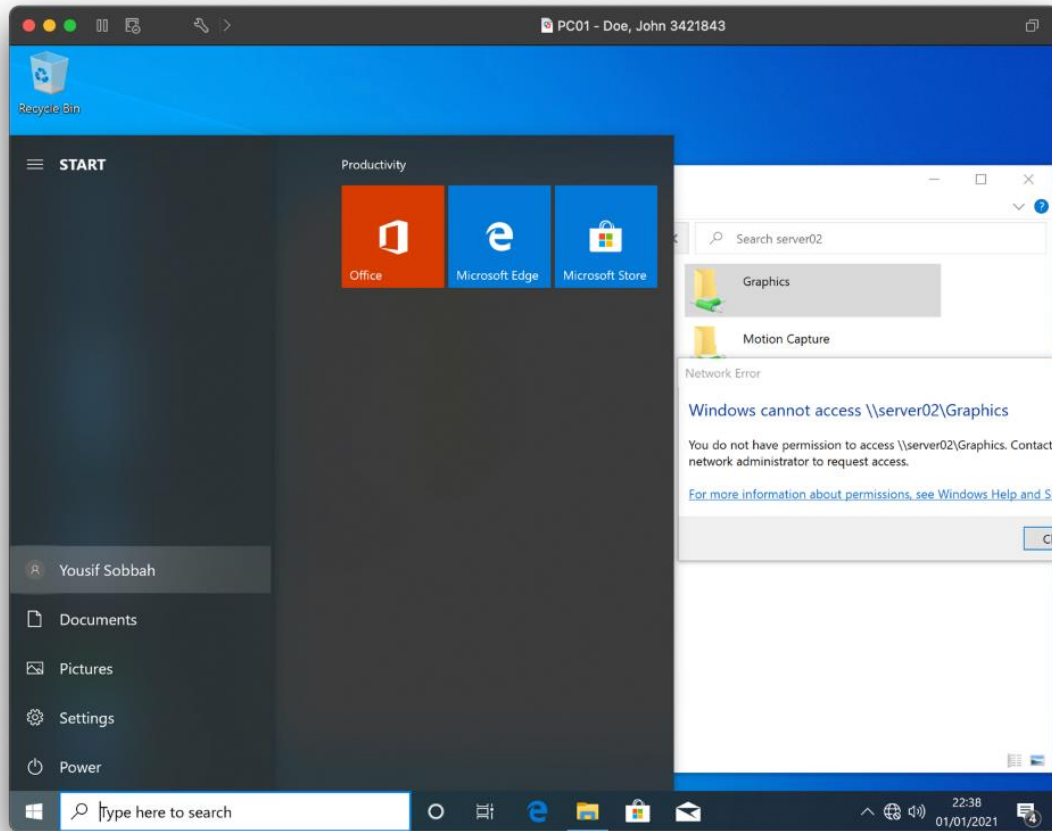
Print screen showing the result of test number 12, showing the file has been opened and saved back correctly.



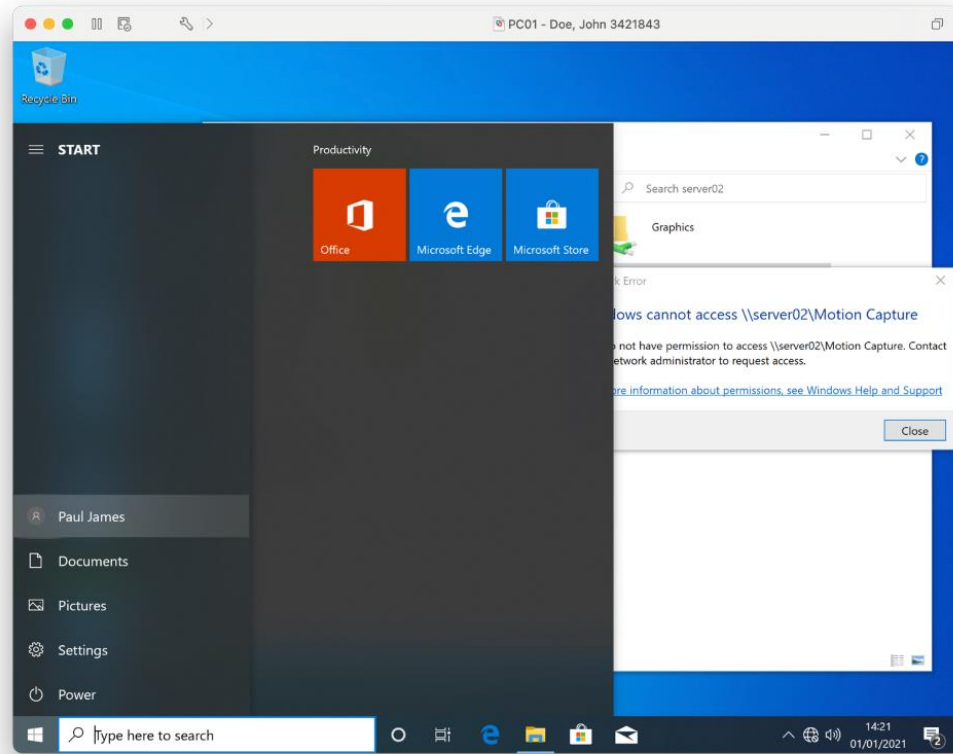
Print screen showing the result of test number 13, showing a user was unable to open the folder.



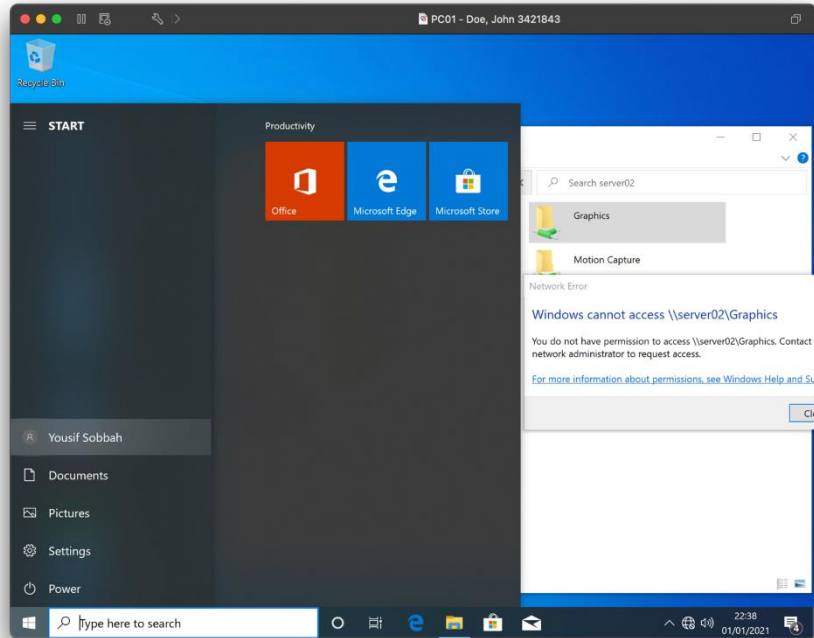
Print screen showing the result of test number 14, showing a user was unable to open the folder.



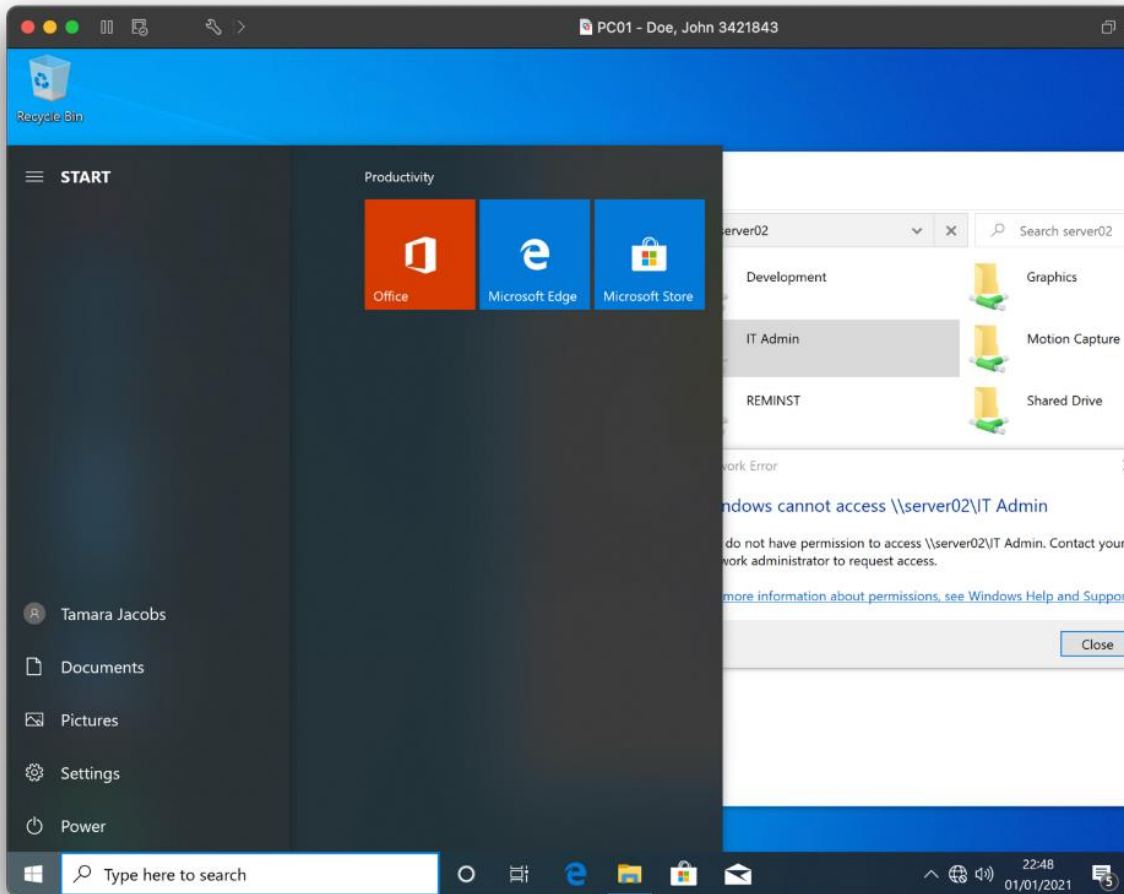
Print screen showing the result of test number 15, showing a user was unable to open the folder.



Print screen showing the result of test number 16, showing a user was unable to open the folder.



Print screen showing the result of test number 17, showing a user was unable to open the folder.

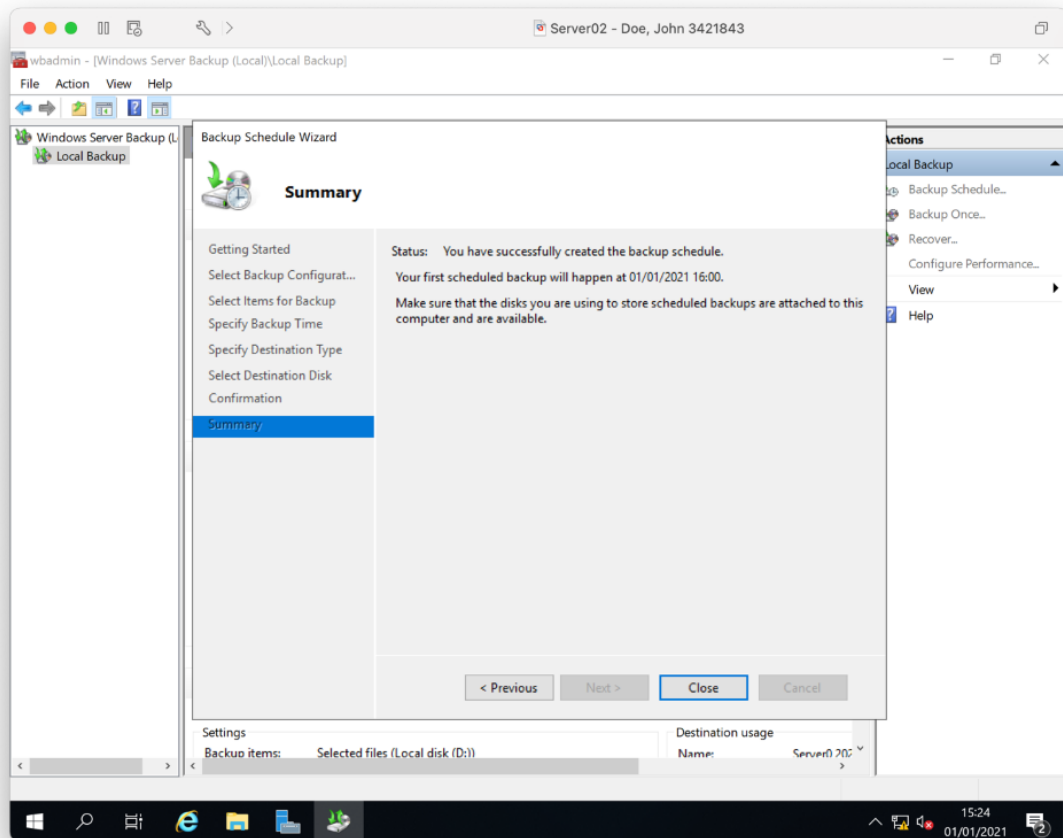


Test closed

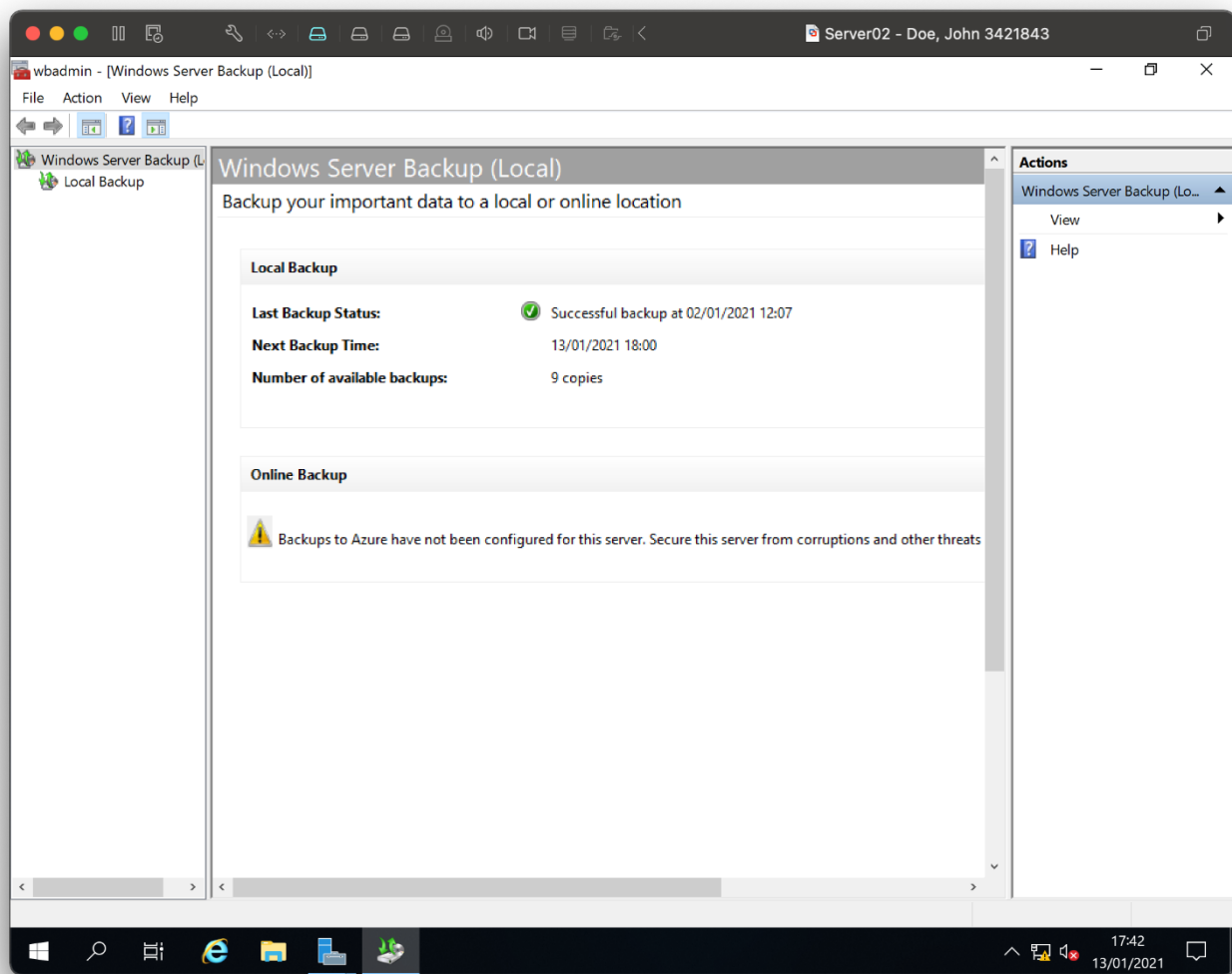
Step D

Create backup

Print screen showing the scheduled backup has been put in place from the backup manager dialogue box.

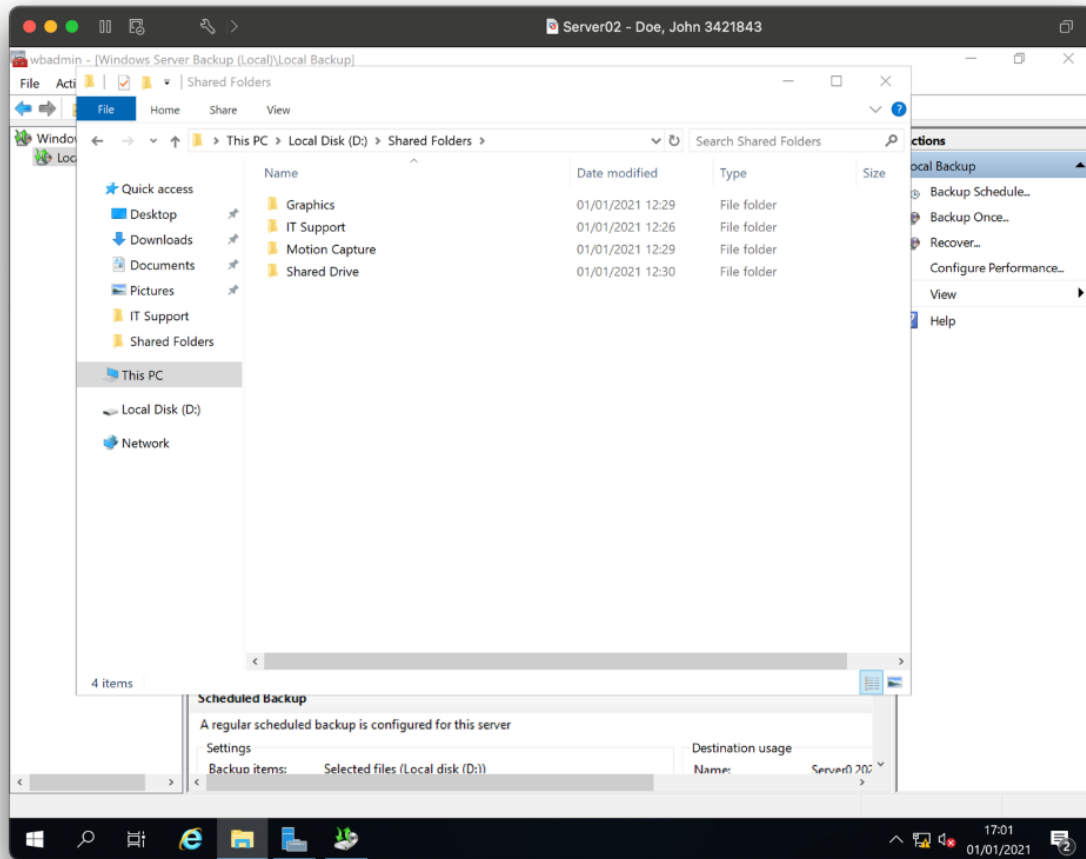


Print screen showing the scheduled backup has been completed from the backup manager dialogue box.

