Synchronize a Windows 2012 Server with an External Time Source

June 14, 2013

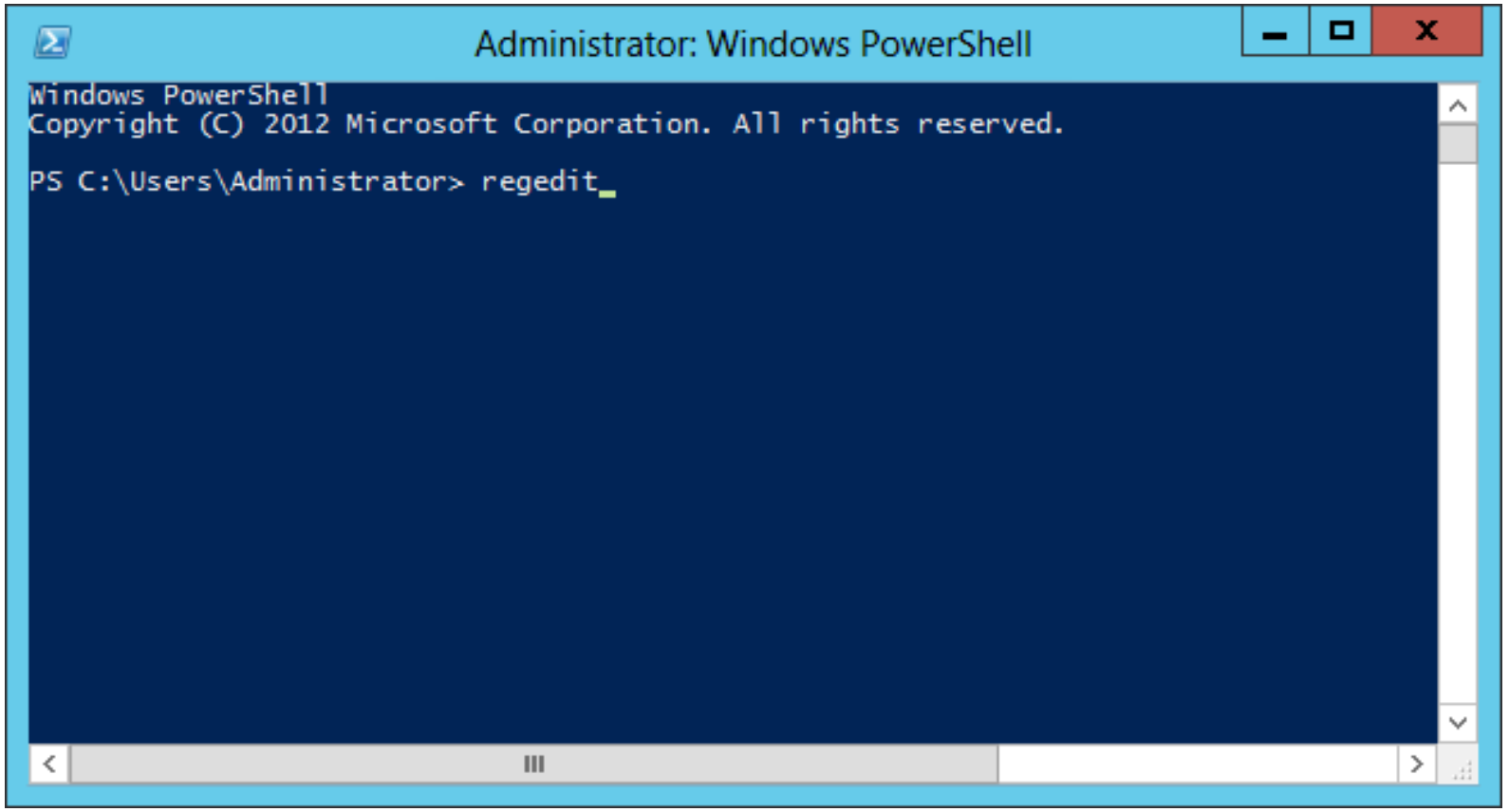
Synchronizing Time

Servers and computers need to synchronize their time with an outside source to maintain the correct time. In this lesson, we will converge our Windows 2012 Server with the US Navy's NTP Server.

We have the opportunity to navigate through the System Registry and safely make changes. The skills we will learn here will help us troubleshoot the Server errors on later dates when the Microsoft Workaround procedures prompt us to check or change a registry setting.

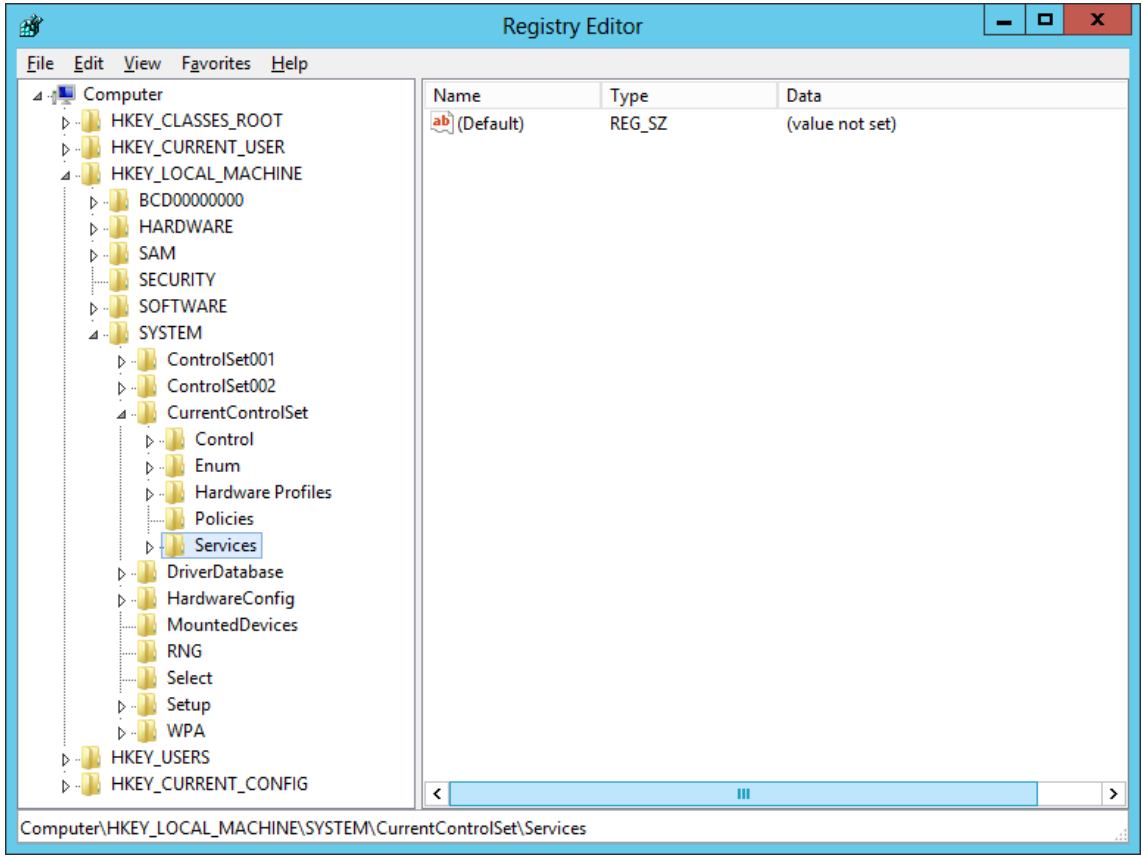
Run Registry Edit (Regedit)

To access the server's system registry, we will choose the PowerShell icon on the Taskbar. Then we type regedit on the PowerShell window.



