

OFFICIAL MICROSOFT LEARNING PRODUCT

# 20339-2A

## Advanced Technologies of SharePoint 2016

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# Module 1

## Introduction to SharePoint 2016

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## Lesson 1

# Core components of the SharePoint 2016 architecture

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## Resources

### SharePoint 2016 physical architecture and topologies



**Additional Reading:** For more information about hardware and software requirements, refer to Hardware and software requirements for SharePoint Server 2016 Release Candidate: <http://aka.ms/G976yx>

## Lesson 2

# **New, deprecated and removed features in SharePoint 2016**

### **Contents:**

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## Resources

### Deprecated or removed features in SharePoint 2016



**Additional Reading:** For a full list of features that have been deprecated in SharePoint 2016, refer to What's deprecated or removed from SharePoint Server 2016 Release Candidate: <http://aka.ms/Qcod72>

## Lesson 3

# SharePoint 2016 and SharePoint Online editions

### Contents:

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## Resources

### SharePoint On-Premises editions

 **Additional Reading:** For a comparison list of the features included in SharePoint 2013 on-premises solutions, refer to the section, SharePoint feature availability across on-premises solutions of the SharePoint Online Service Description page: <http://aka.ms/Mfu9v9>.

### Overview of SharePoint Online

 **Additional Reading:** To review a complete list of SharePoint Online features per edition, refer to the section, SharePoint feature availability across on-premises solutions of the SharePoint Online Service Description page: <http://aka.ms/cyxwjh>

## Module Review and Takeaways

### Review Questions

**Question:** Which of the following service applications is no longer available with SharePoint Server 2016 Enterprise edition?

- Search
- SharePoint 2010 Workflows
- Translation Service
- Work Management Service
- App Management Service

**Answer:**

- Search
- SharePoint 2010 Workflows
- Translation Service
- Work Management Service
- App Management Service

**Feedback:**

Work Management Service is no longer available as a SharePoint service application.

**Question:** User Profile Synchronization service (FIM) is used for synchronizing user profiles from Active Directory into SharePoint 2016

- True
- False

**Answer:**

- True
- False

**Feedback:**

User Profile Synchronization service (FIM) has been removed from SharePoint 2016. User Profile synchronization need to be accomplished using an external identity manager such as Microsoft Identity Manager (MIM) 2016.

# Module 2

## Introduction to hybrid scenarios for SharePoint 2016

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## Lesson 1

# Exploring the hybrid features in SharePoint 2016

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## Resources

### Overview of SharePoint Online

 **Additional Reading:** To review a complete list of SharePoint Online features per edition, refer to the section SharePoint feature availability across on-premises solutions of SharePoint Online Service Description: <http://aka.ms/q1eqpd>

## Lesson 2

# Preparing for a hybrid SharePoint 2016 deployment

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## Question and Answers

**Question:** What type of authentication token does SharePoint Online use?

- OAuth
- Extensible Application Markup Language (XAML)
- Windows
- SAML
- Train

**Answer:**

- OAuth
- Extensible Application Markup Language (XAML)
- Windows
- SAML
- Train

**Question:** The SharePoint Cloud Search Service Application uses a single index stored in Office 365, and it is copied to your SharePoint on-premises environment.

- True
- False

**Answer:**

- True
- False

**Feedback:**

There is only one index created for the Cloud Search Service Application, and only SharePoint Online stores the index.

## Resources

### Overview of hybrid search

 **Additional Reading:** Download the Windows PowerShell scripts to configure cloud hybrid search for SharePoint from: <http://aka.ms/Tsjw6j>

### Configuring directory synchronization

 **Additional Reading:** To download Microsoft Azure Active Directory Connect, go to: <http://aka.ms/bax6z3>

## Module Review and Takeaways

### Review Questions

**Question:** Federated search topologies use a single search index for hybrid search.

- True
- False

**Answer:**

- True
- False

**Feedback:**

Federated search topologies use one index in Office 365 and one index per SharePoint farm.

**Question:** Which options become available after installing the hybrid sites feature by using the SharePoint Hybrid picker?

- Hybrid OneDrive for Business
- Hybrid sites
- Hybrid profiles
- Extensible app launcher
- All of the above

**Answer:**

- Hybrid OneDrive for Business
- Hybrid sites
- Hybrid profiles
- Extensible app launcher
- All of the above

# Lab Review Questions and Answers

## Lab B: Creating hybrid team sites

### Question and Answers

**Question:** What do you need to configure on the SharePoint 2016 farm before installing the hybrid picker?

**Answer:** You need to:

- Provision User Profile service application:
  - Provides full control to the service application
  - Enable AD DS synchronization connection with imported profiles
- Provision the App Management service application
- Provision the SharePoint Foundation Subscription Settings Service
- Configure My Site

**Feedback:** You do not need to configure My Site for installing Hybrid Picker, but the app launcher will not appear until you have configured My Site.

**Question:** Your SharePoint 2016 environment can take advantage of Microsoft Office Delve without SharePoint hybrid.

True

False

**Answer:**

True

False

**Feedback:**

Delve requires that you enable hybrid cloud search before Delve consumes on-premises content. Delve only shows Office 365 content until you provision hybrid search.

# Module 3

## Designing business continuity management strategies

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## Lesson 1

# Designing database topologies for high availability and disaster recovery

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## Question and Answers

**Question:** What is required to configure SQL Server AlwaysOn for Microsoft SharePoint 2016? Choose Two:

- SQL Server 2014 Enterprise edition.
- Each computer in the node should be in a WSFC cluster.
- You should use the Integrated Install with Add node.
- You should configure a SQL Server cluster.
- You should specify an installation path to a file share that is not the default.

**Answer:**

- SQL Server 2014 Enterprise edition.
- Each computer in the node should be in a WSFC cluster.
- You should use the Integrated Install with Add node.
- You should configure a SQL Server cluster.
- You should specify an installation path to a file share that is not the default.

