

## Window Server Project 1

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Windows server is an operating system that holds a variety of roles such as Domain Name System, Active Directory Domain Services, Web & Application servers, etc. (ZHAO, HORI, & SAKURAI, 2010) states that a Domain Name System supplies data that is elementary to Internet operations such as IP addresses and network names. The Domain Name System can be compared to a language interpreter in a way that the DNS translates names into IP addresses. (BONASTRE & VEA, 2019) declares that the design of the Domain Name System paved the way for the growth and the advancement of the Internet and Internet applications. This means the existence of the Domain Name System has importance in how people utilize the Internet today.

### **Installation and Configuration of the Windows Server**

The installation process of Windows Server 2016 is straightforward. In order to install Windows Server 2016, the CybrScore Lab Client was used as a virtual machine. The first step of the boot-up process includes loading the Windows 2016 DVD drive in the Resources tab in the sidebar. While the Windows Setup window is displayed showing the Language to install, Time and Currency format, the Keyboard and Input method at default, I proceeded to press next and install now. The next portion of the Windows setup is where a user provides the product key. In this case, a product key was not given, so I proceeded to press the “I don’t have a product key”. (See Appendix A, Figure A-1). The Windows Server 2016 Standard (Desktop Experience) is the option that must be selected in order to properly install the operating system on the virtual machine. (See Appendix A, Figure A-2). The custom installation is the correct selection (See Appendix A, Figure A-3), and choosing Drive 0 unallocated Space is the only Drive to install the Windows Server 2016 (See Appendix A, Figure A-4). The Windows Server 2016 started the installation process (See Appendix A, Figure A-4).

### **Creating a User Account**

(Cox, 2012) declares that the security and awareness of a user are important in the protection of information. Now that the Windows Server 2016 operating system has been installed, a window displayed asking that an administrator account must be created to sign into the computer. (See Appendix B, Figure B-1) The importance of creating an administrative user account is to only allow the user access to administrative permissions such as changes to the user password or files.

### **Configure Server as a Domain Controller**

The Server Manager window is displayed, and the next step is adding the Active Directory Domain Services (See Appendix C, Figure C-1). Access the Add Roles and Features Wizard through the manage drop-down and a Before You Begin window will be shown. (See Appendix C, Figure C-2). For the installation type, the correct selection is the Role-based or feature-based installation. Only one server is highlighted in the server pool to use which is called WIN-Q26QE02699F with the IP address 169.254.74.98 (See Appendix C, Figure C-3). The role to select in the Server Roles section is the Active Directory Domain Services and then continue the process until install. See Appendix C, Figure C-4). The features begin to install on the server (See Appendix C, Figure C-5).

After the installation of the roles and features, a yellow notification is shown for the configuration of the Active Domain Directory to promote the server to a domain controller. In the Deployment Configuration Wizard, the deployment operation that needs to be selected is “Add a new forest” and the root domain name specified is “liberty.local”(See Appendix C, Figure C-6). The Domain Controller Options requires a password to enter in the Directory Services Restore Mode (See Appendix C, Figure C-7). The NetBIOS domain name is

automatically populated as “LIBERTY” (See Appendix C, Figure C-7). The next phase is the location where the AD DS database, log files, and SYSVOL will be stored (See Appendix C, Figure C-8). The last phase is the installation process of the DNS configuration settings. After the installation, it will show a message that says, “This server was successfully configured as a domain controller”. This means the configuration is complete. The computer will restart itself and apply the settings (See Appendix C, Figure C-10).

### **The Inclusion and Retrieval of the Name Resolution Policy Table**

(Garcia, 2009) states that to determine if a client connected remotely, the NRPT is checked. After the DNS has been configured, the next step is adding the Name Resolution Policy Table rule that configures the server as 10.0.1.1. In PowerShell, the rule “Add-DnsClientNrptRule -Namespace “abcd.com” -NameServers “10.0.1.1” was implemented (See Appendix D, Figure D-1). Then the next step in PowerShell is retrieving the Name Resolution Policy Table that was just configured on the server. The rule used to retrieve the NRPT is “Get-DnsClientNrptRule” (See Appendix D, Figure D-2).

### **Conclusion**

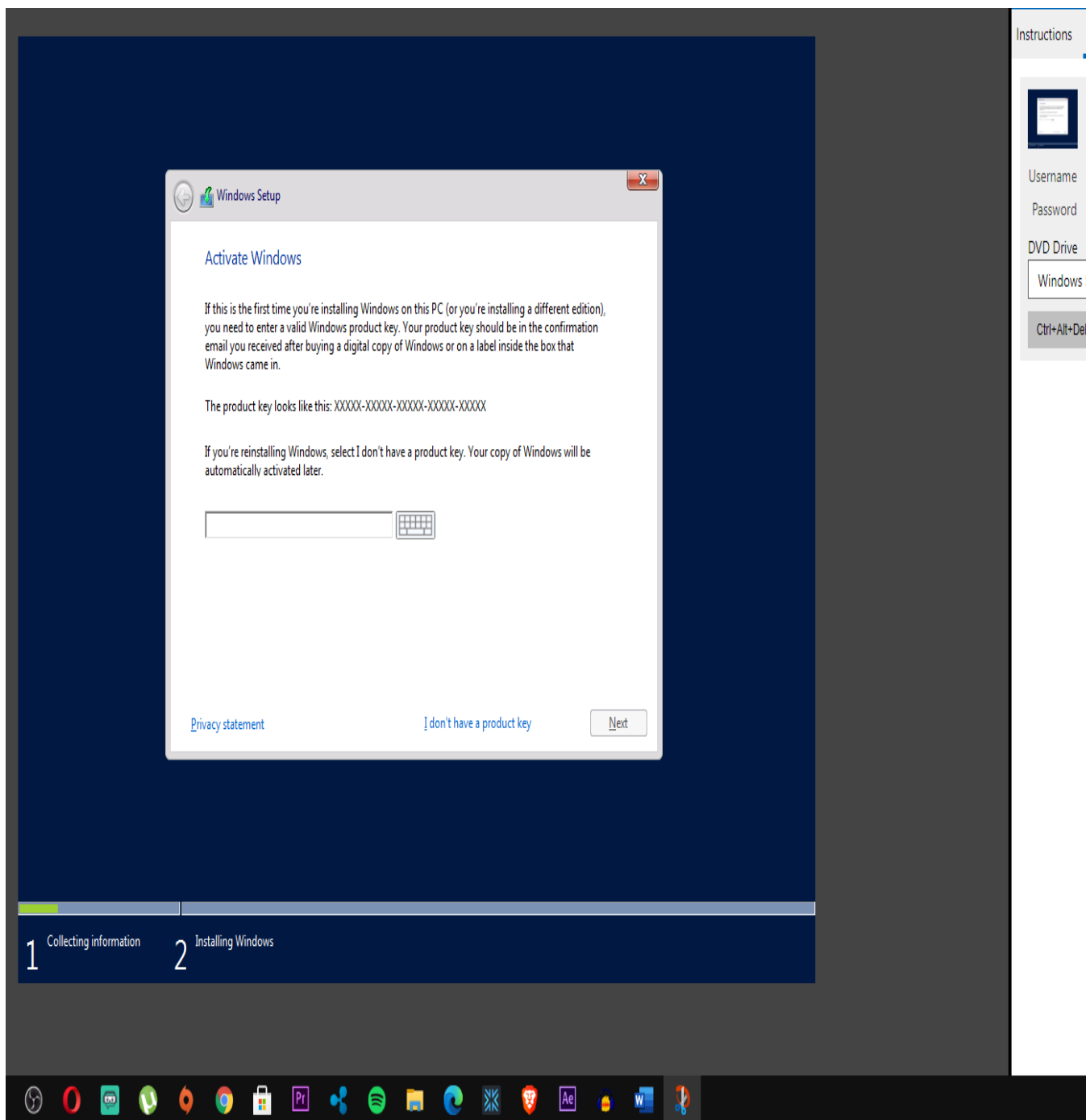
In conclusion, the overall process of installing the Windows Server 2016, configuring the server as a Domain Controller, and adding, retrieving the Name Resolution Policy Table rule is straightforward. One challenge that I did face in the installation process of the Window Server was choosing the correct installation type. Another challenge faced was implementing the Name Resolution Policy Table rules. The rules must be typed correctly in order for the rules to process correctly. The importance of the Domain Name System is to manage the names of websites and assign them to a designated IP address. (Kröhnke, Jansen, & Vranken, 2018) states that the

reason why the domain name system was created was that IP addresses were hard to understand and memorize.

## Windows Server Project 1

Appendix A

Figure A-1



## Windows Server Project 1

Appendix A

Figure A-2

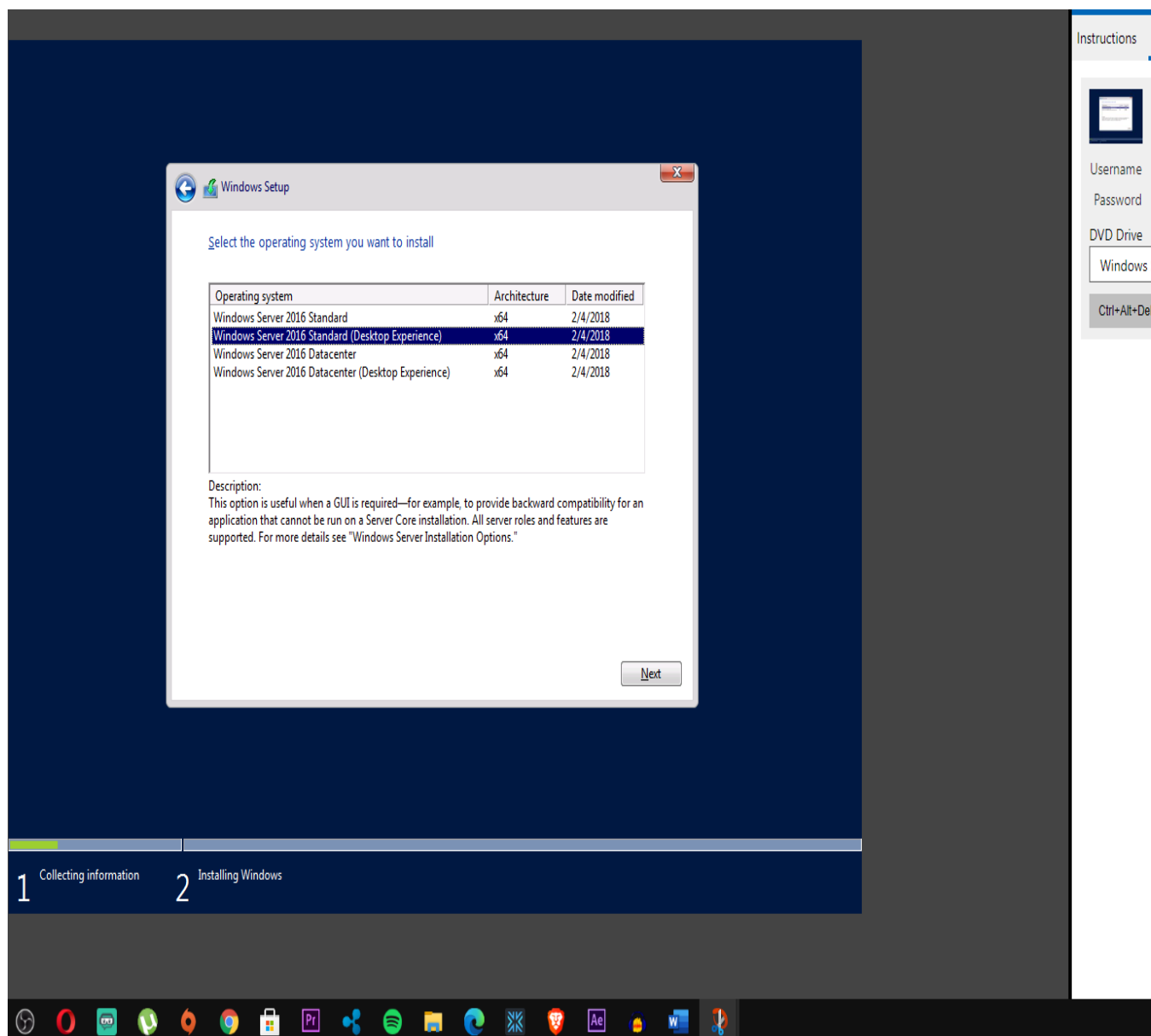




Figure A-3