How to Navigate the Registry Editor

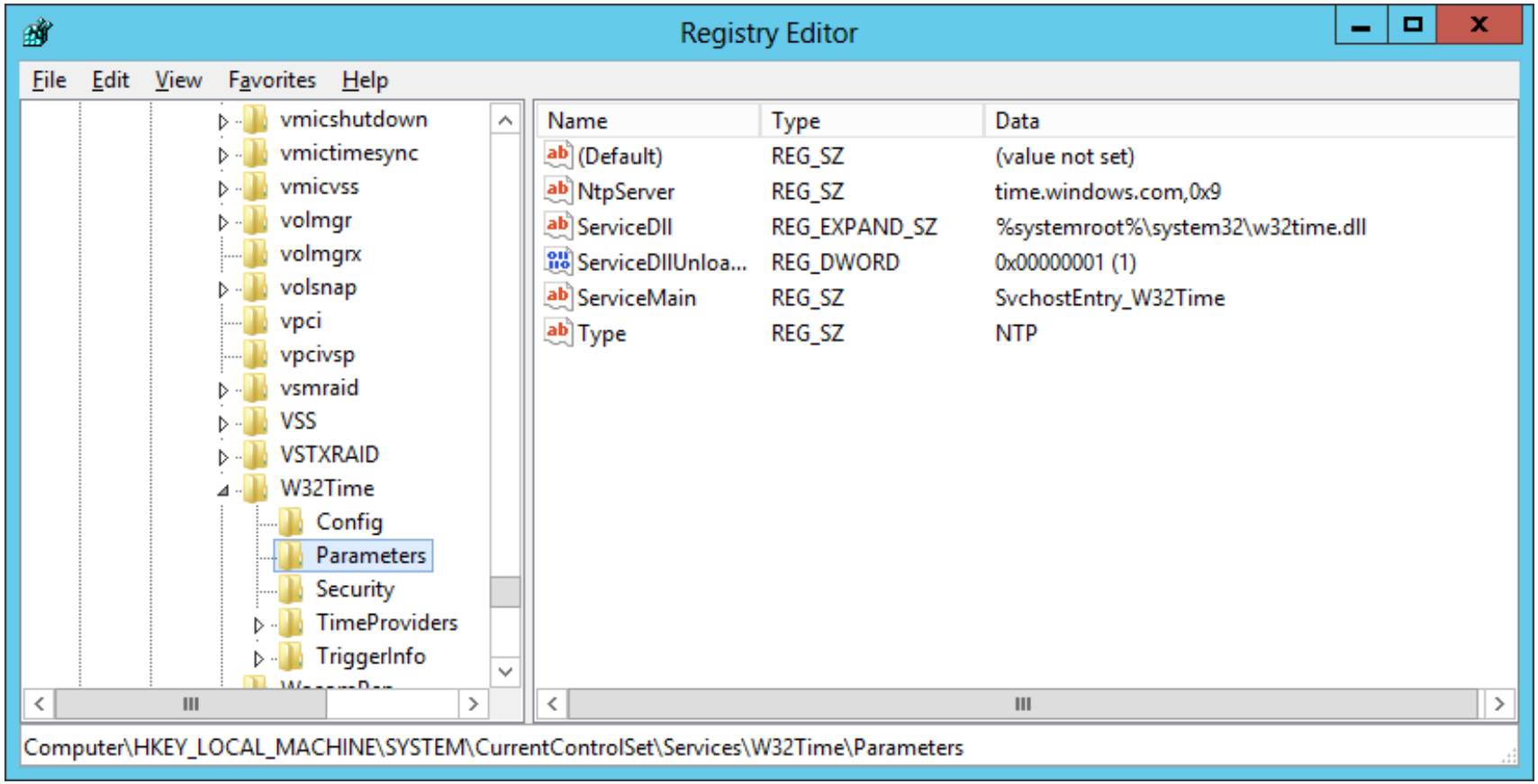
The Registry Edit window will come into view on our desktop and we need to come across HKEY_LOCAL_MACHINE under Computer. We can press the plus symbol on the left and the folder tree will expand. We can inflate the System folder, and the Current Control Set folder. When we are in the System Registry, we need to be careful to be in the correct location when making changes.



Many time network administrators and technicians will see the registry path written is this format to save space: HKLM\SYSTEM\CCS\Services\W32Time\Parameters

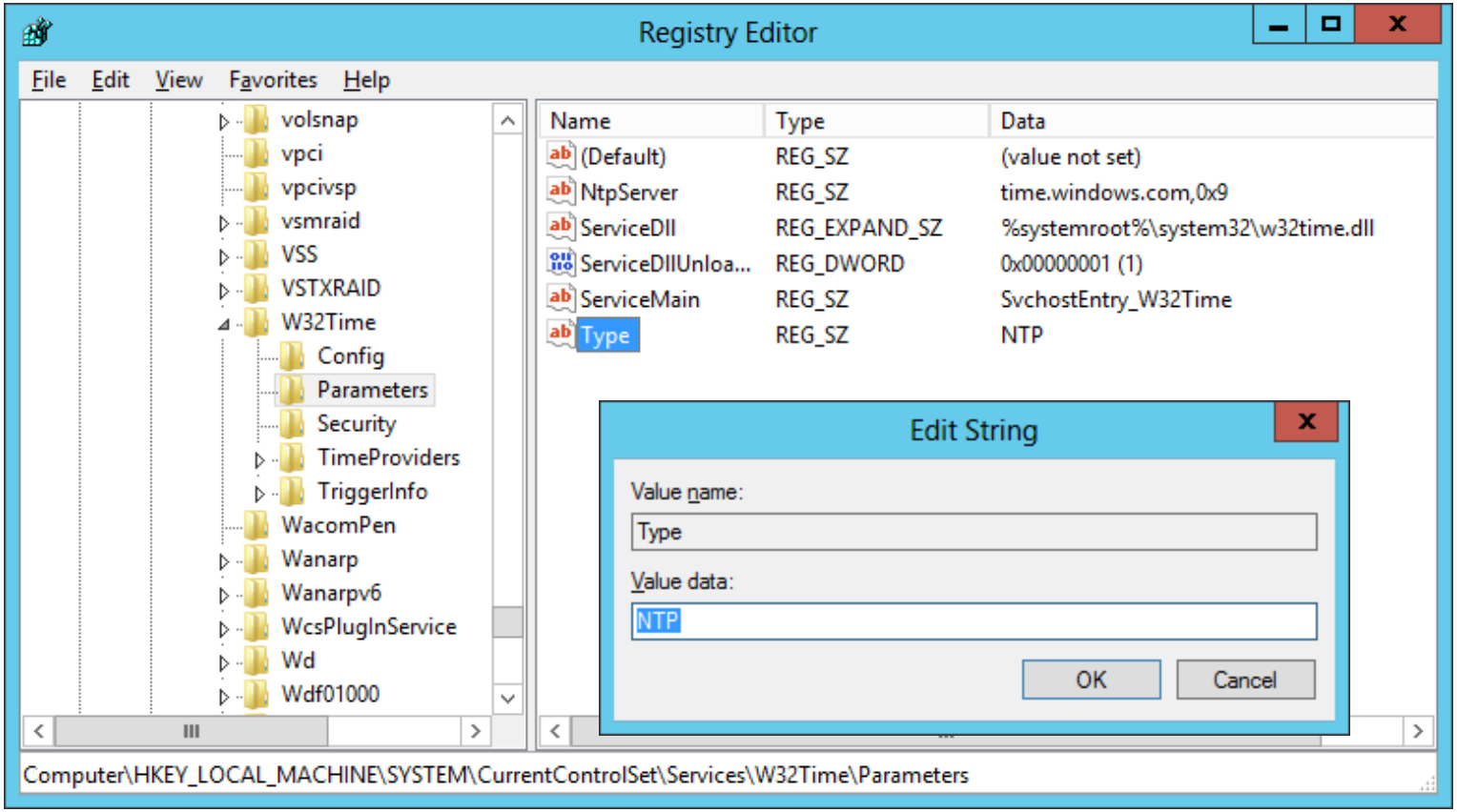
System Settings on a Folder

We follow the path to HKLM\SYSTEM\CCS\Services\W32Time\Parameters and we find that there are six system settings inside the Parameters folder.



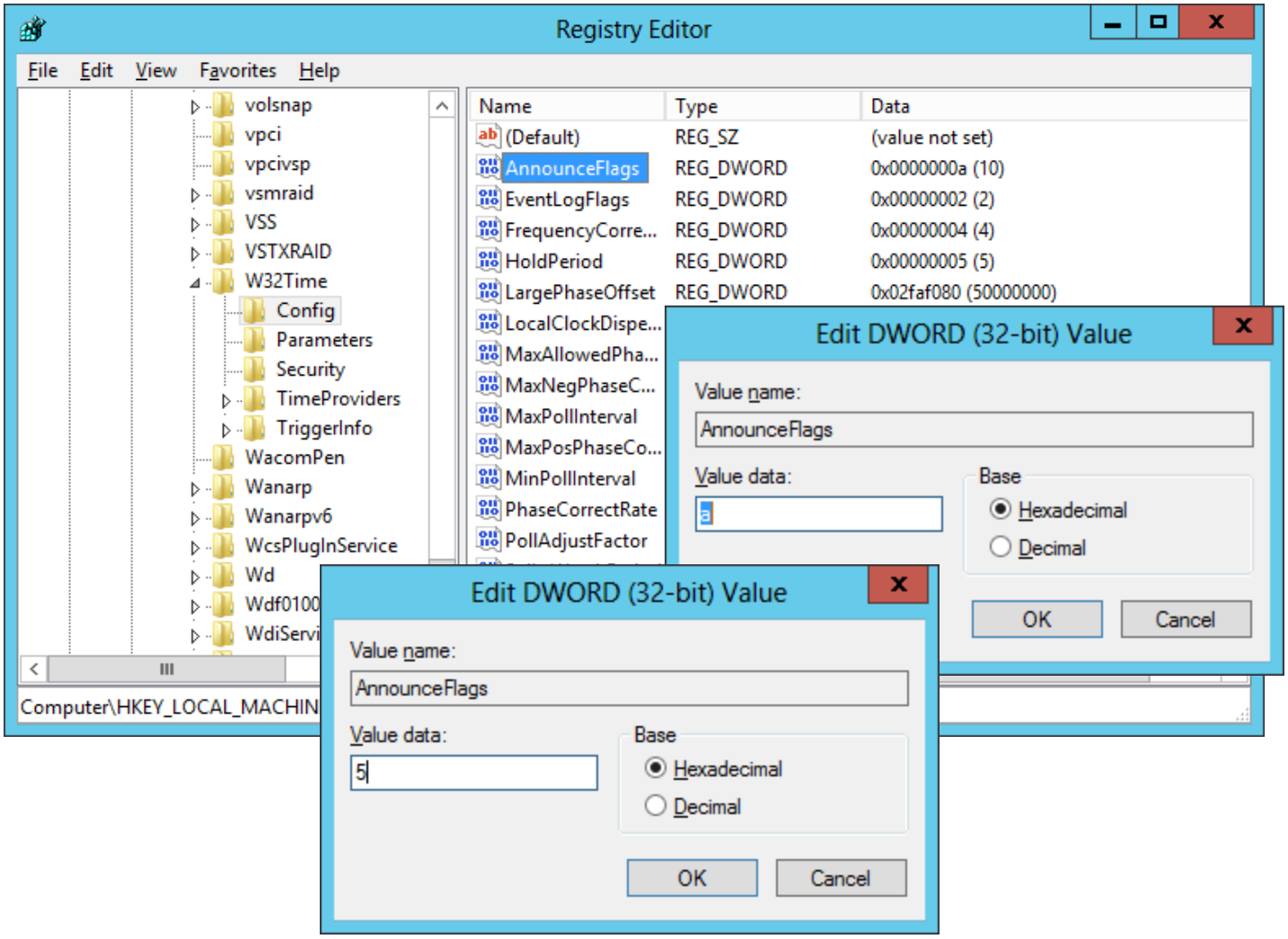
Changing the Type Setting

With the Parameters folder highlighted, we double click on Type and the Edit String window will appear. It should read NTP. If it does not change it and press the OK button.



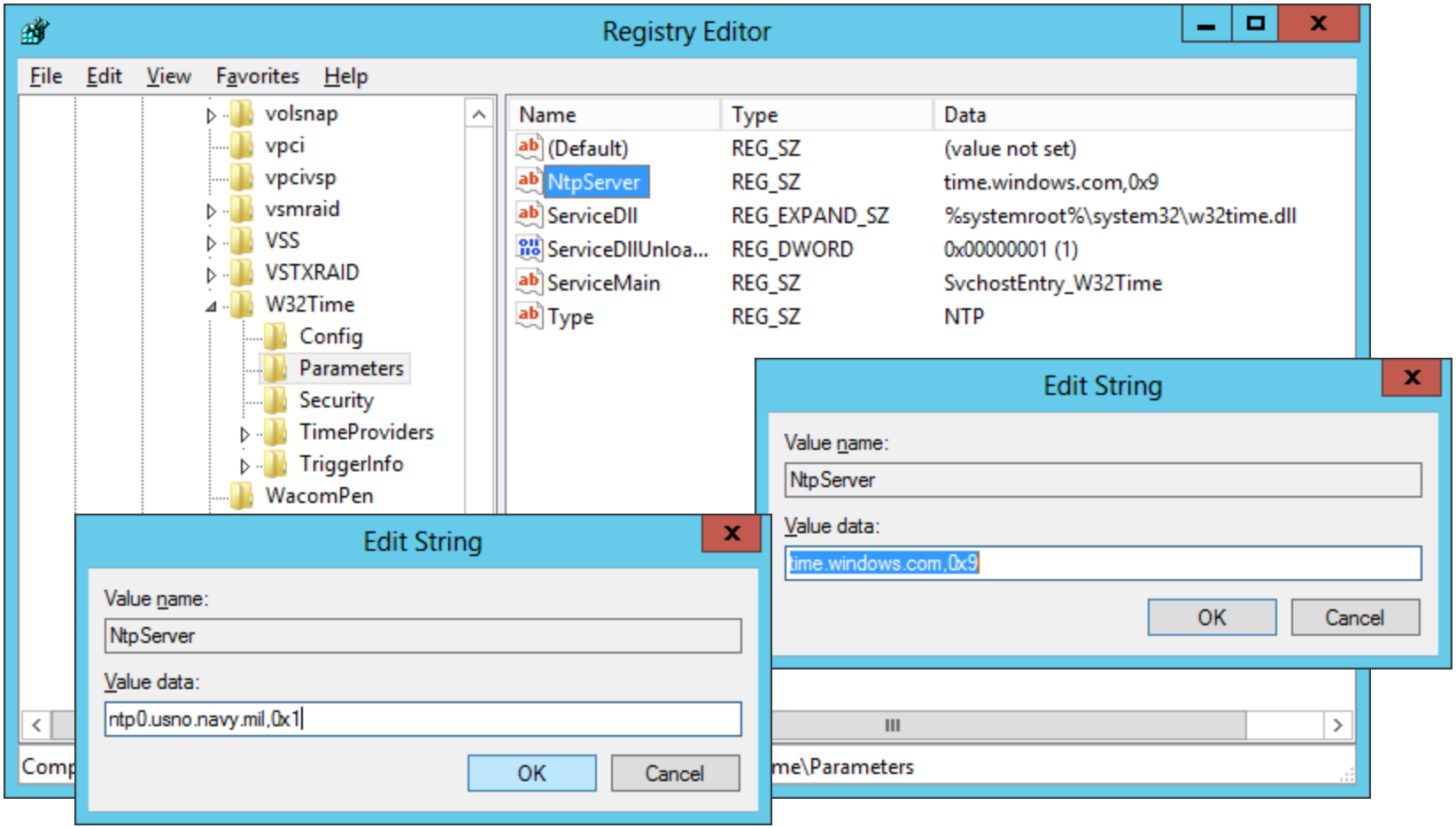
Changing the AnnounceFlags Setting

Next, with the Config folder highlighted, we double click on AnnounceFlags and the Edit DWORD Value window will appear. Change “a” to ”5”. We should press the OK button to save the change.



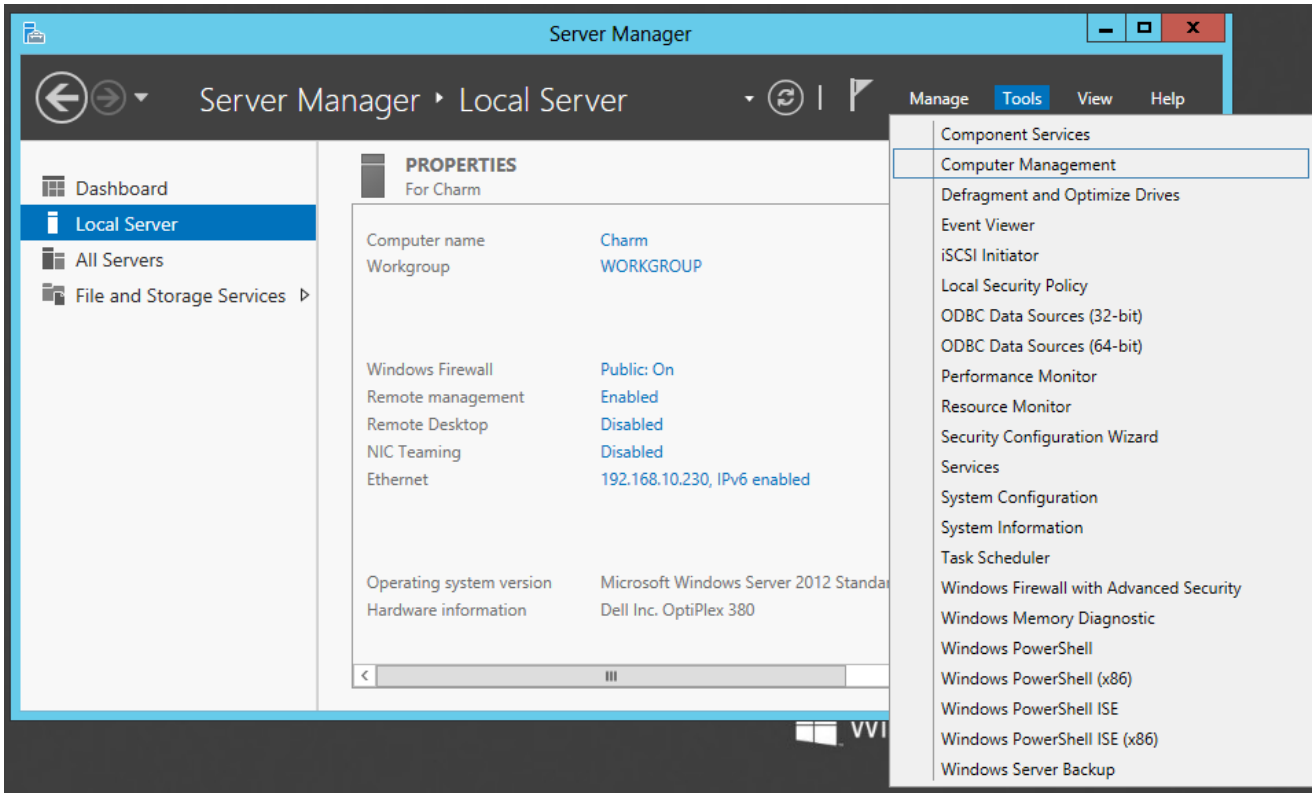
Changing the NtpServer Setting

Return to the Parameters folder and we double click on NtpServer and the Edit String window will appear. Change “time.windows.com,0x1” to “ntp0.usno.navy.mil,0x1”. We should press the OK button to save the change. We now can close the Registry Editor.



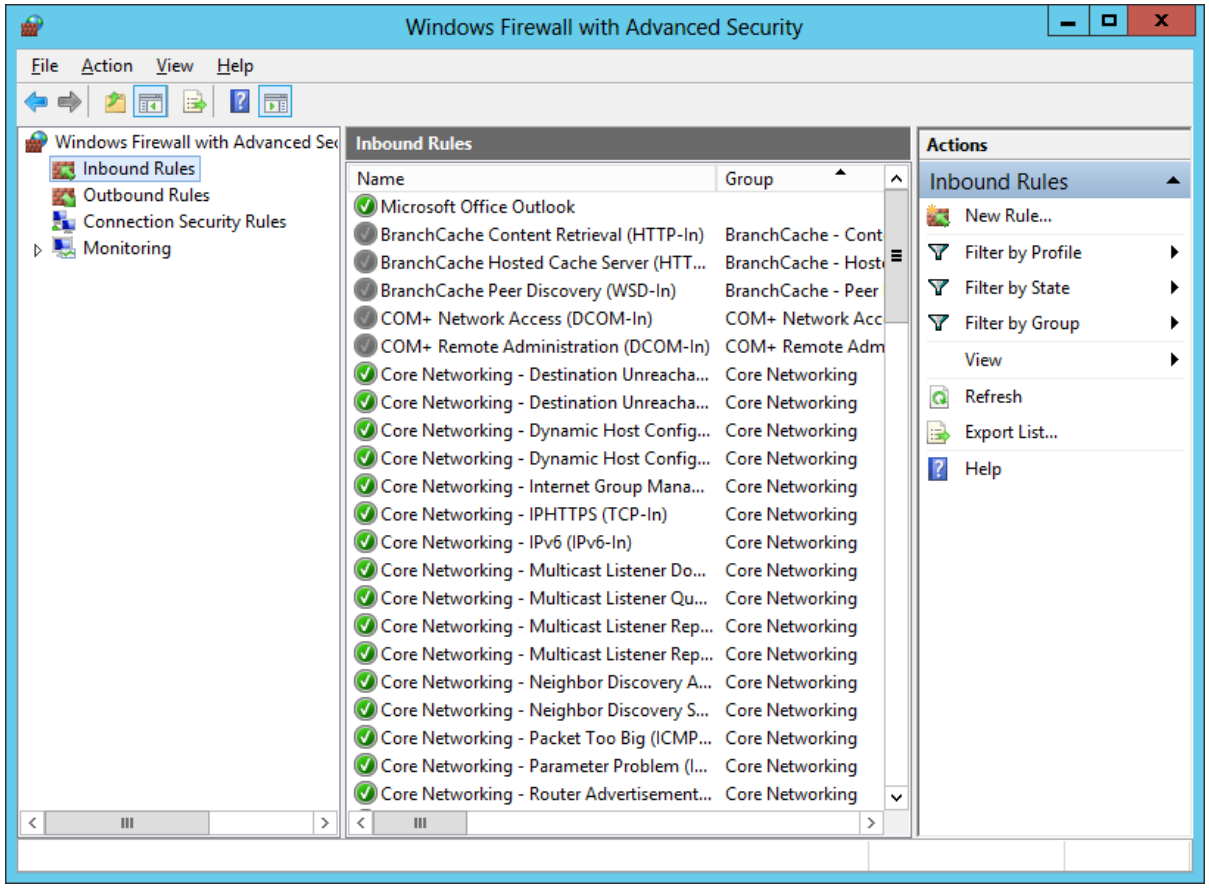
Setup Security Policies

To open an inboard port on the Windows Firewall on the Windows 2012 Standard Server, we select the Server Manager button from the Task Bar and select Tools from the Dashboard. From the list we choose Windows Firewall and Advanced Security.



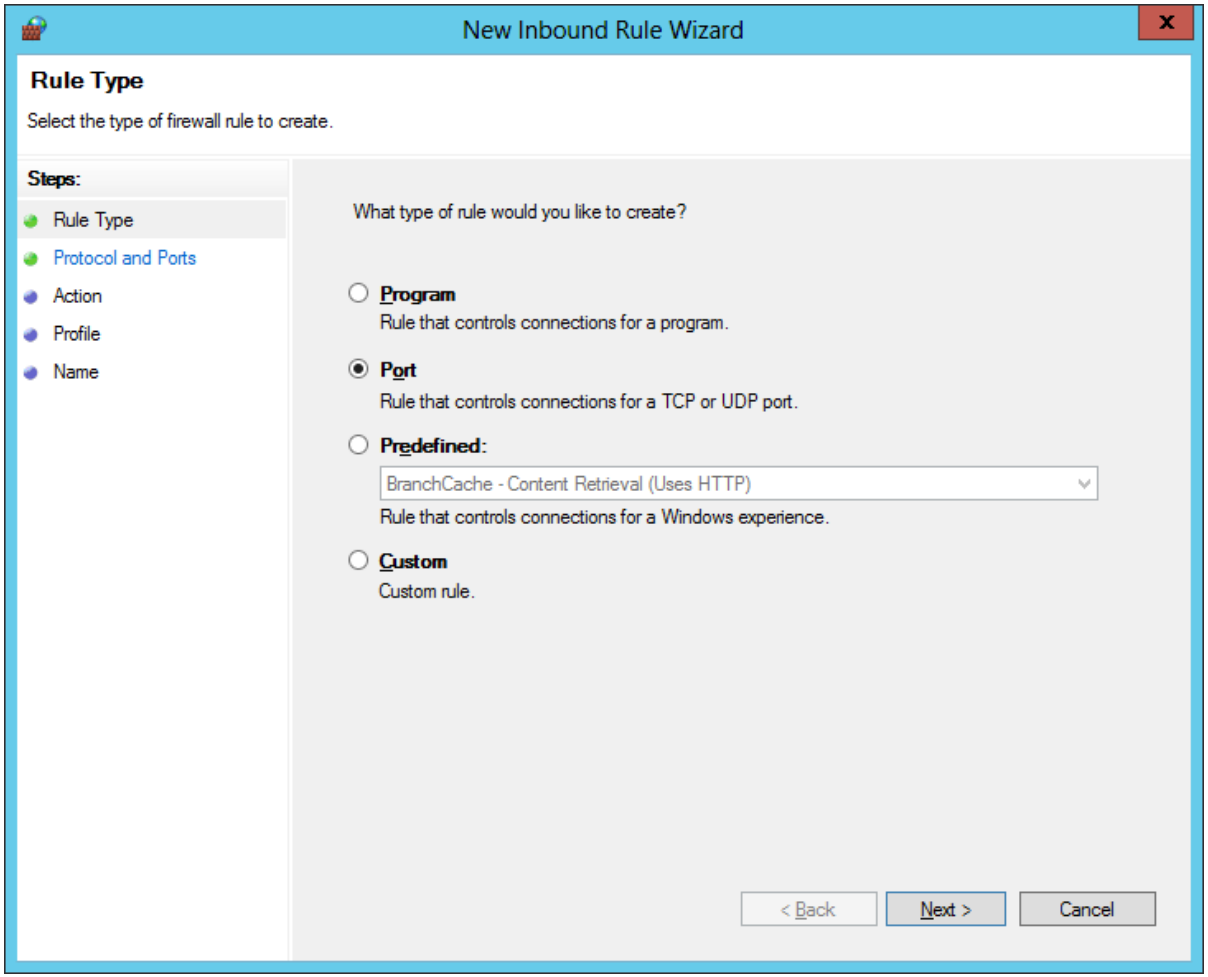
Open Inbound Port UDP123

To connect to a NTP server, we open Inbound Port UDP 123. Go to the Start menu and Administrative Tools and click on Windows Firewall with Advanced Security. Select Inbound Policies from the left pane. Click on New Rule on the right pane.



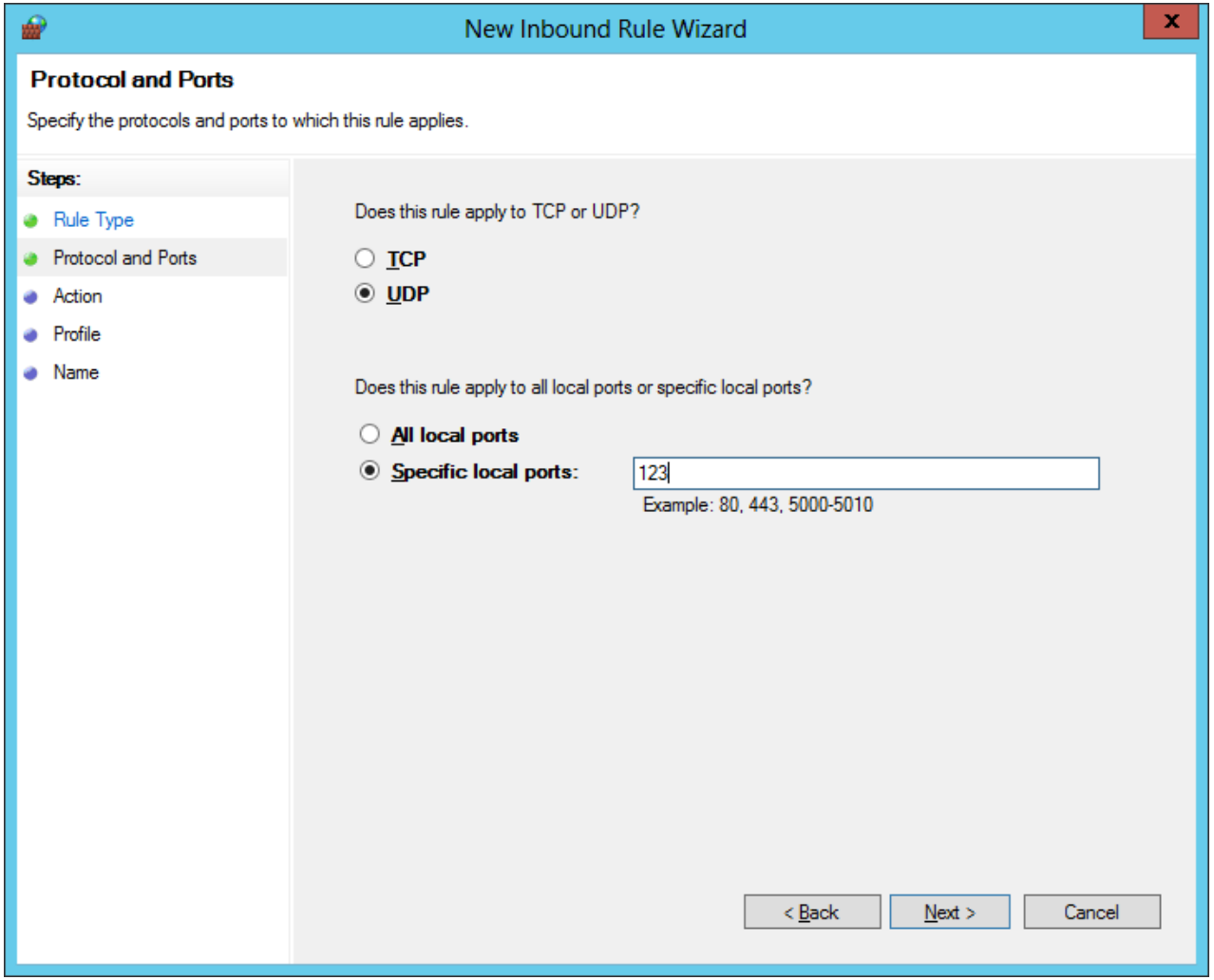
Create a New Rule

Choose the Port Option and the Next button.



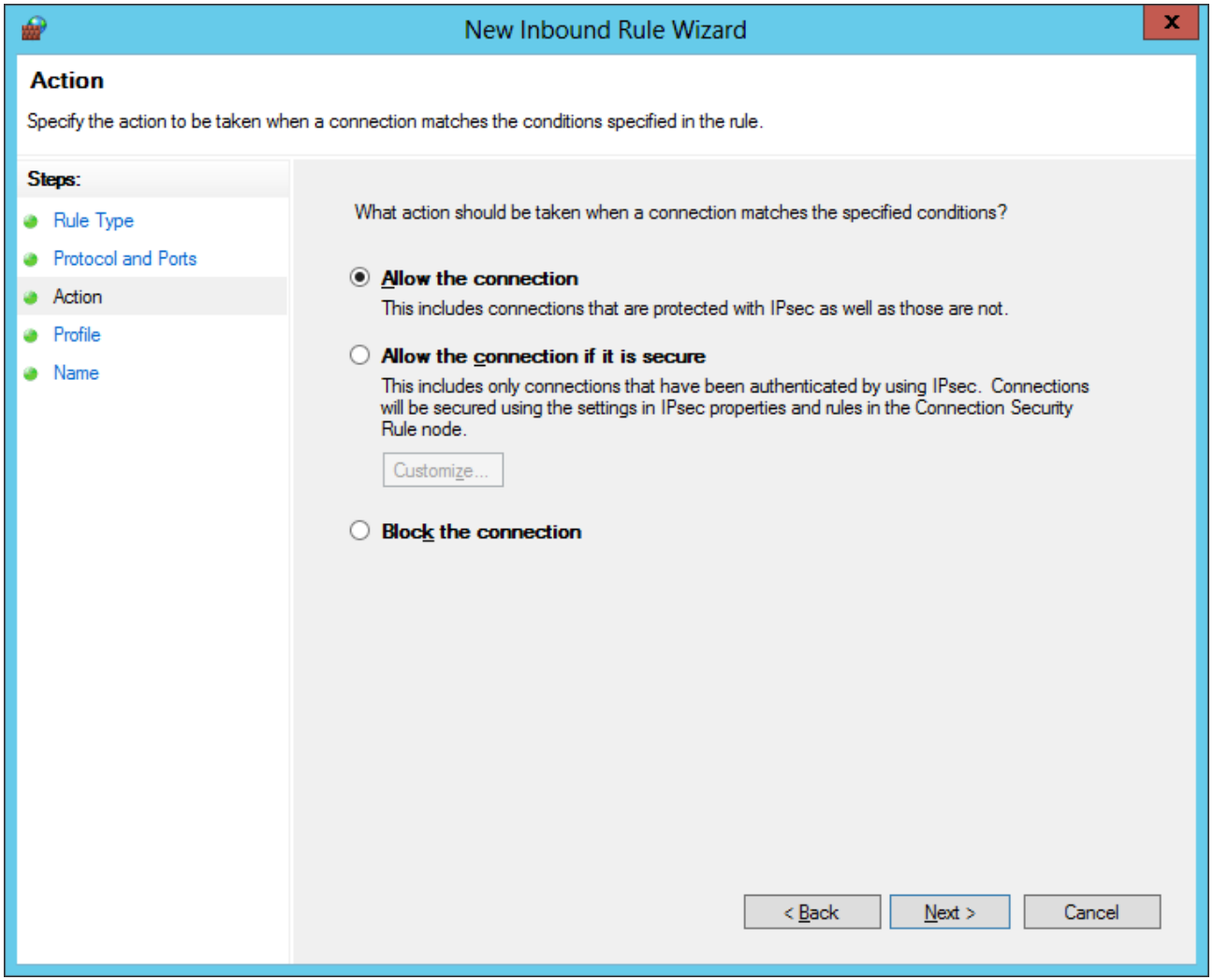
Open the UDP 123 Port

Choose the UDP option and specify the port number as 123 and press the Next button.



Allow the Connection

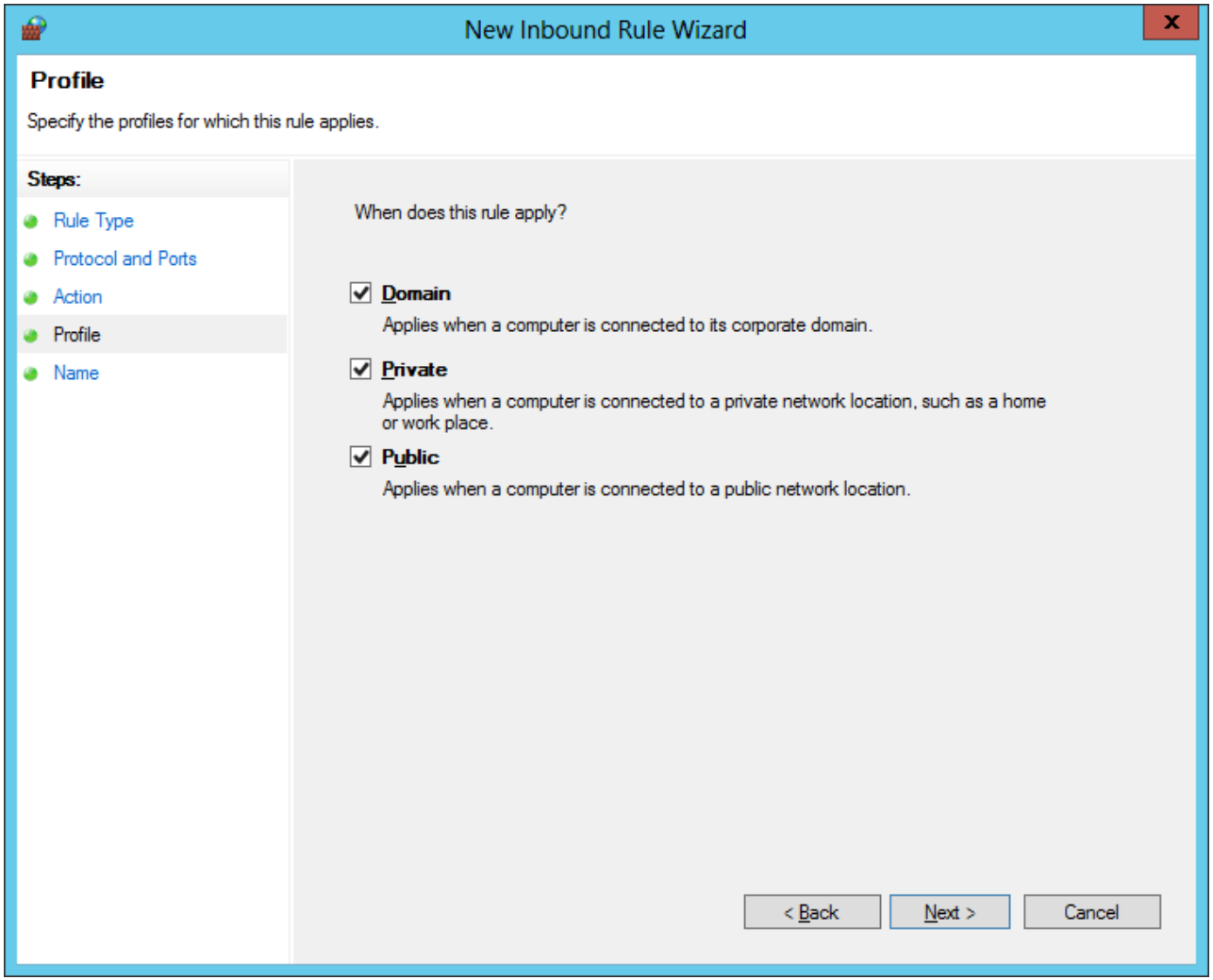
We then will opt to allow the connection and push the Next button.



Profile the Port

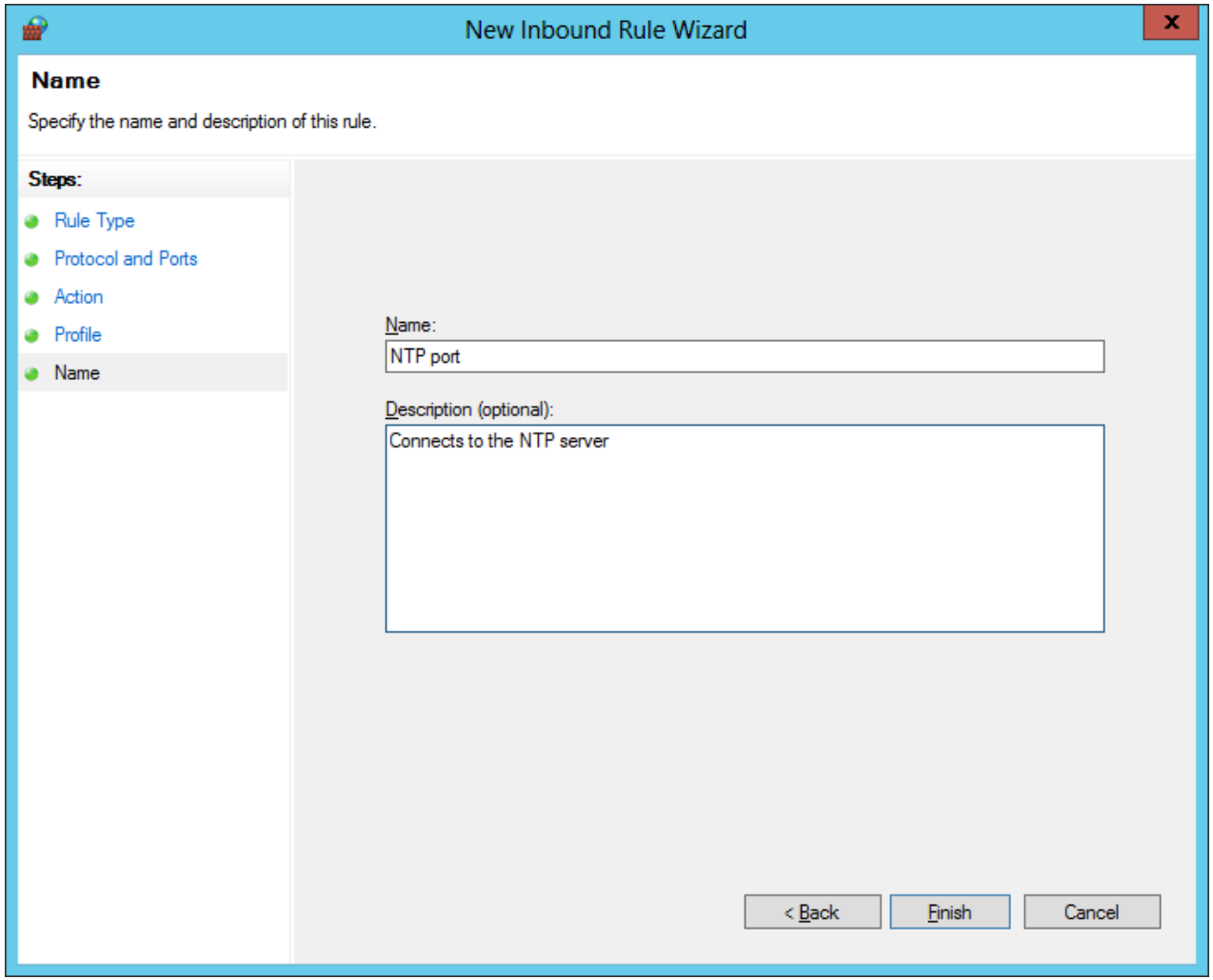
We will annotate the Domain, Private and Public profiles to where the open port applies.

Then we choose the Next button.



Name the Rule

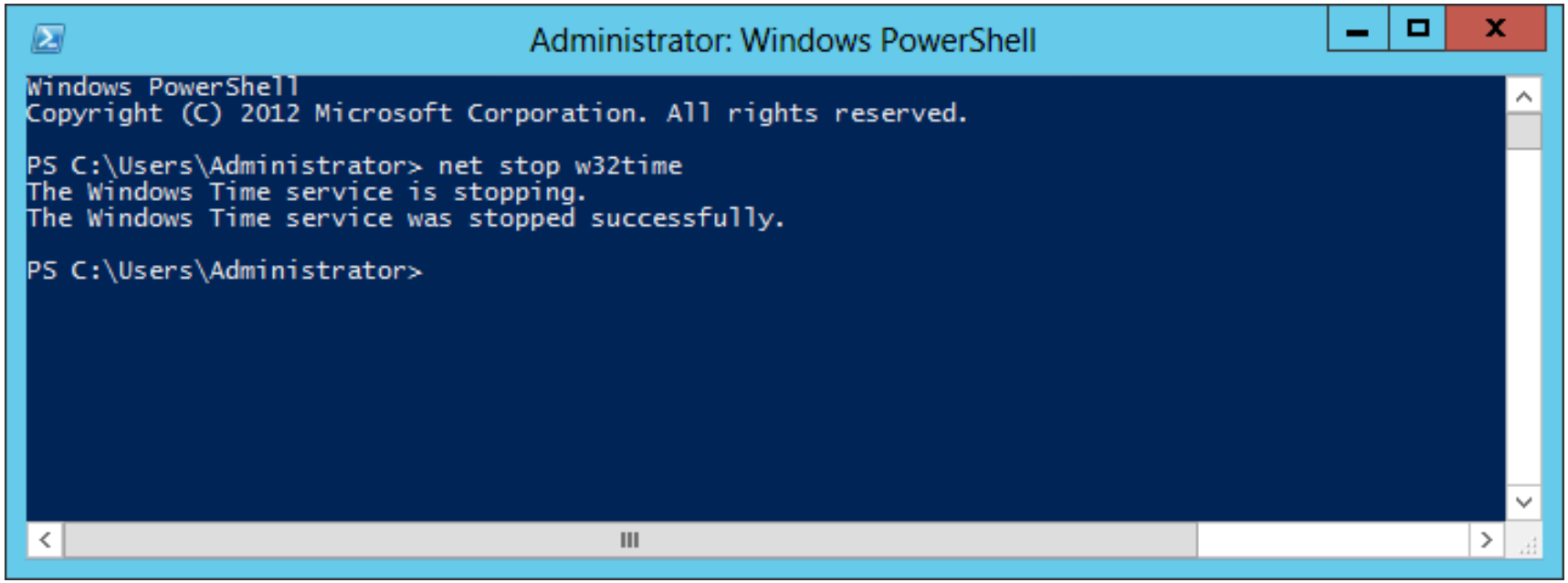
We will name the open port rule “NTP port” and give it a short and accurate description.



Stop Windows Time Service

Now, we open the command prompt window and to stop the Windows Time Service we type:

Net stop w32time



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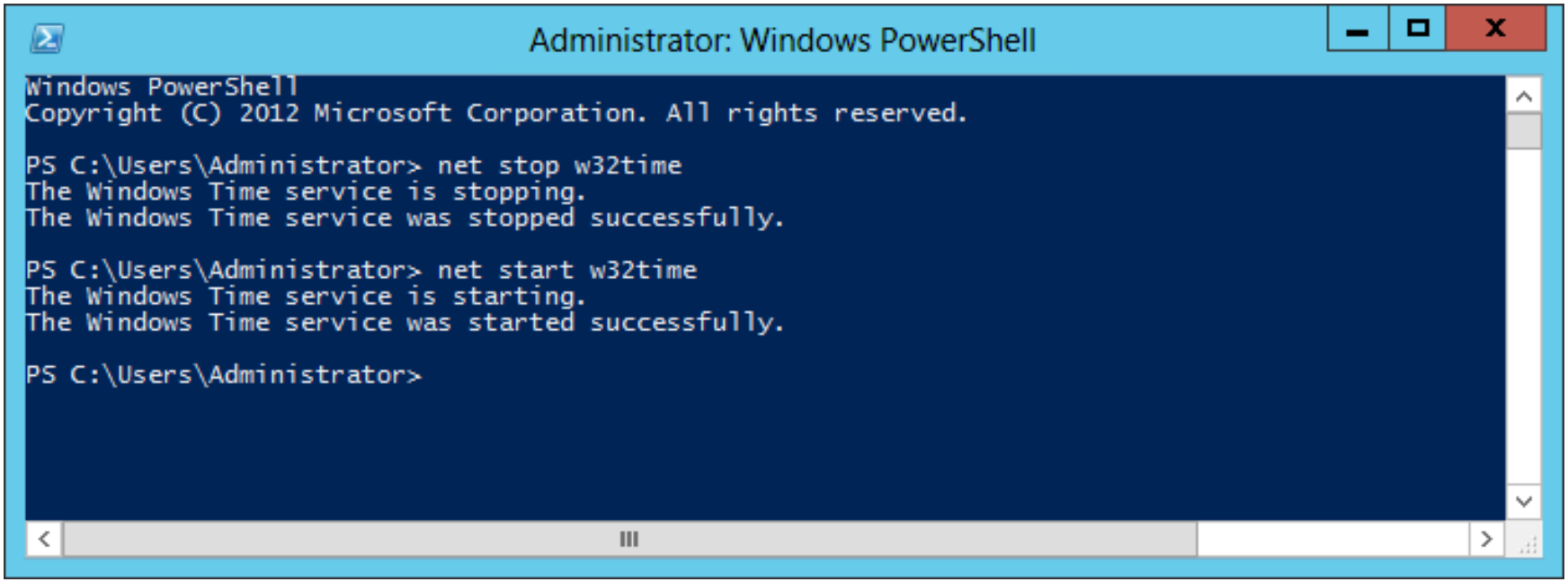

Resynchronize with the Time Source

To Resynchronize with the time source, we type:

W32tm /resync /rediscover

The time will synchronize with the source and the devices on the domain will now harmonize. We have completed the lesson and successfully edited the System Registry.