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Network Administration

Ch3. Implementing File Services and IIS



Contents

- Understanding File services
- Configure File and Disk Encryption
- Configuring DFS
- Configuring FTP
- Configuring Web service



Understanding File Services

When you need to control and manage the amount and type of data stored on your servers, Microsoft delivers FSRM to help you do just that.

The File Server Resource Manager (FSRM) is a suite of tools that allows an administrator to place quotas on folders or volumes, filter file types, and create detailed storage reports. These tools allow an administrator to properly plan and implement policies on data as needed



FSRM Features

- Configure File Management Tasks
- Configure Quotas
- File Classification Infrastructure
- Configure File Screens
- Configure Reports



Installing the FSRM Role Service

To install using Server Manager, you go into Add Roles And Features and choose File And Storage Services File Services File Server Resource Manager. To install FSRM using PowerShell, you use the following command:

*Install-WindowsFeature -Name FS-Resource-Manager -
IncludeManagementTools*



Configure File and Disk Encryption

Hardware and software encryption are some of the most important actions you can take as an administrator. You must make sure that if anyone steals hardware from your company or from your server rooms that the data they are stealing is secured and cannot be used. This is where BitLocker can help.



Using BitLocker Drive Encryption

To prevent individuals from stealing your computer and viewing personal and sensitive data found on your hard disk, some editions of Windows come with a new feature called BitLocker Drive Encryption.

BitLocker encrypts the entire system drive. New files added to this drive are encrypted automatically, and files moved from this drive to another drive or computers are decrypted automatically.



Features of BitLocker

- BitLocker Provisioning
- Used Disk Space—Only Encryption
- Standard User PIN and Password Change
- Network Unlock
- Support for Encrypted Hard Drives for Windows



Install BitLocker via Windows PowerShell utility

To install BitLocker, use the following PowerShell commands:

```
Install-WindowsFeature BitLocker -IncludeAllSubFeature -  
IncludeManagementTools -Restart
```



Using EFS Drive Encryption

Encrypting File System (EFS) allows a user or administrator to secure files or folders by using encryption. Encryption employs the user's security identification (SID) number to secure the file or folder. Encryption is the strongest protection that Windows provides to help you keep your information secure



Configuring DFS

- Implementing DFS namespaces
- Implementing DFS replication
- Scenarios for implementing DFS
- Planning for DFS
- Optimizing namespaces and replication
- Demonstration: Configuring DFS namespaces and replication



Implementing DFS namespaces

DFS namespaces can be configured as:

- Domain-based namespaces
- Stand-alone namespaces

To configure a namespace for publishing content:

1. Create a namespace
2. Create a folder in the namespace
3. Add folder targets
4. Set the ordering method for targets in referrals



Implementing DFS replication

When DFSR is implemented, it:

- Uses remote differential compression
- Uses a staging folder to stage a file before sending or receiving the file
- Detects changes on the volume by monitoring the USN journal
- Uses a vector version exchange protocol
- Recovers from failure

Configure and manage DFSR by using the cmdlets from the DFSR module for Windows PowerShell



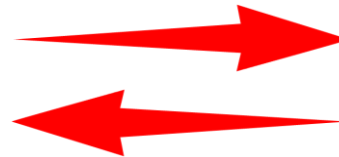
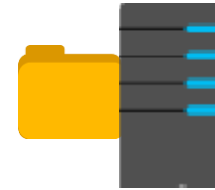
Scenarios for implementing DFS