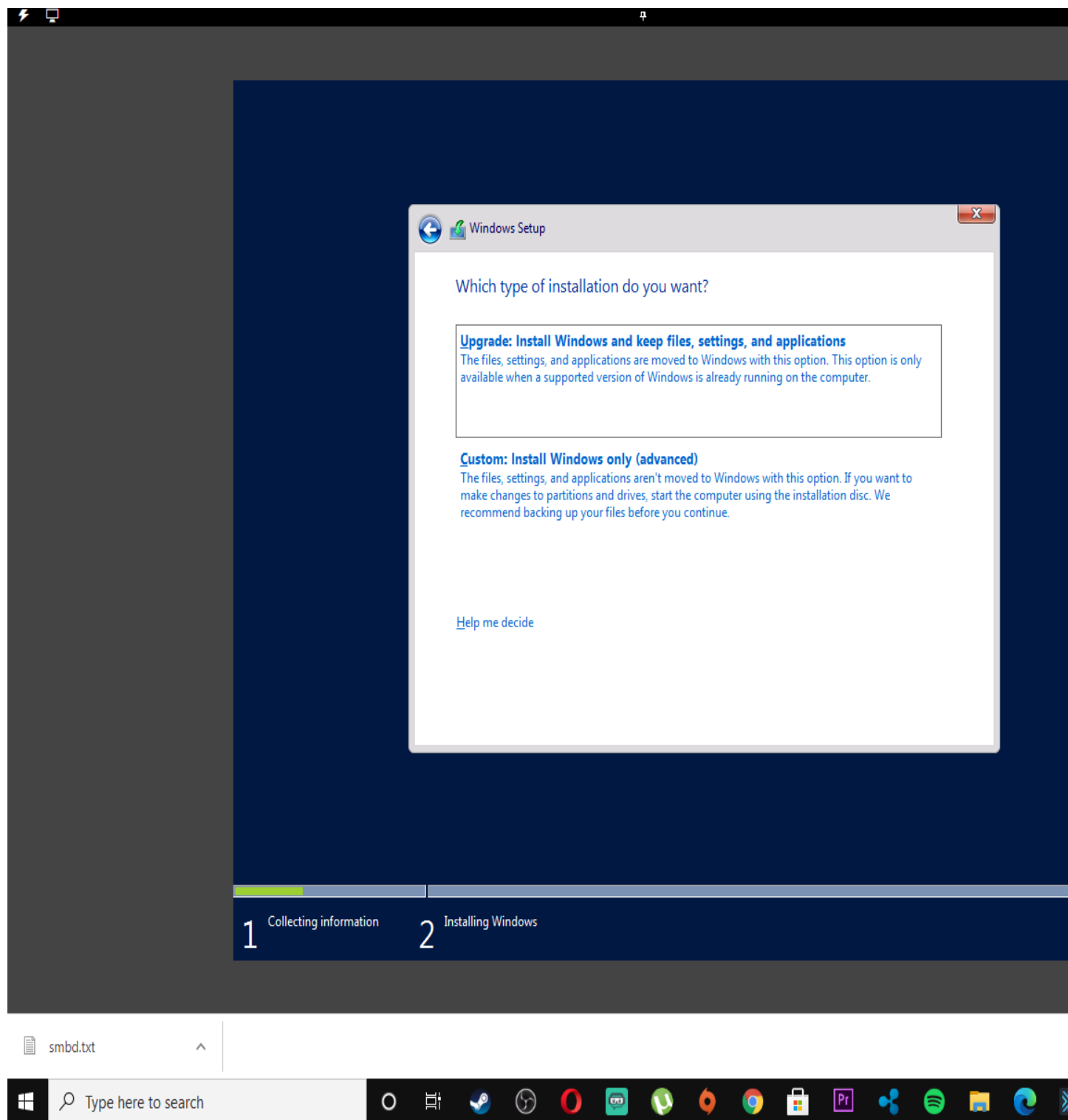


Figure A-4

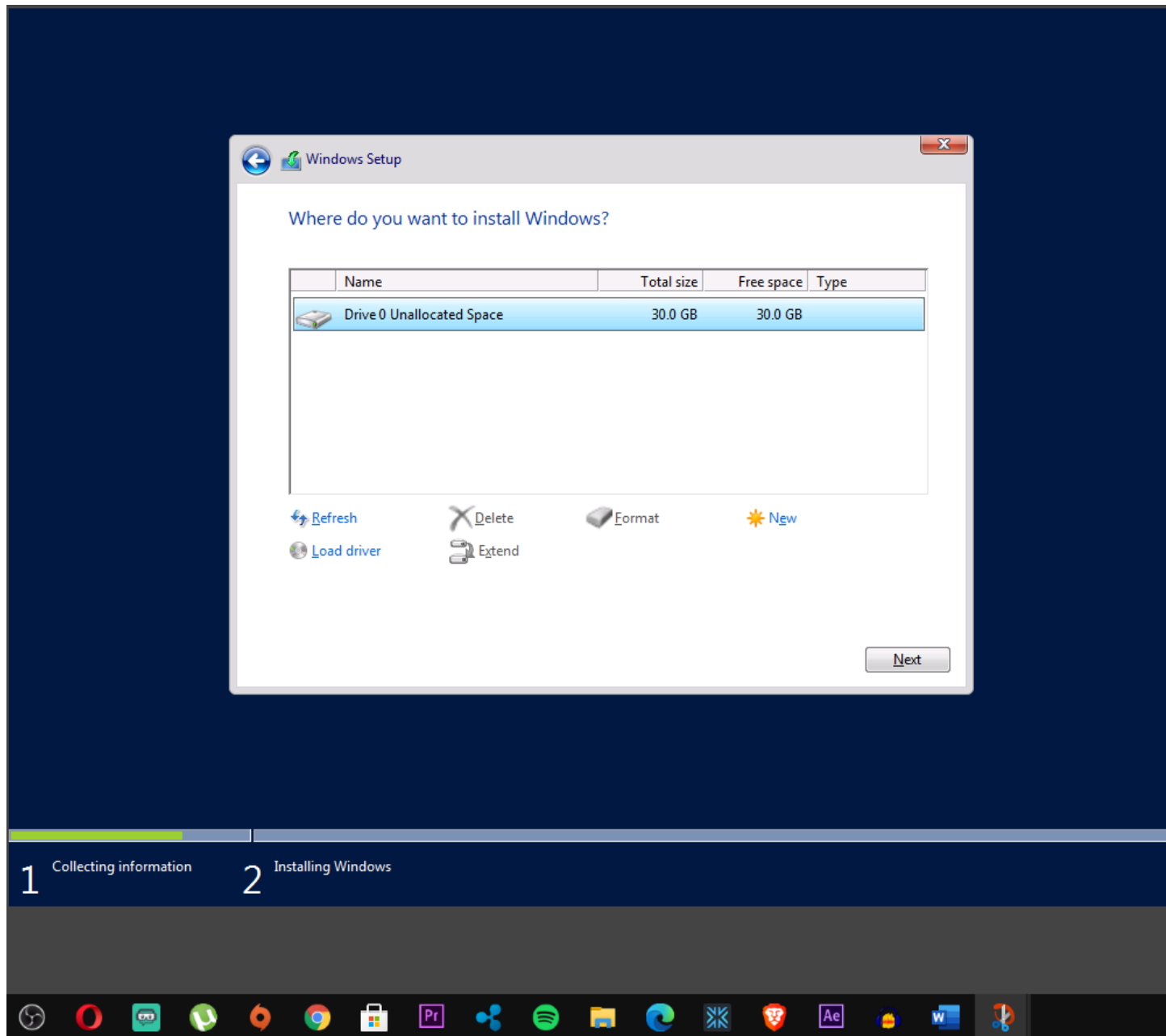
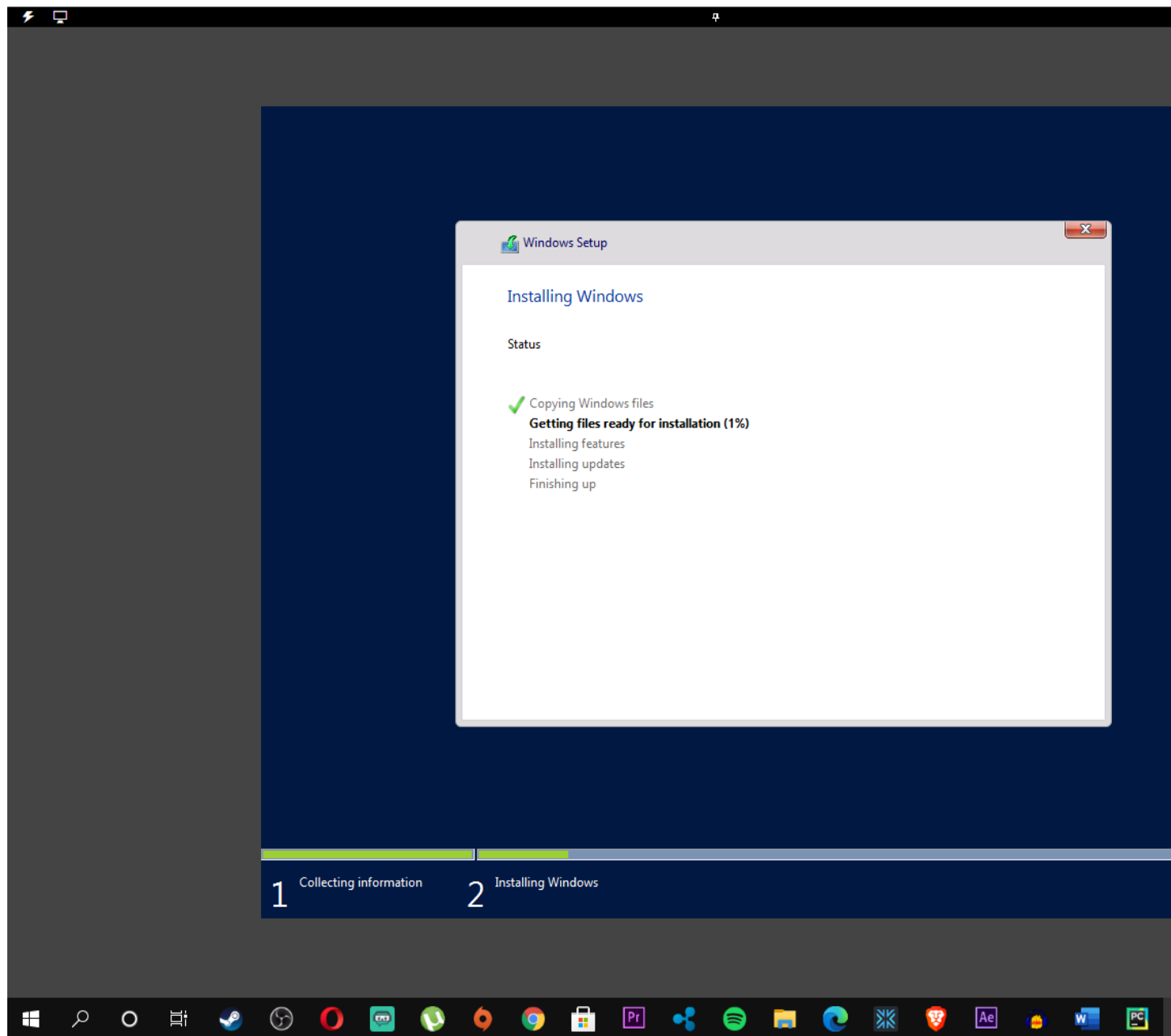
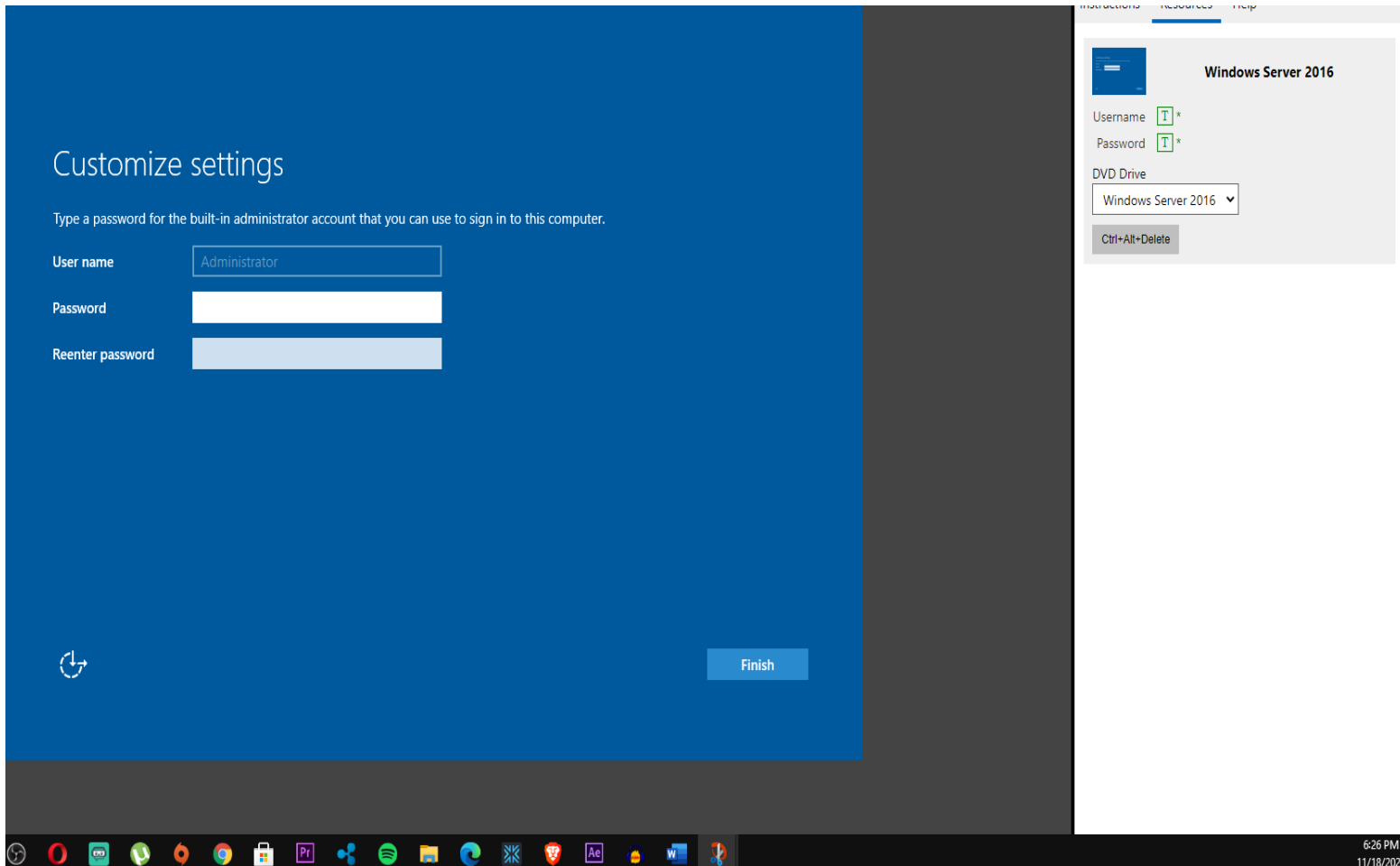


Figure A-5



Appendix B

Figure B-1



Appendix C

Figure C-1

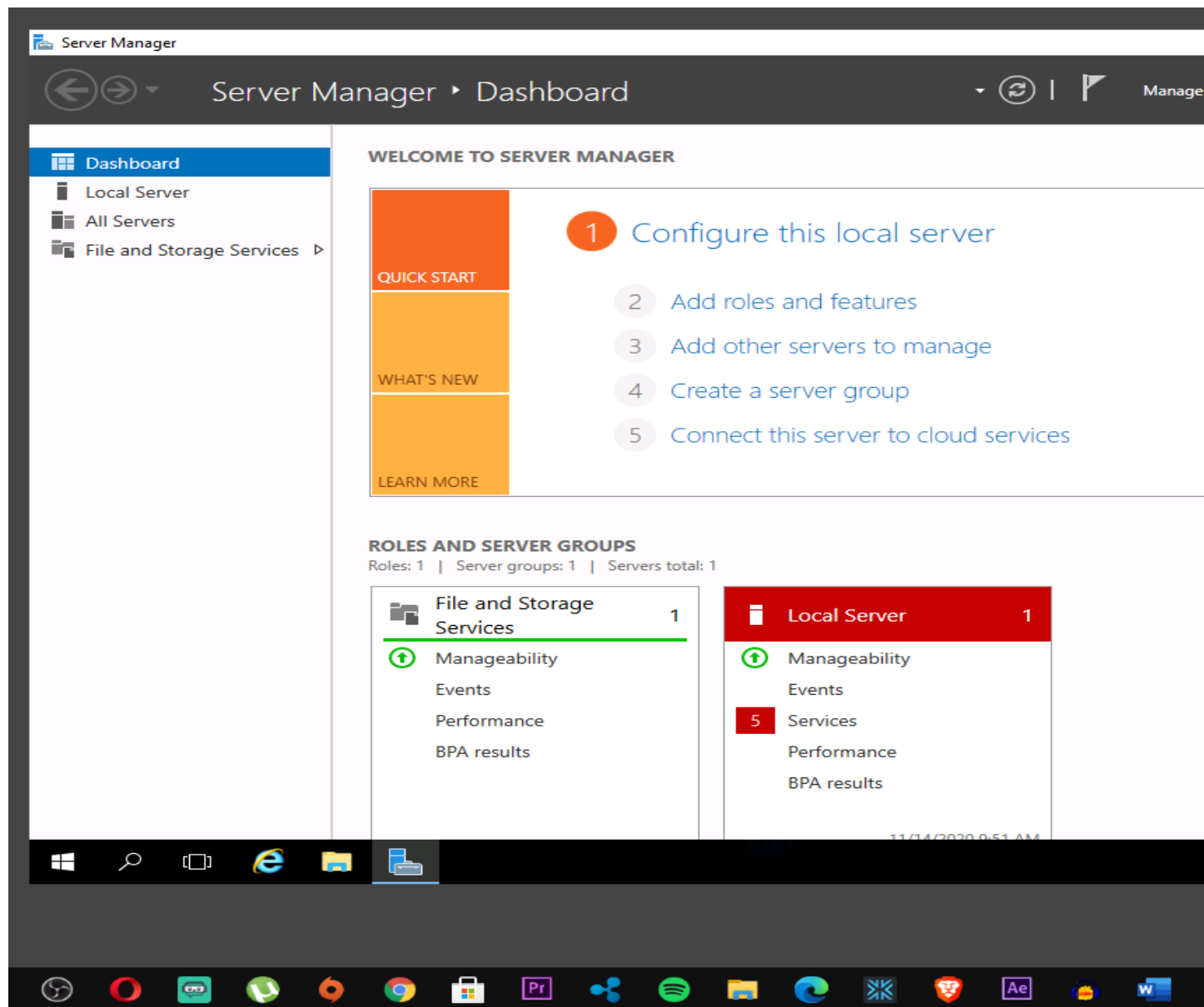


Figure C-2

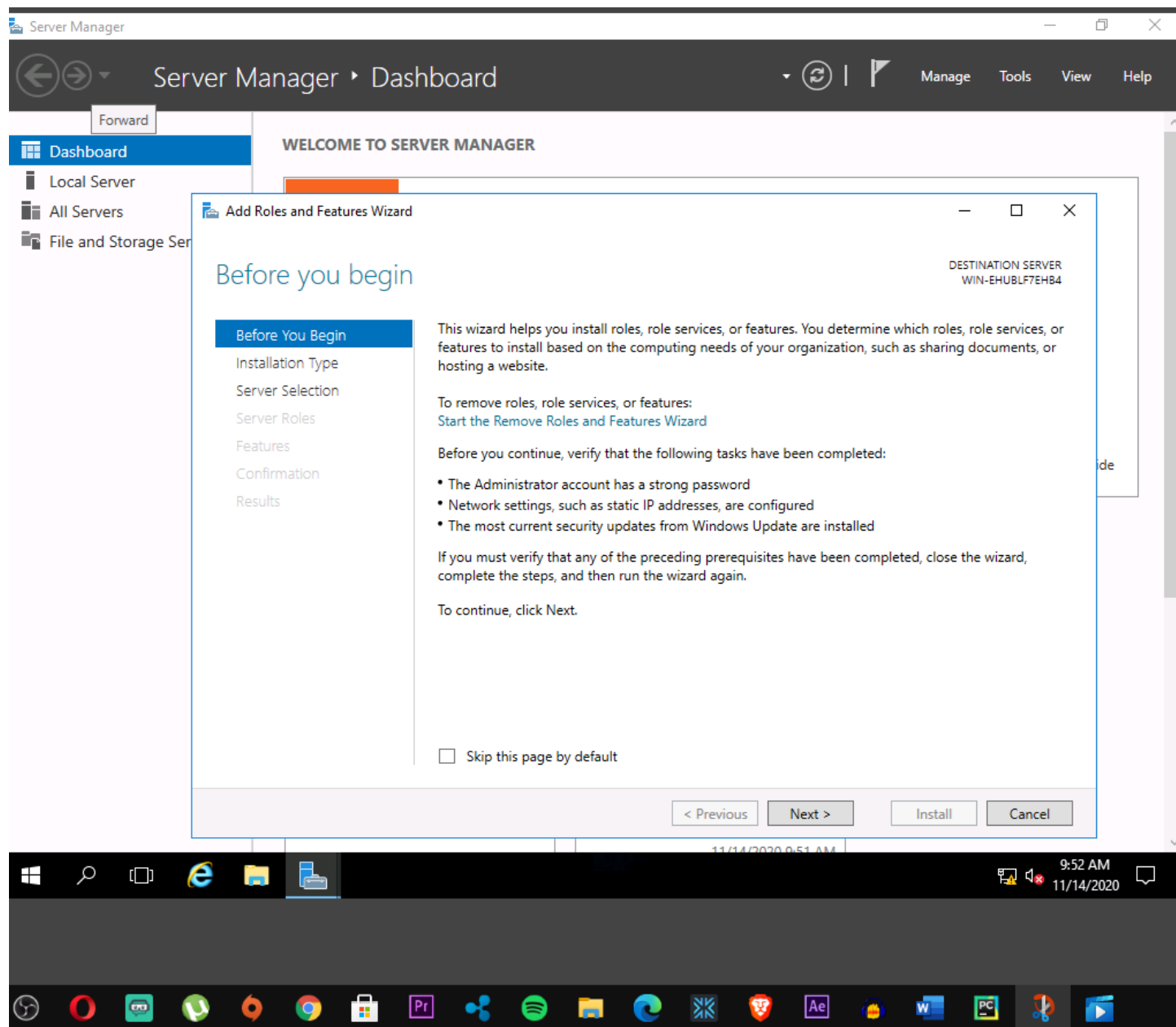