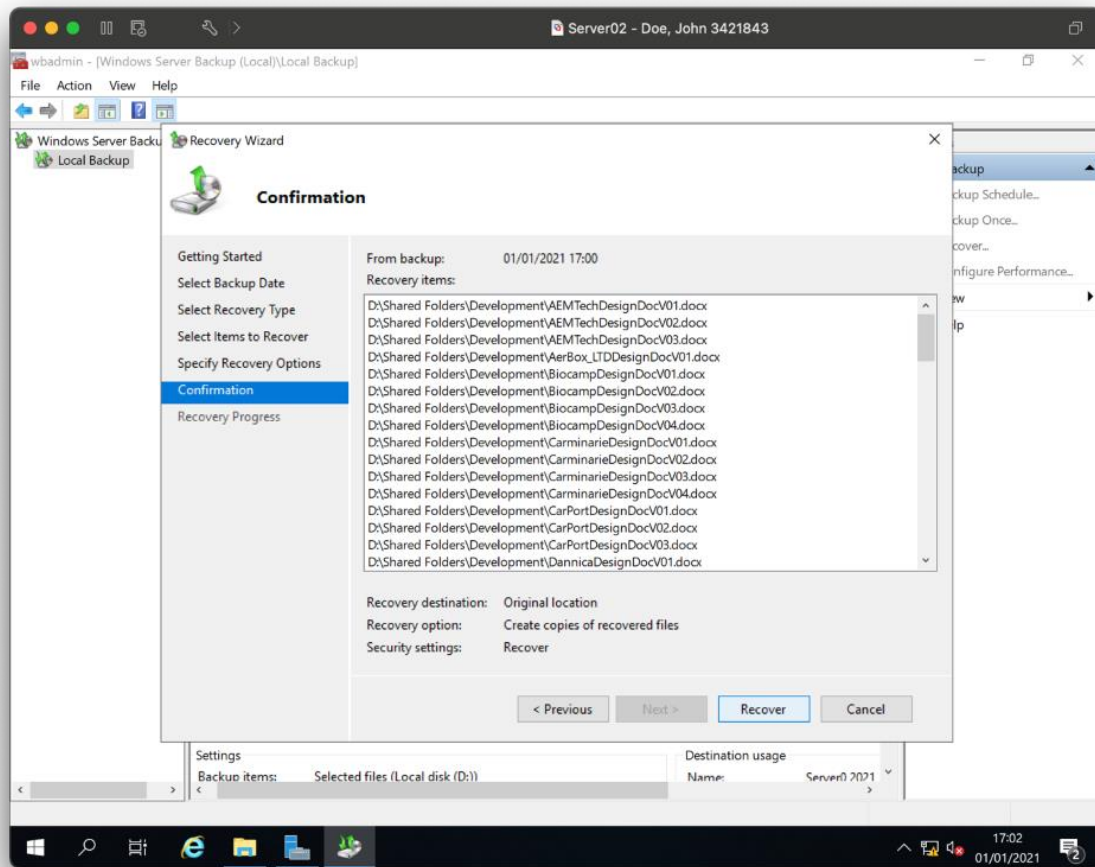


Backup restoration

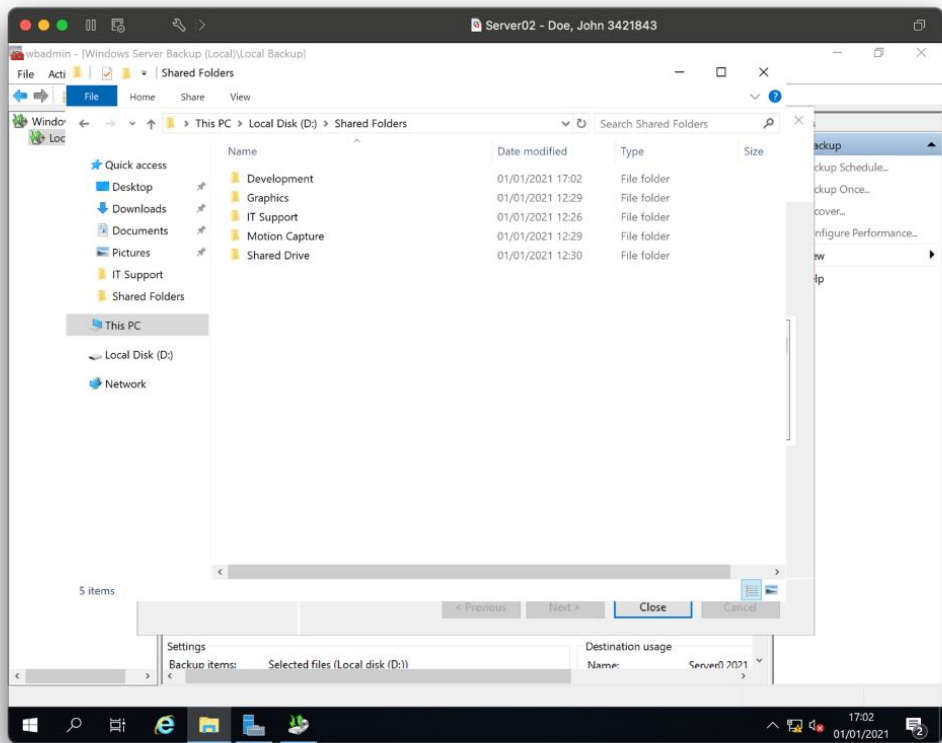
Showing that the folder development has been deleted.



Print screen showing the file selected in the restoration dialogue box.



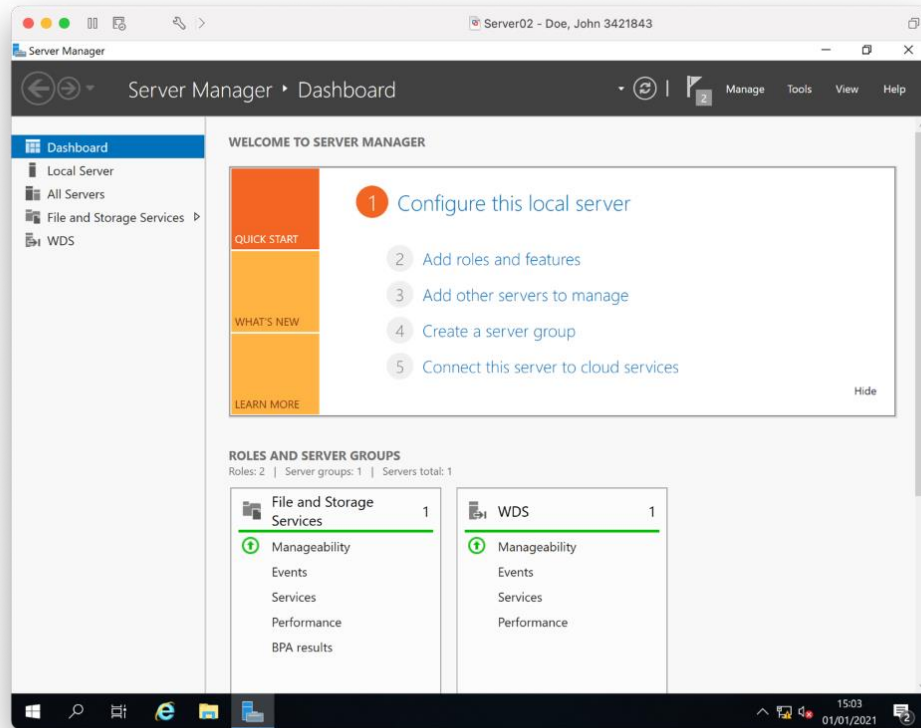
Print screen showing the successful restoration of the folder back to a suitable location.



Step E

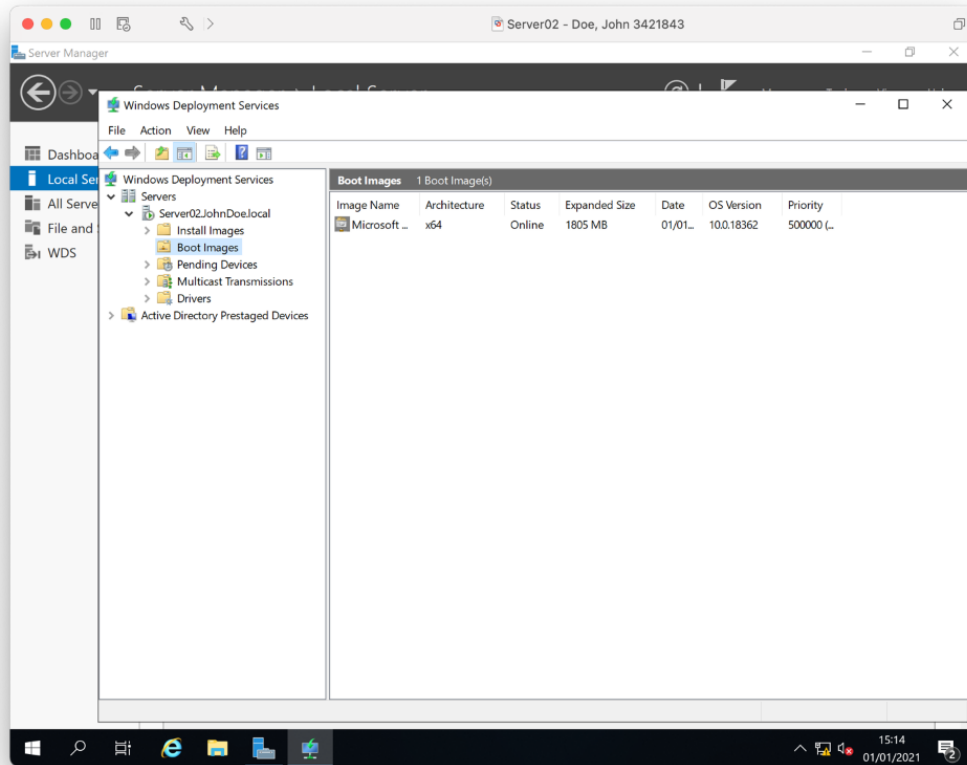
Role installation

Print screen showing the Windows deployment role has been installed and shown in server manager dialogue box.

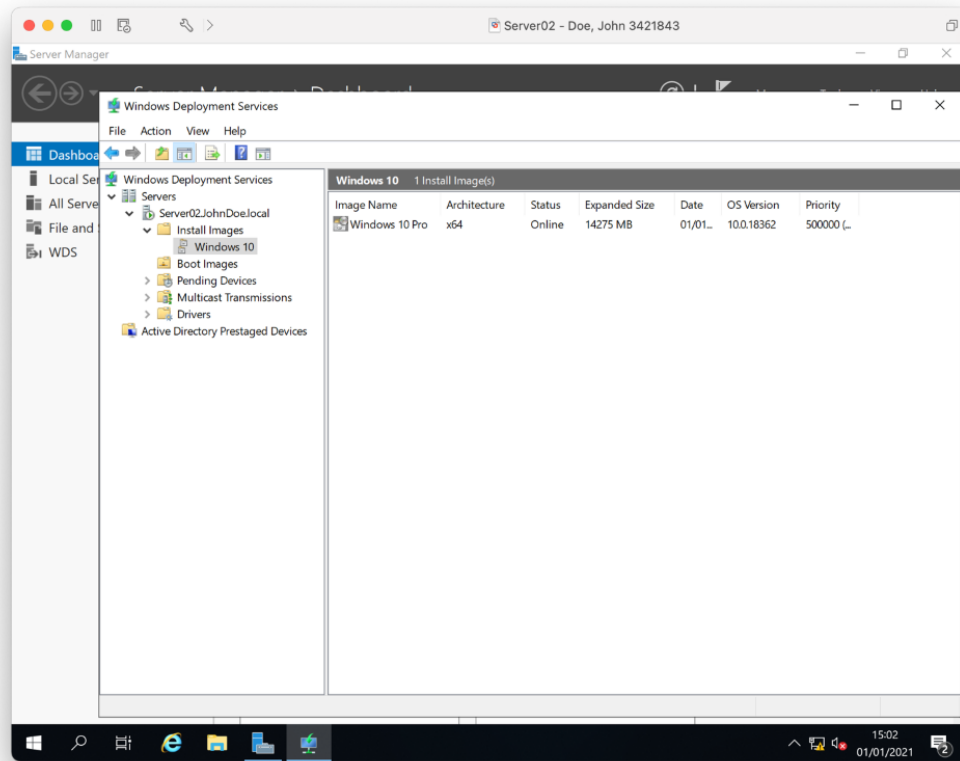


Configuration

Windows deployment role has been configured on server showing boot image added.

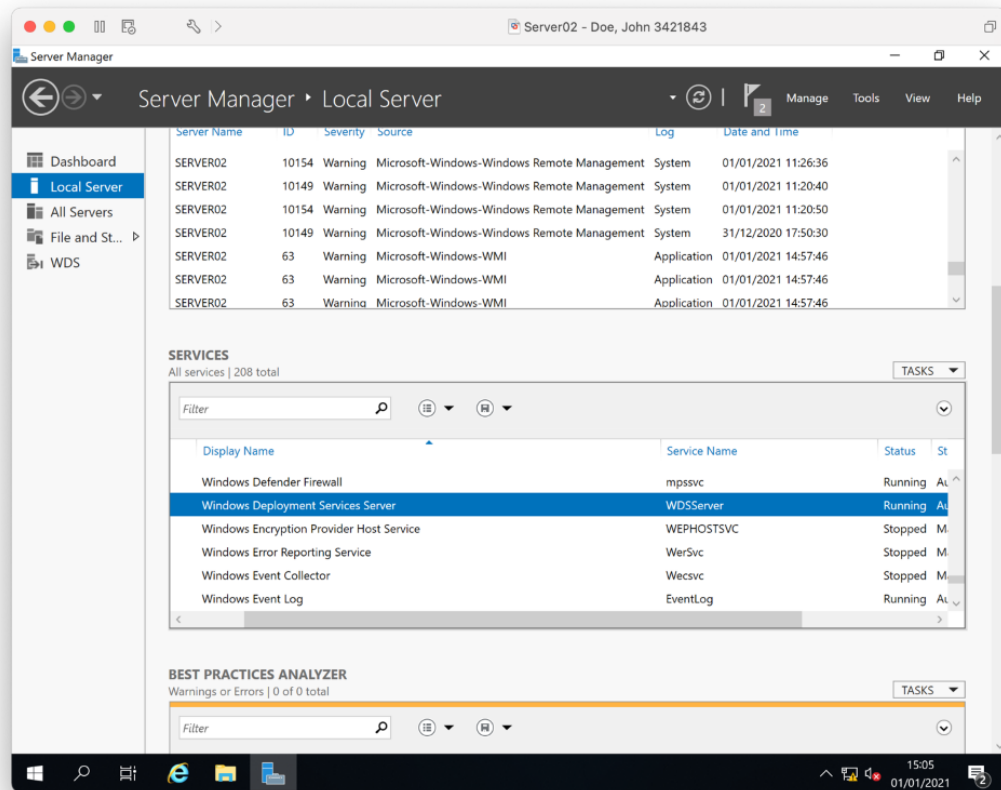


Windows deployment role has been configured on server showing install image added.



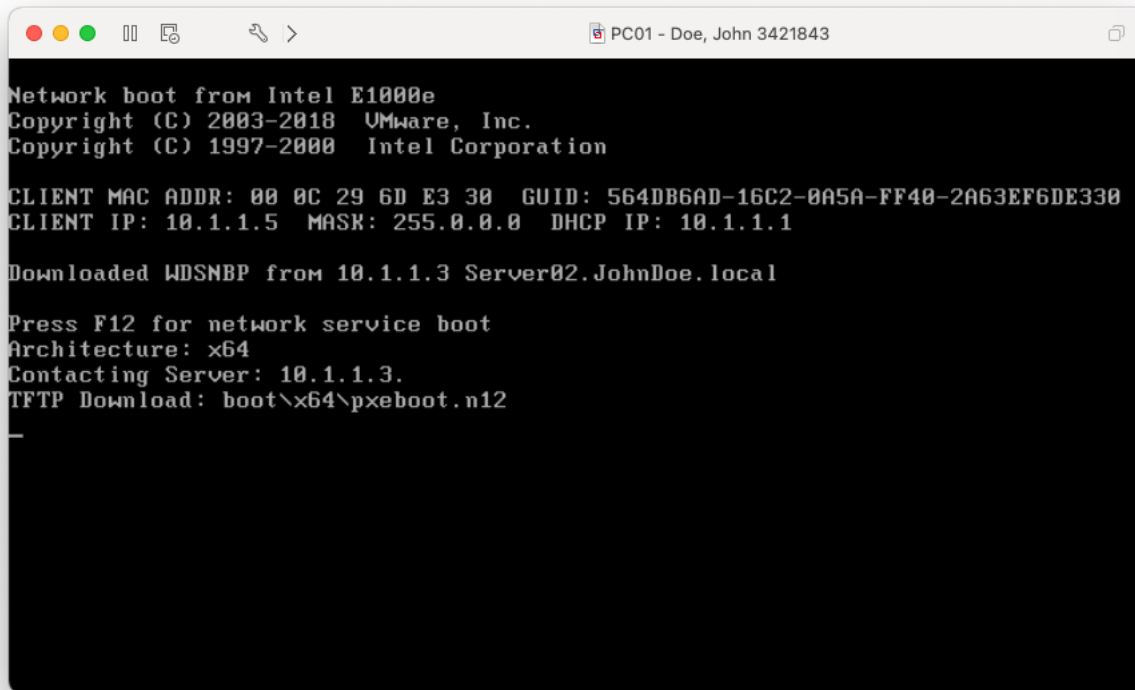
Activation

Windows deployment role is running using server manage, task manager dialogue box.



Role testing

PC01 network boots, it can make a connection with the Windows deployment server.

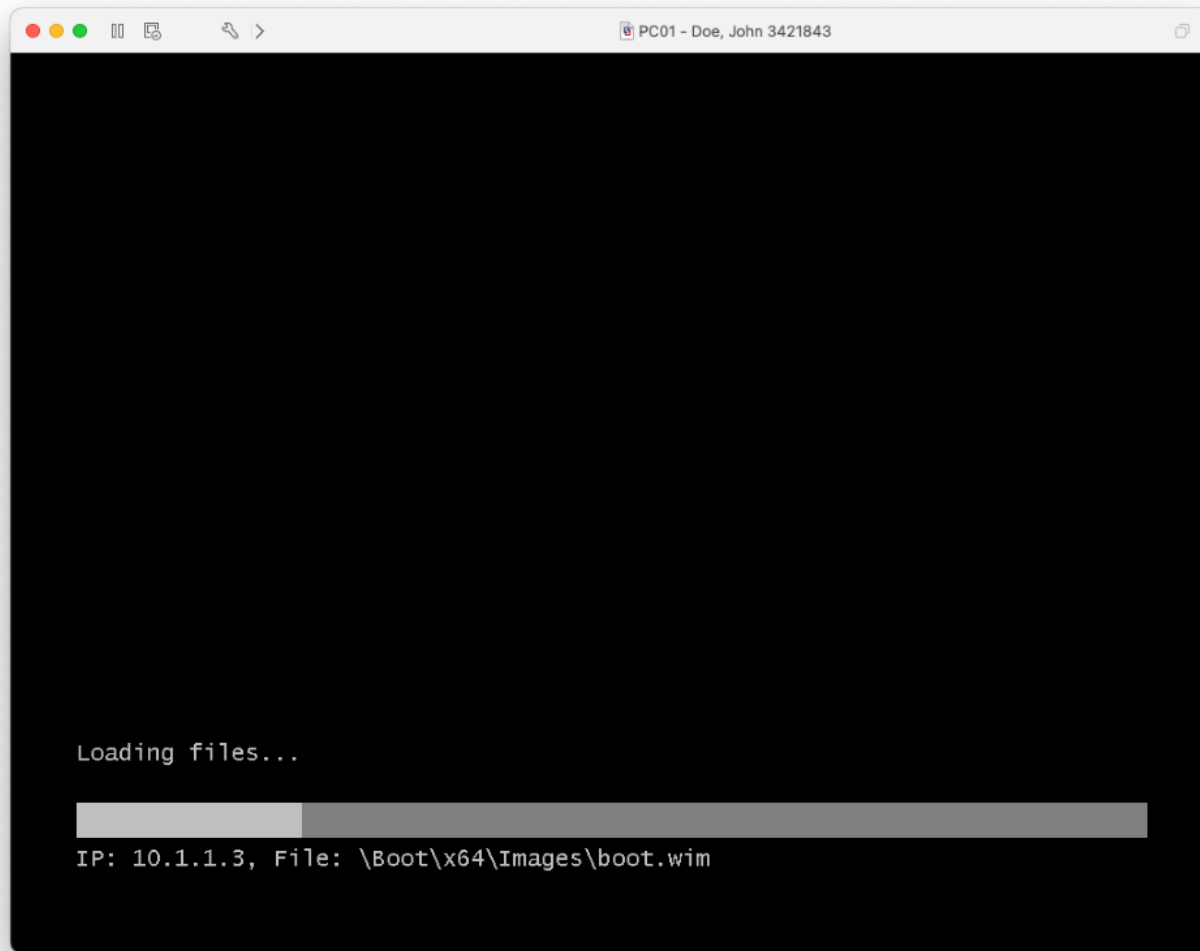


```
PC01 - Doe, John 3421843
Network boot from Intel E1000e
Copyright (C) 2003-2018 VMware, Inc.
Copyright (C) 1997-2000 Intel Corporation

CLIENT MAC ADDR: 00 0C 29 6D E3 30  GUID: 564DB6AD-16C2-0A5A-FF40-2A63EF6DE330
CLIENT IP: 10.1.1.5  MASK: 255.0.0.0  DHCP IP: 10.1.1.1

Downloaded WDSNBP from 10.1.1.3 Server02.JohnDoe.local

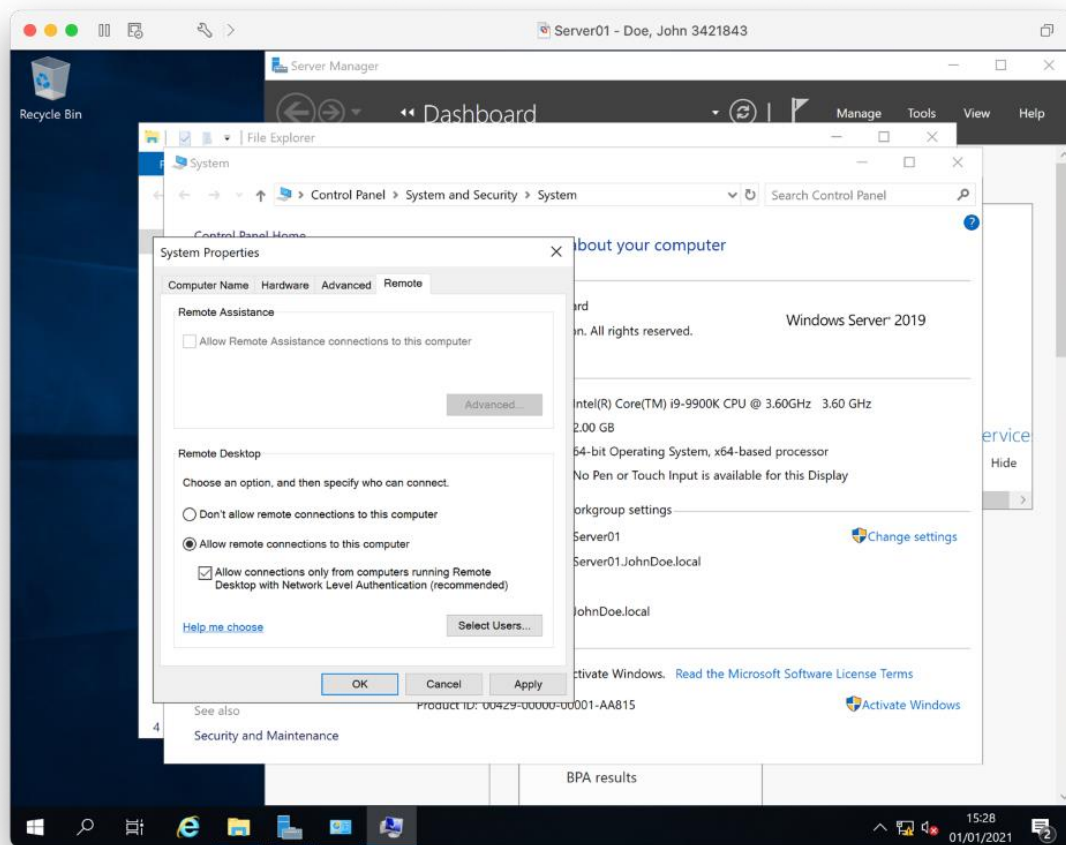
Press F12 for network service boot
Architecture: x64
Contacting Server: 10.1.1.3.
TFTP Download: boot\x64\pxeboot.n12
```



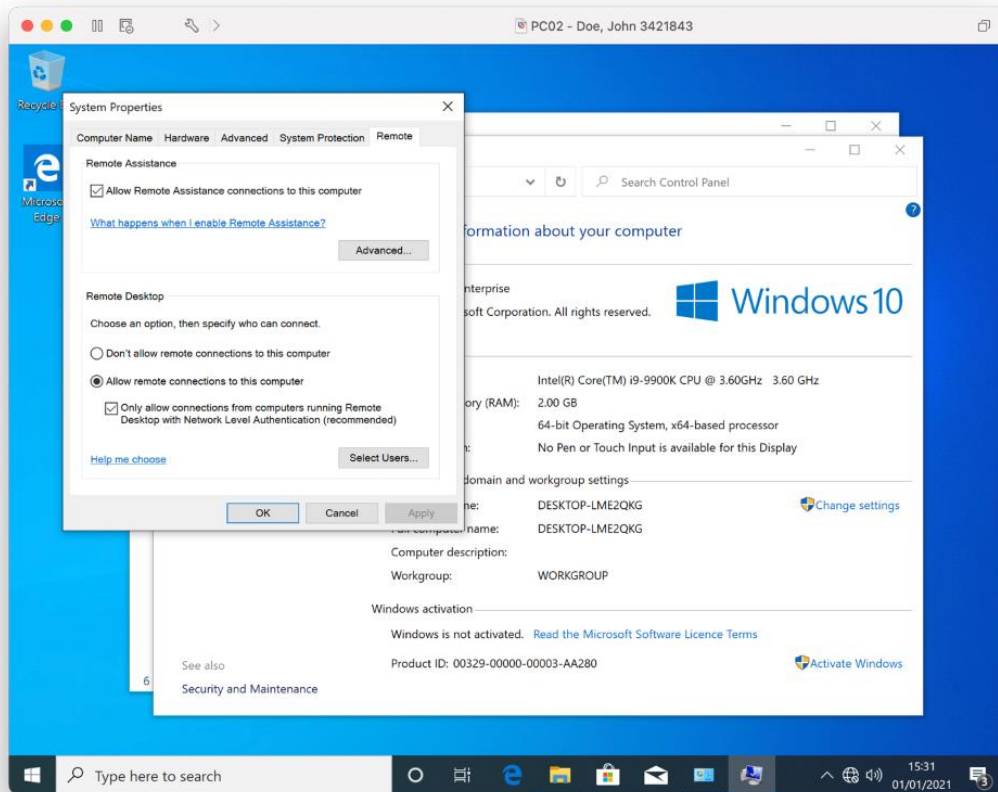
Step F

Configuration

Print screen showing the remote desktop has been enabled on the server in system properties, this will allow remote access to the server.

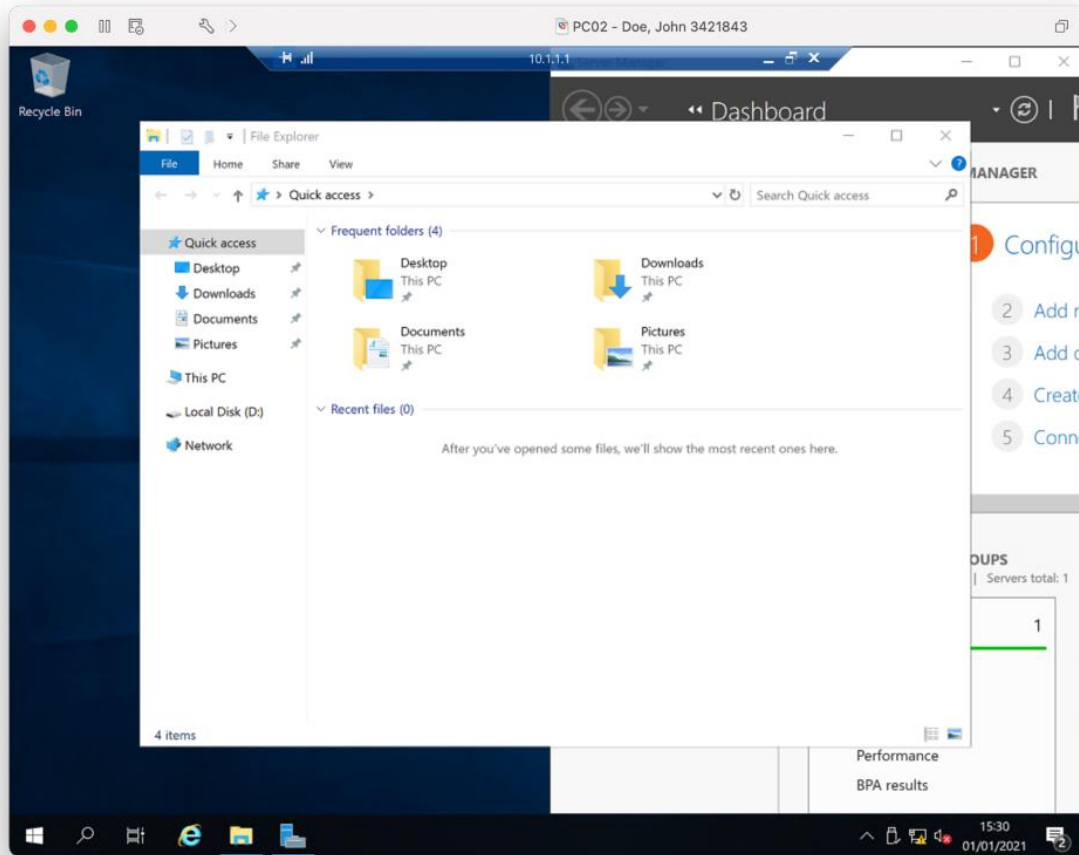


Print screen showing remote access has been enabled for PC02 in system properties.



Accessing

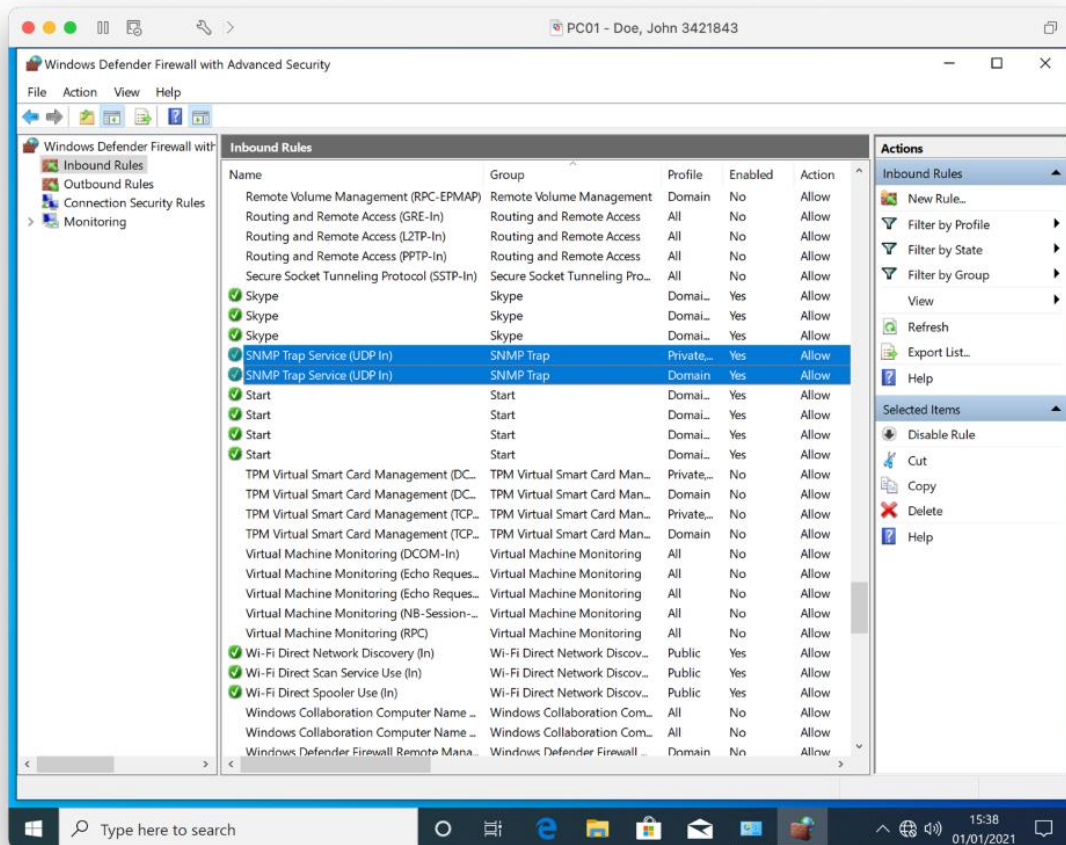
Server in a remote desktop window being administered - allowing updates and configuration to be performed remotely from the server.



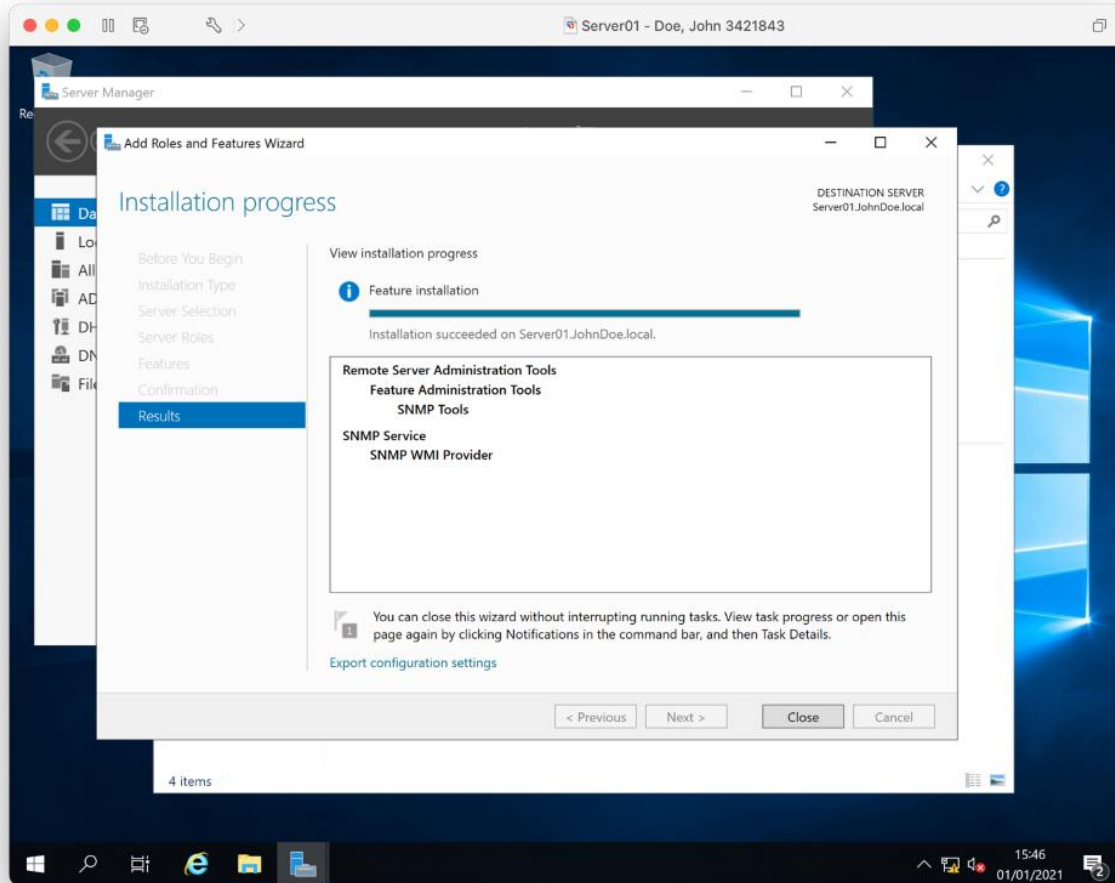
Step G

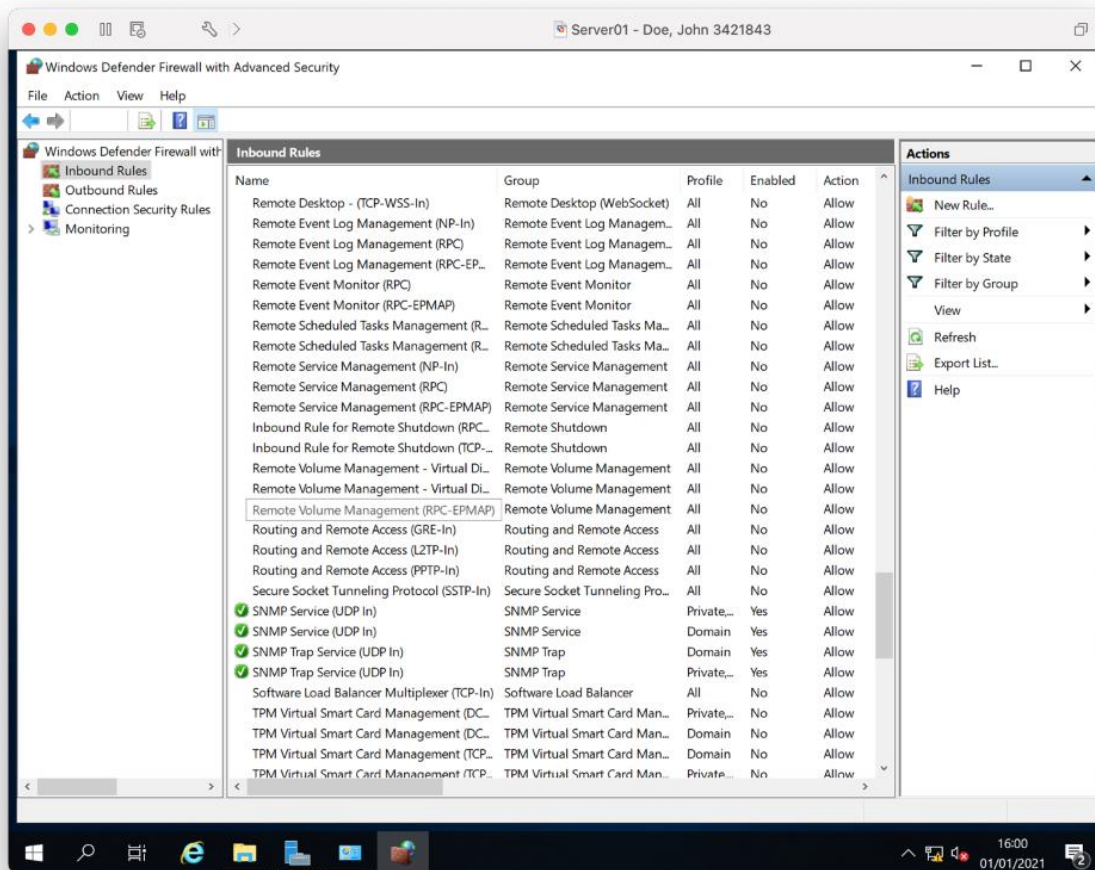
SNMP enabled

Print screen showing that SNMP has been added to PC01 using application and features.

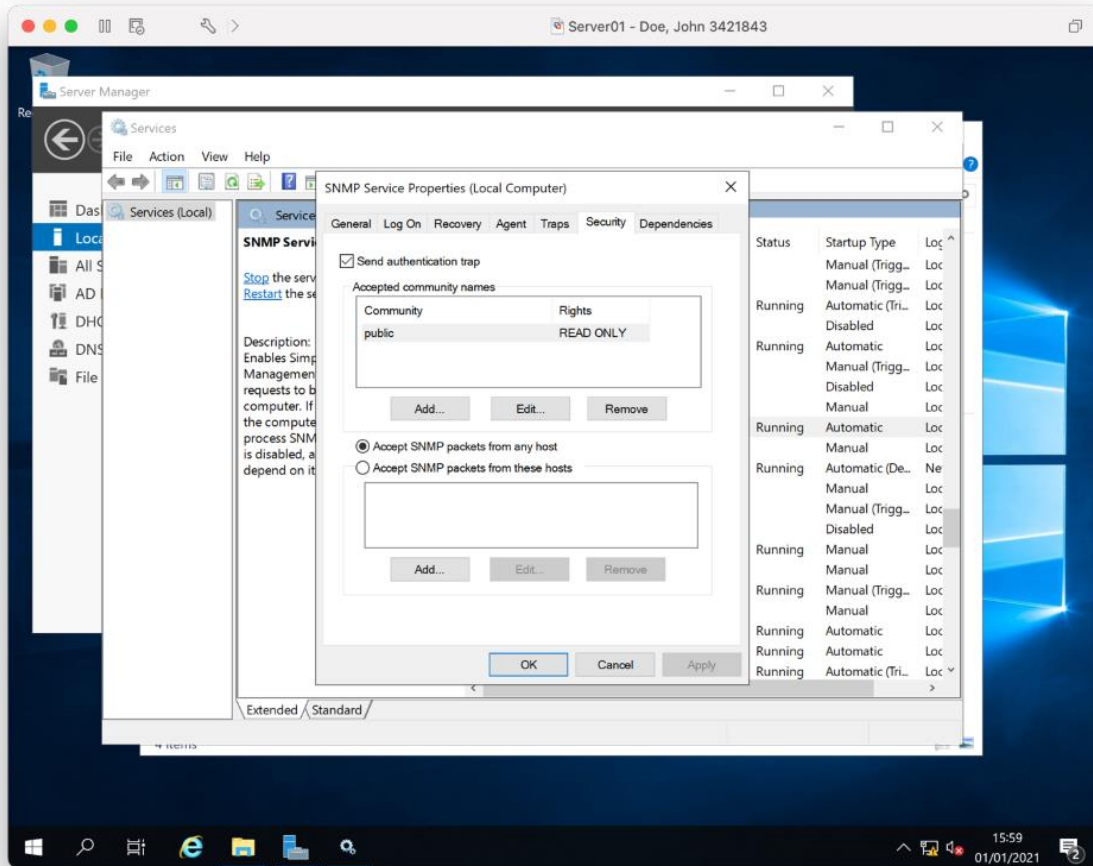


Print screen showing that firewall allows SNMP both in and outbound on the firewall for Server01.





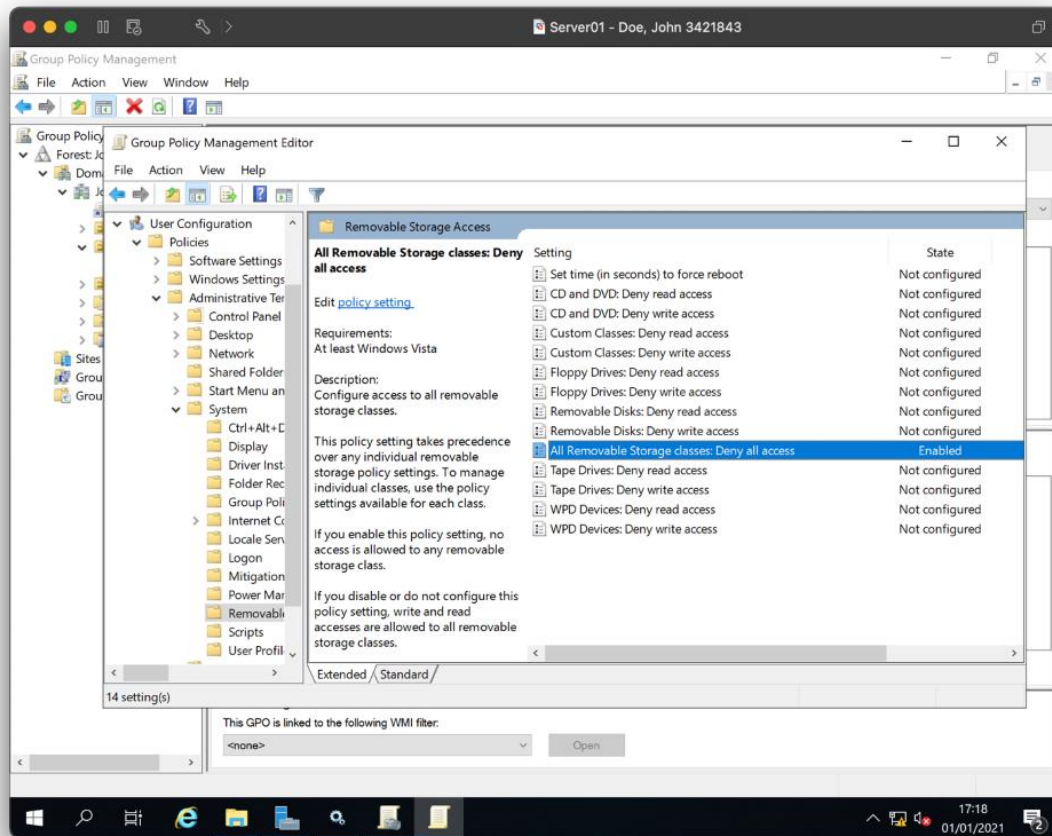
SNMP data collection



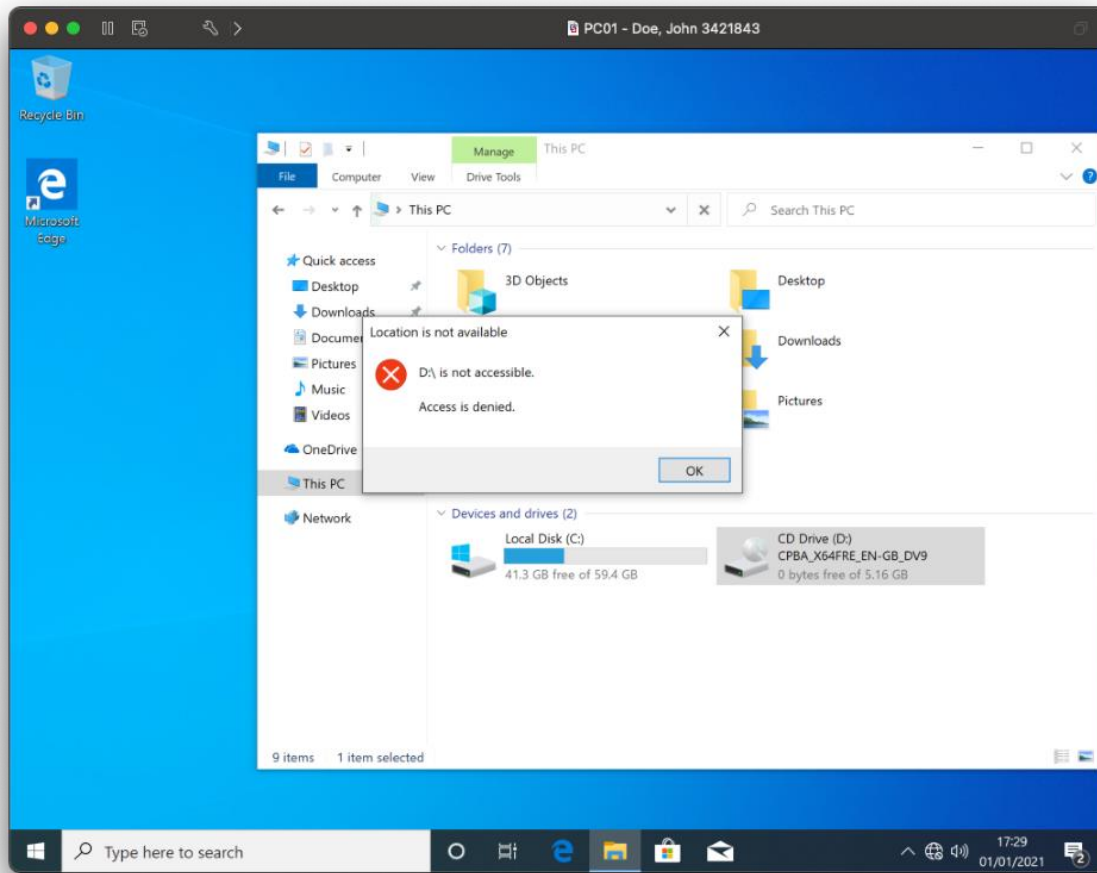
Step H

Policy 1 – disable USB support

Print screen on Server01 showing the blocking of removable devices have been enabled in group policy, this will ensure that the machines are kept safer.

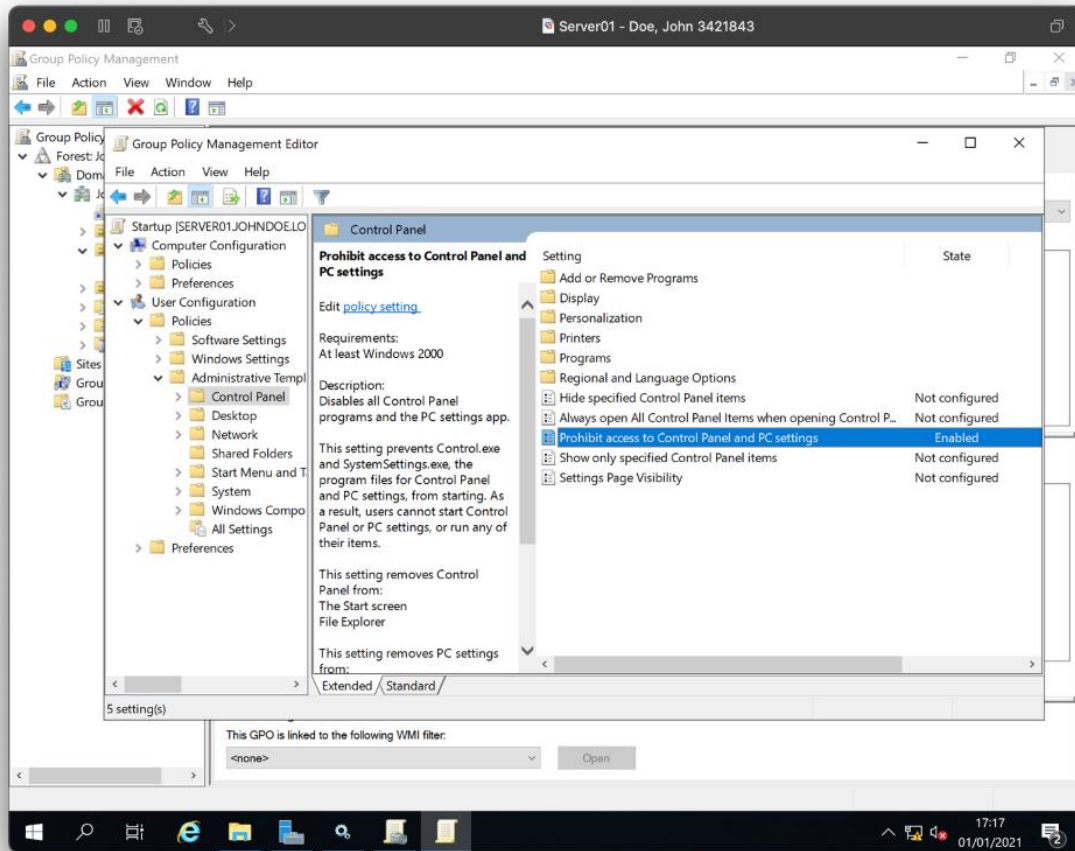


Print screen showing that when a USB is connected to PC01, an error message displays on the screen blocking access.

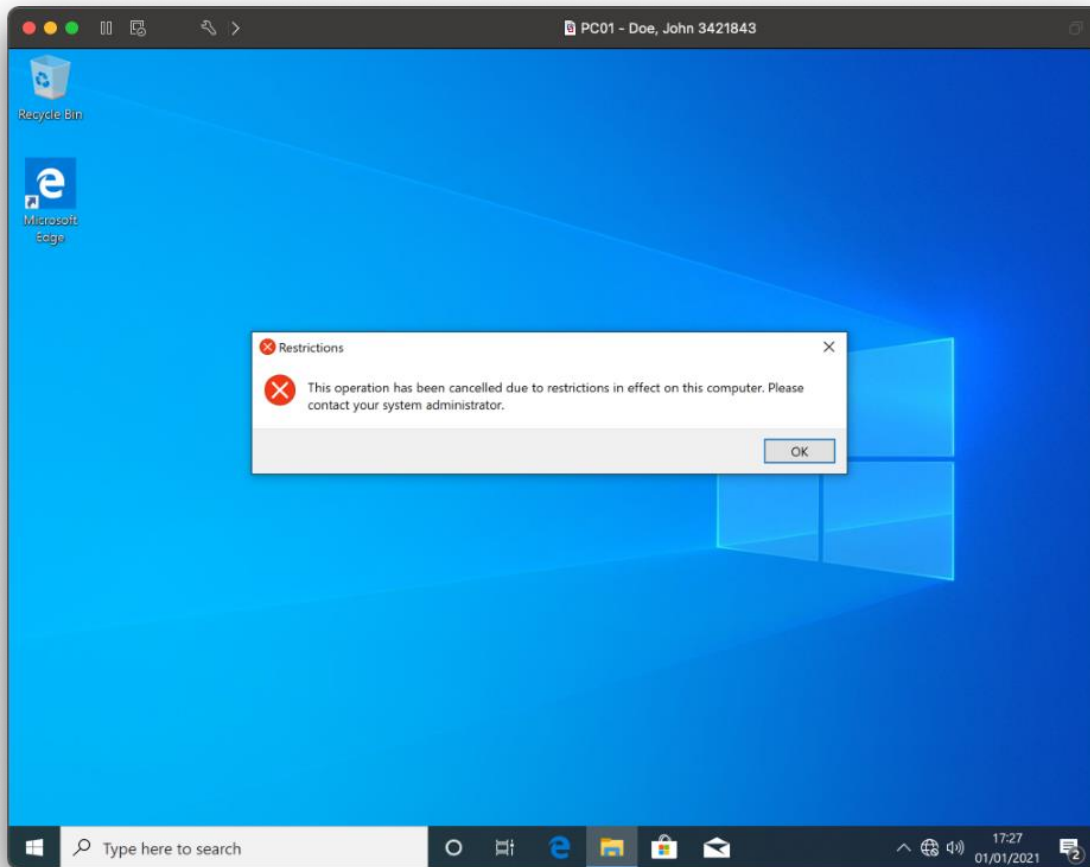


Policy 2 – disable access to the control panel

Print screen on Server01 showing control panel access have been enabled in group policy.

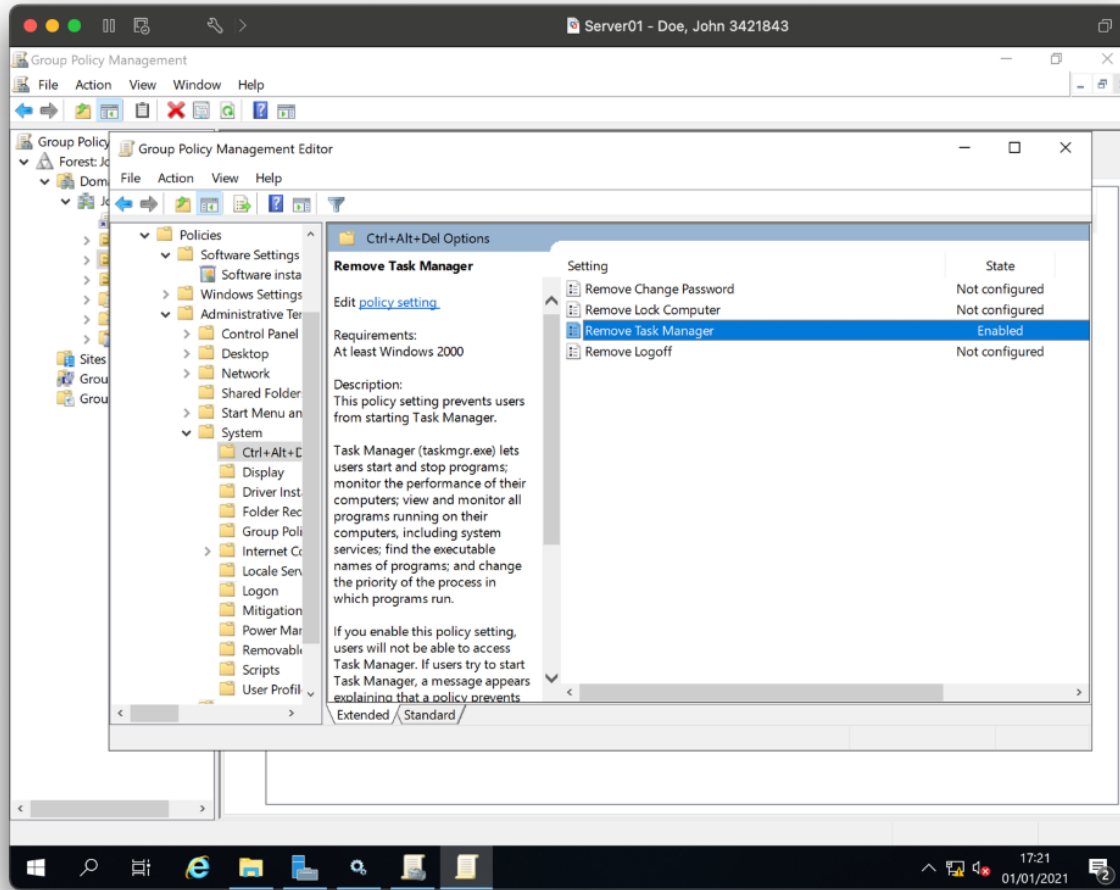


Print screen showing that control panel menu icons have been hidden on PC01.

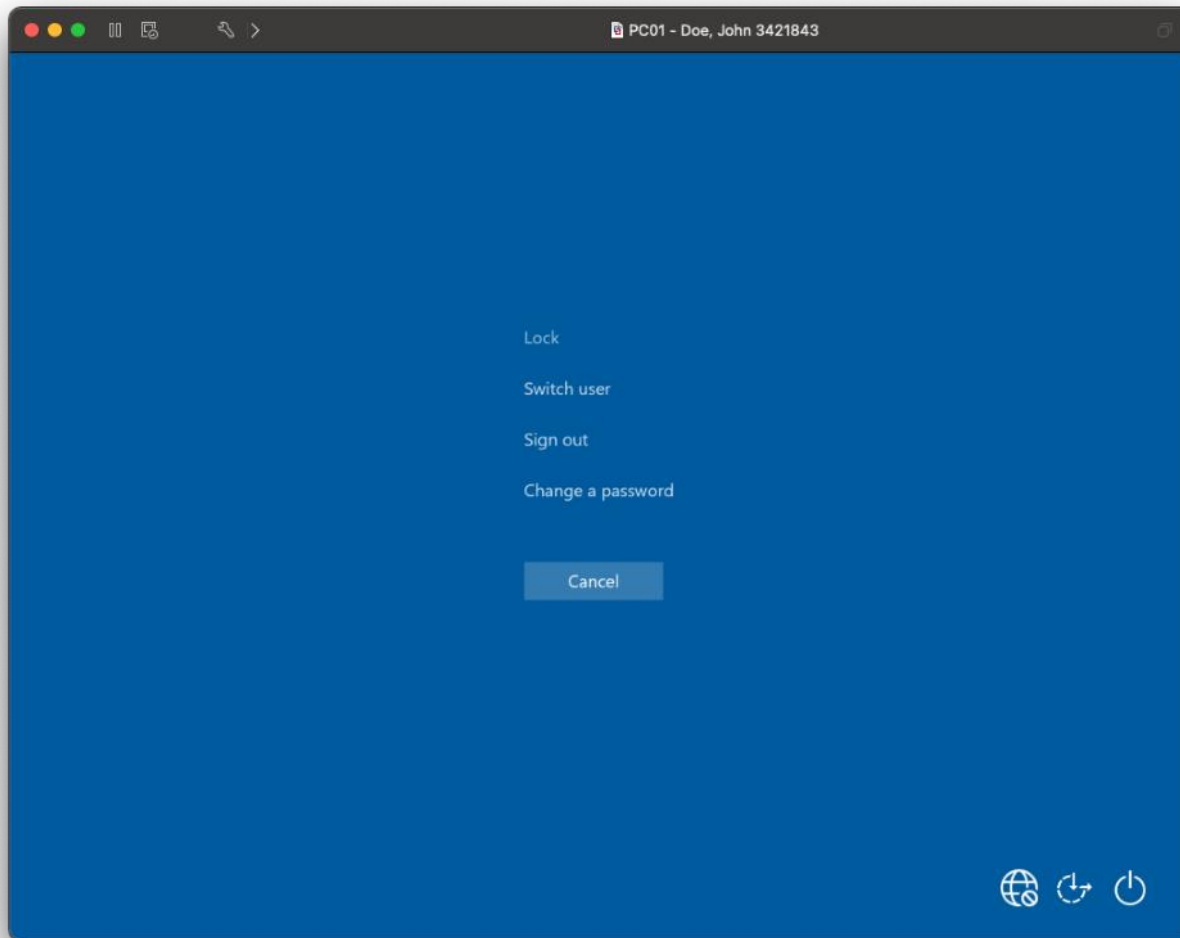


Policy 3 – disable task manager access

Print screen on Server01 showing that task manager access is denied in group policy, this will also increase security of the data.

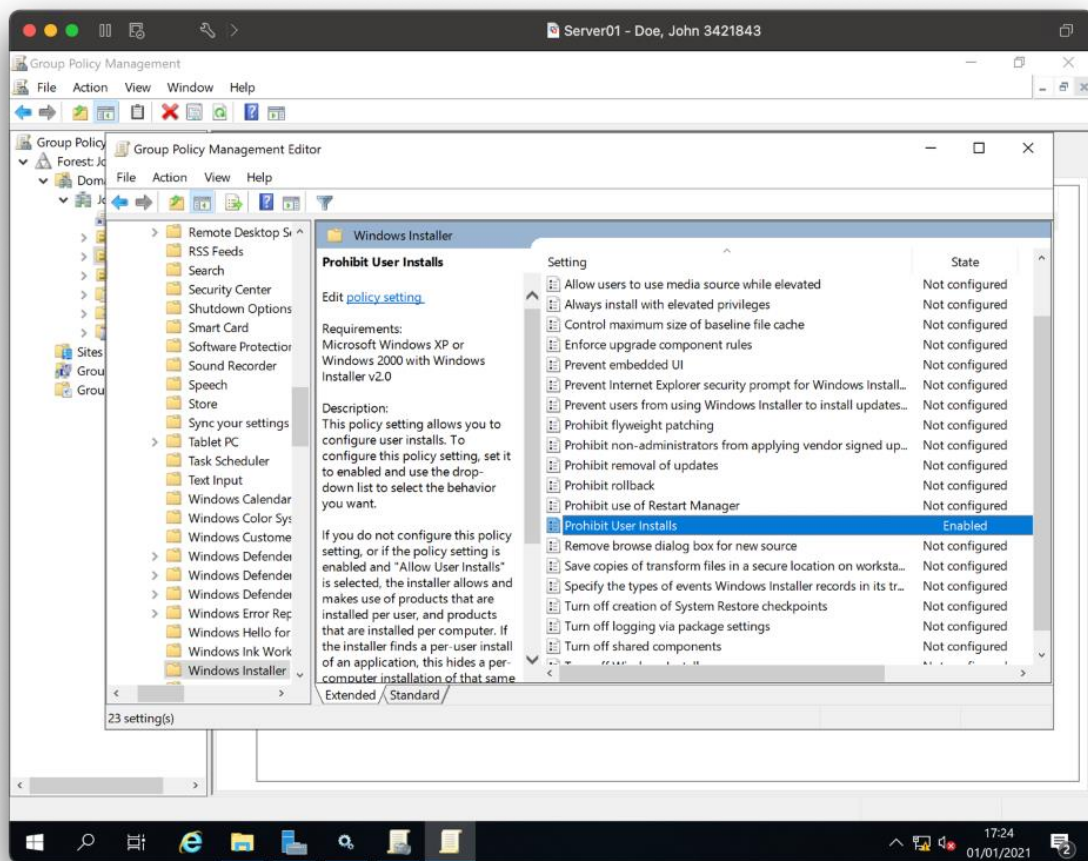


Print screen showing that you cannot access task manager on PC01 as it is hidden from the CTRL+ALT+ Delete screen - minimising the chance of someone gaining access they shouldn't.

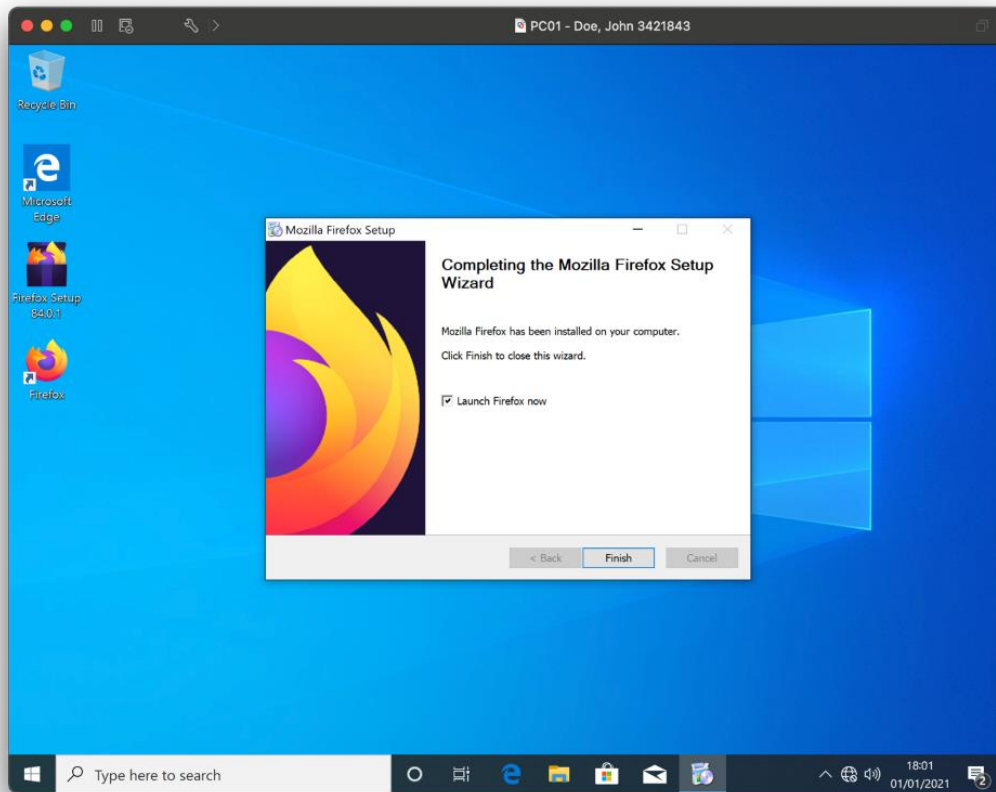


Policy 4 - prevent the installing of applications

Print screen on Server01 showing the prevention of installing applications in group policy - this will ensure that security is maintained due to people not being able to install new applications.

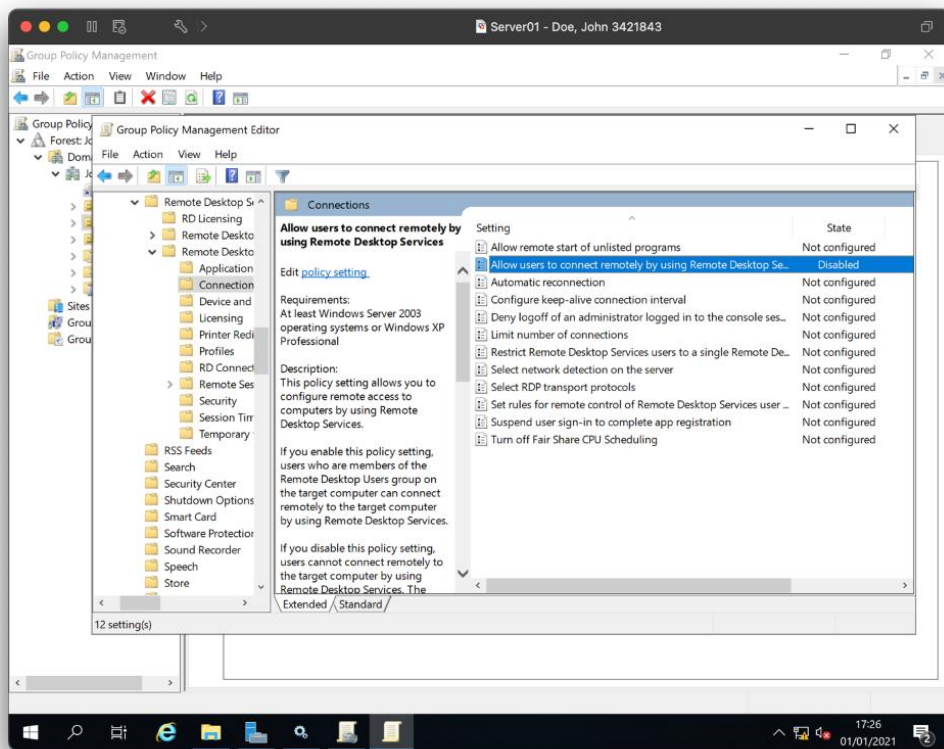


Print screen showing that when an .EXE is clicked, it will not execute and stops with an error message displays on the screen.

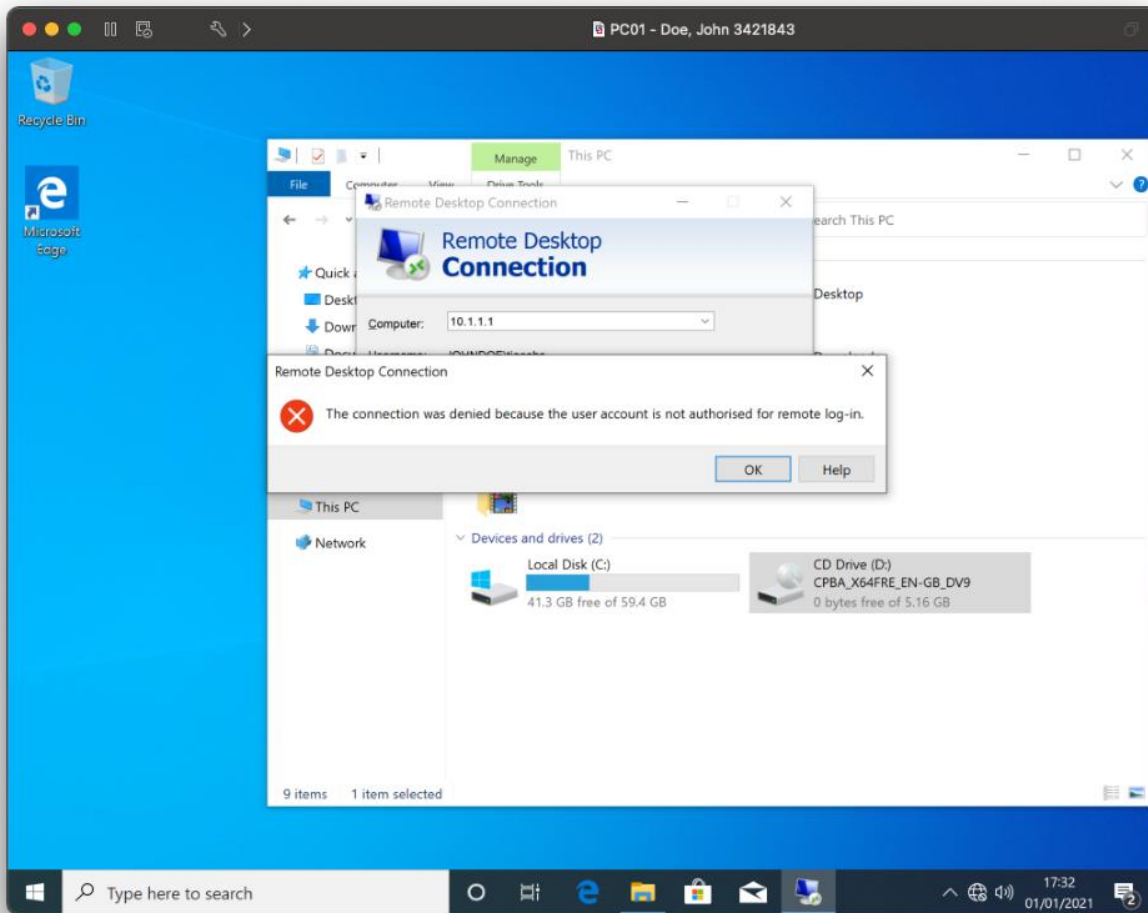


Policy 5 - disable remote desktop]

Print screen on Server01 showing remote desktop has been disabled in group policy – preventing people being able to access this remotely and therefore increasing security.



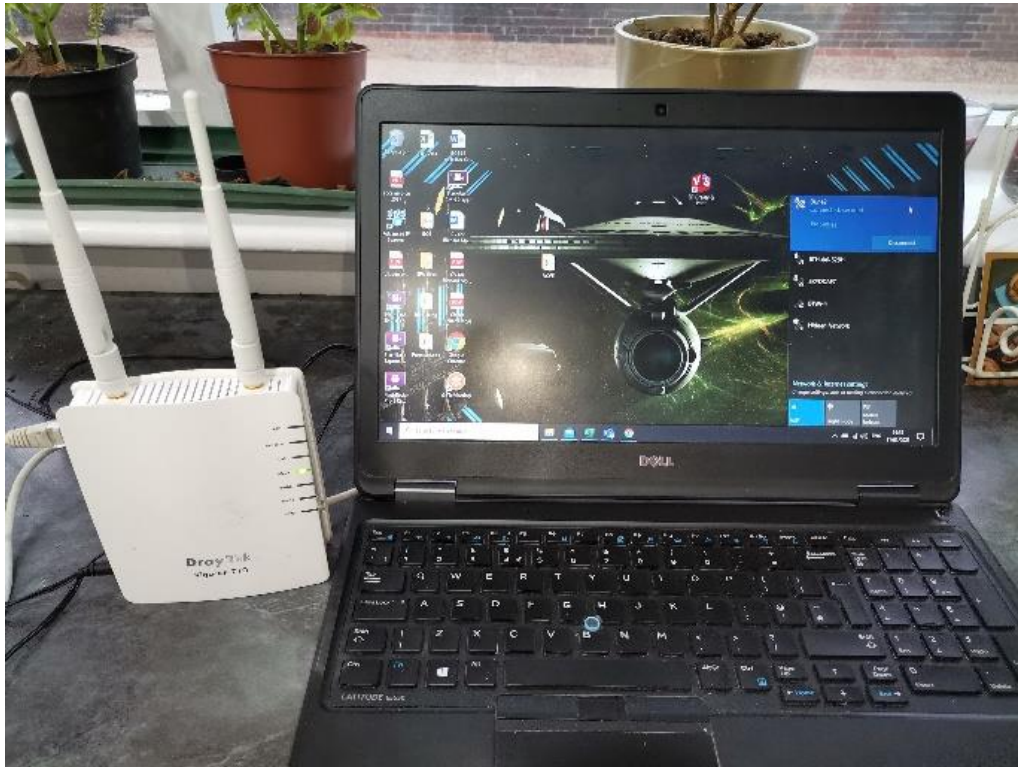
Print screen showing when a remote desktop connection cannot be made to PC01 from Server01.

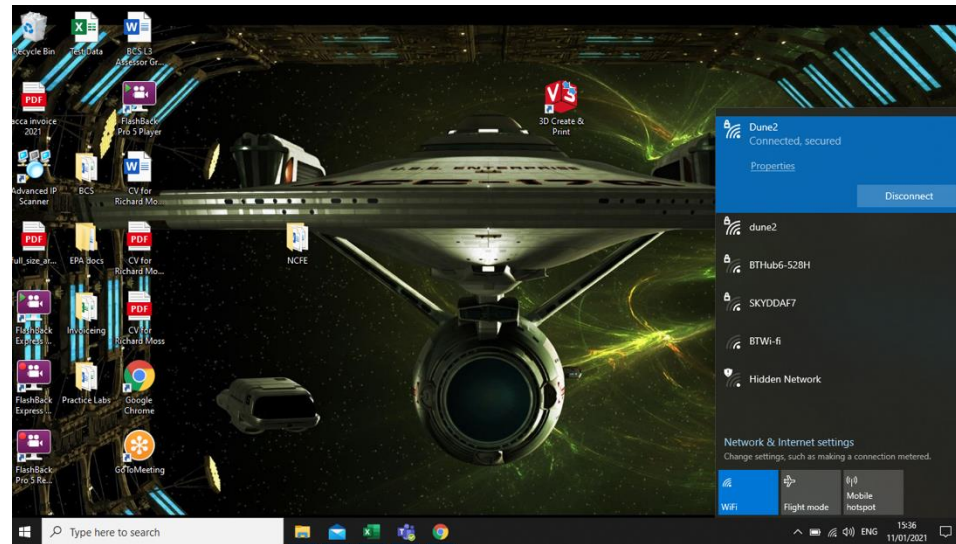


Step 1

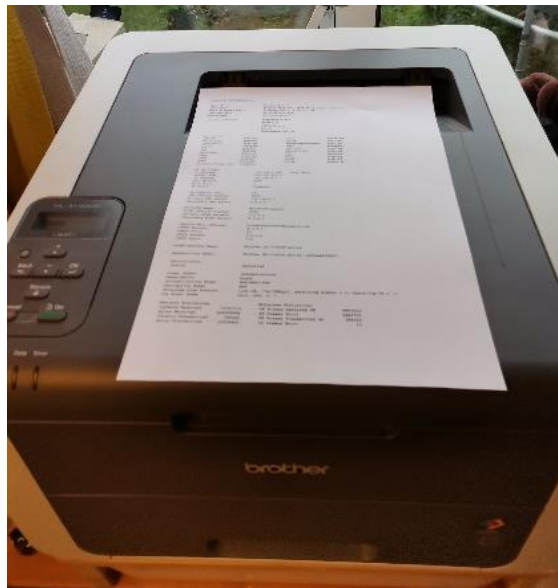
Installation and configuration of the wireless device

Photograph showing the access point connected to the host machine via an ethernet cable – allowing wireless network access.





Printing the printers WiFi Settings to show it is connected to the WiFi.



```
LegacyAuth      Enabled
Telnet          Disabled
LPD              Enabled
IPP              Enabled
POP3/SMTP       Enabled
TFTP            Disabled
mDNS            Enabled
SNTP             Enabled
Brother Online Con. Disabled
WebBasedManagement
SNMP
Raw Port
WebServices
FTP
CIFS
LLMNR
Proxy

<IP Settings>
IP Address      192.168.0.100 (via DHCP)
Subnet Mask     255.255.255.0
IP Gateway      192.168.0.1
Boot Method     AUTO
Boot Tries      3
IP Filter       Disabled

GW Timeout (sec) 21
DNS Address Config AUTO
Primary DNS Server 192.168.0.1
Secondary DNS Server 0.0.0.0

<NetBIOS Name> BrotherPrinterC
```

```

<<NETWORK CONFIGURATION>>

<Interface> WirelessLAN on
<Node Type> Brother WC-4100w, IEEE 802.11b/g/n (Active)
<Node Firmware Ver.> Firmware Ver.1.11 (17.01.27)
<MAC Address> a8-6b-ad-43-29-0c
<Node name> BrotherPrinterC

<Active services>
BRNA86BAD43290C
STRARY_P1
TEXT_P1
POSTSCRIPT_P1
PCL_P1
BRNA86BAD43290C_AT

<Protocols>
TCP/IP Enabled IPv6 Disabled
NetBIOS/LLDP Enabled ADIPLA Enabled
LegacyAuth Enabled WebBasedManagement Enabled
Telnet Disabled SNMP Enabled
LPD Enabled Raw Port Disabled
IPP Enabled WebServices Enabled
POP3/SMTP Enabled FTP Disabled
TFTP Disabled CIFS Enabled
SMB Enabled LLMNR Enabled
SMTP Enabled Proxy Disabled
Brother Online Con. Disabled

<IP Settings>
IP Address 192.168.0.100 (via DHCP)
Subnet Mask 255.255.255.0
IP Gateway 192.168.0.1
Boot Method AUTO
Boot Trips 3
IP Filter Disabled

GW Timeout (sec) 21
DNS Address Config AUTO
Primary DNS Server 192.168.0.1
Secondary DNS Server 0.0.0.0

<NetBIOS Name> BrotherPrinterC
<WINS Address Config> AUTO
<Primary WINS Server> 0.0.0.0
<Secondary WINS Server> 0.0.0.0

<Service Mail Address> brna86bad43290c@example.com
<SMTP Server> 0.0.0.0
<SMTP Port> 25
<POP3 Server> 0.0.0.0
<POP3 Port> 110

<DNS Service Name> Brother HL-3140CW series
<WebServices Name> Brother HL-3140CW series [a86bad43290c]

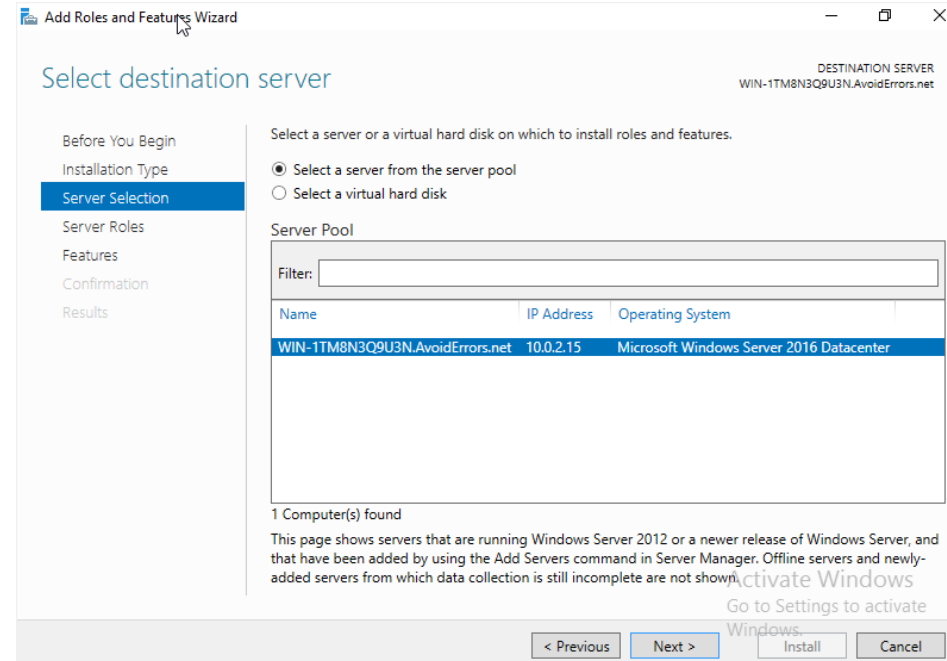
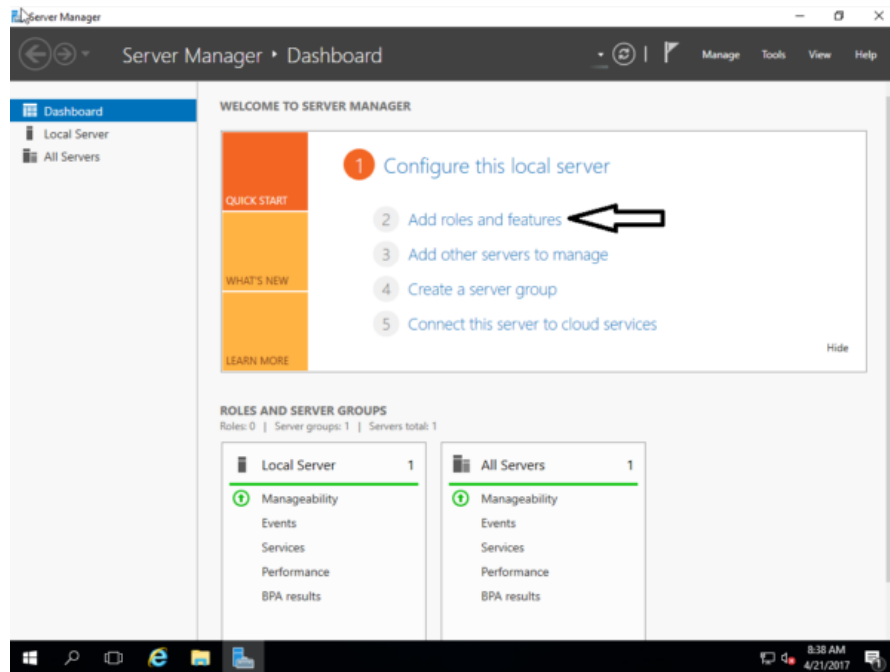
<Certificate>
Status Installed

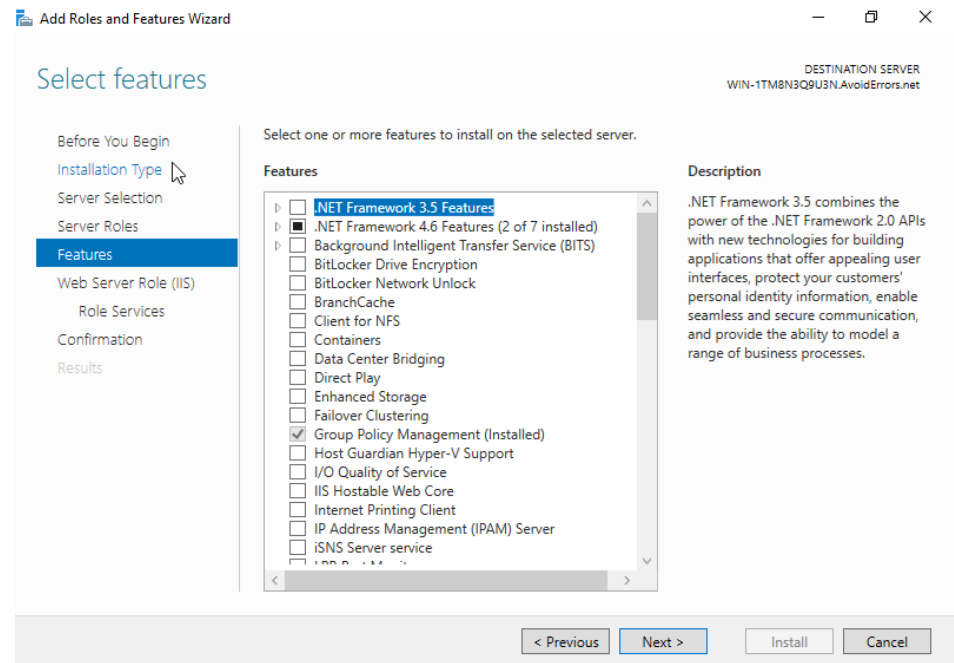
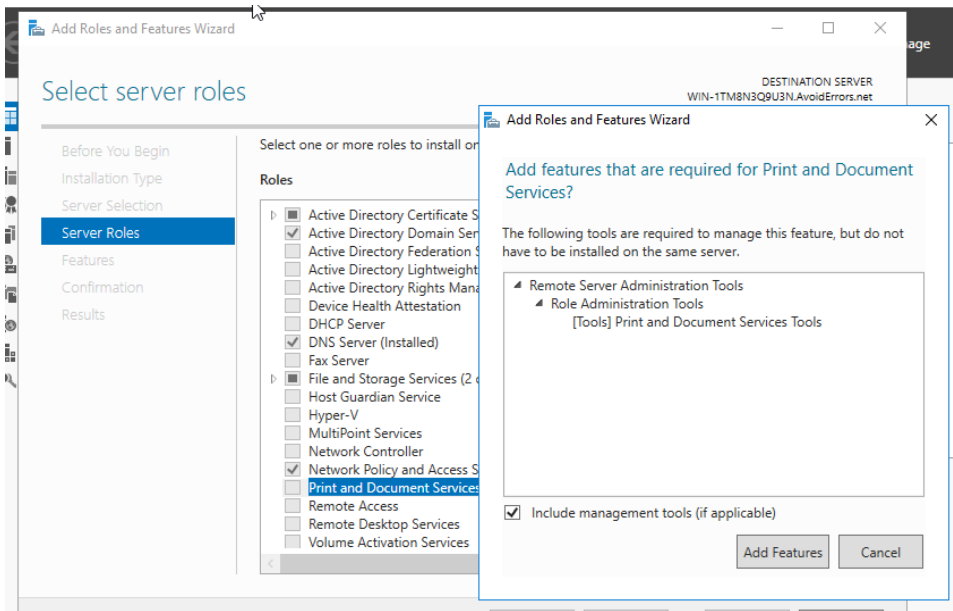
<Conn. Mode> Infrastructure
<Name(SSID)> Dune2
<Authentication Mode> WPA/WPA2-PSK
<Encryption Mode> AES
<Wireless Link Status> Link OK, 11n(72Mbps), Receiving Signal = 3, Operating Ch = 11
<TX Power Code> Full, 226, 0, 1

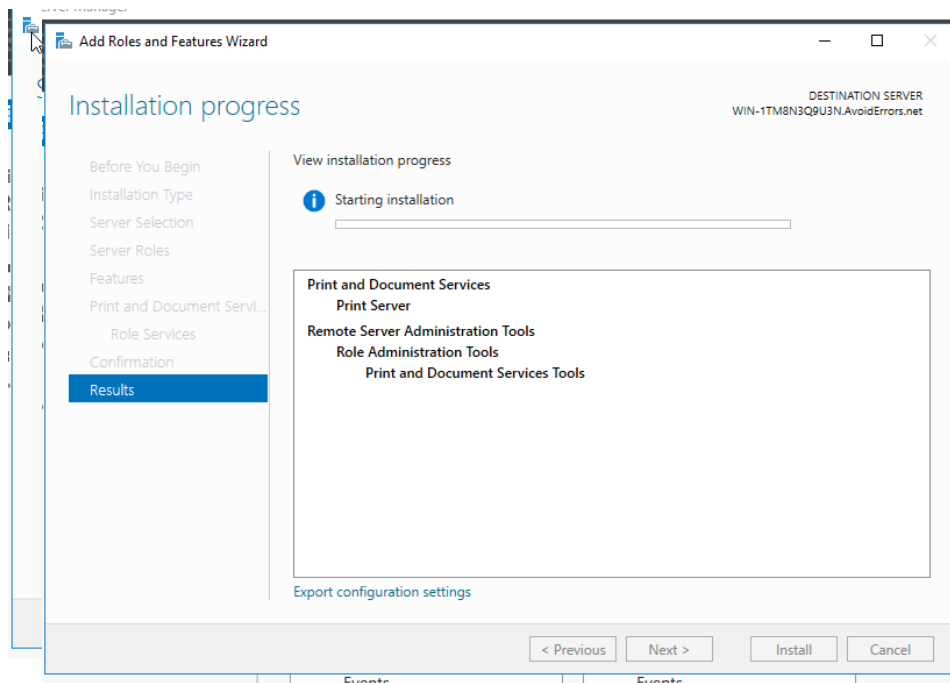
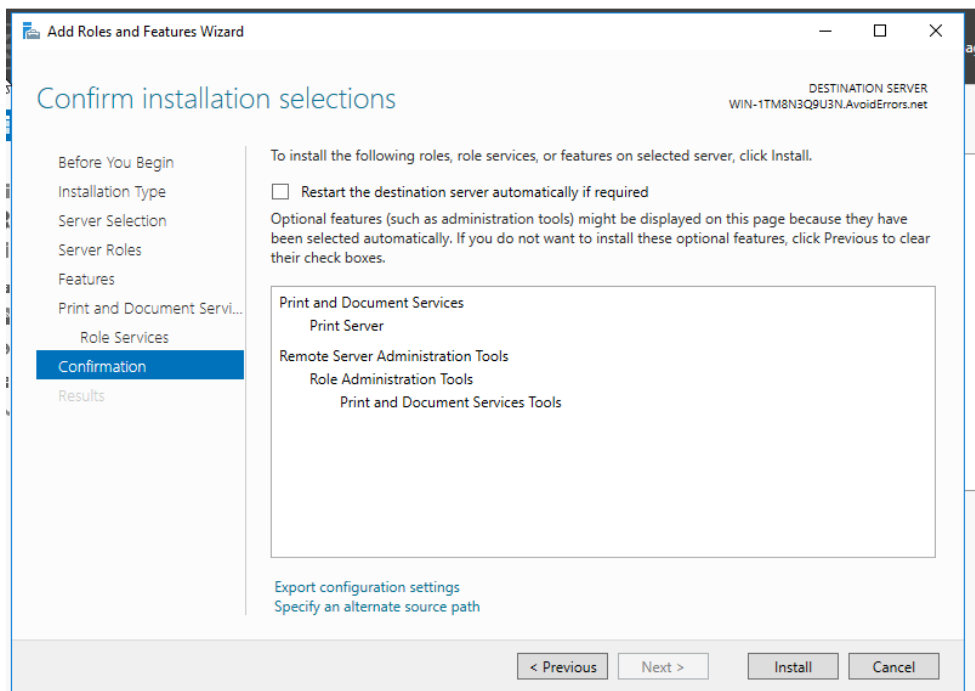
<Network Statistics>
Packets Received 10741314
Bytes Received 999999999
Packets Transmitted 266420
Bytes Transmitted 23558400

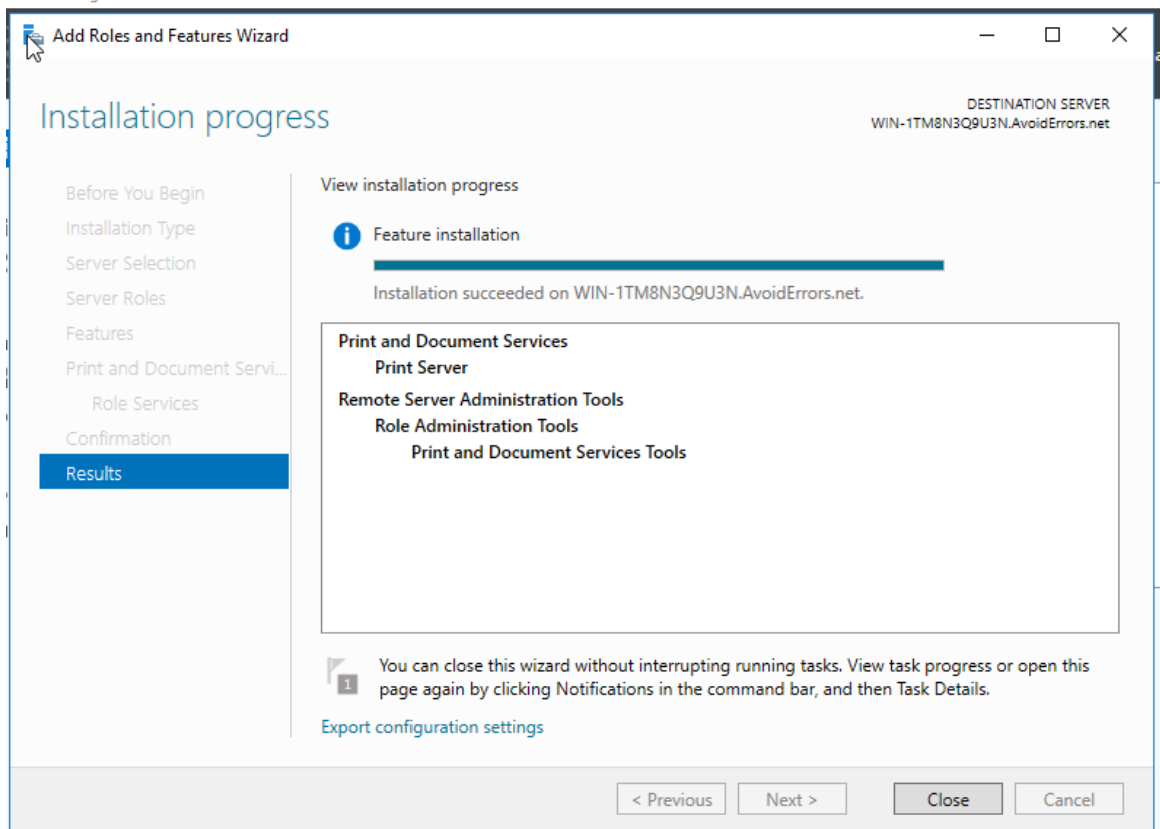
<Wireless Statistics>
RX Frames Received OK 6893432
RX Frames Error 5003737
TX Frames Transmitted OK 399358
TX Frames Error 12
    
```

The following images show the adding of the print services to the server and the adding of the WiFi printer.



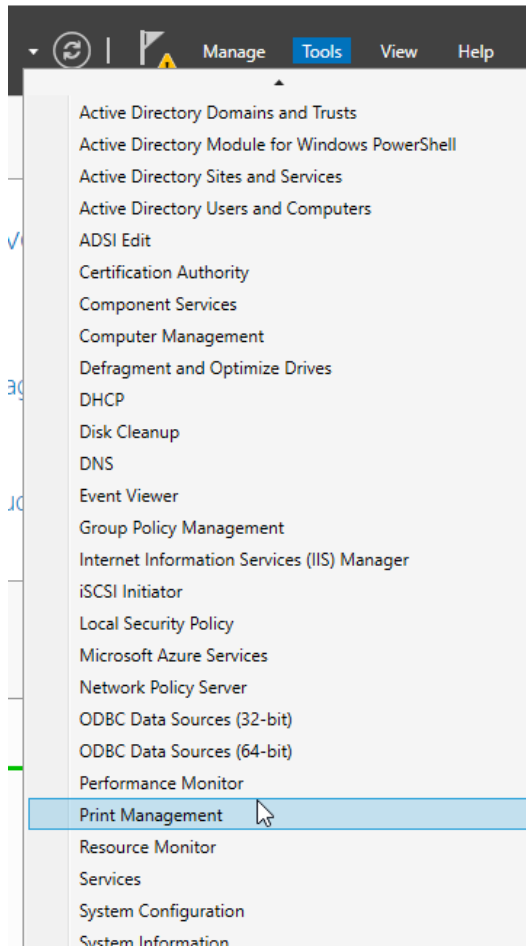


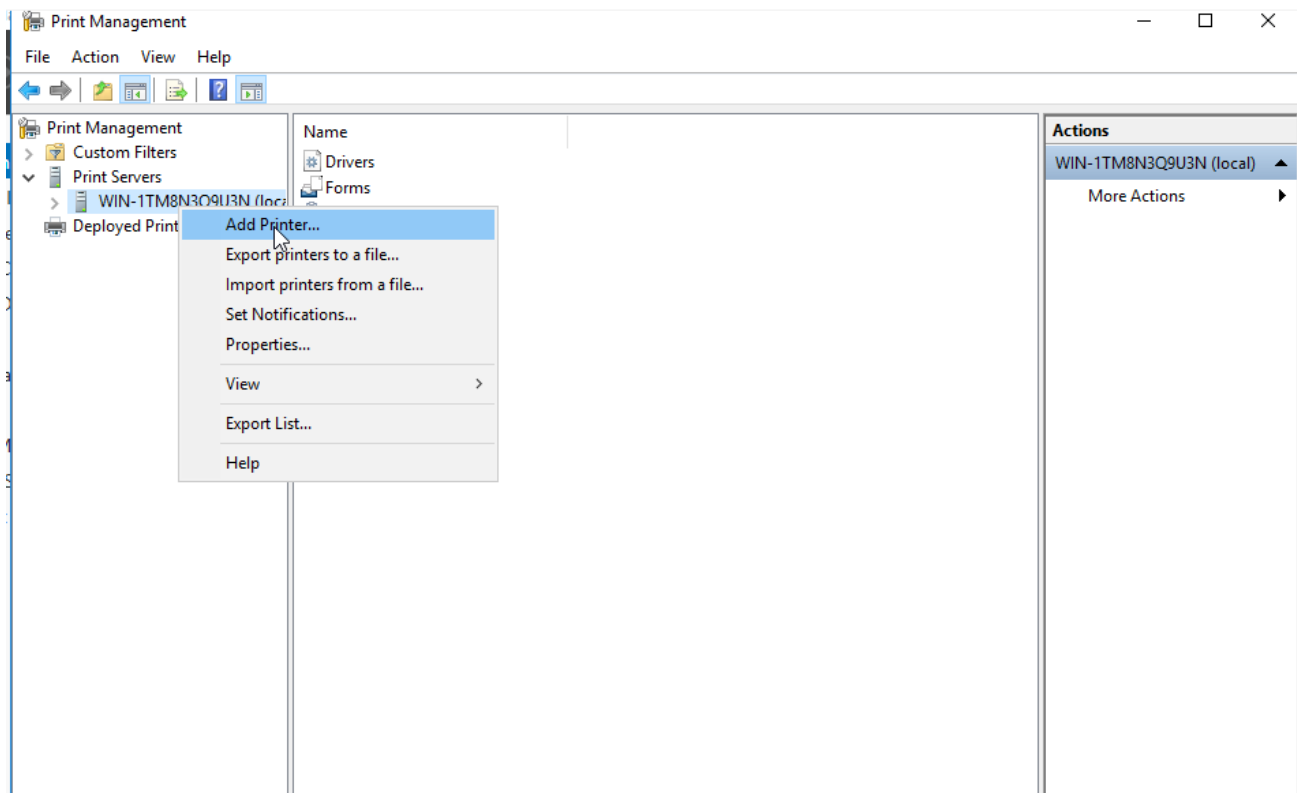


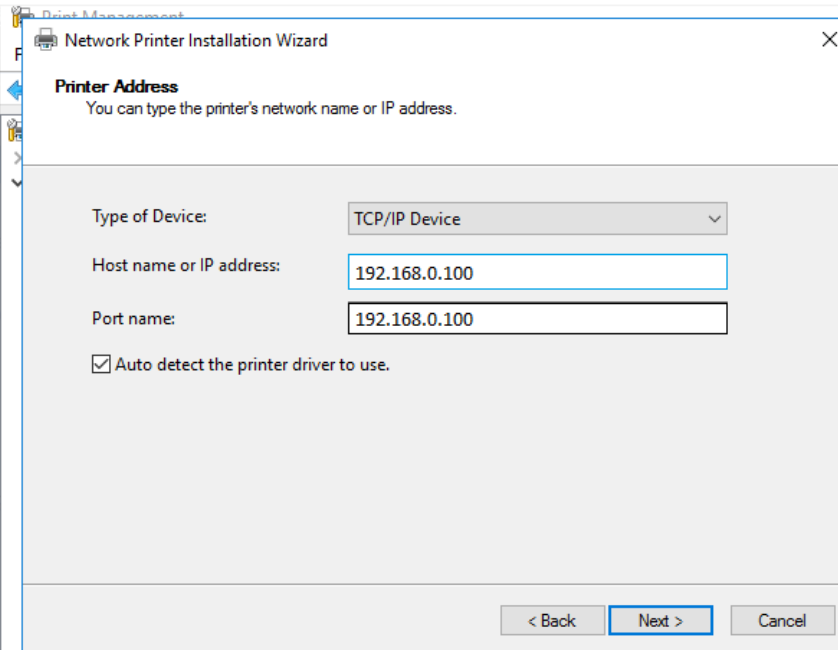
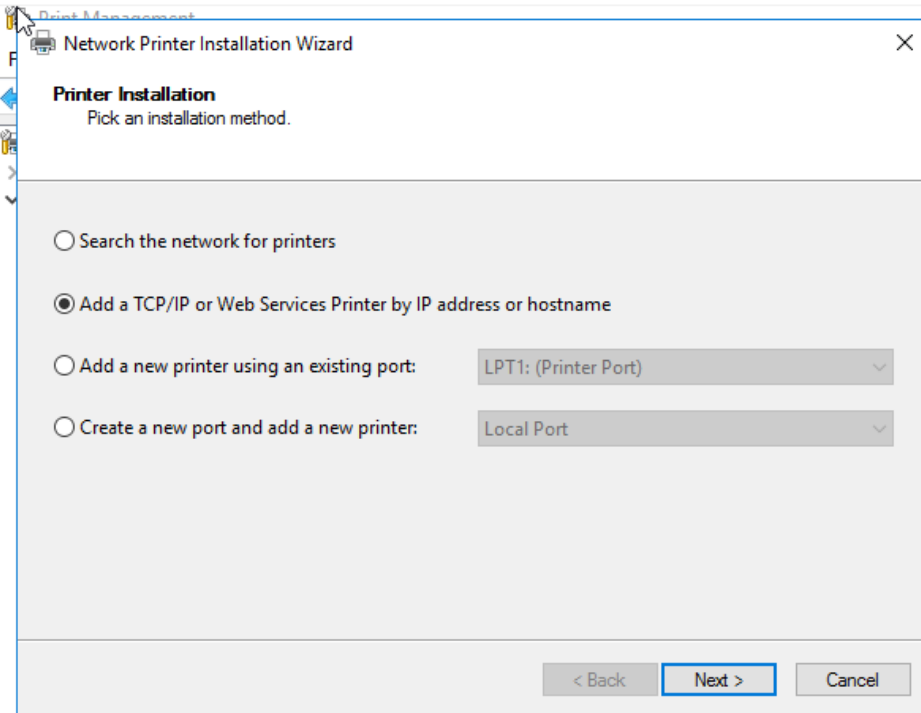