## Discussion: High-availability planning

**Question:** Your organization used database mirroring in SQL Server 2008 and you plan on upgrading to SQL Server 2014. Which statements are correct?

- Database mirroring has been deprecated in SQL Server 2012 and will not work in SQL Server 2014. You must switch to AlwaysOn Availability Groups.
- You might continue to use database mirroring in SQL Server 2014 but can switch to AlwaysOn Availability Groups if you like.
- You must rebuild SQL Server, because AlwaysOn Availability Groups require WSFC.
- SQL Server clustering has replaced database mirroring.

**Answer:**

- Database mirroring has been deprecated in SQL Server 2012 and will not work in SQL Server 2014. You must switch to AlwaysOn Availability Groups.
- You might continue to use database mirroring in SQL Server 2014 but can switch to AlwaysOn Availability Groups if you like.
- You must rebuild SQL Server, because AlwaysOn Availability Groups require WSFC.
- SQL Server clustering has replaced database mirroring.

## Resources

### Designing for high availability

 **Additional Reading:** For more information about high availability and downtime, refer to High availability and disaster recovery concepts in SharePoint: <http://aka.ms/L5t7fy>

## Using AlwaysOn Availability Groups for high availability



**Additional Reading:** For more information, refer to Overview of AlwaysOn Availability Groups (SQL Server): <http://aka.ms/Vfcfns>

## Using log shipping for high availability



**Additional Reading:** For more information about log shipping, refer to Log Shipping Overview: <http://aka.ms/Kgewao>

## High-availability support for SharePoint databases



**Additional Reading:** For more information about database high-availability support, refer to Supported high availability and disaster recovery options for SharePoint databases: <http://aka.ms/Wblxct>

## Lesson 2

# Designing a SharePoint infrastructure for high availability

### Contents:

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## Question and Answers

**Question:** A SQL alias is beneficial for several reasons. Some of the reasons mentioned in this lesson include:

- ( ) You can use an alternate server to which you need to restore the SharePoint database.
- ( ) You can use SQL log shipping.
- ( ) You can move the databases to a faster server.
- ( ) You can provide additional security because you are not using the name of the actual server.

**Answer:**

- (v) You can use an alternate server to which you need to restore the SharePoint database.
- (v) You can use SQL log shipping.
- (v) You can move the databases to a faster server.
- ( ) You can provide additional security because you are not using the name of the actual server.

## Resources

### Implementing Network Load Balancing



**Additional Reading:** For more information about Windows Network Load Balancing, refer to Network Load Balancing Overview: <http://aka.ms/Ni9u7e>

### What is request management?



**Additional Reading:** For more information about configuring Request Management, refer to Request Management in SharePoint, Part Two: Example Scenario and Configuration Step by Step: <http://aka.ms/Rgwlpq>

## Lesson 3

# Planning for disaster recovery

### Contents:

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## Resources

### Planning SharePoint backups



**Additional Reading:**

For more information about documenting your farm environment, refer to Document farm configuration settings in SharePoint: <http://aka.ms/qhn2s0>

### Protecting a farm with backups



**Additional Reading:** For more information, refer to Overview of backup and recovery in SharePoint: <http://aka.ms/Lht81e>

### Backing up individual components of a SharePoint farm



**Additional Reading:** For more information about backing up different farm components, refer to Plan for backup and recovery in SharePoint: <http://aka.ms/Dsnvn6>  
For more information about backing up service applications, refer to Back up service applications in SharePoint: <http://aka.ms/Dp741t>  
For more information about configuration-only backups, refer to Back up farm configurations in SharePoint: <http://aka.ms/t57oi8>

### Configure permissions for backup and restore



**Additional Reading:** For more information about permissions required for backup or restore, refer to Configure backup and restore permissions in SharePoint: <http://aka.ms/Djbi2m>

### Restoring content to SharePoint



**Additional Reading:** For more information about recovering content databases, see Restore content databases in SharePoint: <http://aka.ms/Sc20g9>  
For more information about recovering content from unattached databases, refer to Restore content from unattached content databases in SharePoint: <http://aka.ms/M3q49w>  
For more information about recovering content from a read-only database, refer to Attach and restore a read-only content database in SharePoint: <http://aka.ms/Tb8v6i>

### Restoring farm components



**Additional Reading:** For more information about restoring service applications, refer to Restore service applications in SharePoint: <http://aka.ms/E7z2l4>  
For more information about restoring web applications, refer to Restore web applications in SharePoint: <http://aka.ms/v6wvdg>  
For more information about restoring only the farm configuration, refer to Restore farm configurations in SharePoint: <http://aka.ms/C8qsxf>

## Module Review and Takeaways

### Review Questions

**Question:** Which database recovery feature do AlwaysOn Availability Groups replace in SQL Server 2012 and later?

- Failover clustering
- Database mirroring
- Log shipping
- Network Load Balancing
- Request Management

**Answer:**

- Failover clustering
- Database mirroring
- Log shipping
- Network Load Balancing
- Request Management

**Feedback:**

AlwaysOn Availability Groups replace database mirroring in SQL Server 2012 and later.

**Question:** Which of the following statements about performing backups from Central Administration is true?

- You cannot schedule backups from Central Administration.
- You cannot back up site collections from Central Administration.
- You cannot back up individual farm components from Central Administration.
- You cannot perform differential backups from Central Administration.
- You cannot back up content databases from Central Administration.

**Answer:**

- You cannot schedule backups from Central Administration.
- You cannot back up site collections from Central Administration.
- You cannot back up individual farm components from Central Administration.
- You cannot perform differential backups from Central Administration.
- You cannot back up content databases from Central Administration.

**Feedback:**

The correct answer is that you cannot schedule backups from Central Administration.

