Microsoft

WorkshopPLUS: SharePoint Server Administration

Deployment Requirements
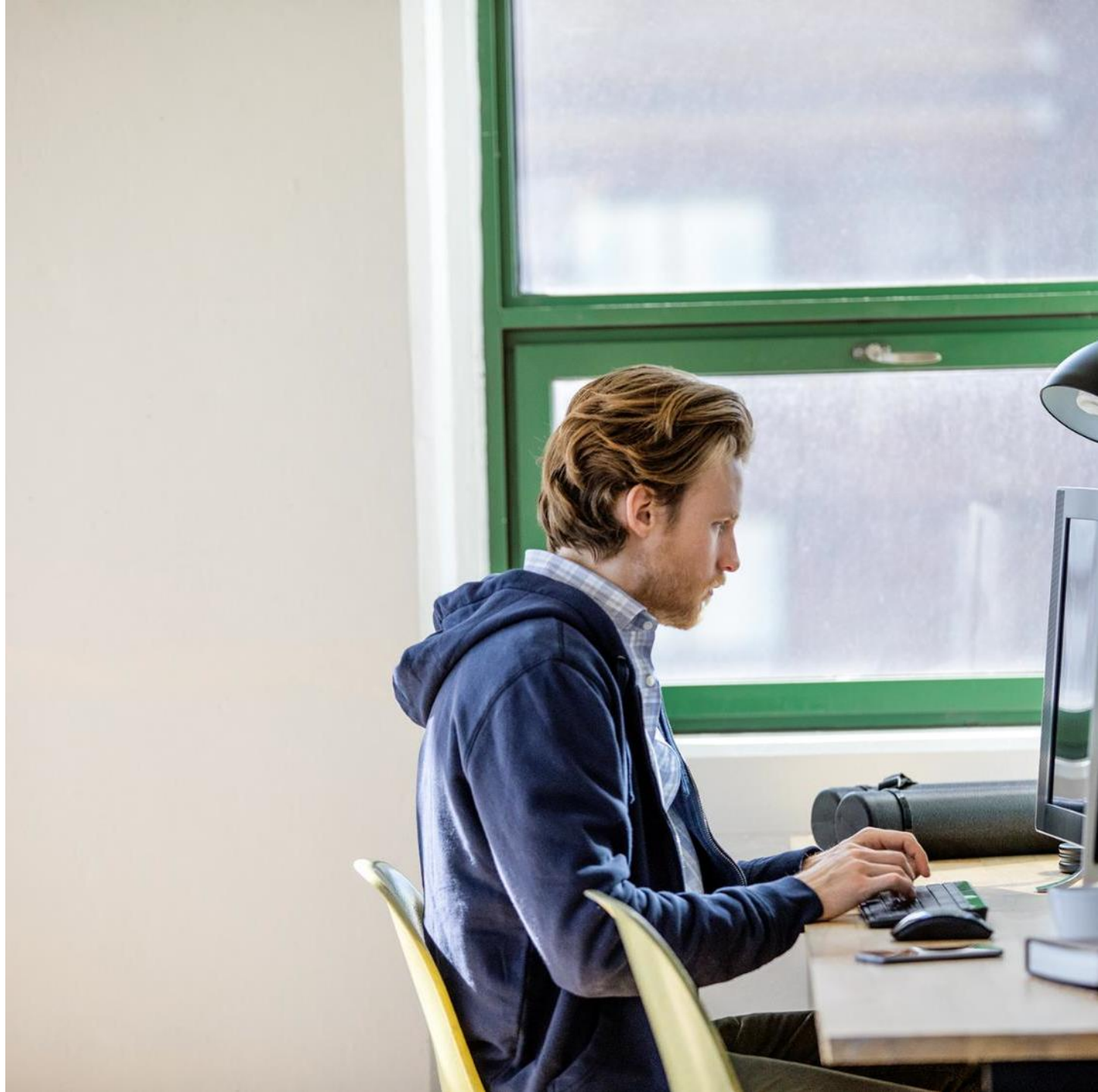
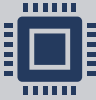# Topics - Chapter 1

Hardware Requirements

🖳	Location of physical servers	Within the same Data Center Across multiple Data Centers (Stretched Farm)
▣	CPU	4 core 64-bit
◼	Memory	**Single Server role with SQL : 24 GB** Web Server or Application Server in a three-tier farm: 16 GB
💾	Hard disk space	80 GB System drive 80-100 GB for Secondary drives

Minimum Server Software Requirements (SharePoint 2019)

SharePoint 2019	
SQL Server	SQL Server 2016, 2017 or 2019 (Standard or Enterprise) [123] or Microsoft Azure SQL Managed Instance
Windows Server	Windows Server 2016, 2019 or 2022 (Standard or Datacenter / Desktop Experience only) [3]
Prerequisites [4]	Microsoft .NET Framework version 3.5 Microsoft .NET Framework version 4.7.2 Microsoft SQL Server 2012 Service Pack 4 Native Client Microsoft WCF Data Services 5.6 Microsoft Identity Extensions Microsoft Information Protection and Control Client 2.1 Microsoft Sync Framework Runtime v1.0 SP1 (x64) Windows Server AppFabric 1.1 Cumulative Update Package 7 for Microsoft AppFabric 1.1 for Windows Server (KB 3092423) Visual C++ Redistributable Package for Visual Studio 2012 Visual C++ Redistributable Package for Visual Studio 2017

1 SQL Server Express is not supported

2 Any SQL version that supports database compatibility level 130

3 64-bit only

4 The Preparation tool will setup prerequisites. Creates log files: %TEMP%\prerequisiteinstaller.<date>.<time>.log

Minimum Server Software Requirements (SharePoint SE)

	SharePoint SE
SQL Server	SQL Server 2019 CU5 (Standard or Enterprise) [1][2][3] or Microsoft Azure SQL Managed Instance
Windows Server	Windows Server 2019 or 2022 (Standard or Datacenter / Desktop Experience or Core) [3]
Prerequisites [4]	Microsoft .Net Framework version 4.8 Visual C++ Redistributable Package for Visual Studio 2015-2019

1 SQL Server Express is not supported

2 Any SQL version that supports database compatibility level 150

3 64-bit only

4 The Preparation tool will setup prerequisites. Creates log files: %TEMP%\prerequisiteinstaller.<date>.<time>.log

Software Requirements

SharePoint Server supports drives that are formatted with the Resilient File System (ReFS).

SharePoint Server does not support single label domain names:

- Fabrikam

- Contoso

When using SharePoint 2016 and Windows Server 2012 R2

Install "Windows Server 2012 R2 update: April 2014 (KB2919355)" before running Prerequisites Installer

Minimum Client Software Requirements

Supported Desktop Browsers:

- Microsoft Edge
- Internet Explorer 11
- Google Chrome (latest version)
- Mozilla Firefox (latest version)
- Apple Safari (latest version)

Support Mobile Browsers

- Microsoft Edge on iOS or Android.
- Latest version of Chrome on Android 4.4 or later
- Latest versions of Safari and Chrome on iOS 10 or later (SP2019)

Topics - Chapter 2

Deployment Scenarios

Unsupported configurations

Workgroup

Client OS

Dynamic Memory

Windows Web Server

Developer installation only

Domain Controller

No longer available

SharePoint Foundation

Deployment Scenarios - MinRoles

Single Server Farm   Standalone Farm: All roles within the same server

Custom Server Role   For dedicated Service Apps (i.e. PerformancePoint)

No automatic provisioning or warnings

Admin will have full control on what to run on custom role

MinRole   New farm deployment scenario (more later)

Build dynamic redundancy with servers with specific roles.

Services on servers handled by the farm automatically

Topics - Chapter 3

What is MinRole?

Existing guidance for SharePoint 2013. In code since SharePoint 2016:

· SharePoint Farm Administrators can define each server's role in a farm topology

· Pre-configured mapping between SharePoint services and server Roles

· SharePoint automatically configures services for you

| Simple Server MinRole	Shared Server MinRole
• Front-end • Application • Distributed Cache • Search • Custom • Single-server Farm	• Front-end with Distributed Cache • Application with Search • **Note:** Requires SharePoint 2016 Feature Pack 1 or later

How to configure MinRole?

When creating or joining a farm:

- SharePoint starts the set of service instances that corresponds to the MinRole

- For additional enabled services: It starts those service instances as appropriate for the server's role

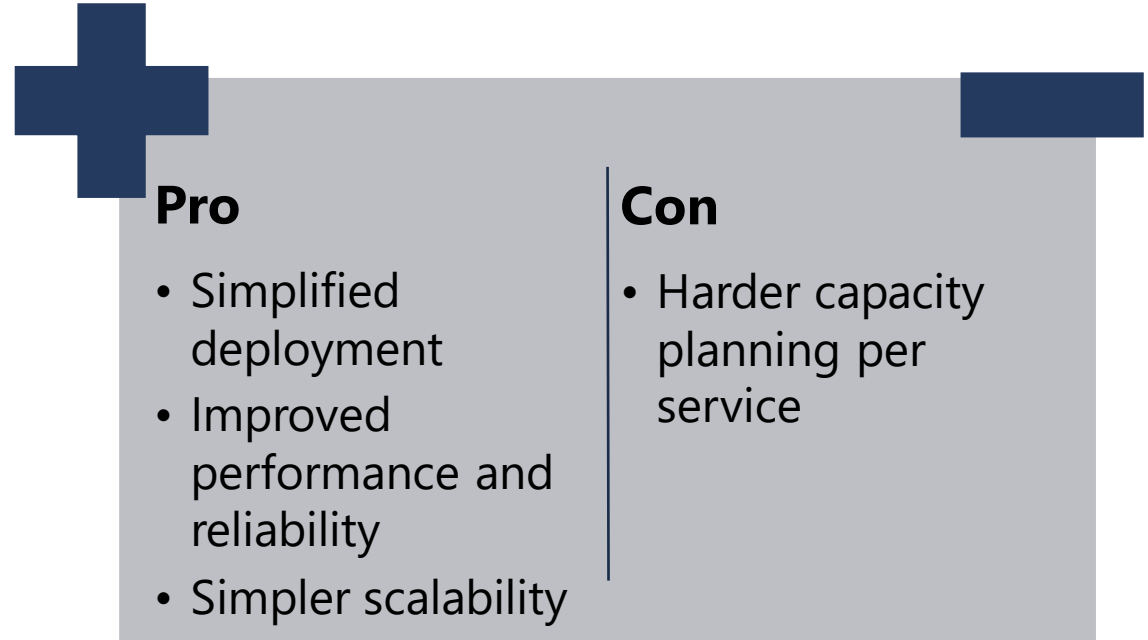- Periodically run health analyzer rules
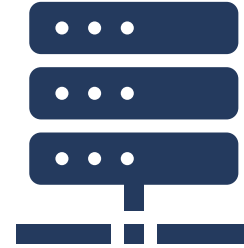
MinRole in HA mode makes zero downtime patching possible

<u>Note:</u> Distributed cache can be 2 servers (even though AppFabric works in Quorum model)

How does MinRole work?

Benefits of using MinRole feature

Pro	Con
• Simplified deployment	• Harder capacity planning per service
• Improved performance and reliability	
• Simpler scalability	

MinRole server deployment

Minimum	High availability
4 servers with pure MinRole	8 servers with pure MinRole
2 servers with shared MinRole	4 with shared MinRole
Plus SQL Server (Mirror, Cluster or AlwaysOn)	

Recommended MinRole Topologies

Pure MinRole deployment

Server role	Required for Content Farm ?	Required for Shared Services Farm ?	Required for Search Farm ?
Front-end web	Yes	No	No
Application	Yes	Yes	No
Distributed cache	Yes	Yes	No
Search	Yes, if hosting Search	Yes, if hosting Search	Yes

Shared MinRole deployment

Server role	Required for Content Farm?	Required for Shared Services Farm?
Front-end with Distributed Cache	Yes	Yes
Application with Search	Yes	Yes

MinRole Deployment Methods

New parameters for PSConfig.exe and Windows PowerShell

- **WebFrontEnd**
- **Application**
- **DistributedCache**
- **Search**
- **Custom**
- **SingleServerFarm**

LocalServerRole

- **You don't have to specify a role**
- **Server defaults to the Custom role**

ServerRoleOptional

MinRole examples

PowerShell

```
PS C:\> New-SPConfigurationDatabase –DatabaseName [Configuration Database
Name] –DatabaseServer [Database Server] –AdministrationContentDatabaseName
[Central Administration Content Database Name] –Passphrase (ConvertTo-
SecureString [Passphrase] –AsPlaintext –Force) –FarmCredentials (Get-
Credential) -localserverrole SingleServerFarm
```

PSConfig.exe

```
C:\> psconfig.exe -cmd configdb -create -server [Database Server Name]
-database [Configuration Database Name] –user [Farm Service Account]
-password [Farm Service Account Password] –passphrase [Passphrase]
-admincontentdatabase [Central Administration Content Database Name]
-localserverrole SingleServerFarm
```

MinRole Administration: Manage Servers in Farm

Servers in Farm

Farm Information

Configuration database version: 16.0.14326.20450

Configuration database server: DCSQLSE

Configuration database name: SP_Config

Server	SharePoint Products Installed	Role	Compliant	Services Running	Status	Remove Server
DCSQLSE		External		Microsoft SharePoint Foundation Database	No Action Required	Remove Server
SPSEBE	Microsoft SharePoint Server Subscription Edition	Application	⊘ Yes	Central Administration Microsoft SharePoint Foundation Incoming E-Mail Microsoft SharePoint Foundation Web Application Microsoft SharePoint Foundation Workflow Timer Service	No Action Required	Remove Server
SPSEWFE	Microsoft SharePoint Server Subscription Edition	Front-end	⊘ Yes	Microsoft SharePoint Foundation Web Application	No Action Required	Remove Server

MinRole Administration: Manage Services in this Farm

Services in Farm

View: Configurable ▾

Service	Auto Provision	Action	Compliant	
App Management Service	No	Manage Service Application	⊘	Yes
Business Data Connectivity Service	No	Manage Service Application	⊘	Yes
Claims to Windows Token Service	No	Enable Auto Provision	⊘	Yes
Document Conversions Launcher Service	No	Enable Auto Provision	⊘	Yes

MinRole Administration: Manage Services on Server

MinRole Administration: Health Monitoring

Health Analyzer Rule Definitions ⓘ

⊕ new item

All Rules ···

✓	Title	Schedule	Enabled	Repair Automatically
⊿ Category : **Configuration** (42)				
	Server role configuration isn't correct.	Daily	Yes	Yes
	Dedicated crawl target configuration has one or more invalid servers.	Daily	Yes	No

Topics - Chapter 4

Notable Software Changes
SharePoint Server Subscription Edition

AppFabric build in

- PowerShell cmdlets now have SP prefix

PowerShell Module

- The PowerShell snap-in has been converted into a PowerShell module

- Automatically loaded when using SharePoint cmdlets

Windows Server Core

- Core versions are now also supported, reducing attach surface

Knowledge Check

What is a MinRole?

- Existing guidance for SharePoint 2013, since SharePoint 2016 in code
- SharePoint farm administrators can define each server's role in a farm topology
- Pre-configured mapping between SharePoint services and server Roles
- SharePoint automatically configures services for you

Name some notable software changes to SharePoint Server SE

- AppFabric built in
- PowerShell module
- Windows Server Core support

Questions?