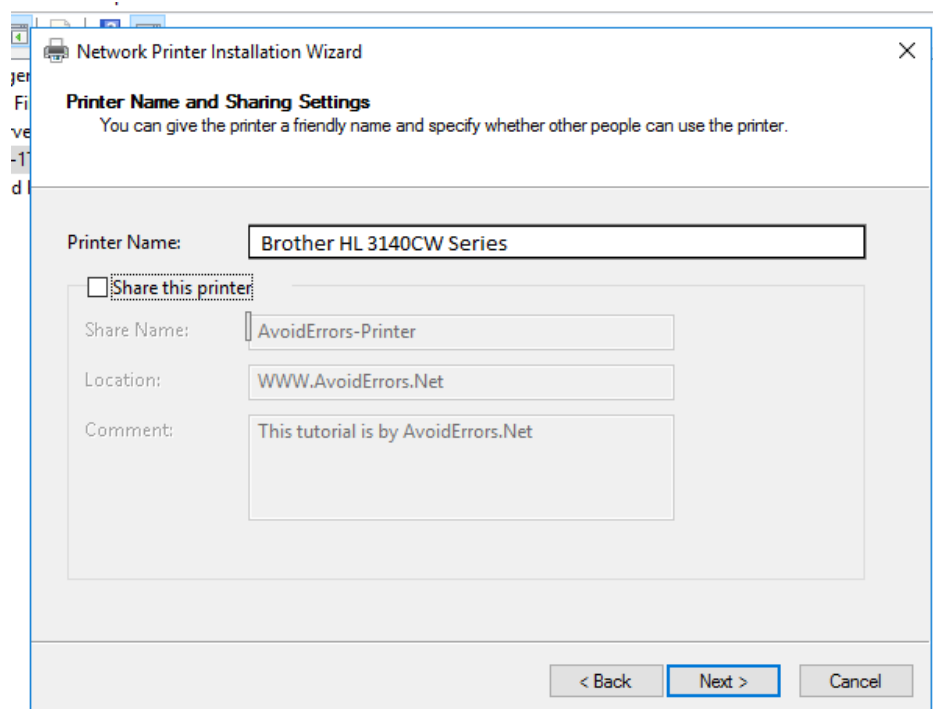
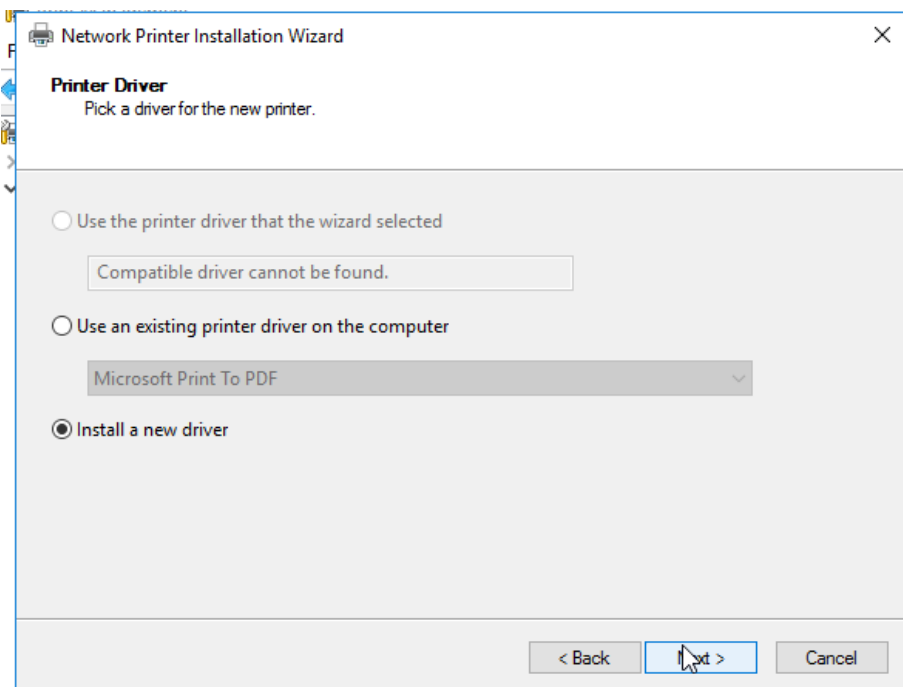
Configure print server and network printer on Windows Server 2016

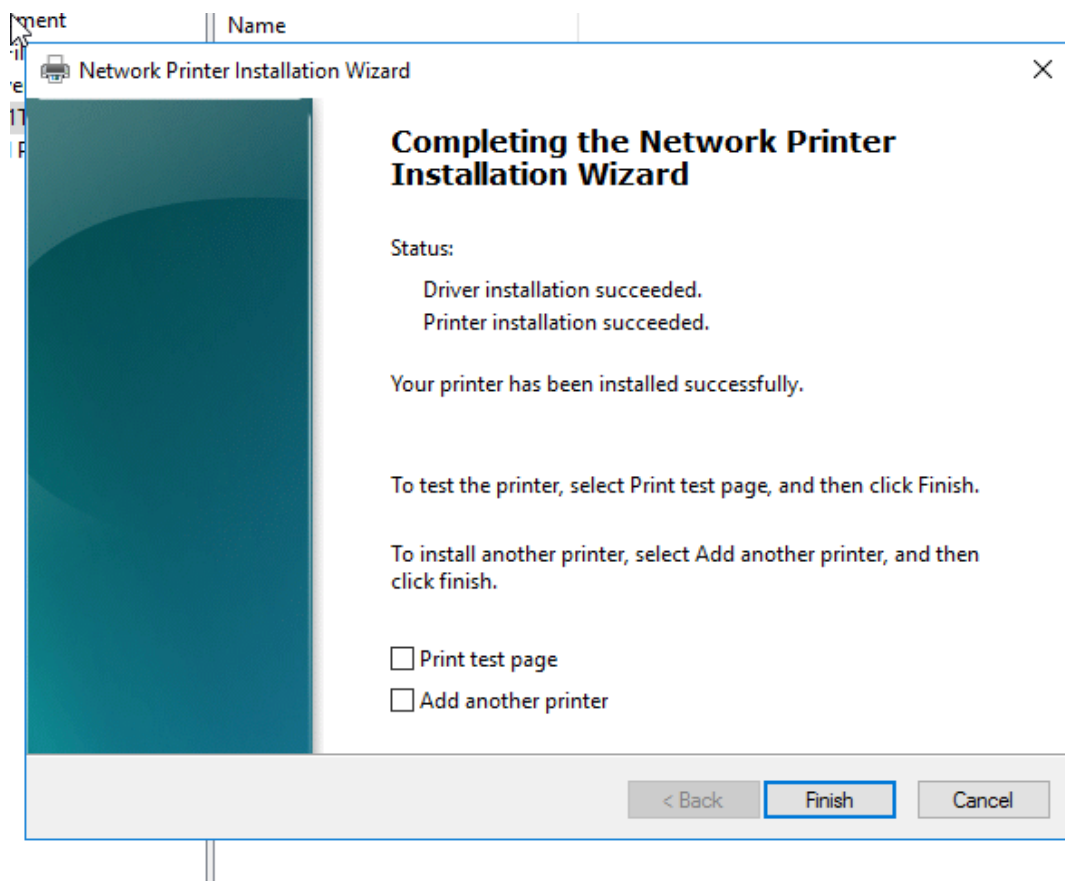
Screen prints showing the connection to the WiFi printer and the installation of the drivers.



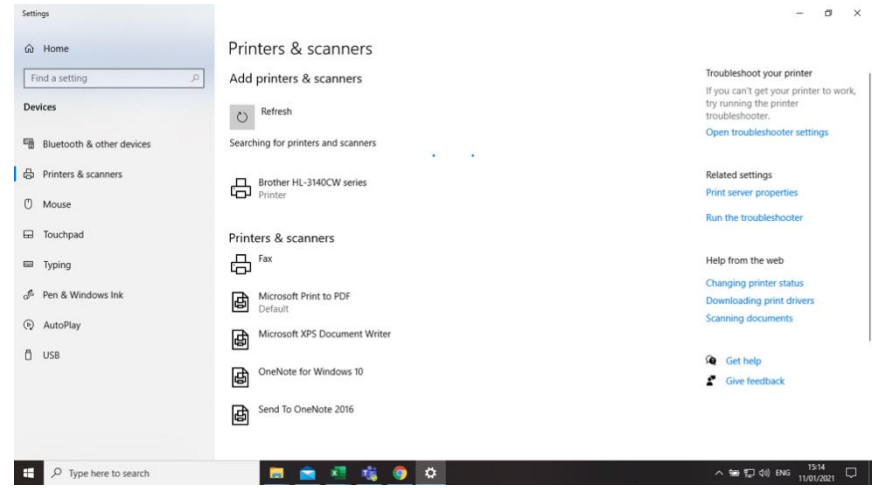
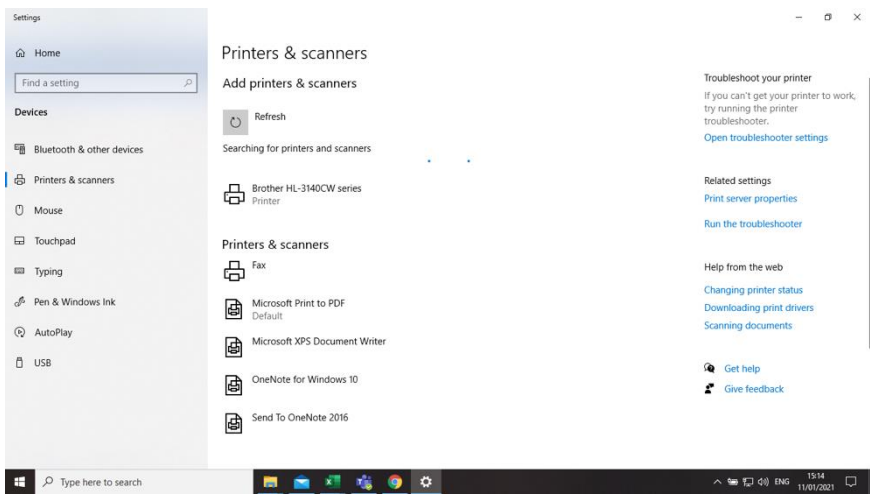
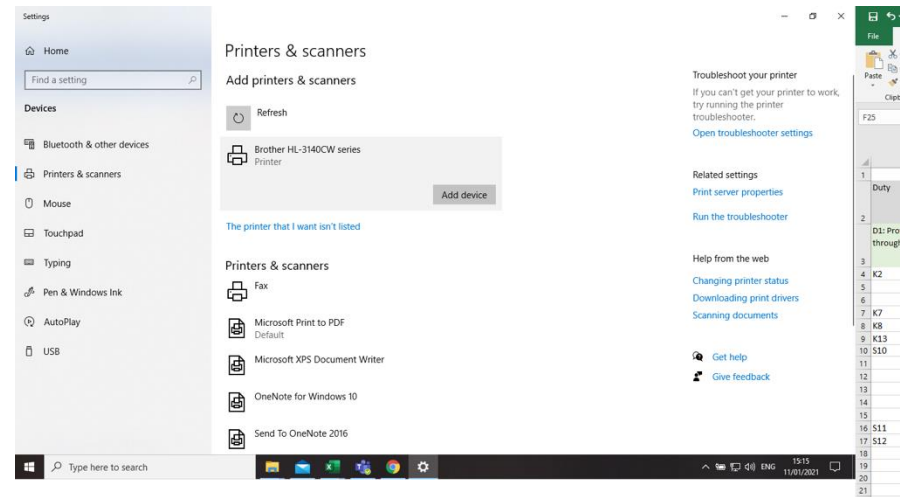
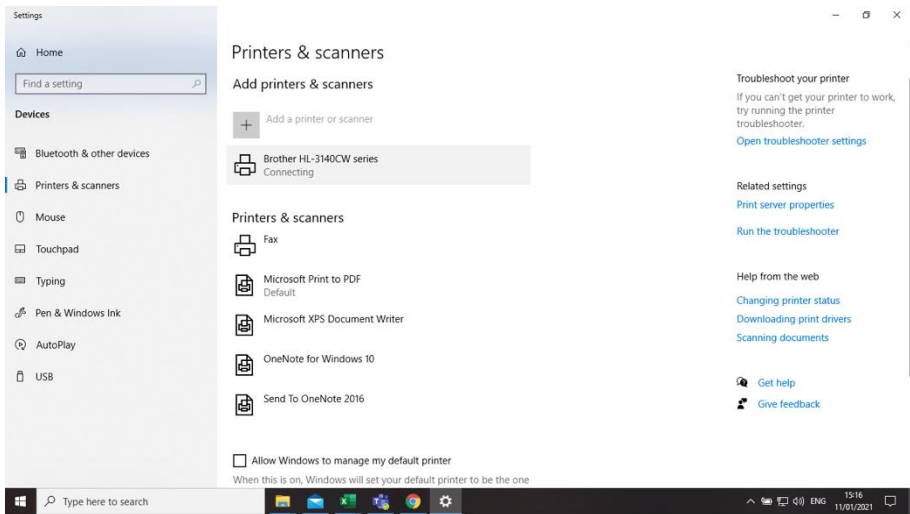


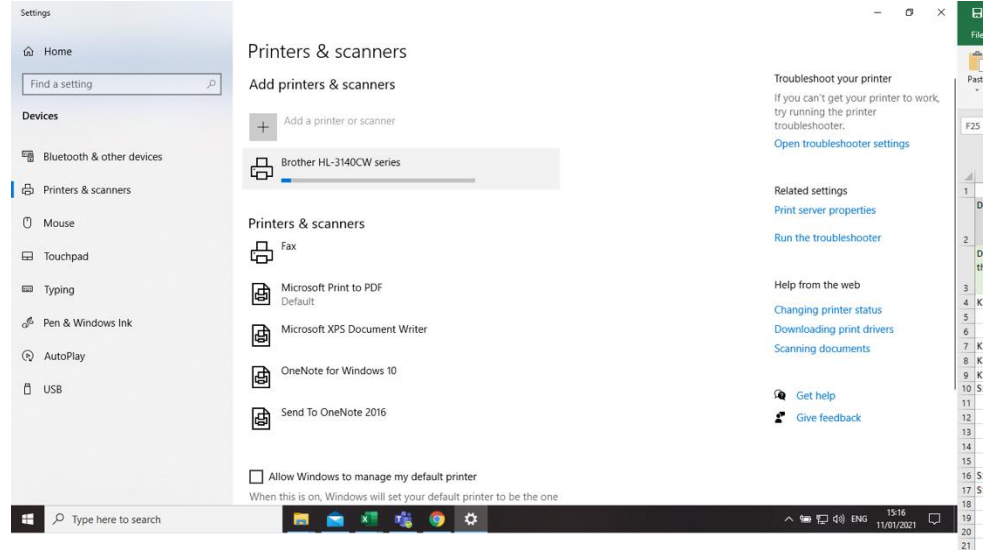
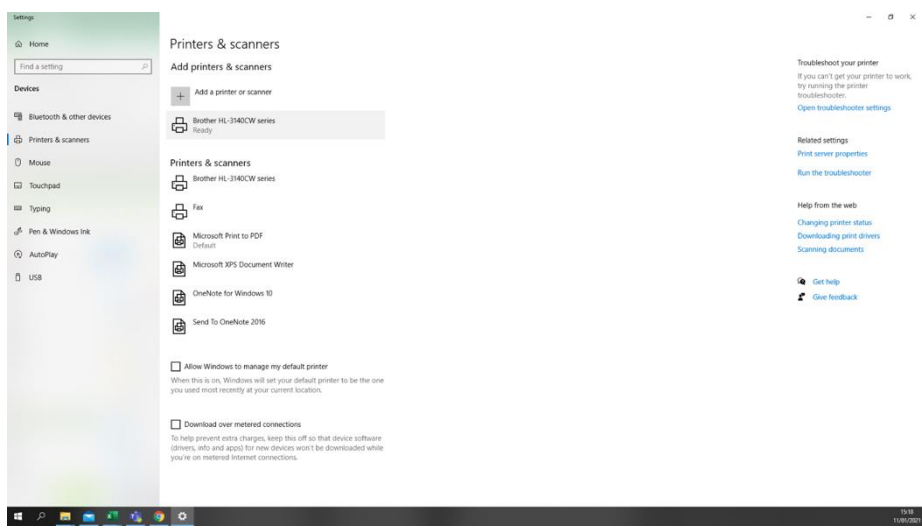






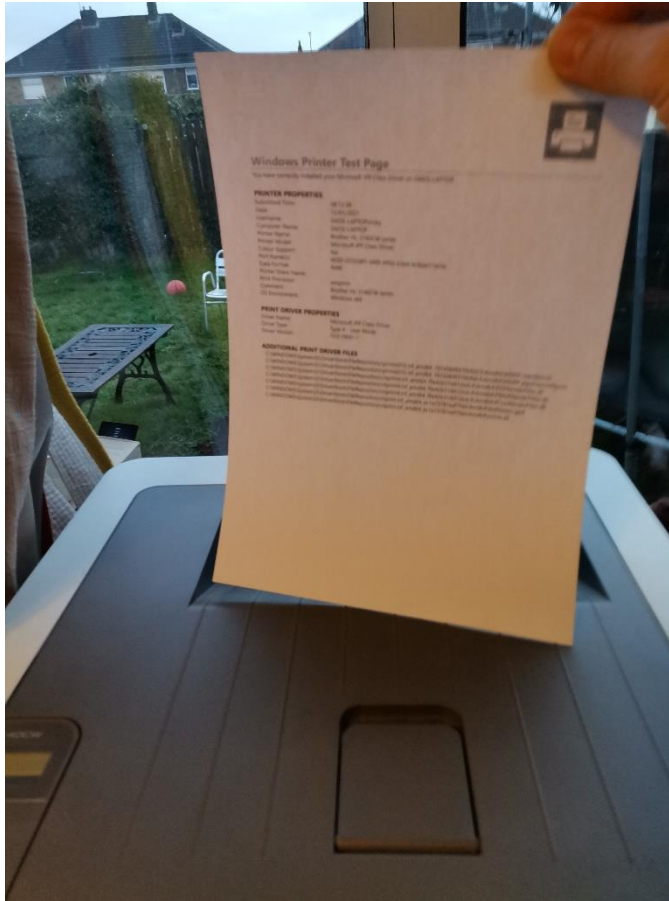
The following images show the installation of the printer onto PC01 (Windows10)



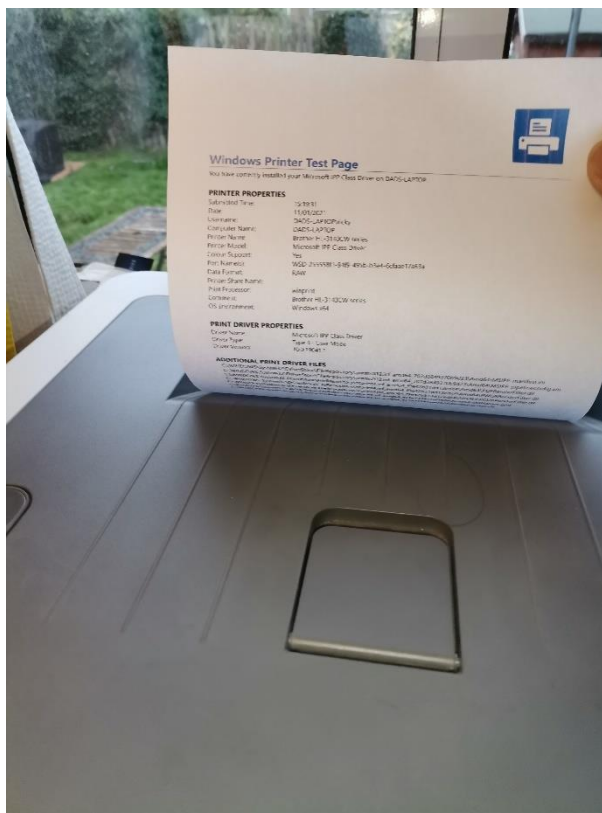


Evidence of testing from 2 machines that the wireless device can be accessed

Photograph showing that a test document on Server02 has started to print from the wireless printer

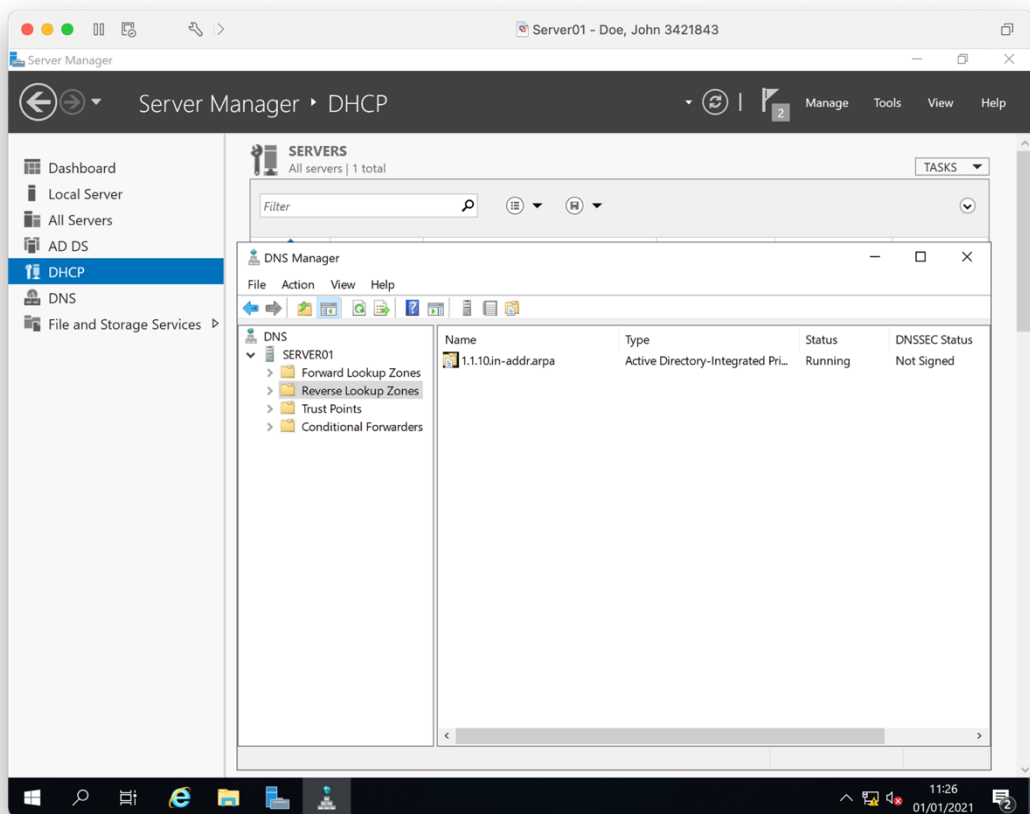


Photograph showing that a test document on PC01 has printed from the wireless printer

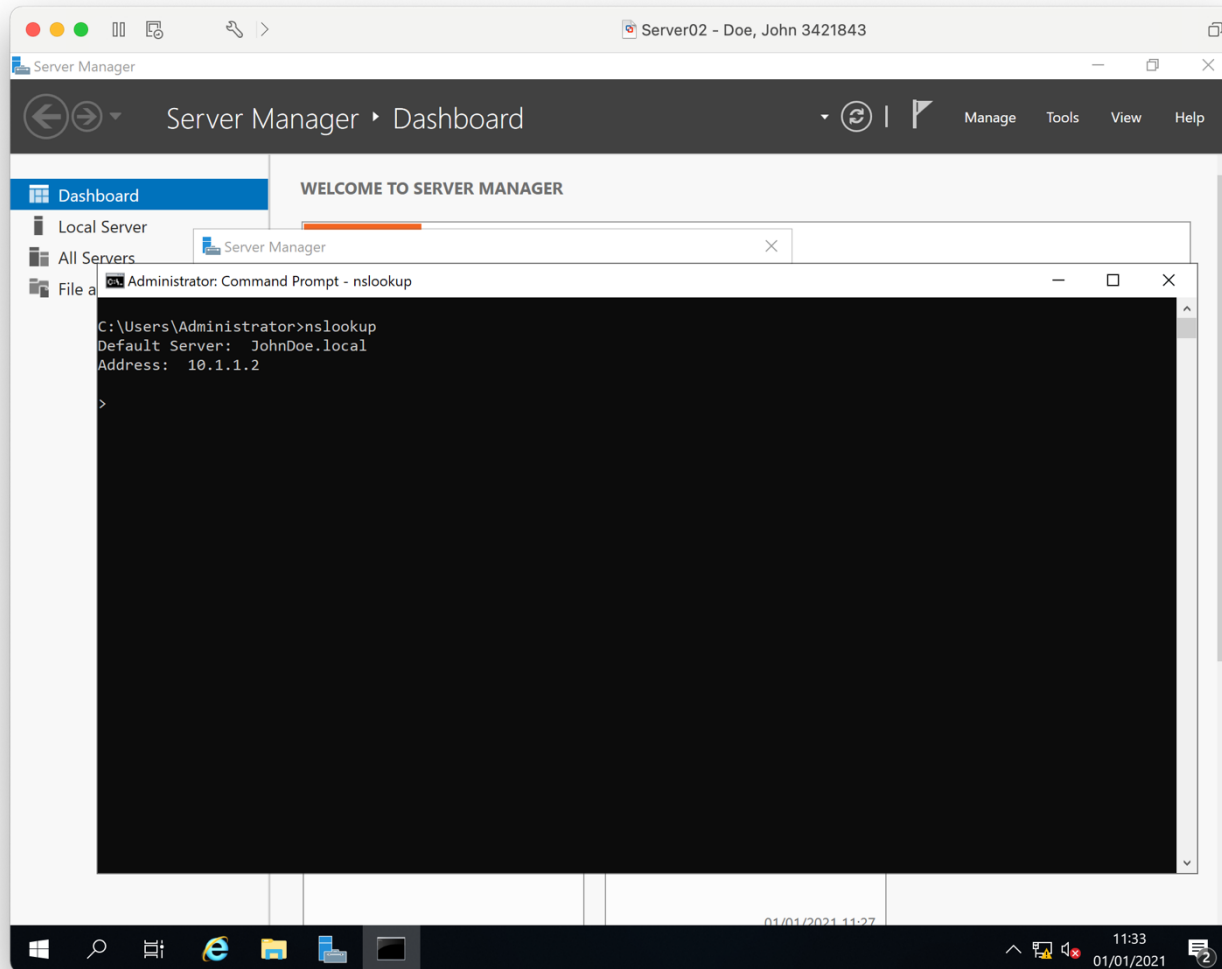


Reverse lookup

Server02 successfully completed a reverse lookup using NSLOOKUP to Server01 – zone added.



Server02 successfully completed a reverse lookup using NSLOOKUP to Server01 – default server listed.



Step A

(3 marks)

Processes	Settings	Marks	Evidence required
<p>Install the provided server operating system on Server01 and Server02</p> <p>Use suitable configurations that match your current time zone and provide evidence of the successful installation of the server operating system on both Server01 and Server02</p>	<p>All hard disks should be partitioned to a single 100% partition, and the machines named Server01 and Server02</p> <p>Server01 and Server02 should have fixed IP addresses</p>	1	<p>Provide print screen or photographic evidence of the following:</p> <p>Server01 disk partitions</p> <p>Server01 IP address (1) Set</p> <p>Server01 IP address (2) Set</p> <p>Server01 name set</p> <p>Server01 regional settings, date and time</p>
		1	<p>Server02 disk partitions</p> <p>Server02 IP address set</p> <p>Server02 name set</p> <p>Server02 regional settings, date and time</p>
<p>Install the provided desktop operating system on PC01</p>	<p>All hard disks should be partitioned to a single 100% partition</p> <p>Use suitable region-specific settings, otherwise the defaults should be taken</p>	1	<p>Provide print screen or photographic evidence of the following:</p> <p>PC01 disk partitions</p> <p>PC01 name set</p> <p>PC01 regional settings, date and time</p>

Step B

(8 marks)

Processes	Settings	Marks	Evidence required
Install and configure DNS		8	<input checked="" type="checkbox"/> print screen showing DNS has been installed
Install and configure a directory service	Install a directory service with the domain name set as (FirstnameSurname).local, for example: JohnSmith.local		print screen showing the directory service has been installed and configured
Install DHCP service on Server01			<input checked="" type="checkbox"/> print screen showing the DHCP service installed
Implement a DHCP scope using the IP range provided earlier			<input checked="" type="checkbox"/> print screen showing the DHCP scope configured
Evidence PC01 is using DHCP to join the network			print screen showing PC01 has been assigned a DHCP address
Domain join Server02 and PC01 to Server01 forming the start of the network			print screen showing Server02 domain joined print screen showing PC01 domain joined

Install and confirm a reverse DNS lookup works on Server02 using NSLOOKUP		print screen showing Server02 successfully completed a reverse lookup
---	--	---

Step C

(8 marks)

Processes	Settings	Marks	Evidence required
Requested groups have been created			
All user accounts have been created	Personal account has been added to admin group Paul James has been added to development group Tamara Jacobs has been added to graphics group Yousif Sobbah has been added to motion capture group		
Job titles have been added	Personal account has JD of IT admin Paul Jones has JD of development Tamara Jacobs has JD of graphics artist Yousif Sobbah has JD of motion capture specialist		

<p>Local admin role set</p>	<p>Personal account has been added to administrators group</p> <p>Development added to development folder with RW permission</p> <p>Graphics group added to graphics folder with RW permission</p> <p>Motion capture group added to motion capture folder with RW permission</p> <p>All staff group added to shared drive with read permission</p> <p>All staff added to user guides folder with read admin</p> <p>IT Admin added to user guides folder with RW permission</p> <p>IT admin added to IT admin folder with RW permission</p>		
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<p>Create the following groups in your directory service</p>	<p>All staff, developer, graphics, motion capture, IT admin</p>	<p>1</p>	<p>print screen showing the 5 groups created in your directory service</p>
--	---	-----------------	--

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Populate the directory service with the following user accounts making sure they are added to the correct group and each user has the right privilege:

User account	Privileges	Job description	Group(s)
Your first and surname	Administrator	IT admin	IT admin
Paul James	Standard user	Developer	Development
Tamara Jacobs	Standard user	Graphics artist	Graphics
Yousif Sobbah	Standard user	Motion capture specialist	Motion capture

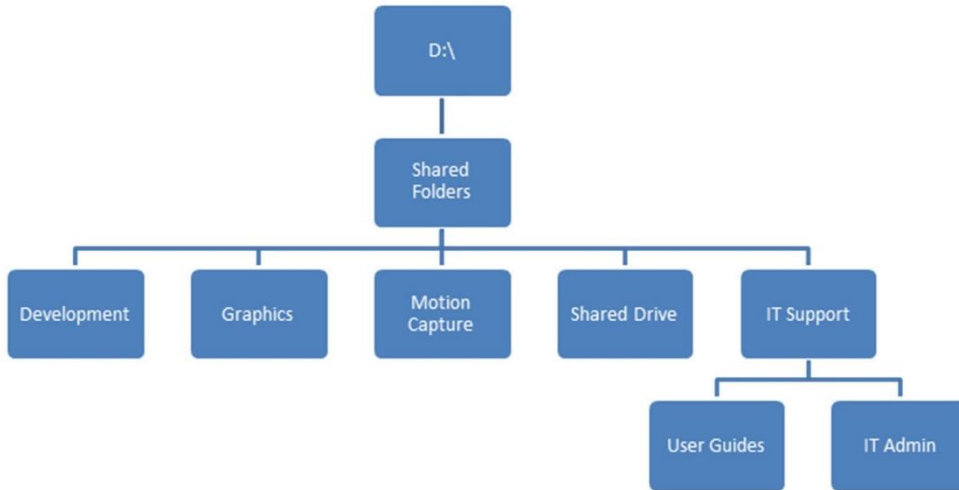
1

print screen evidence that each user has the correct name, privilege, job description and has been added to the correct group

<p>Using the group called all staff, add the following groups to this group:</p> <p>development</p> <p>graphics</p> <p>motion capture</p> <p>IT admin</p>	<p>1</p>	<p>print screen showing all 5 groups added to the all staff group</p>
--	-----------------	---

Processes	Settings	Marks	Evidence required
-----------	----------	-------	-------------------

Create the following folder structure on second partition of Server02



N/A

Marks are **not** awarded for creating the folder structure and you do **not** need to submit evidence for this task

Processes	Settings	Marks	Evidence required
-----------	----------	-------	-------------------

Apply the following privileges to each of the folders using the groups created earlier	Folder	Group	Permission	1	print screens showing each folder with correct privileges
	Development	IT admin	Read and write		
	Graphics	Development	Read and write		
	Motion Capture	Motion capture	Read and write		
	Shared Drive	All staff	Read		
	User Guides	All staff	Read		
		IT admin	Read and write		
	IT admin	IT admin	Read and write		
Using the files provided, populate the folder structure					
Using the test plan template provided in the workbook, prove that the privileges work correctly using both a valid and invalid user Note: The shared drive only requires a valid user to be tested				4	completed test plan print screens showing folder privileges have been tested

Step D

(3 marks)

Processes	Settings	Marks	Evidence required
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<p>Using an external hard disk drive or an additional virtual disk to Server02, implement a scheduled backup of the shared folders to run every hour to the second physical hard or external storage device</p>		3	<p>print screen showing scheduled backup set</p>
<p>Confirm the backup has been taken successfully by restoring the contents of the backup</p> <p>Note: You might need to return to this step later to collect the required evidence</p>			<p>print screens showing a successful backup print screens showing a successful restoration</p>

Step E

(4 marks)

Processes	Settings	Marks	Evidence required
<p>Using Server02, install and configure a single application service from the following list:</p>	<p>desktop deployment media server database server IT helpdesk web server print server</p>	4	<p>print screens showing the service being installed and configured</p>

Prove the service has been tested and works		print screens showing the service is running print screens showing the service being tested
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Step F

(2 marks)

Processes	Settings	Marks	Evidence required
Create a remote connection from PC02 to Server01 Note: You are not permitted to domain join the computer		2	print screens showing the remote connection process

Step G

(4 marks)

Processes	Settings	Marks	Evidence required
Implement a SNMP on all machines on the network		4	print screens from PC01 and Server02 showing that SNMP has been enabled
Verify that SNMP data is being collected by the traps and can be viewed			a series of print screens showing the SNMP data is being collected centrally

Step H

(10 marks)

Processes	Settings	Marks	Evidence required
Using policies, implement 5 rules that will make the domain joined PC01 more secure		10	provide a short description of each policy and what it will achieve provide a print screen showing each of the policies created on Server01
Carry out testing to prove the policies have been applied correctly			provide evidence of each policy applied on PC01

Step I

(7 marks)

Processes	Settings	Marks	Evidence required
Using the wireless device provided, integrate the device into your network		7	Provide print screen or photographic evidence of the following: set an IP address for the device connect to a wireless AP or other such device install the required drivers or management software configure the device with suitable settings evidence that SNMP data is being captured
Test that the device works and is accessible from any 2 machines			a series of print screens and photographs showing connection and configuration of the wireless device

T Level Technical Qualification in Digital Support Services (603/6901/2), OSA
Digital Infrastructure, Assignment 2, Distinction
Guide standard exemplification materials

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Examiner commentary

The student has achieved the required standard for the following reasons:

- the cable has been well constructed, clearly presented and tested successfully
- the opening set of tasks have been clearly evidenced and show a full range of skills, with the student showing good skills throughout the process, the student has applied a good methodology and documented their tasks well
- the student was able to successful set up a DNS and DHCP services and working as expected
- the Active Directory has been configured appropriately and is being used
- the backup solution was working successfully as expected
- the work has been well structured and produced to a good level, the test plan was well constructed and clear

Grade descriptors

The performance outcomes form the basis of the overall grading descriptors for pass and distinction grades.

These grading descriptors have been developed to reflect the appropriate level of demand for students of other level 3 qualifications, the threshold competence requirements of the role and have been validated with employers within the sector to describe achievement appropriate to the role.

Grade	Demonstration of attainment
Pass	The evidence showing installations and configuration setup is logical and displays sufficient knowledge in response to the demands of the brief.
	The student makes some use of relevant knowledge and understanding of implementing network infrastructure but demonstrates adequate understanding of perspectives or approaches associated with industry standards in digital infrastructure roles.
	The student makes adequate use of facts/theories/approaches/concepts and attempts to demonstrate breadth and depth of knowledge and understanding in their implementations and configurations.
	The student is able to identify some information from appropriate sources and apply the appropriate information/appraise relevancy of information and can combine information to make some decisions.
	The student makes sufficient judgements/takes appropriate action/seek clarification with guidance and is able to make adequate progress towards prioritising and solving non-routine problems in real life situations.
	The student attempts to demonstrate skills and knowledge of the relevant concepts and techniques to plan, install, configure, deploy and populate network infrastructure and generally applies this across different contexts.

	The student shows adequate understanding of unstructured problems that have not been seen before, using sufficient knowledge to attempt to prioritise and solve problems with some attempt at verifying their implementations.
Distinction	The evidence is precise, logical showing installations, configuration and deployment that provides a detailed and informative response to the demands of the brief.
	The student makes extensive use of relevant knowledge and has extensive understanding of the practices of the sector and demonstrates a depth of understanding a threshold competency of the different perspectives/approaches associated with installing, testing, monitoring and maintaining digital infrastructure.
	The student makes decisive use of facts/theories/approaches/concepts, demonstrating extensive breadth and depth of knowledge and understanding and selects highly appropriate skills/techniques/methods to apply network infrastructure practices.
	The student is able to comprehensively identify information from a range of suitable sources and makes exceptional use of appropriate information/appraises relevancy of information and can combine information to make coherent decisions.
	The student makes well-founded judgements/takes appropriate action/seeks clarification and guidance and is able to use that to reflect on real life situations in a digital infrastructure role; being able to apply implementation and configuration of the network.
	The student demonstrates extensive knowledge of relevant concepts and techniques reflected in a digital infrastructure role and precisely applies this across a variety of contexts and tackles unstructured problems that have not been seen before, using their knowledge to analyse and find suitable solutions to the problems.
	The student can thoroughly examine data/information in context and apply appropriate analysis in confirming or refuting conclusions and carrying out further work to justify and evaluate strategies for solving problems, giving concise explanations for their reasoning.

* “Threshold competence” refers to a level of competence that:

- signifies that a student is well placed to develop full occupational competence, with further support and development, once in employment
- is as close to full occupational competence as can be reasonably expected of a student studying the TQ in a classroom-based setting (for example, in the classroom, workshops, simulated working and (where appropriate) supervised working environments)
- signifies that a student has achieved the level for a pass in relation to the relevant occupational specialism component

U grades

If a student is not successful in reaching the minimum threshold for the core and/or occupational specialism component, they will be issued with a U grade.

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Owner: Head of Assessment Design

Change History Record

Version	Description of change	Approval	Date of Issue
v1.0	Published final version.		May 2021
v1.1	NCFE rebrand.		September 2021
v2.0	Annual review 2023: Amends to grade descriptors to ensure clarity	June 2023	June 2023