- Sharing files across branch offices
- Data collection
- Data distribution

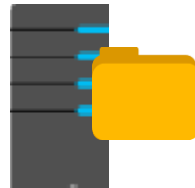
Branch office



Hub site or branch office



Branch office



Hub site



Branch office

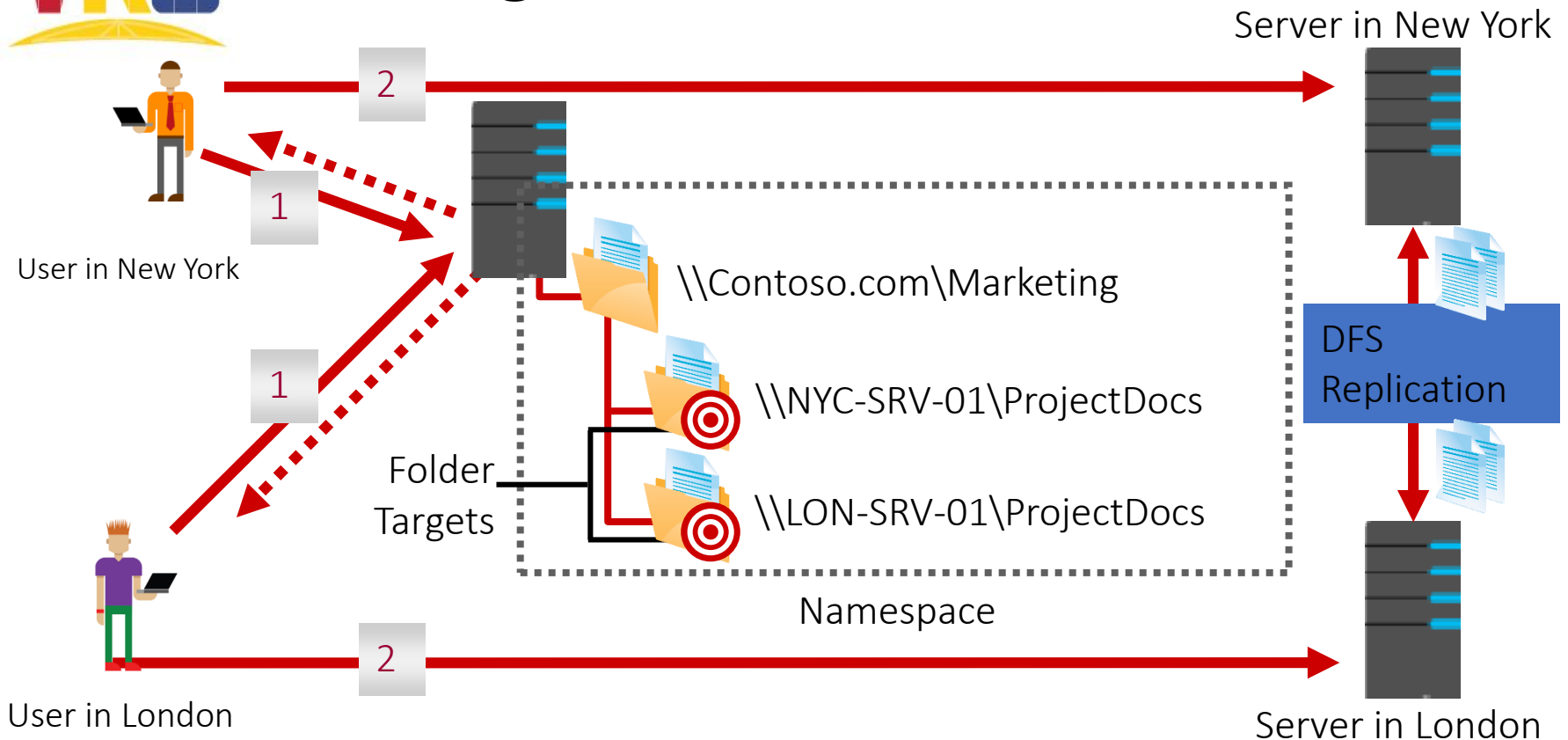


Hub site





Planning for DFS



1. User enters: `\\contoso.com\\marketing`
Client computers contact a namespace server and receive a referral
2. Client computers cache the referral and then contact the first server in the referral



Optimizing namespaces and replication

You can optimize DFS by:

- Renaming or moving a folder
- Disabling referrals to a folder
- Specifying referral cache duration
- Configuring namespace polling
- Configuring replication groups
- Creating multiple replicated folders
- Modifying replication topology



Demonstration: Configuring DFS namespaces and replication

In this demonstration, you will see how to:

- Install the DFS Replication role service
- Create a new namespace
- Create a new folder and folder target
- Configure DFSR



Internet Information Services (IIS)

Internet Information Services (IIS, formerly Internet Information Server) is an extensible web server software created by Microsoft for use with the Windows NT family.

