Admin Server 2 - Windows Remote Admin

For the most part, when an admin is working on a server, they never go in and interact with the actual physical server itself. Most admin work is done remotely. This can be done from home or a remote office and the admin can connect to the server using Remote Server Admin Tools (RSAT). RSAT is built into windows. This is the primary tool other then Power Shell to admin a windows server.

Remote Server Administration Tools (RSAT)

Various versions are available from Microsoft Download servers. https://www.microsoft.com/en-us/search/explore?q=RSAT&form=DLC?q=RSAT&form=DLC

Provide consoles to remotely manage specific technologies on Windows Server 2012 R2, 2012 and in limited cases 2008 R2 and 2008 (1st version was

available for 2008). Works well on Win Server 2016 and 2018.

A few of the tools might work for managing roles and features on windows server 2003

Important - remove all older versions of admin tools pack or remote server admin from the computer before you install RSAT for windows 8.1 Most will run 10 or 11

RSAT for Windows 8.1 includes tools for managing roles and features that run on Windows Server 2012 R2 and, in most cases, Windows Server 2012.

It can run:

Server Manager
Microsoft Management Console (MMC) Snap Ins (Addons)
Pre-built Microsoft Management consoles
Windows PowerShell CMDlets and providers
Command line tools

Server Manager

Server manager is an expanded Microsoft Management Console (MMC) that allows you to view and manage information and tools that affect a servers productivity.

Servers - A selectable list of servers that have been added to the server management console

Events - A list of the event log items for the selected server.

Services - A list of the services and their statuses for the selected server.

Best Practice Analyzer - Results of the best practices Analysis for the selected server if available. This is a good tool to use as a benchmark and to tweak settings after you set up your server. Servers have many settings that can be configured so this tool does a good job of making sure settings that you may have missed are configured properly.

Performance - The performance counters for the selected server. See what the hardware is doing and how it is performing.

Roles and features - A list of the roles and features installed on the selected server.

Windows Remote Management (WinRM)

This is a tool that is built into Windows. It is a secure encrypted protocol that allows us to manage servers. This is the protocol that PowerShell uses to connect to servers.

Windows Remote Management (WinRM) is the Microsoft implementation of WS-Management Protocol

Windows Remote Management is typically enabled by default or on domain joined servers

WinRM can run from a command shell to enable and/or configure remote management

The enable-PSRemoting cmdlet configures a computer to receive Windows Powershell remote commands that are sent by using the WS-Management technology

Beginning with Windows Server 2012, Windows PowerShell removing is enabled by default

Enable-PSRemoting

This command allows us to connect to and work on remote systems. It does not matter if it is a server or a desktop.

Will enable Windows PowerShell remoting on supported versions of Windows Client and Server OS's

Runs the Set-WSManQuickConfig cmdlet, which performs the following tasks:

- Starts the WinRm service if it’s not already running.

- Sets the startup type on the WinRM service to Automatic (Will startup with the server).

- Creates a listener to accept requests on any IP address (will listen on a port for traffic that is incoming for PowerShell).

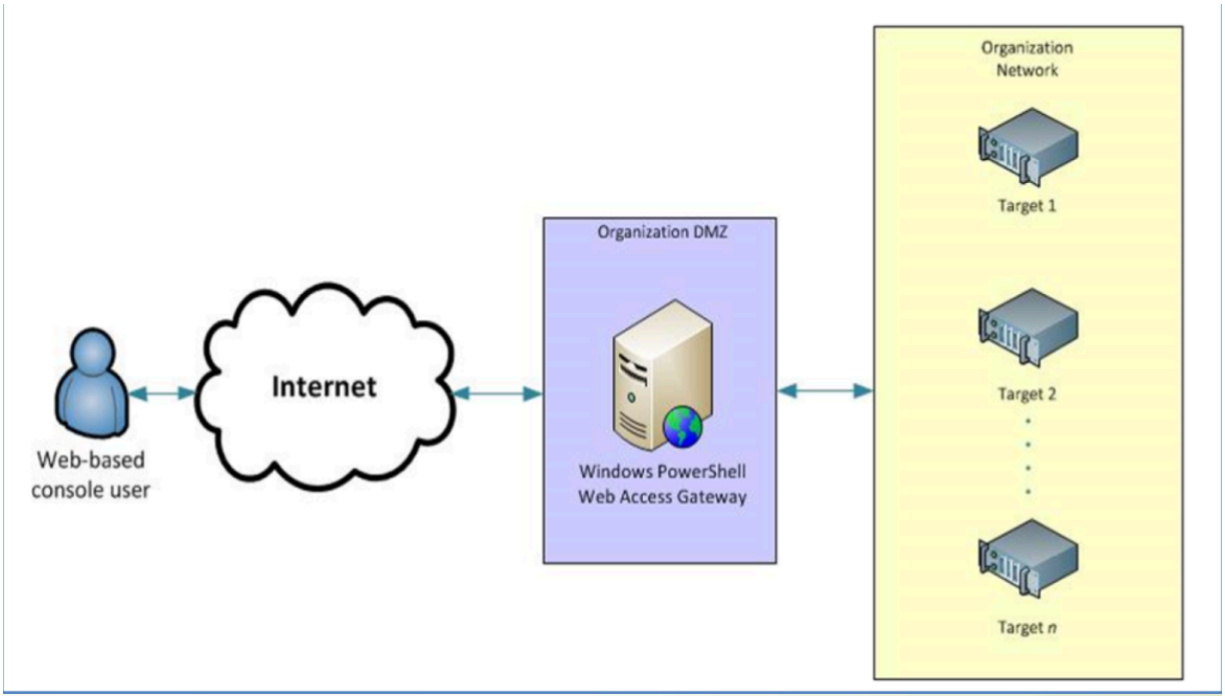
- Enables a firewall exception for WS-Management communications.

- Enables all session configurations. (Microsoft.Powershell and Microsoft.Powershell.Workflow).

- Changes the security descriptor of all session configurations to allow remote access.

- Restarts the WinRM service to make the preceding changes take effect.

PowerShell Web Access Gateway



The Windows PowerShell Web Access Gateway will allow the super user to authenticate and have access to multiple machines in the network. This creates ease of use and access for multiple super users to connect to the organization network remotely.

Remote administration option that uses a web server as an access point providing an interactive PowerShell console through any web browser on any device.

PC, Laptop, Tablet, SmartPhone.

Windows PowerShell Web Access

Supported web browser clients include:

IE 8 or later / Edge
Firefox
Chrome
Safari (Mac and PC)

For non Microsoft browsers, the latest version is always best, The client browser will also need to run Javascript and be able to accept cookies from the gateway server.

Can be installed using the PowerShell install-Windows Feature cmdlet

Install-WindowsFeature -Name WindowsPowerShellWebAccess

Installs IIS (the Microsoft equivalent to Apache web server) Web Server role and the Windows PowerShell Web access feature.

Install-PswaWebApplication

Running this cmdlet installs the Windows PowerShell Web Access web application within the IIS Default Web Site container.

The cmdlet creates the infrastructure required to run Windows PowerShell Web Access on the default website

Path: /pswa

ApplicationPool: pswa_pool
EnabledProtocols: http (https SSL when certificate is specified)
PhysicalPath: %windir%/Web/PowerShellWebAccess/wwwroot

Install-PswaWebApplication - UseTestCertificate

The UseTestCertificate parameter should only be used in a private testnet.

Creates a self-signed certificate and uses the test certificate to enable an HTTPS binding for the PSWA Web Gateway site.

Https://<server_name>/pswa

For a secure production environment, a valid certificate that has been signed by a Certificate Authority (CA) is recommended.

Trusting a self signed certificate is a security risk. You cannot be sure of the servers true identity since it has not been validated by a trusted CA.

In the lab

Install the Remote Administration tools on a windows 10

workstation

Use the Remote Administration console to manage remote servers

Execute PowerShell commands on remote computers

Enable PowerShell Remote Administration

Install and Configure the PowerShell Web Access Gateway