Figure C-3

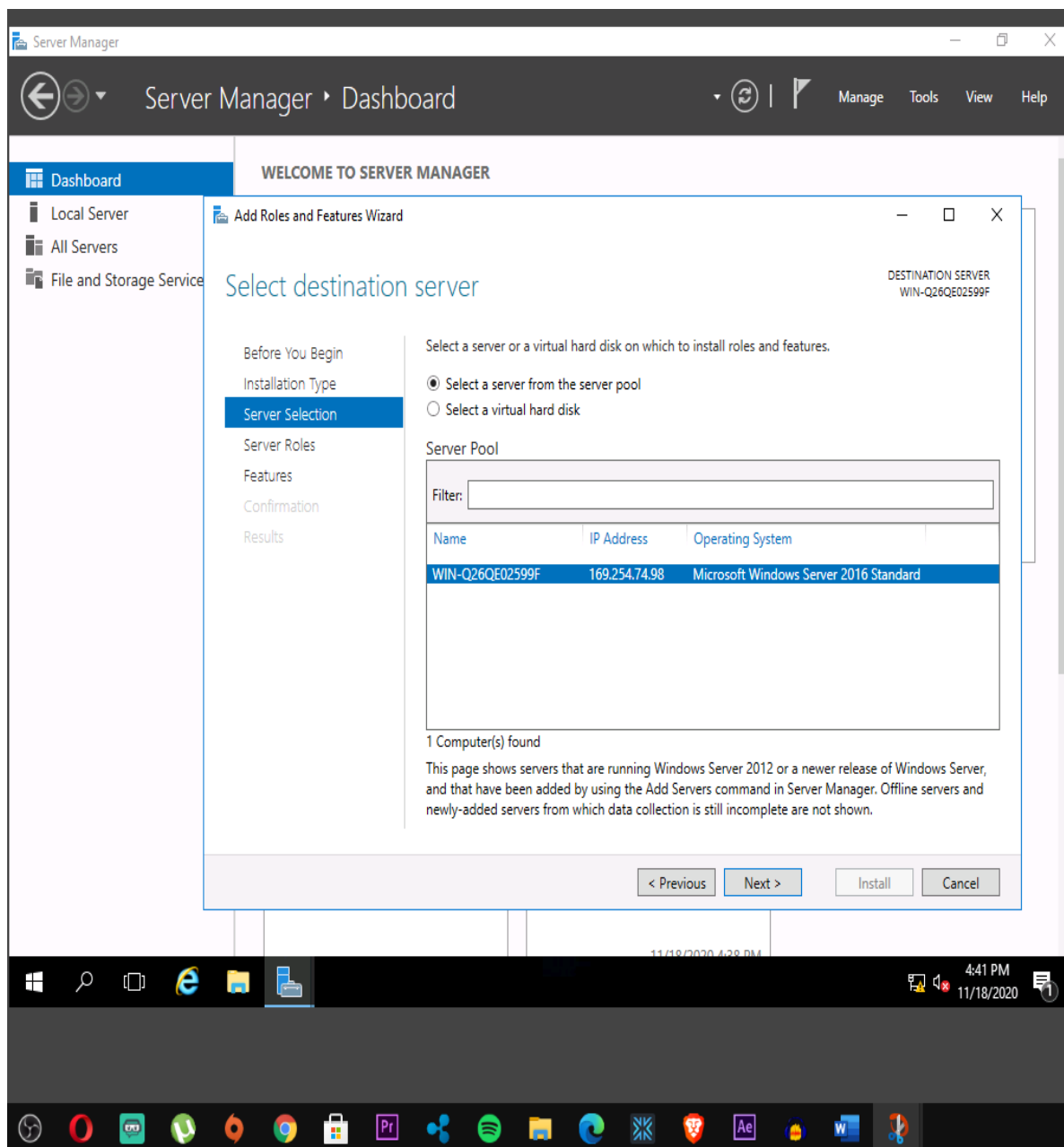


Figure C-4

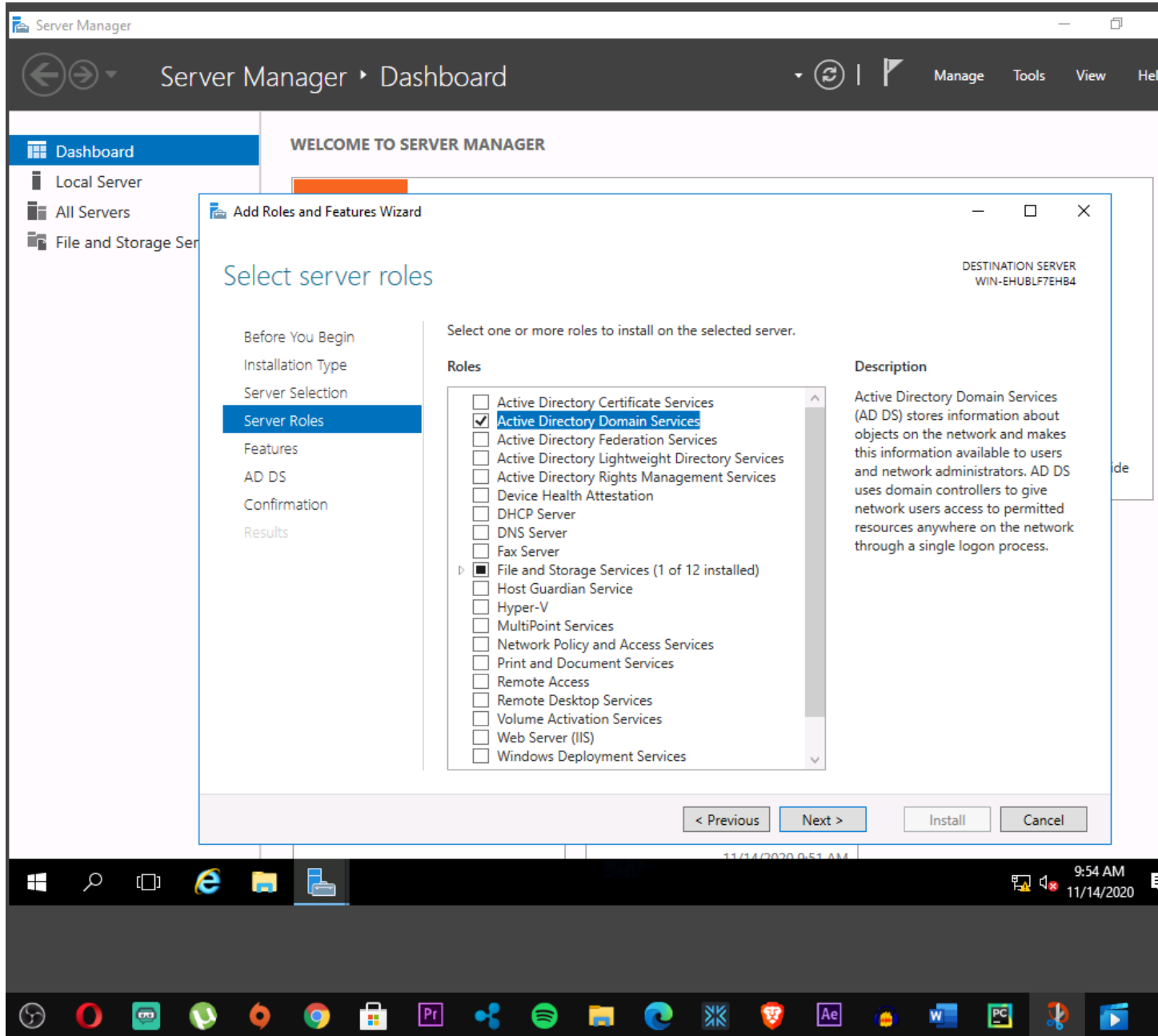




Figure C-5

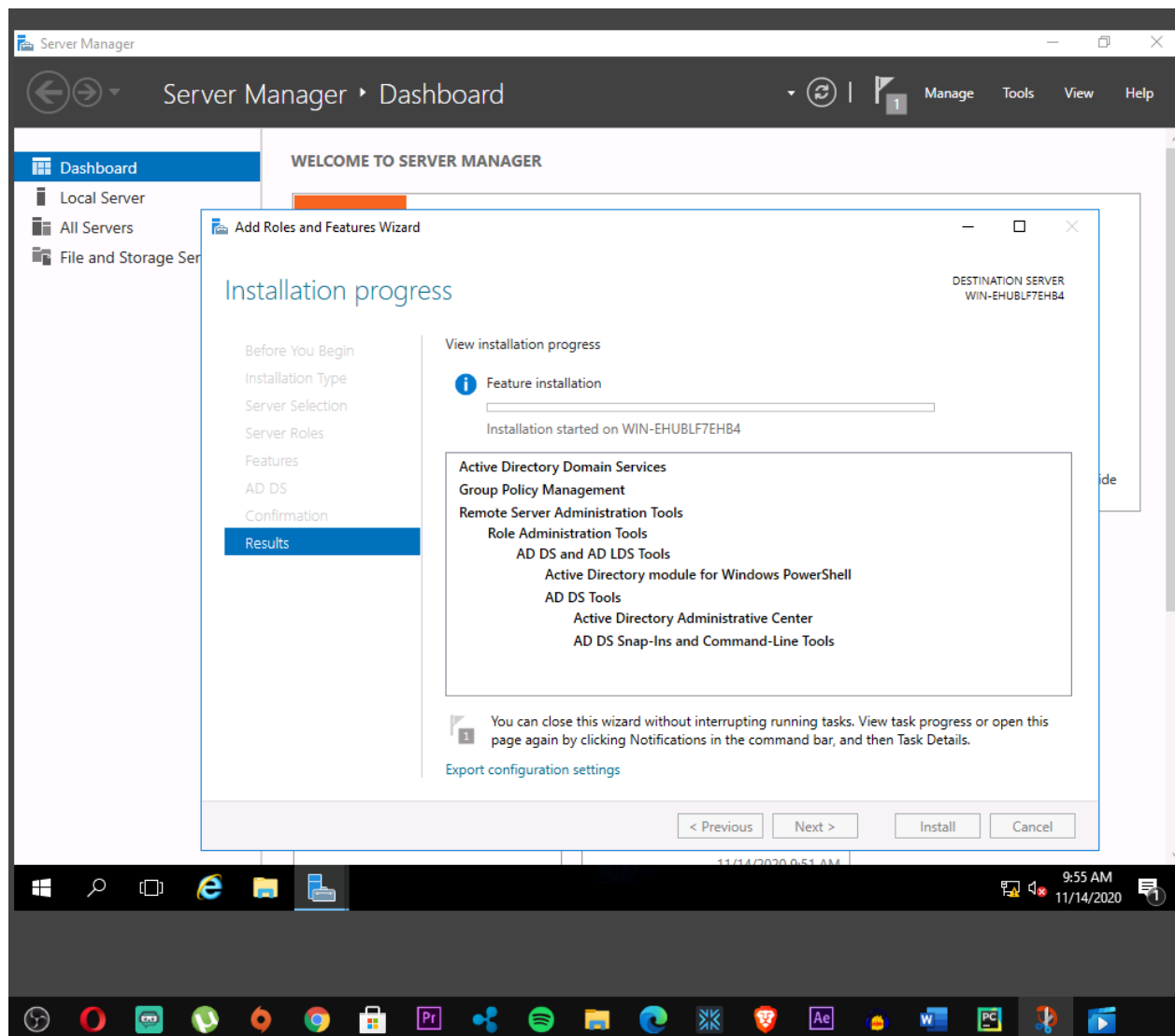


Figure C-6

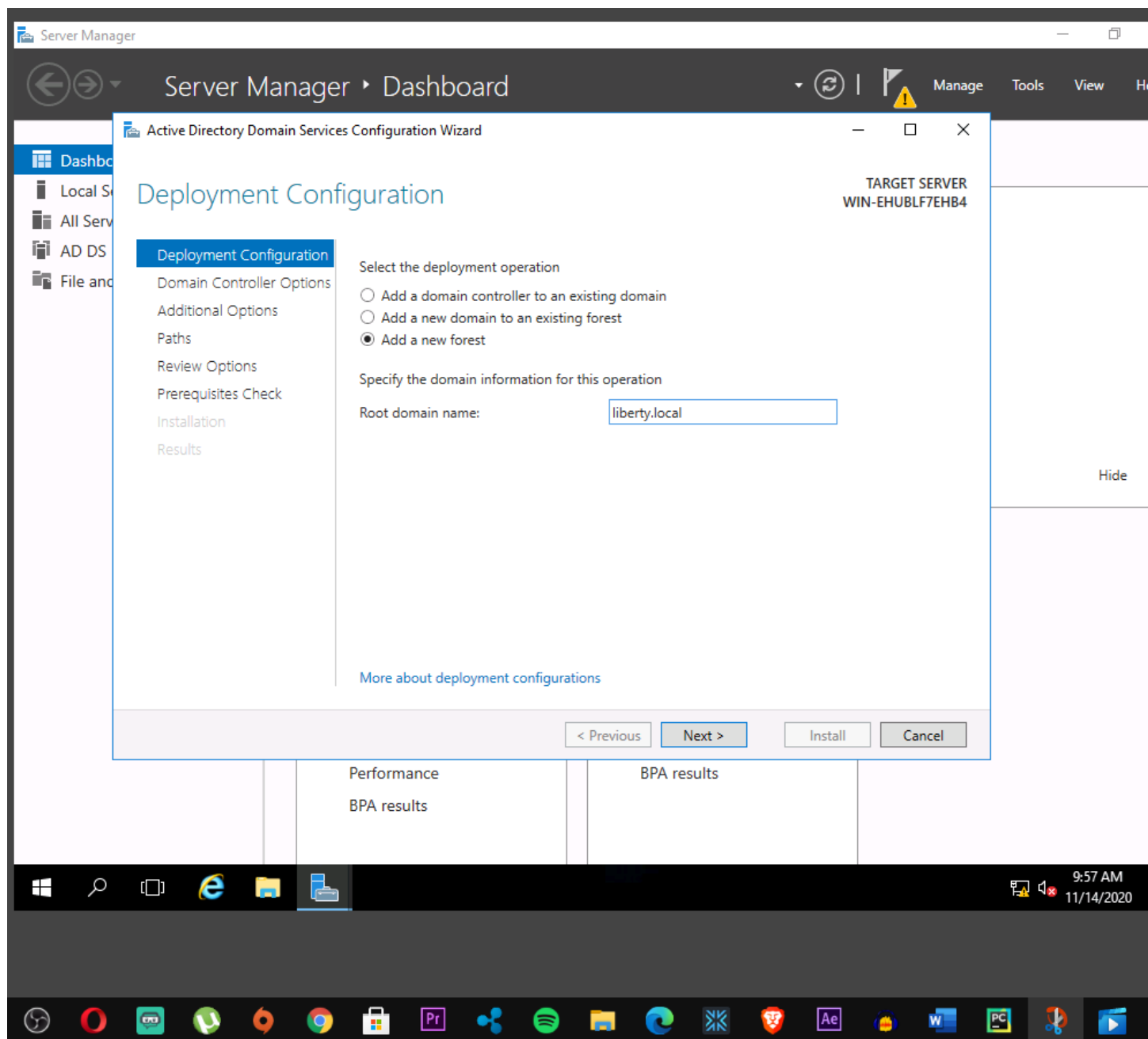


Figure C-7

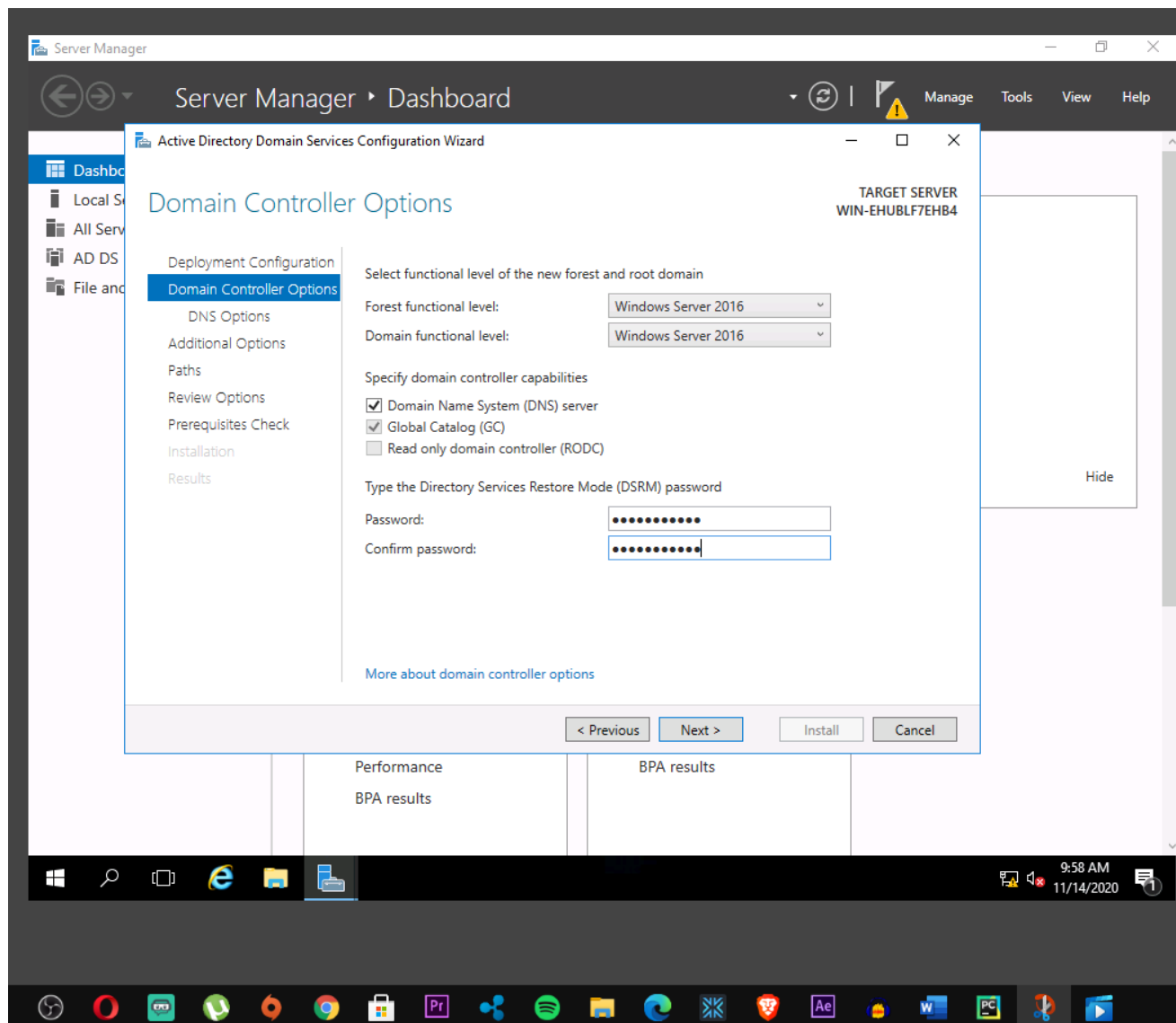


Figure C-8

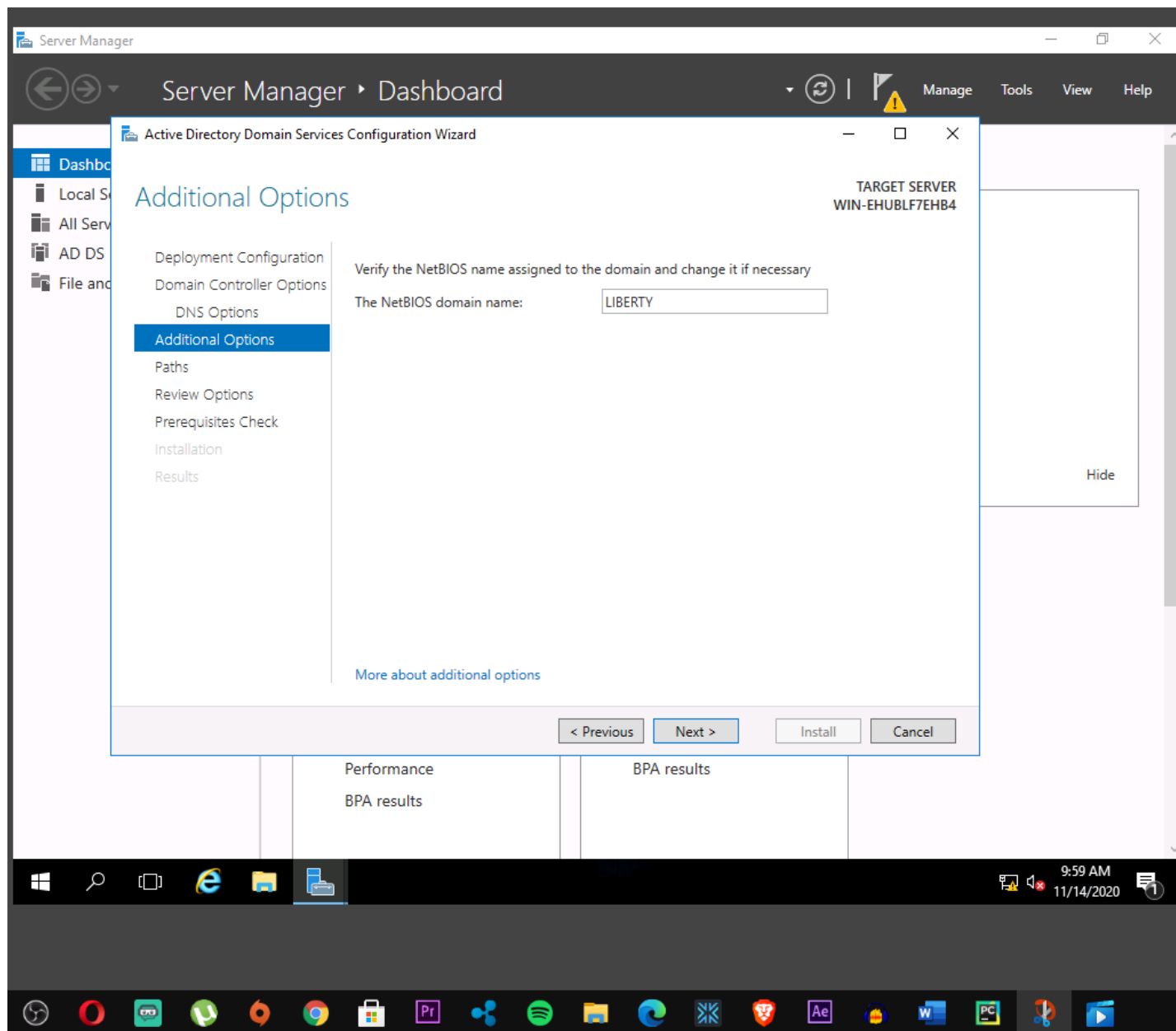


Figure C-9

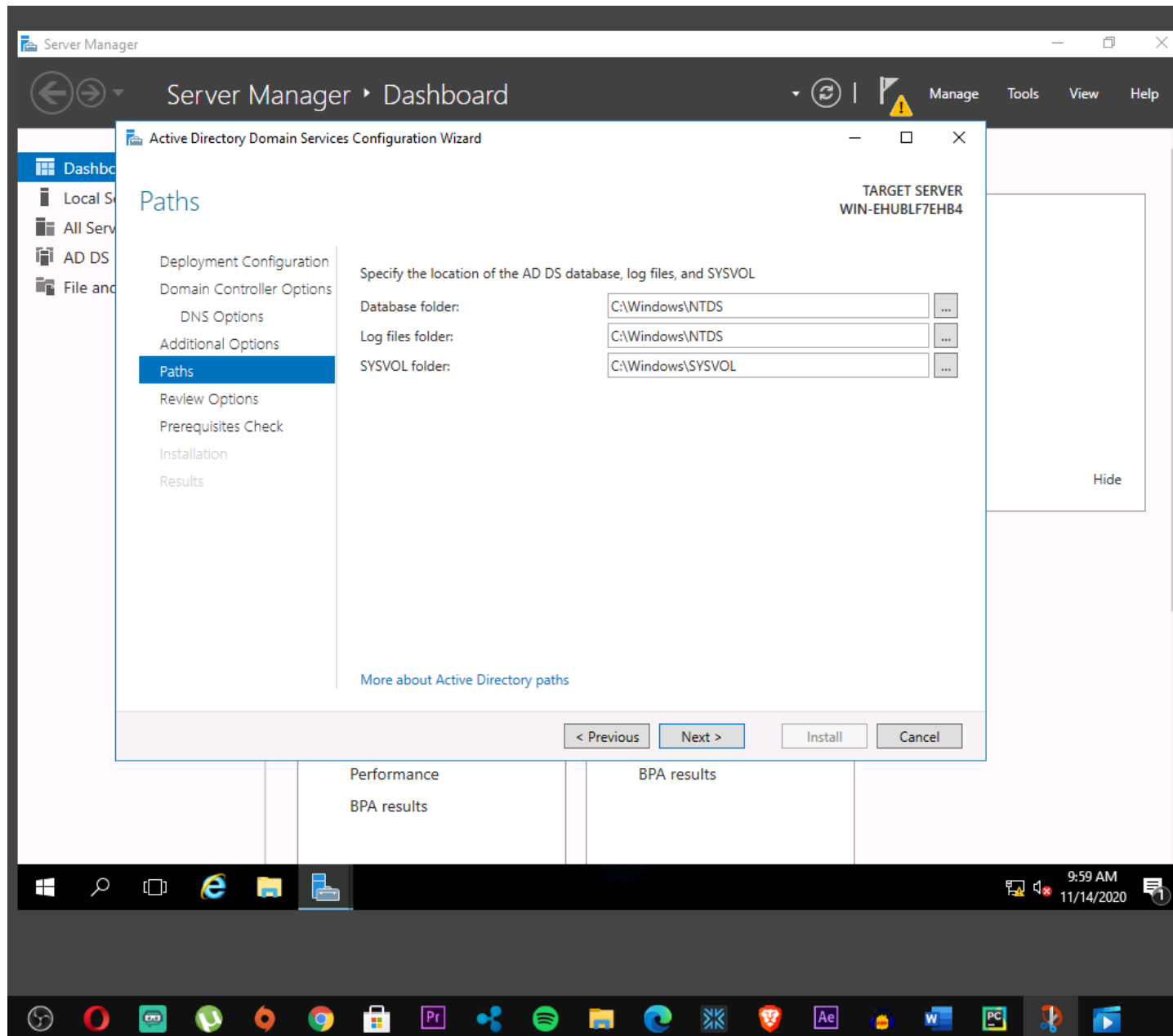
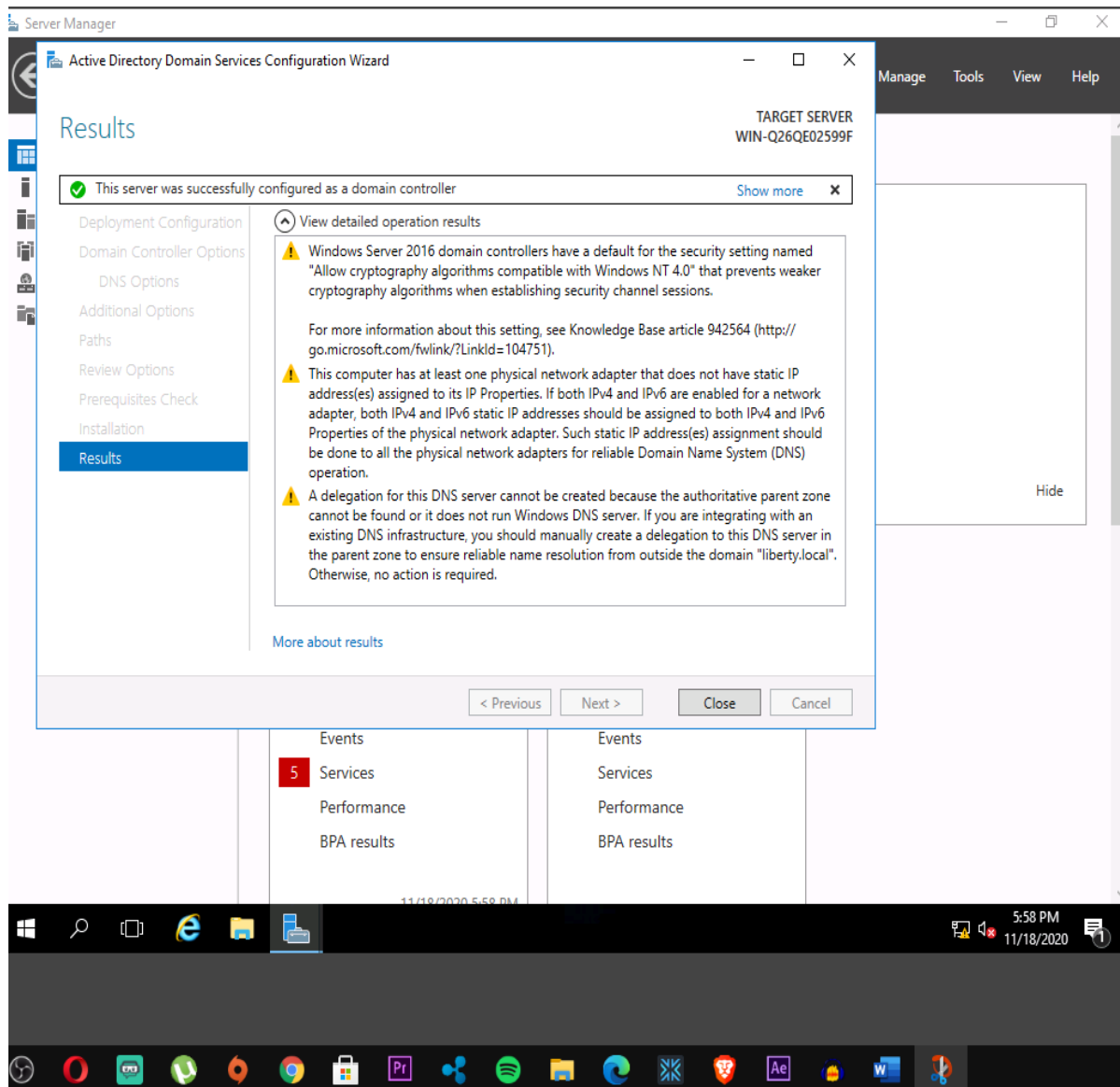


Figure C-10



Appendix D

Figure D-1

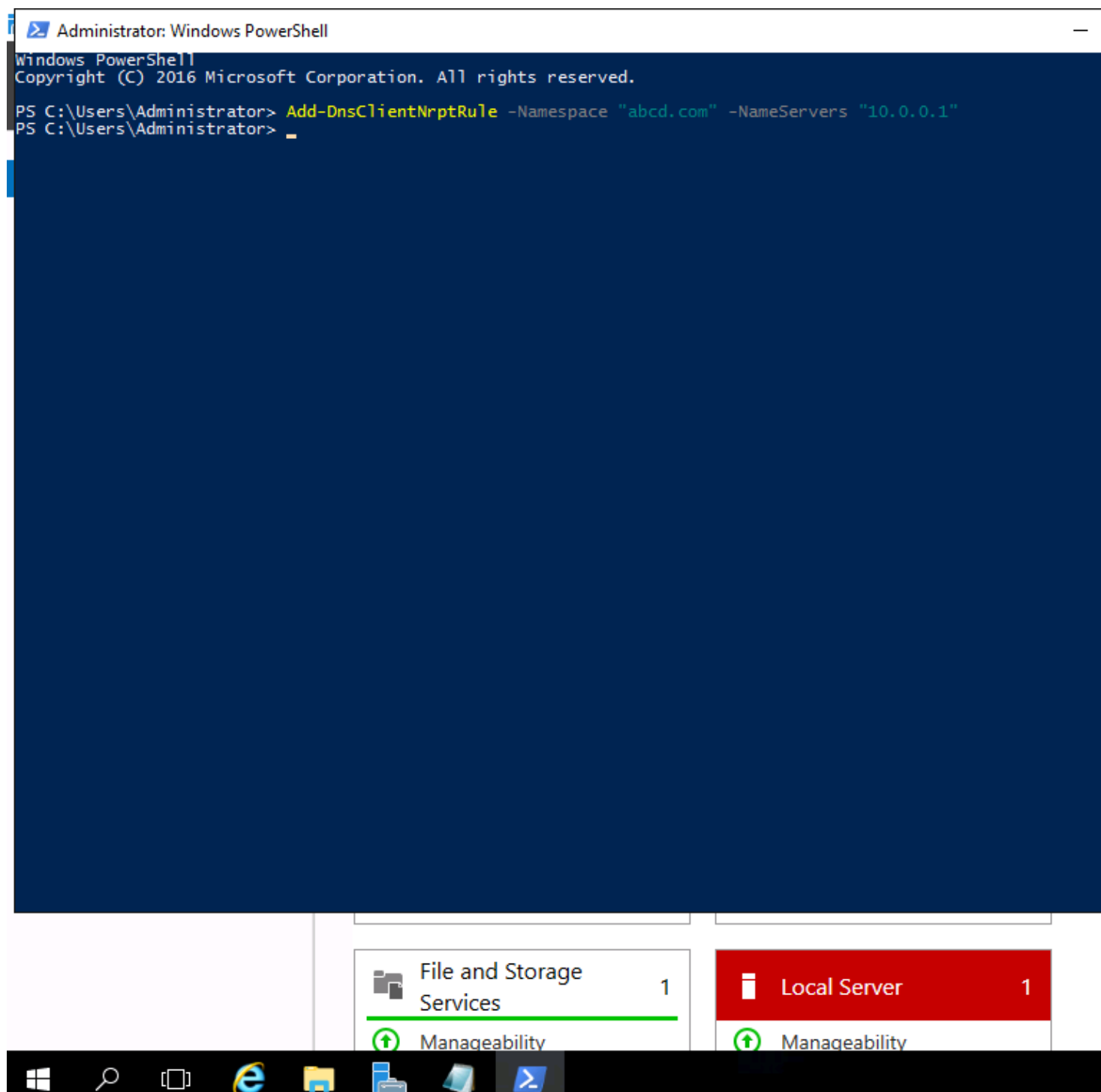
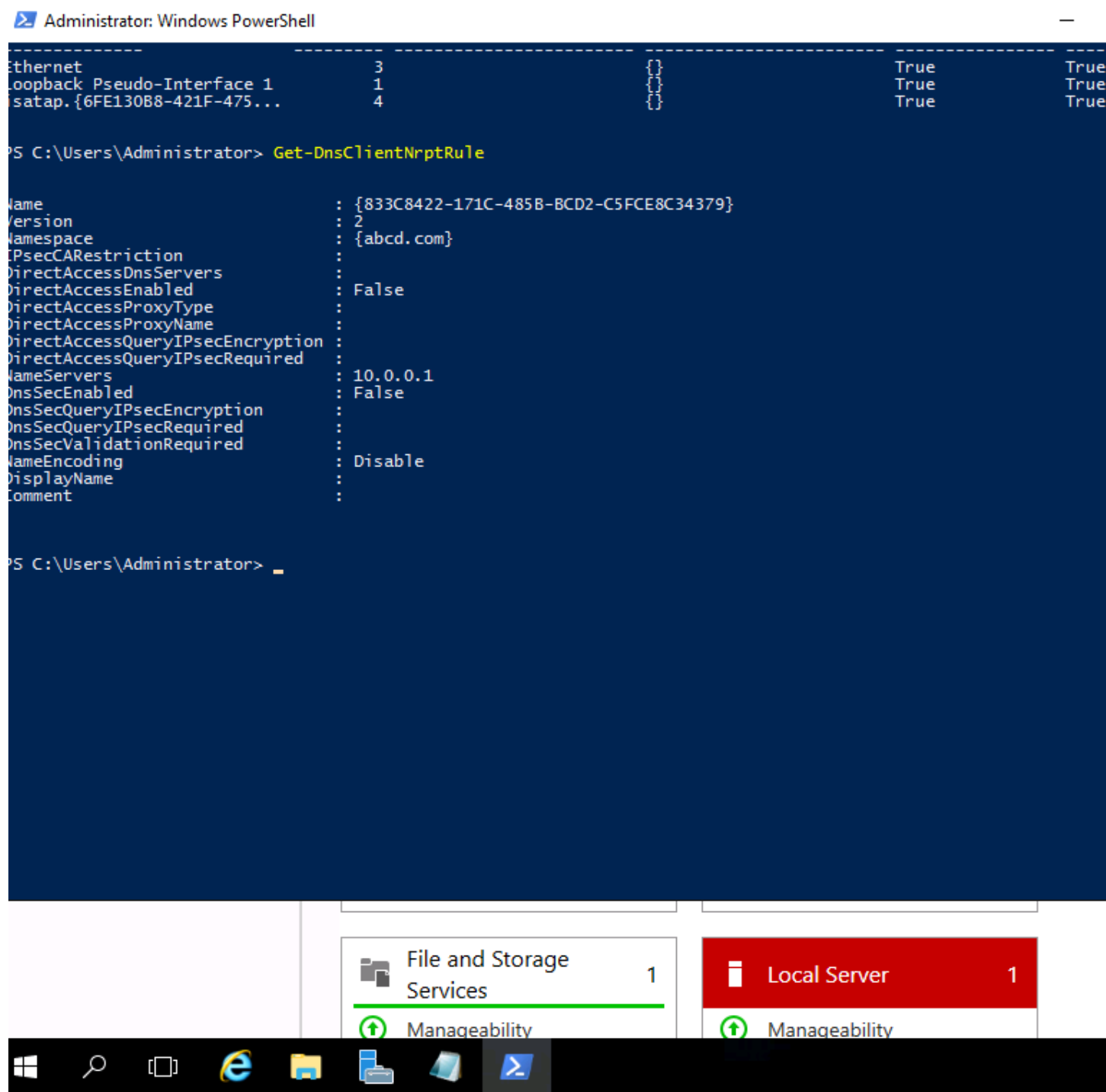


Figure D-2





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