IIS supports HTTP, HTTP/2, HTTPS, FTP, FTPS, SMTP and NNTP. It has been an integral part of the Windows NT family since Windows NT 4.0

IIS 10.0 version 1709 is included in Windows Server 2016 and Windows 10 Fall Creators Update both released 2017-10-17.



Configuring FTP

FTP (File Transfer Protocol) is an abbreviation of File Transfer Protocol. As the name implies, FTP is used to transfer files between machines on a network. You can use FTP to share files between a local PC and a remote server and to access online software archives.

Our manual will consider the option of installing an FTP server as an IIS web server role, alternatively, you can use other software, for example, FileZilla Server, Titan FTP Server, Home Ftp Server, Ocean FTP Server.



Install FTP server

Add roles and features

Add Roles and Features Wizard

Select role services

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Web Server Role (IIS)

Role Services

Confirmation

Results

Select the role services to install for Web Server (IIS)

Role services

- ☒ Security
 - ☒ Request Filtering
 - ☐ Basic Authentication
 - ☐ Centralized SSL Certificate Support
 - ☐ Client Certificate Mapping Authentication
 - ☐ Digest Authentication
 - ☐ IIS Client Certificate Mapping Authentication
 - ☐ IP and Domain Restrictions
 - ☐ URL Authorization
 - ☐ Windows Authentication
- ☐ Application Development
- ☒ FTP Server
 - ☒ FTP Service
 - ☒ FTP Extensibility
- ☒ Management Tools
 - ☒ IIS Management Console
 - ☐ IIS 6 Management Compatibility
 - ☐ IIS Management Scripts and Tools
 - ☐ Management Service

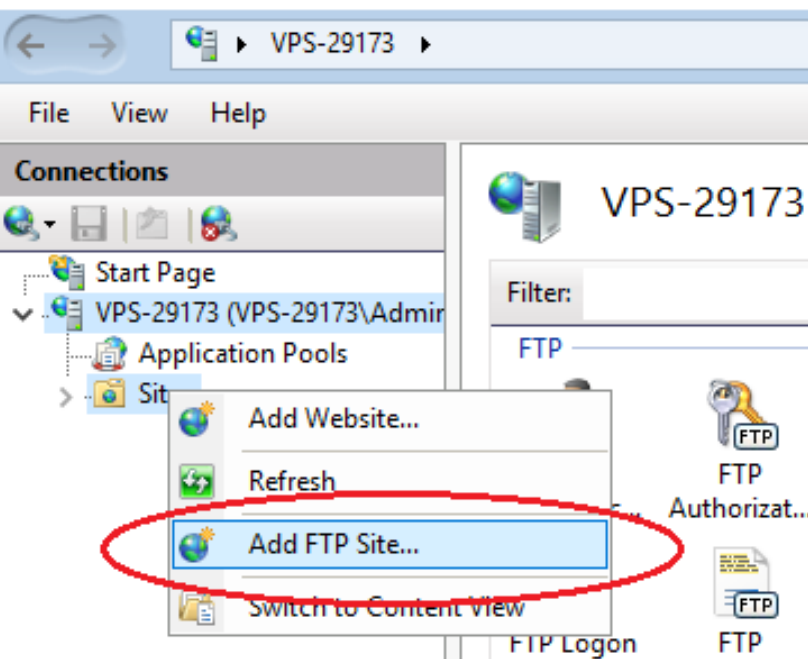
Descr

FTP E:
FTP e:
custo
IIS M:

< Previous Next >

Add FTP site in In IIS

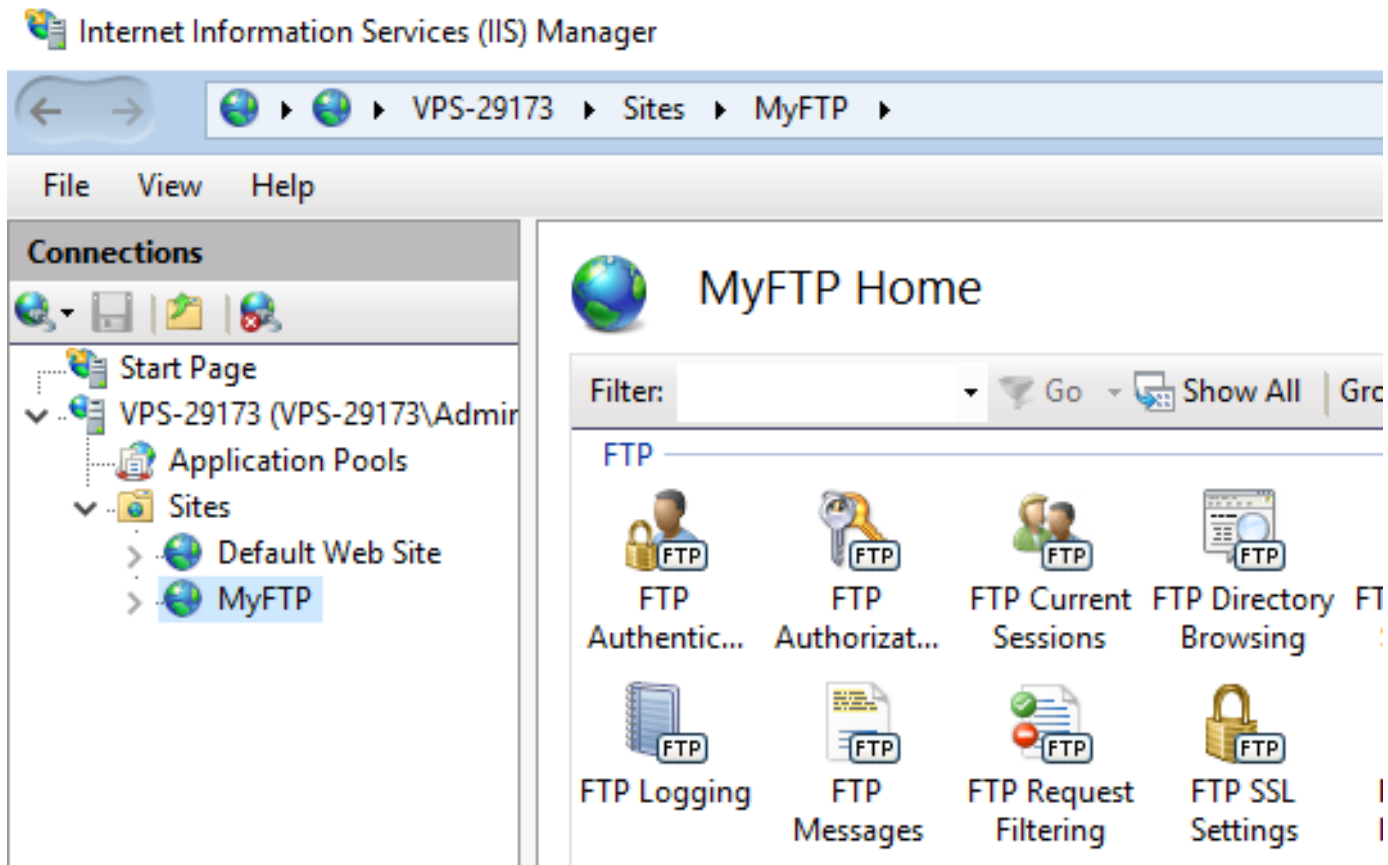
Internet Information Services (IIS) Manager





Install FTP server

Tree structure of FTP site in Windows web server

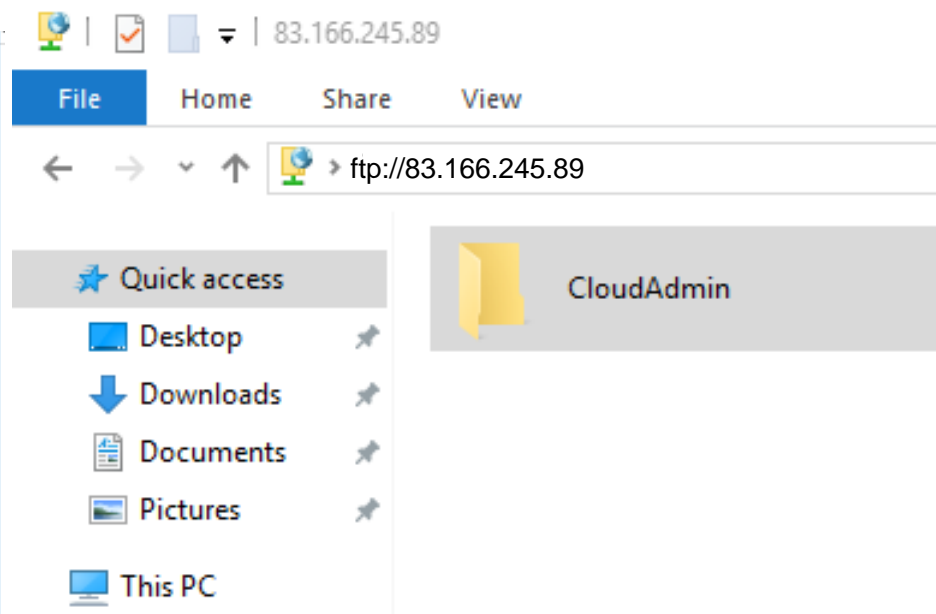
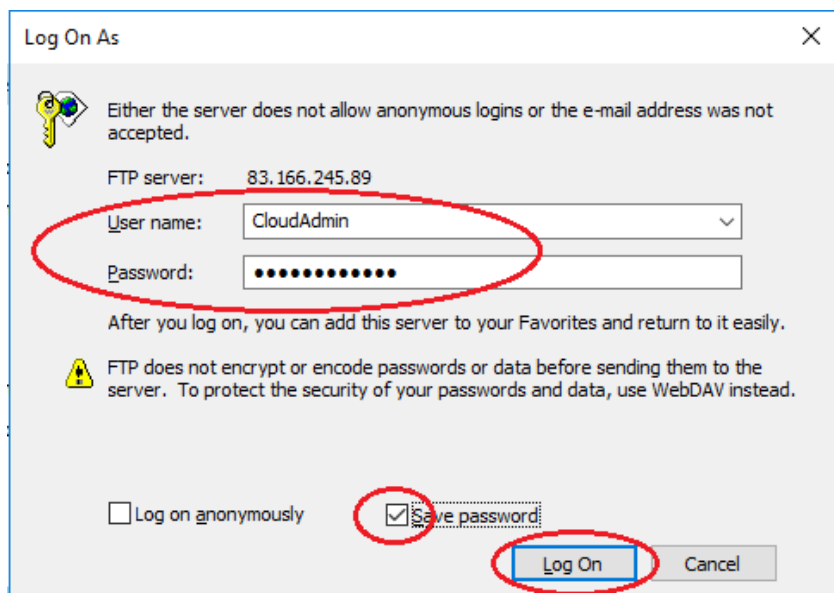




Connect to an FTP server

You can connect to an FTP server in several ways, for example, through the standard Windows utility - Explorer, or through the Web browser or FileZilla program v...

ftp: // ip address





Configuring Web service

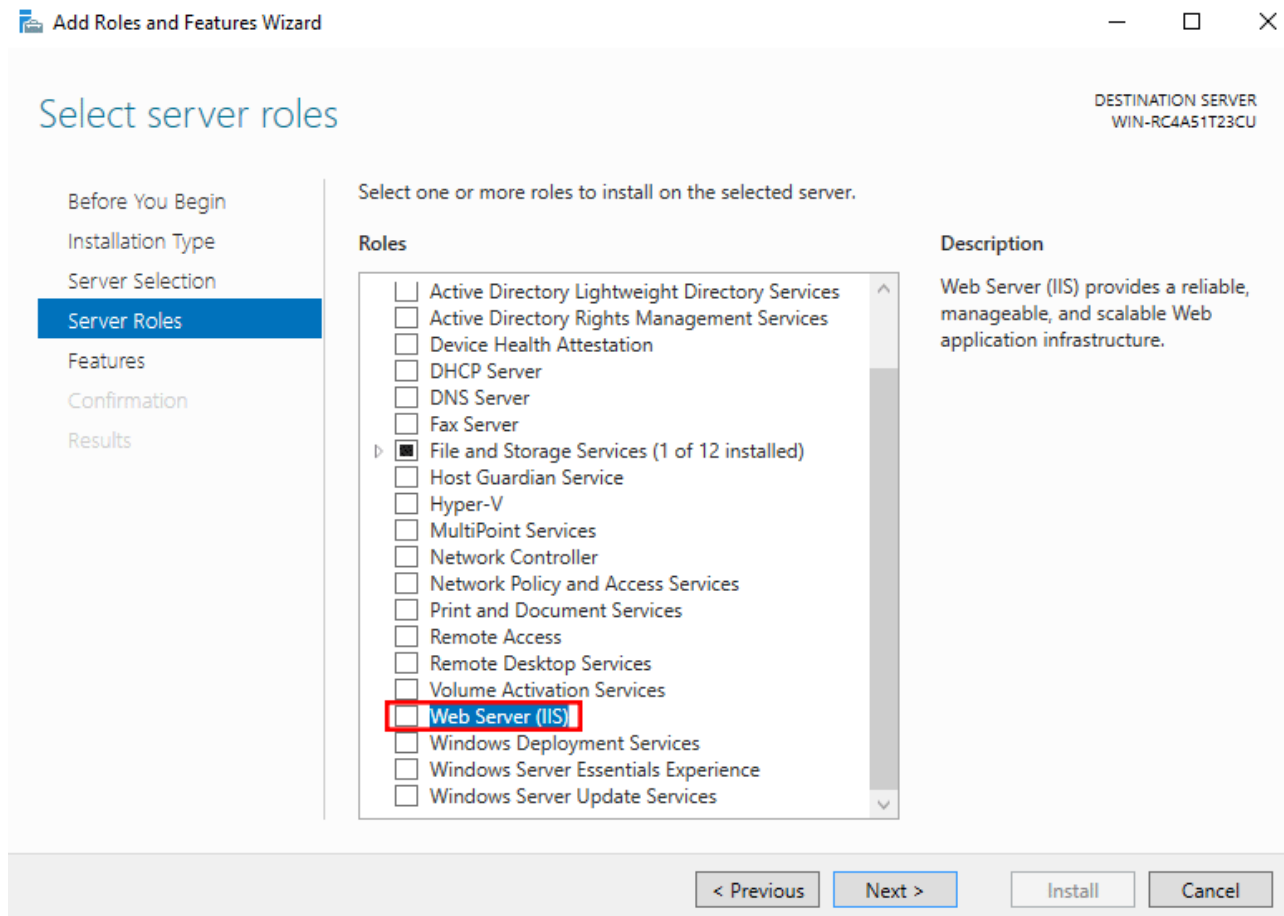
- **Internet Information Services (IIS):**

(IIS) is a flexible, general-purpose web server from Microsoft that runs on Windows systems to serve requested HTML pages or files. An IIS web server accepts requests from remote client computers and returns the appropriate response.



Install Web Server (IIS)

From the “Select server roles” check the box “Web Server (IIS)”





Install Web Server (IIS)

Install additional services for IIS on the “Select role services”

Add Roles and Features Wizard

Select role services

DESTINATION SERVER
WIN-RC4A51T23CU

Before You Begin
Installation Type
Server Selection
Server Roles
Features
Web Server Role (IIS)
Role Services
Confirmation
Results

Select the role services to install for Web Server (IIS)

Role services

- ☒ Web Server
 - ☒ Common HTTP Features
 - ☒ Default Document
 - ☒ Directory Browsing
 - ☒ HTTP Errors
 - ☒ Static Content
 - ☐ HTTP Redirection
 - ☐ WebDAV Publishing
 - ☒ Health and Diagnostics
 - ☒ HTTP Logging
 - ☐ Custom Logging
 - ☐ Logging Tools
 - ☐ ODBC Logging
 - ☐ Request Monitor
 - ☐ Tracing
 - ☒ Performance
 - ☒ Static Content Compression
 - ☐ Dynamic Content Compression
 - ☒ Security

Description

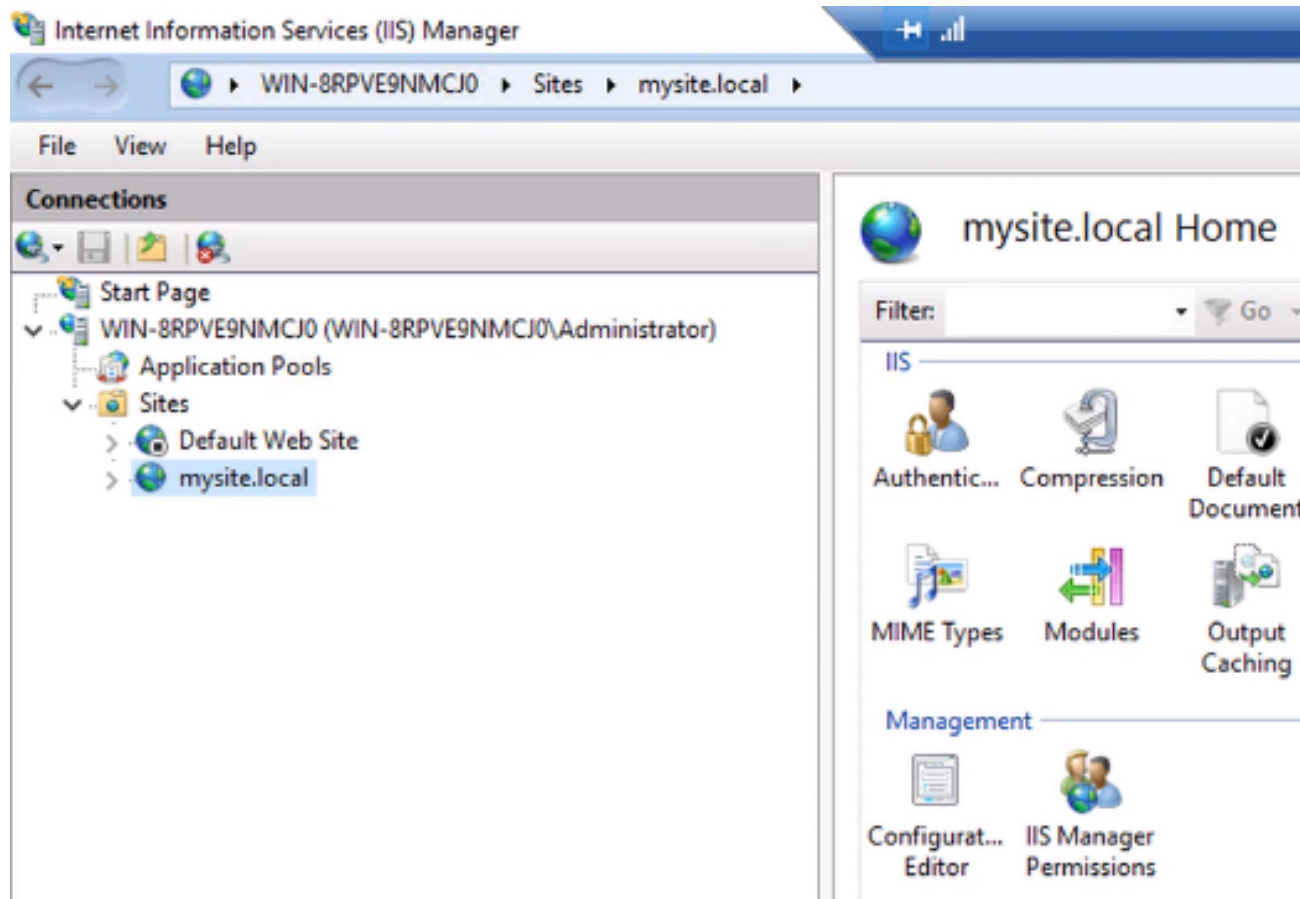
Web Server provides support for HTML Web sites and optional support for ASP.NET, ASP, and Web server extensions. You can use the Web Server to host an internal or external Web site or to provide an environment for developers to create Web-based applications.

< Previous Next > Install Cancel



Install Web Server (IIS)

Create new site on Web server





Security in IIS

Web servers are very vulnerable to security breaches. IIS has a range of features that can be activated to bolster its defences.

- Installing the necessary security patches.
- Disable any IIS features which are not necessary.
- Use of firewalls to controlling all IP addresses and domains
- Logging to see who has accessed the server and vet these visitors.
- Configure error pages so that only essential information is displayed about the error.

Q & A