**Question:** True or false: Request Manager service always requires additional servers.

- True
- False

**Answer:**

( ) True

(√) False

**Feedback:**

Request Manager service does not always require additional servers. You can configure it on a single web server and configure it to incorporate additional servers as the farm grows.

## Real-world Issues and Scenarios

Many organizations spend a great deal of time creating systems that are highly available and that have disaster recovery. A common issue in many organizations is that they fail to test their systems for the high-availability and disaster-recovery strategies and only discover that there is an issue after a loss of data. You should have scheduled window periods to test your high-availability and disaster-recovery solutions.

# Module 4

## Planning and implementing Business Connectivity Services and Secure Store Service

### Contents:

Lesson 1: Planning and configuring BCS	2
Lesson 2: Configuring the Secure Store Service	4
Lesson 3: Managing BDC models	6
Module Review and Takeaways	8

## Lesson 1

# Planning and configuring BCS

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## Resources

### What is BCS?



**Reference Links:** For more information about BCS capabilities in SharePoint 2013, refer to Overview of Business Connectivity Services in SharePoint 2013: <http://aka.ms/Dlmzdx>

## Lesson 2

# Configuring the Secure Store Service

### Contents:

Question and Answers	5
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## Question and Answers

**Question:** You cannot restore your secure store database if you lose the secure store master key.

True

False

**Answer:**

True

False

**Feedback:**

If you do not know the master key for the Secure Store Service Application, use the **Update-SPSecureStoreMasterKey** cmdlet before doing a backup of the secure store database.

**Question:** The Secure Store Service can use a .cer certificate for authentication.

True

False

**Answer:**

True

False

**Feedback:**

The Secure Store Service requires a certificate that has a password associated with it, such as a .pfx certificate.

## Resources

### Creating secure store target applications



**Reference Links:** For more information about configuring target applications and the Secure Store Service, refer to Configure the Secure Store Service in SharePoint 2016:

<http://aka.ms/rkkoq0>

## Lesson 3

# Managing BDC models

### Contents:

Question and Answers

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## Question and Answers

**Question:** What are the two high-level authentication models that the BDC Service Application supports?

**Answer:** BDC Service Applications support trusted subsystem and impersonation/delegation.

**Feedback:** BDC Service Applications support trusted subsystem and impersonation/delegation:

- Trusted subsystem. In this model, the middle tier (typically the SharePoint web server) authenticates to the external system by using a fixed identity. This could be the identity of the application pool that runs the BDC Service Application, or it could be credentials that a group-based secure store target application supplies.
- Impersonation and delegation. In this model, the middle tier impersonates the client and uses the client identity to authenticate to the external system. Credentials that an individual-based secure store target application supplies also fall under this model.

**Question:** You must deploy BDC models to the Add-In domain.

True

False

**Answer:**

True

False

**Feedback:**

You can deploy BDC models as farm solutions or as add-ins.

## Module Review and Takeaways

### Review Questions

**Question:** Which component of BCS is responsible for receiving and responding to requests from clients?

- ( ) The connector framework
- ( ) The BDC Metadata Store
- ( ) The BDC Runtime
- ( ) The BDC service application
- ( ) The Secure Store Service application

**Answer:**

- ( ) The connector framework
- ( ) The BDC Metadata Store
- (√) The BDC Runtime
- ( ) The BDC service application
- ( ) The Secure Store Service application

**Feedback:**

The BDC Runtime runs on every web server and is responsible for receiving and responding to client requests. The BDC Runtime contacts the BDC Metadata Store and the Secure Store Service as required, uses the connector framework to communicate with the external system, and returns results to the client.

**Question:** After you provision a Secure Store Service application, what is the first thing you must do before you can start using the service?

- ( ) Create an external system
- ( ) Create a target application
- ( ) Generate a secure store master key
- ( ) Import a BDC model
- ( ) Set metadata store permissions

**Answer:**

- ( ) Create an external system
- ( ) Create a target application
- (√) Generate a secure store master key
- ( ) Import a BDC model
- ( ) Set metadata store permissions

**Feedback:**

After you provision a Secure Store Service application, you must generate a secure store master key before you can use the service. The secure store master key is used to encrypt the secure store database. The service will not allow you to create target applications until you have generated a master key.

**Question:** If you want the BDC Runtime to access an external system by impersonating the current SharePoint user, you must first configure the Secure Store Service application.

True

False

**Answer:**

True

False

**Feedback:**

The BDC Runtime can authenticate to external systems either by impersonating the current SharePoint user or by using its application pool identity. You require the Secure Store Service application only if you want the BDC Runtime to present a different set of credentials to the external system.

# Module 5

## **Configuring productivity services for a SharePoint 2016 deployment**

### **Contents:**

<b>Lesson 1:</b> Understanding the SharePoint Add-in architecture	2
<b>Lesson 2:</b> Provisioning and managing apps and App Catalogs	4
<b>Lesson 3:</b> Provisioning productivity services	6
Module Review and Takeaways	8

## Lesson 1

# Understanding the SharePoint Add-in architecture

### Contents:

Question and Answers	3
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## Question and Answers

### Farm infrastructure for SharePoint Add-ins

**Question:** Which components are used in the SharePoint Add-in architecture?

- Subscription Settings service application
- Alternate Access Mappings
- The App Management Service application
- Request Management Service application

**Answer:**

- Subscription Settings service application
- Alternate Access Mappings
- The App Management Service application
- Request Management Service application

## Resources

### Overview of SharePoint Add-ins



**Additional Reading:** For more information, refer to SharePoint Add-ins:  
<http://aka.ms/Kuvy5k>

## Lesson 2

# Provisioning and managing apps and App Catalogs

### Contents:

Question and Answers	5
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## Question and Answers

**Question:** True or False: Only users with the Manage Lists permission can add SharePoint Add-ins to a site.

- True
- False

**Answer:**

- True
- False

**Question:** SharePoint 2016 allows you to upgrade SharePoint Add-ins. Which of the following actions should you perform first when upgrading an Add-in?

- Delete the old version of the Add-in.
- Create a site for the new version of the Add-in.
- Copy the content from the original add-in to the new version site.
- Mark the original Add-in as read-only.

**Answer:**

- Delete the old version of the Add-in.
- Create a site for the new version of the Add-in.
- Copy the content from the original add-in to the new version site.
- Mark the original Add-in as read-only.

**Feedback:**

For more information, see Upgrading Apps in the Deploying SharePoint Add-ins section above.

## Resources

### Configuring DNS for SharePoint Add-ins

 **Additional Reading:** For more information about configuring the farm for SharePoint Add-ins, refer to Configure an environment for apps for SharePoint: <http://aka.ms/J60k1b>

### Deploying SharePoint Add-ins

 **Additional Reading:** For more information about deploying apps, refer to Manage the App Catalog in SharePoint: <http://aka.ms/Ejo2qv>

### Overview of SharePoint app permissions

 **Additional Reading:** For more information about SharePoint app permissions, refer to App permissions in SharePoint: <http://aka.ms/Ejo2qv>

## Lesson 3

# Provisioning productivity services

### Contents:

Question and Answers	7
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## Question and Answers

**Question:** There are several data sources that are supported by Visio Services. Which of the following data sources are excluded?

- SQL Server 7.0 and newer.
- OLE DB or ODBC connections.
- External lists that are exposed through the BDC.
- SharePoint lists that are hosted in another farm.
- SharePoint 2010 libraries.

**Answer:**

- SQL Server 7.0 and newer.
- OLE DB or ODBC connections.
- External lists that are exposed through the BDC.
- SharePoint lists that are hosted in another farm.
- SharePoint 2010 libraries.

**Feedback:**

Visio Services supports lists that are hosted in the same farm.

## Resources

### Understanding Access Services

 **Additional Reading:** For more information on SQL Server settings for Access Services, refer to SharePoint 2013: Access Services: <http://aka.ms/Vypmrg>

### Understanding Visio Services

 **Additional Reading:** For more information on configuring Visio Services in SharePoint 2016, refer to Plan Visio Services deployment in SharePoint Server 2016: <http://aka.ms/uqq5h7>

## Module Review and Takeaways

### Review Questions

**Question:** You are the administrator for SharePoint 2016 at Litware Inc. You currently use intranet.litwareinc.com and extranet.litwareinc.com as web application host headers within your SharePoint farm. What would be the best app domain to use for your farm?

- Apps.litwareinc.com
- Litwareapps.litwareinc.com
- Apps.litwareinc.local
- Litwareapps.com
- Litwareinc.apps

**Answer:**

- Apps.litwareinc.com
- Litwareapps.litwareinc.com
- Apps.litwareinc.local
- Litwareapps.com
- Litwareinc.apps

**Feedback:**

You should use litwareapps.com as your app domain to ensure security separation for the app domain, and to ensure that the app domain is Internet accessible if needed.

**Question:** After creating the App Catalog, what must you configure?

- You must prevent end users from accessing the SharePoint Store.
- You must configure the app prefix.
- You must set up multi-tenancy.
- You must allow end users to access the SharePoint Store.
- You must monitor all apps.

**Answer:**

- You must prevent end users from accessing the SharePoint Store.
- You must configure the app prefix.
- You must set up multi-tenancy.
- You must allow end users to access the SharePoint Store.
- You must monitor all apps.

**Feedback:**

After setting up the App Catalog, you must configure the app prefix, even when you do not have a multi-tenancy configuration.

## **Real-world Issues and Scenarios**

If you plan to build a SharePoint Add-in that runs in a remote web application and communicates back to SharePoint by using server-side code, you will need to use OAuth. If the remote web application is in the cloud, then you would use the low-trust authorization system in which Azure ACS is the access token issuer. If it is in an on-premises environment, then you typically would use the high-trust system in which the add-in itself and a digital certificate are the access token issuers.

# Module 6

## Managing solutions in Microsoft SharePoint 2016

### Contents:

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Lesson 2: Managing sandboxed solutions	4
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## Lesson 1

# Understanding the SharePoint 2016 solution architecture

### Contents:

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## Resources

### Managing farm solutions

-  **Additional Reading:** For more information about deploying solutions, refer to Installation and Deployment of a Farm Solution in SharePoint: <http://aka.ms/Oqqcmg>
-  **Additional Reading:** For more information about upgrading solutions, refer to Upgrading a Farm Solution in SharePoint: <http://aka.ms/Xptiig>
-  **Additional Reading:** For more information about retracting solutions, refer to Uninstallation and Retraction of a Farm Solution: <http://aka.ms/lvzcn1>

## Lesson 2

# Managing sandboxed solutions

### Contents:

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## Resources

### Overview of sandboxed solutions

 **Additional Reading:** For more information about customization capabilities in SharePoint Online, refer to Developing SharePoint Online Solutions: <http://aka.ms/Lccp5o>

### Configuring the User Code Host Service

 **Additional Reading:** For more information about sandbox solutions and sandbox code execution, refer to Sandboxed Solutions: <http://aka.ms/vrz216>

## Module Review and Takeaways

### Review Questions

**Question:** Which of the following Windows PowerShell cmdlets will you use to perform the second step of deploying a farm solution?

- Add-SPSolution**
- Install-SPSolution**
- Deploy-SPSolution**
- Install-SPUserSolution**
- Add-SPUserSolution**

**Answer:**

- Add-SPSolution**
- Install-SPSolution**
- Deploy-SPSolution**
- Install-SPUserSolution**
- Add-SPUserSolution**

**Feedback:**

The first step is to add the solution by running the **Add-SPSolution** Windows PowerShell cmdlet.

The second step is to use the **Install-SPSolution** cmdlet to deploy the farm solution from the farm solution store to the SharePoint servers in the farm. You also can use Central Administration to perform the second step. The final step is to activate any required features.

**Question:** Which of the following processes runs the solution code in a sandboxed solution?

- W3wp.exe
- SPUCHostService.exe
- SPUCWorkerProcess.exe
- SPUCWorkerProcessProxy.exe
- Svchost.exe

**Answer:**

- W3wp.exe
- SPUCHostService.exe
- SPUCWorkerProcess.exe
- SPUCWorkerProcessProxy.exe
- Svchost.exe

# Module 7

## Connecting people

### Contents:

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Lesson 2: Enabling social interaction	4
Lesson 3: Building communities	6
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## Lesson 1

# Managing user profiles

### Contents:

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## Resources

### Understanding profile properties and synchronization

 **Additional Reading:** For more information, refer to Default user profile properties in SharePoint Server 2010, at: <http://aka.ms/D2ljpc>

### Configuring one-way profile import

 **Additional Reading:** For more information about using the SharePoint Active Directory Import method, refer to Configure profile synchronization by using SharePoint Active Directory Import in SharePoint Server 2013, at: <http://aka.ms/We2xr4>

### Configuring two-way profile synchronization

 **Additional Reading:** To watch a video demonstration of the tasks in this phase, refer to the Configure a profile synchronization connection in SharePoint Server 2010 (video): <http://aka.ms/u84aie>

 **Additional Reading:** To watch a video demonstration of the tasks in this phase, refer to Configure a synchronization connection to a SQL Server database in SharePoint Server 2010 (video): <http://aka.ms/ueqzg4>

 **Additional Reading:** For detailed information on all the phases and procedural steps to configure and synchronize user profiles using the SharePoint Profile Synchronization method, refer to Synchronize user and group profiles in SharePoint Server 2013, at: <http://aka.ms/Jiuskl>

### Managing profile properties and mappings

 **Additional Reading:** For a full list of the default user profile properties provided in SharePoint 2013, refer to Default user profile property mappings in SharePoint Server 2013: <http://aka.ms/Ezv705>

 **Additional Reading:** For a full list of the data type compatibilities for AD DS and .NET, refer to User profile property data types in SharePoint Server 2013: <http://aka.ms/Pjuroj>

 **Additional Reading:** For more information on planning managed metadata, refer to Plan managed metadata in SharePoint Server 2013: <http://aka.ms/Y6jy9r>

### Managing user profile policies

 **Additional Reading:** For more information on managing user profile policies, refer to Plan user profiles in SharePoint Server 2013: <http://aka.ms/Hvfs6q>

## Lesson 2

# Enabling social interaction

### Contents:

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## Resources

### The social experience in SharePoint 2016

 **Additional Reading:** For more information on social computing features in SharePoint 2013, refer to What's new in social computing in SharePoint Server 2013: <http://aka.ms/gj283g>

### Planning for My Sites

 **Additional Reading:** For more information on the planning tasks, refer to Plan for My Sites in SharePoint Server 2013: <http://aka.ms/K3k1qw>

### Configuring My Sites

 **Additional Reading:** For more information on enabling the Activity Feed Job for the User Profile service application, refer to Configure My Sites in SharePoint Server 2013: <http://aka.ms/Dh2und>

### Understanding microblogging and activity feeds

 **Additional Reading:** For more information, refer to Plan for feeds and the Distributed Cache service in SharePoint Server 2013: <http://aka.ms/Afvbi5>

## Lesson 3

# Building communities

### Contents:

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## Resources

### Understanding communities in SharePoint 2016

 **Additional Reading:** For more information about how to plan for user permissions on Community Sites, see the section Community types in the Plan for communities in SharePoint Server 2013 article: <http://aka.ms/gwo9o4>

### Planning for communities

 **Additional Reading:** For more information about planning for communities, see Plan for communities in SharePoint Server 2013: <http://aka.ms/gwo9o4>

## Module Review and Takeaways

### Review Questions

**Question:** What is the default schedule for profile synchronization jobs?

- Every 5 minutes
- Every 10 minutes
- Every 15 minutes
- Every 30 minutes

**Answer:**

- Every 5 minutes
- Every 10 minutes
- Every 15 minutes
- Every 30 minutes

**Feedback:**

The profile synchronization jobs run every five minutes.

**Question:** Which of the following can you not do with Community sites?

- You can enable auto-approval to allow users to access a community site.
- You can grant badges to members of the site, making them readily identifiable to other site users.
- You can review the reputation settings to ensure they are appropriate for the site.
- You can use tags in Community Sites.

**Answer:**

- You can enable auto-approval to allow users to access a community site.
- You can grant badges to members of the site, making them readily identifiable to other site users.
- You can review the reputation settings to ensure they are appropriate for the site.
- You can use tags in Community Sites.

**Feedback:**

Tags are no longer supported in SharePoint 2016.

**Question:** Which Community Site Web Part displays the number of members, discussions, and replies in the community?

- Community Tools
- My Membership
- Top Contributors
- What's Happening

**Answer:**

- Community Tools
- My Membership

( ) Top Contributors

(√) What's Happening

**Feedback:**

The What's Happening Web Part displays the number of members, discussions, and replies in the community.

# Module 8

## Planning and configuring web content management

### Contents:

<b>Lesson 1:</b> Planning and implementing a web content management infrastructure	2
<b>Lesson 2:</b> Configuring managed navigation and catalog sites	4
<b>Lesson 3:</b> Supporting multiple languages and locales	7
<b>Lesson 4:</b> Enabling design and customization	9
<b>Lesson 5:</b> Supporting mobile users	11
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## Lesson 1

# Planning and implementing a web content management infrastructure

### Contents:

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## Resources

### Web Content Management features in SharePoint Server 2016

 **Additional Reading:** For more information on web content management in Microsoft SharePoint 2013, refer to Overview of publishing to Internet, intranet, and extranet sites in SharePoint Server 2013: <http://aka.ms/Ew2egu>

### Planning for web content management

 **Additional Reading:** For more information on planning for web content management, refer to Plan for Internet, intranet, and extranet publishing sites in SharePoint Server 2013: <http://aka.ms/Xy9mhx>

## Lesson 2

# Configuring managed navigation and catalog sites

### Contents:

Question and Answers	5
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## Question and Answers

**Question:** If you wish to enable catalog functionality on a list or library that is not part of a catalog, which option should you perform?

- Activate the Publishing Infrastructure feature.
- Activate the Cross-Site Collection Publishing feature.
- Add a catalog template as a subsite.
- You cannot perform this action. You must use a catalog.

**Answer:**

- Activate the Publishing Infrastructure feature.
- Activate the Cross-Site Collection Publishing feature.
- Add a catalog template as a subsite.
- You cannot perform this action. You must use a catalog.

**Feedback:**

You can enable any list or library as a catalog if you have activated the Cross-Site Collection Publishing feature.

**Question:** The Managed Metadata Service application provides Cross-Site Collection Publishing of content.

- True
- False

**Answer:**

- True
- False

**Feedback:**

The Search Service Application primarily drives cross-site collection publishing of content.

## Resources

### Understanding category pages and catalog item pages

 **Additional Reading:** For more information on category pages and catalog item pages, refer to Overview of cross-site publishing in SharePoint Server 2013: <http://aka.ms/S2sgbc>

### Using Content Search Web Parts to publish content

 **Additional Reading:** For more information on configuring search and refinement Web Parts, refer to Configure Search Web Parts in SharePoint Server 2013: <http://aka.ms/Glhg9v>



**Additional Reading:** For more information on configuring refinement and faceted navigation, refer to Configure refiners and faceted navigation in SharePoint Server 2013:  
<http://aka.ms/ruqxnu>

## Lesson 3

# Supporting multiple languages and locales

### Contents:

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## Resources

### Using variations for multilingual content

 **Additional Reading:** For more information on variations and multilingual content, refer to Variations overview (SharePoint Server 2010): <http://aka.ms/Cinupa>

### Overview of the Machine Translation Service

 **Additional Reading:** For more information on configuring the Machine Translation Service, refer to Turn on automated translation of documents in SharePoint Server 2013: <http://aka.ms/W1yoft>

## Lesson 4

# Enabling design and customization

### Contents:

Question and Answers

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## Question and Answers

**Question:** Which of the following are not required for image renditions?

- ( ) You must enable the SharePoint Publishing feature on the site.
- ( ) You must configure BLOB caching for the web application. The BLOB cache is a disk-based cache that is present on web front-end servers.
- ( ) You must enable the SharePoint cross-site publishing feature.
- ( ) You must configure custom rendition sizes if necessary. Renditions are created at the site level.

**Answer:**

- ( ) You must enable the SharePoint Publishing feature on the site.
- ( ) You must configure BLOB caching for the web application. The BLOB cache is a disk-based cache that is present on web front-end servers.
- (√) You must enable the SharePoint cross-site publishing feature.
- ( ) You must configure custom rendition sizes if necessary. Renditions are created at the site level.

**Feedback:**

Image renditions require the following:

- You must enable the SharePoint Publishing feature on the site.
- You must configure BLOB caching for the web application. The BLOB cache is a disk-based cache that is present on web front-end servers.
- You must configure custom rendition sizes if necessary. Renditions are created at the site level.

## Resources

### Overview of Design Manager



**Additional Reading:** For more information on Design Manager, refer to Overview of Design Manager in SharePoint 2013: <http://aka.ms/oth1zi>

### Using image renditions



**Additional Reading:** For more information on image renditions, refer to SharePoint 2013 Design Manager image renditions: <http://aka.ms/rbs9dz>

## Lesson 5

# Supporting mobile users

### Contents:

Question and Answers	12
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## Question and Answers

**Question:** You can use the browser definition file to control which mobile device browsers, such as smartphone browsers, should automatically redirect to the contemporary or the classic mobile device views. What is the name of this file?

- Browser.text
- Browser.compat
- Browser.html
- Browser.css

**Answer:**

- Browser.text
- Browser.compat
- Browser.html
- Browser.css

**Question:** You can store up to 10 Device Channels per site in SharePoint 2016.

- True
- False

**Answer:**

- True
- False

## Resources

### New mobile device features in SharePoint 2016

 **Additional Reading:** For more information on removing push notification subscriptions, refer to Clear push notification registrations from the subscription store in SharePoint 2013: <http://aka.ms/Rwz2pk>

### Planning mobile device access

 **Additional Reading:** For more information on mobile views, refer to Plan for mobile views in SharePoint Server 2013: <http://aka.ms/Y4tk0f>

 **Additional Reading:** For more information on configuring text message alerts, refer to Configure mobile accounts in SharePoint 2013: <http://aka.ms/Ejd1ey>

### Understanding Device Channels

 **Additional Reading:** For more information on configuring Device Channels, refer to SharePoint 2013 Design Manager Device Channels: <http://aka.ms/Fdex4g>

## Module Review and Takeaways

### Review Questions

**Question:** Which of the following is a requirement to enable image renditions?

- Storing images in an image library
- Configuring BLOB caching on the web application
- Enabling anonymous access for the web application
- Configuring a Search Service Application
- Using a publishing site template

**Answer:**

- Storing images in an image library
- Configuring BLOB caching on the web application
- Enabling anonymous access for the web application
- Configuring a Search Service Application
- Using a publishing site template

**Feedback:**

BLOB caching is required on the web application to enable image renditions.

**Question:** Which of the following is not part of the SharePoint Publishing Infrastructure feature?

- Device Channels
- Approvers' permission level
- Variations
- Site columns
- Output caching

**Answer:**

- Device Channels
- Approvers' permission level
- Variations
- Site columns
- Output caching

**Feedback:**

Site columns are not part of the SharePoint Publishing Infrastructure feature, although activating this feature automatically creates some additional site columns.

**Question:** Which of the following is a requirement to configure managed navigation?

- Machine Translation Service application.
- Publishing site template
- Document Center template
- User Profile Service application

Managed Metadata Service application

**Answer:**

- Machine Translation Service application.
- Publishing site template
- Document Center template
- User Profile Service application
- Managed Metadata Service application

**Feedback:**

The Managed Metadata Service application is required to configure managed navigation.

**Question:** When configuring a site collection for multilingual variations, what must you create for each language that you will use?

- A new site
- A new site template
- A new label
- A new term
- A new term set

**Answer:**

- A new site
- A new site template
- A new label
- A new term
- A new term set

**Feedback:**

You use variation labels to help identify target variations, language names, or mobile devices.

**Question:** Which of the following is a prerequisite for configuring Device Channels?

- Device Manager
- Publishing site template
- Managed navigation
- SharePoint Server Publishing Infrastructure feature
- Content Organizer feature

**Answer:**

- Device Manager
- Publishing site template
- Managed navigation
- SharePoint Server Publishing Infrastructure feature
- Content Organizer feature

**Feedback:**

The use of Device Channels in SharePoint 2016 requires the SharePoint Server Publishing Infrastructure feature.

# Module 9

## Planning and configuring Enterprise Content Management

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## Lesson 1

# Planning Enterprise Content Management

### Contents:

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## Question and Answers

**Question:** Shredded storage is applied only to Office files, such as Word documents and PowerPoint presentations.

- True
- False

**Answer:**

- True
- False

**Feedback:**

Shredded storage is applied to all storage BLOBs, including open document format items.

**Question:** Which of the following is required for content databases larger than 5 TB?

- Using a Record Center site template
- Using a Document Center site template
- Using only automated workflows to handle the setting of item level permissions
- Using RBS

**Answer:**

- Using a Record Center site template
- Using a Document Center site template
- Using only automated workflows to handle the setting of item level permissions
- Using RBS

**Feedback:**

Item level permissions and workflows on content databases are not supported for content databases larger than 4 TB. RBS is not a requirement for managing large content databases.

## Resources

### What is shredded storage?



**Reference Links:** For more information on shredded storage, refer to Introduction to Shredded Storage in SharePoint [RTM Update]: <http://aka.ms/l65227>

## Lesson 2

# Planning and configuring eDiscovery

### Contents:

Question and Answers

5

## Question and Answers

**Question:** Is eDiscovery used at your organization, and if so, who uses it and how?

**Answer:** Note that eDiscovery is becoming more and more common within large organizations to help departments, such as Legal, Human Resources, and IT, manage legal and compliance documentation.

## Lesson 3

# Planning records management

### Contents:

Question and Answers	7
Resources	7

## Question and Answers

**Question:** For document routing to work correctly, you must manually create the Drop Off Library before enabling the content organizer site feature.

True

False

**Answer:**

True

False

**Feedback:**

The Drop Off Library is automatically created for you after the content organizer site feature is enabled.

## Resources

### Creating a file plan



**Reference Links:** For more information on creating a file plan, see Create a file plan to manage records in SharePoint Server: <http://aka.ms/dum8cc>

### Storing records in SharePoint



**Reference Links:** For more information on the differences between using a records center and using in-place records management, refer to Use a SharePoint Server records archive or manage records in place: <http://aka.ms/M6whaj>

## Module Review and Takeaways

### Review Questions

**Question:** Which of the following site templates is supported for a large-scale repository?

- eDiscovery Center
- Document Center
- Team Site
- Publishing Site
- Project Site

**Answer:**

- eDiscovery Center
- Document Center
- Team Site
- Publishing Site
- Project Site

**Feedback:**

The Document Center template is supported for a large-scale repository.

**Question:** How do you use the eDiscovery capabilities to prevent content from being deleted during an investigation?

- Create an eDiscovery query
- Create an eDiscovery set
- Send the content to a records center
- Create an In-Place Hold
- Add a user to the Discovery Management group

**Answer:**

- Create an eDiscovery query
- Create an eDiscovery set
- Send the content to a records center
- Create an In-Place Hold
- Add a user to the Discovery Management group

**Feedback:**

You can use an In-Place Hold to prevent content from being deleted during an investigation.

**Question:** Which of the following details should not exist in your file plan?

- Document type
- Retention period
- Last modification date
- Disposal method

( ) Record storage option

**Answer:**

( ) Document type

( ) Retention period

(v) Last modification date

( ) Disposal method

( ) Record storage option

**Feedback:**

The last modification date should not be one of the details recorded in your file plan.

# Module 10

## Planning and configuring business intelligence

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## Lesson 1

# Planning for BI

### Contents:

Question and Answers

3

## Question and Answers

**Question:** The SQL Server BI architecture includes all of the following except:

- Analysis Service Client Libraries
- Excel Services
- PowerPivot Web Service
- PowerPivot Gallery

**Answer:**

- Analysis Service Client Libraries
- Excel Services
- PowerPivot Web Service
- PowerPivot Gallery

**Question:** The PowerPivot Management Dashboard facilitates centralized monitoring and management of business intelligence (BI) in a Microsoft SharePoint environment.

- True
- False

**Answer:**

- True
- False

**Feedback:**

The PowerPivot Web Service exposes workbook data models. The PowerPivot Management Dashboard facilitates centralized BI monitoring.

## Lesson 2

# Planning, deploying, and managing BI services

### Contents:

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## Question and Answers

**Question:** PerformancePoint Services supports all of these authentication methods for source data access except:

- Authenticated user name as a parameter on the identity field in an Analysis Services connection string
- Per-user Identity
- Unattended User Account
- Authenticated user name as a parameter on the custom data field in an Analysis Services connection string

**Answer:**

- Authenticated user name as a parameter on the identity field in an Analysis Services connection string
- Per-user Identity
- Unattended User Account
- Authenticated user name as a parameter on the custom data field in an Analysis Services connection string

**Feedback:**

PerformancePoint Services does not support an authenticated user name as a parameter on the custom data field in an Analysis Services connection string; there is no identity field.

**Question:** It is not possible to opening Excel Online workbooks from SharePoint that are located in Central Administration.

- True
- False

**Answer:**

- True
- False

## Resources

### Deploying and managing PerformancePoint Services



**Additional Reading:** For more information on the PerformancePoint Services Windows PowerShell cmdlets, refer to PerformancePoint Services cmdlets in SharePoint Server 2013: <http://aka.ms/Dc2tqs>

### Planning Visio Graphics Services



**Additional Reading:** For more information about SharePoint authentication and how it pertains to the Visio Graphics Service, refer to Data authentication for Visio Services in SharePoint Server 2013: <http://aka.ms/Kgcvvg>

## Deploying and managing Visio Graphics Service



**Additional Reading:** For more information on completing these common Visio Graphics Service application tasks, refer to Visio Graphics Service administration in SharePoint Server 2013:  
<http://aka.ms/Tihaii>



**Additional Reading:** For more information on the syntax for these and other Visio Graphics Service cmdlets, see Visio Graphics Service cmdlets in SharePoint Server 2013:  
<http://aka.ms/B9c5rp>

## Lesson 3

# Planning and configuring advanced analysis tools

### Contents:

Question and Answers

8

## Question and Answers

**Question:** The installation of Power View requires:

- ( ) SQL Server 2012 or newer
- ( ) SQL Server 2014 or newer
- ( ) SQL Server 2016 or newer
- ( ) SQL Server 2016 Service Pack 1 (SP1) or newer

**Answer:**

- ( ) SQL Server 2012 or newer
- ( ) SQL Server 2014 or newer
- (v) SQL Server 2016 or newer
- ( ) SQL Server 2016 Service Pack 1 (SP1) or newer

**Feedback:**

The installation of Power View requires SQL Server 2016 or newer.

# Module Review and Takeaways

## Review Questions

**Question:** The Excel Online service comprises three services. Which of the following services creates, maintains, and closes user sessions to the service?

- Excel 2016
- Excel 2013
- Excel Calculation Services
- Excel Web Access
- Excel Web Services

**Answer:**

- Excel 2016
- Excel 2013
- Excel Calculation Services
- Excel Web Access
- Excel Web Services

**Feedback:**

Excel Calculation Services is responsible for loading Excel workbooks from trusted file locations, executing any workbook calculations, calling any user-defined functions, and refreshing workbook references to external data sources. It also creates, maintains, and closes user sessions to the service. You can configure it to cache open Excel workbooks, calculations, and data-query results for improved performance.

**Question:** Which of the following authentication modes maps the user credentials to the BCS application-pool account and sends those credentials to the target system?

- Credentials
- PassThrough
- RdbCredentials
- RevertToSelf
- WindowsCredentials

**Answer:**

- Credentials
- PassThrough
- RdbCredentials
- RevertToSelf
- WindowsCredentials

**Feedback:**

RevertToSelf maps the user credentials to the BCS application-pool account and sends those credentials to the target system.

## Lab Review Questions and Answers

### Lab A: Installing Office Online Server

#### Question and Answers

**Question:** Which new firewall rules are created by using the **New-OfficeWebAppsFarm** cmdlet?

**Answer:** It is important to understand which ports Excel Online needs for communications. It uses TCP ports 80,443, and outbound 809.

**Question:** In the lab, you used the Internal-HTTP zone when configuring WOPI bindings. What is an example of an internal HTTP zone and an external HTTP zone?

**Answer:** In your organization, an internal HTTP zone would look like <http://contoso-oss>. An external HTTP zone would be a fully qualified domain name (FQDN) such as <http://contoso-oos.contoso.com>

### Lab B: Configuring PowerPivot for SharePoint 2016

#### Question and Answers

**Question:** Which cmdlets did you use to install the SharePoint Reporting Service?

**Answer:** **Install-SPRSService** and **Install-SPRSServiceProxy**

**Question:** There are two ways to start the SharePoint Reporting Service. What are they?

**Answer:** You can start the service by using Central Administration or by using the Windows PowerShell **Start-SPServiceInstance** cmdlet.

# Module 11

## Planning and configuring productivity and collaboration

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## Lesson 1

# Planning and configuring collaboration features

### Contents:

Question and Answers

3

## Question and Answers

**Question:** How will you disable coauthoring in a specific document library by adjusting library settings?

**Answer:** Enable the Require Check Out option in the library settings. When Check Out is enabled, users are required to check out the document before editing and thereby lock the document from being changed by other users.

**Question:** Word Automation Services converts Word 97-2003 documents asynchronously and notifies you when the conversion is finished.

True

False

**Answer:**

True

False

**Feedback:**

Word 97-2003 documents are supported by the Word Automation Services. In addition, notifications are triggered when Word 97-2003 documents are successfully converted.

**Question:** Can SharePoint 2016 task lists be opened and imported into a Project Web App by using Project Professional 2016?

**Answer:** Yes. You can start a small project as a SharePoint 2016 task list and import it later into a Project Web App.

## Lesson 2

# Planning and configuring composites

### