



Windows Server



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Windows Server

Large organizations depend on Windows **Active Directory (AD)** to maintain order in the chaos that is managing users, computers, permissions, and file servers.

What is Active Directory?

Active Directory is a Microsoft product that operates on Windows Server. It is a database and set of services developed to help you with access, management, and permissions for your network resources. The organizational data is stored as an object in the Active Directory, and it can be in the form of devices, files, users, applications, groups, or shared folders. In addition, these objects can be categorized by their name or attribute.

The directory or database stores critical information related to your IT environment, including essential details about users, user permissions, and computers. In short, it helps you control various activities going on in your IT environment. Most importantly, AD also ensures user authentication, generally via user ID and passwords, and allows them to access data they're authorized to use.

How does Active Directory work?

In the AD, the domain is the primary unit in a logical structure. The objects named under the same directory database, trust relationships, and security policies with other domains are called Domains. Each domain will store data about objects belonging to that domain only.

Settings and security policies, for example, Access Control Lists (ACLs), admin rights, etc., do not pass from one domain to another. In short, the admin can set policies only for the domain they belong to. Domains allow admins to set boundaries for objects and handle security policies for shared network resources.

One of the primary Active Directory services is the AD DS (Active Directory Domain Services), a crucial part of the Windows Server OS. The AD DS runs on servers known as Domain Controllers (DCs). An enterprise usually has multiple DCs, and each of these controllers has a copy of the main directory for the domain. Any changes made to the directory on one DC- for example, deleting a user account or changing a password are all applied to the other DCs in a domain to keep them up-to-date.

Why is Active Directory So Important?

To simplify and understand the concept of AD better, consider Active Directory as the “Contacts” application on your mobile phone. The Contacts app itself acts as an Active Directory, while individual contacts in the app would be its “objects”. The values stored in each object, such as phone number, address, email, etc., would be your Active Directory. The only difference is that objects like in the mobile app aren’t just limited to people, but AD may also contain group objects such as printers, computers, devices, etc.

Active Directory is vital for organizations as it helps you efficiently manage company users, computers, devices, and applications. For example, IT managers can leverage Active Directory to systematically organize company data in a hierarchy structure, which states which users or computers belong to which network, or which users have access to which network resources, and so forth.

How to Setup Active Directory Domain Controller?

A domain controller contains many computers on the network and allows the system administrators to manage them from the central place. It is a server or computer used to authenticate other computers throughout the network. It stores the login credentials of all other computers and printers in the network.

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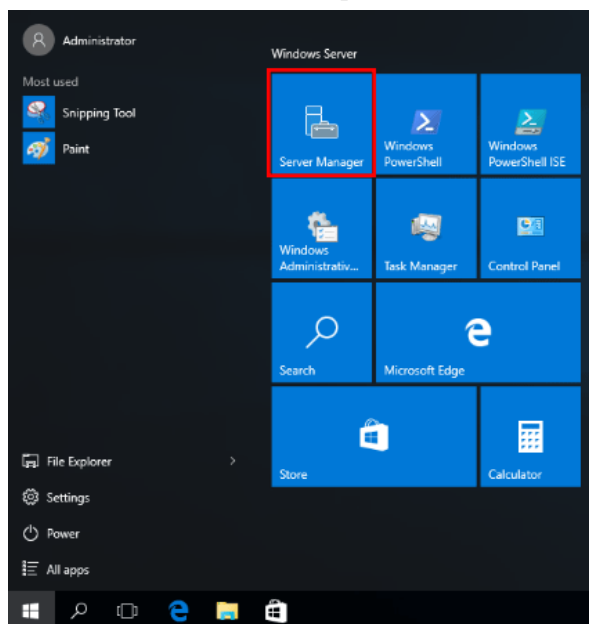
This section will show you how to install Active Directory Domain Services and set up a domain controller on Windows server 2019.

IIS-

The term “IIS” stands for Internet Information Services, which is a general-purpose webserver that runs on the Windows operating system.

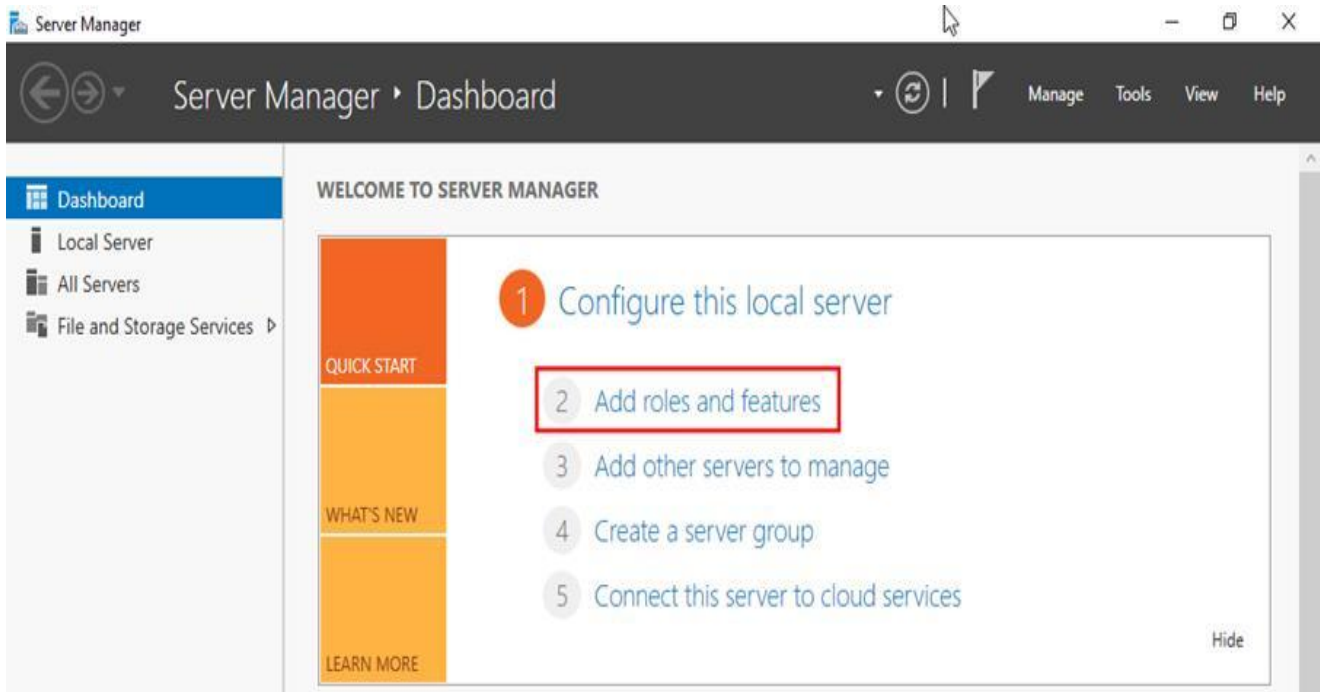
Install IIS-

1. Open Server Manager, this can be found in the start menu. If it's not there simply type “Server Manager” with the start menu open and it should be found in the search.

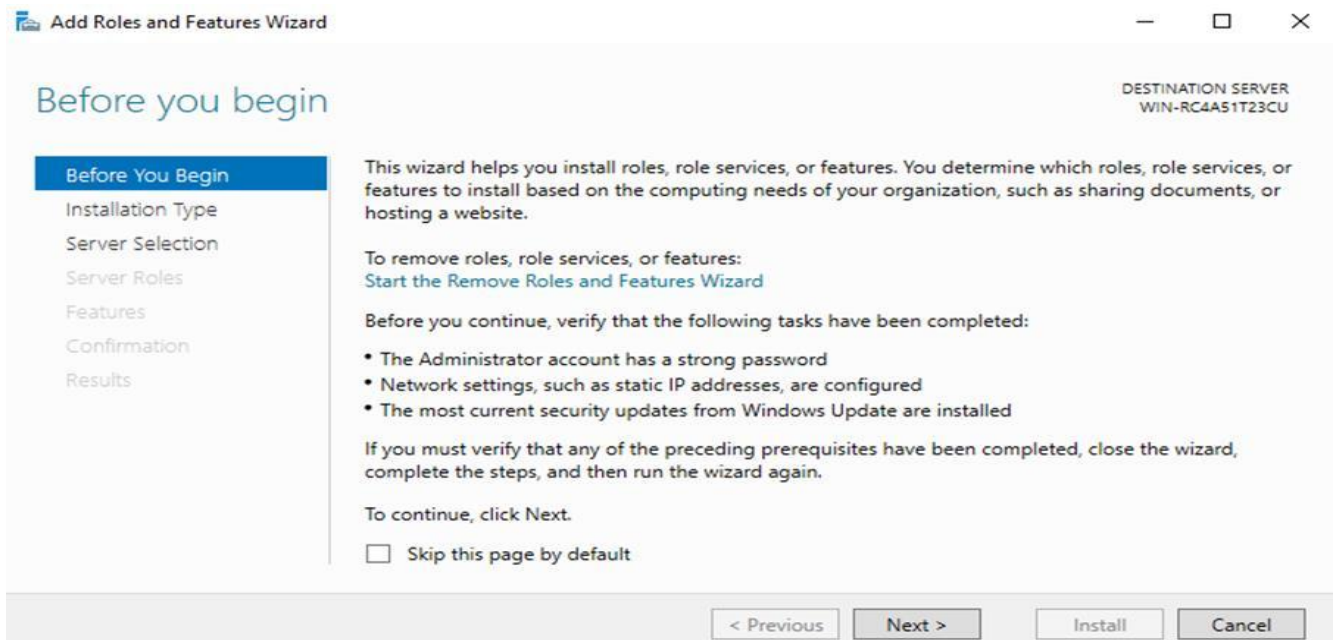


2. Click the “Add roles and features” text.

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3. On the “Before you begin” window, simply click the Next button.



4. On the “Select installation type” window, leave “Role-based or feature-based installation” selected and click Next.

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Add Roles and Features Wizard

Select installation type

DESTINATION SERVER
WIN-RC4A51T23CU

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

Select the installation type. You can install roles and features on a running physical computer or virtual machine, or on an offline virtual hard disk (VHD).

☒ **Role-based or feature-based installation**

Configure a single server by adding roles, role services, and features.

☐ **Remote Desktop Services installation**

Install required role services for Virtual Desktop Infrastructure (VDI) to create a virtual machine-based or session-based desktop deployment.

< Previous

Next >

Install

Cancel

5. As we're installing to our local machine, leave "Select a server from the server pool" with the current machine selected and click Next. Alternatively you can select another server that you are managing from here, or a VHD.

Add Roles and Features Wizard

Select destination server

DESTINATION SERVER
WIN-RC4A51T23CU

Before You Begin

Installation Type

Server Selection

Server Roles

Features

Confirmation

Results

Select a server or a virtual hard disk on which to install roles and features.

☒ **Select a server from the server pool**

☐ Select a virtual hard disk

Server Pool

Filter:

Name	IP Address	Operating System
WIN-RC4A51T23CU	192.168.1.12	Microsoft Windows Server 2016 Datacenter Technical Pr

1 Computer(s) found

This page shows servers that are running Windows Server 2012 or a newer release of Windows Server, and that have been added by using the Add Servers command in Server Manager. Offline servers and newly-added servers from which data collection is still incomplete are not shown.

< Previous

Next >

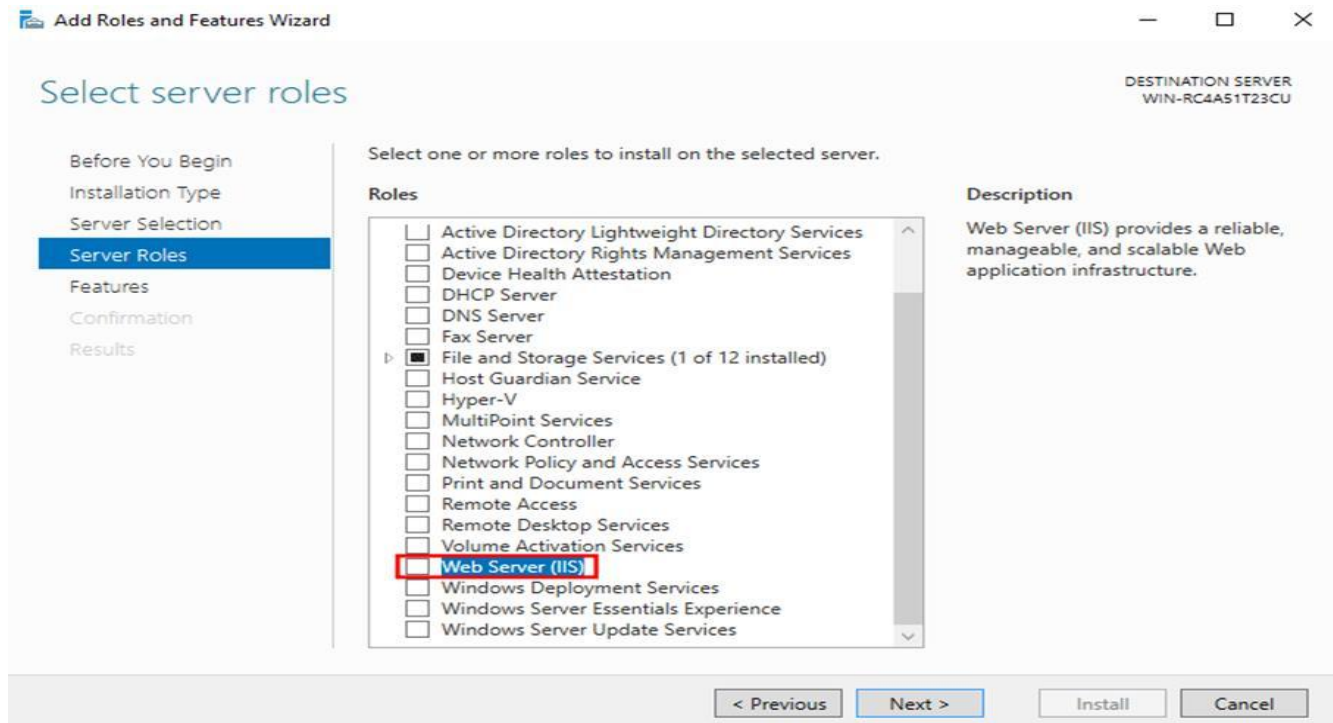
Install

Cancel

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6. From the “Select server roles” window, check the box next to “Web Server (IIS)”. Doing this may open up a new window advising that additional features are required, simply click the “Add Features” button to install these as well. Click Next back on the Select server roles menu once this is complete.



7. We will not be installing any additional features at this stage, so simply click Next on the “Select features” window.

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Add Roles and Features Wizard

Select features

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

Select one or more features to install on the selected server.

Features

- ☐ .NET Framework 3.5 Features
- ☒ .NET Framework 4.6 Features (2 of 7 installed)
- ☐ Background Intelligent Transfer Service (BITS)
- ☐ BitLocker Drive Encryption
- ☐ BitLocker Network Unlock
- ☐ BranchCache
- ☐ Canary Network Diagnostics
- ☐ Client for NFS
- ☐ Containers
- ☐ Data Center Bridging
- ☐ Direct Play
- ☐ Enhanced Storage
- ☐ Failover Clustering
- ☐ Group Policy Management
- ☐ Host Guardian Hyper-V Support
- ☐ IIS Hostable Web Core
- ☐ Internet Printing Client
- ☐ IP Address Management (IPAM) Server
- ☐ iSNS Server service

Description

.NET Framework 3.5 combines the power of the .NET Framework 2.0 APIs with new technologies for building applications that offer appealing user interfaces, protect your customers' personal identity information, enable seamless and secure communication, and provide the ability to model a range of business processes.

< Previous

Next >

Install

Cancel

8. Click Next on the “Web Server Role (IIS)” window after reading the information provided.

Add Roles and Features Wizard

Web Server Role (IIS)

DESTINATION SERVER
WIN-RC4A51T23CU

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

Web servers are computers that let you share information over the Internet, or through intranets and extranets. The Web Server role includes Internet Information Services (IIS) 10.0 with enhanced security, diagnostic and administration, a unified Web platform that integrates IIS 10.0, ASP.NET, and Windows Communication Foundation.

- The default installation for the Web Server (IIS) role includes the installation of role services that enable you to serve static content, make minor customizations (such as default documents and HTTP errors), monitor and log server activity, and configure static content compression.

[More information about Web Server IIS](#)

< Previous

Next >

Install

Cancel

9. At this point on the “Select role services” window you can install additional services for IIS if required. You don’t have to worry about this now as you can always come back and add more later, so just click Next for now to install the defaults.

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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

10. Finally on the “Confirm installation selections” window , review the items that are to be installed and click Install when you’re ready to proceed with installing the IIS web server.

Add Roles and Features Wizard

Confirm installation selections

DESTINATION SERVER
WIN-RC4A51T23CU

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

To install the following roles, role services, or features on selected server, click Install.

☐ Restart the destination server automatically if required

Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.

- Web Server (IIS)
 - Management Tools
 - IIS Management Console
 - Web Server
 - Common HTTP Features
 - Default Document
 - Directory Browsing
 - HTTP Errors
 - Static Content
 - Health and Diagnostics

Export configuration settings
Specify an alternate source path

< Previous

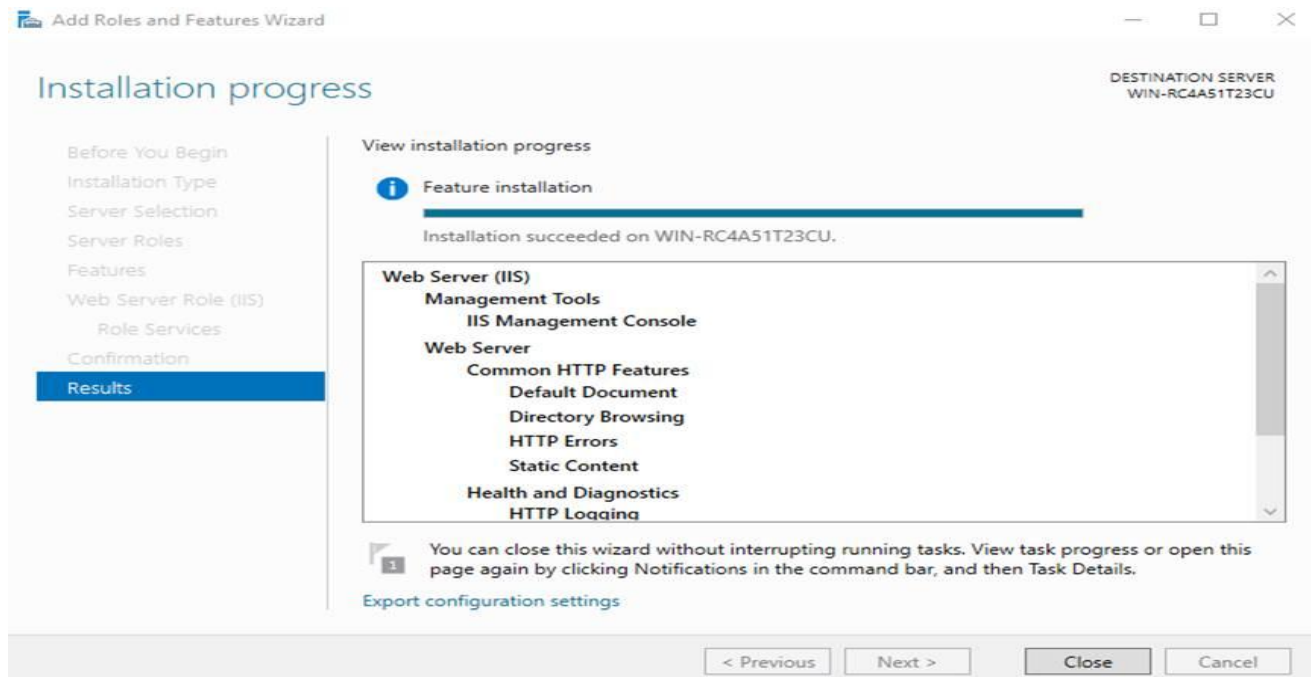
Next >

Install

Cancel

11. Once the installation has succeeded, click the close button. At this point IIS should be running on port 80 by default with the firewall rule “World Wide Web Services (HTTP Traffic-In)” enabled in Windows firewall automatically.

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12. We can perform a simple test by opening up a web browser and browsing to the server that we have installed IIS on. You should see the default IIS page.

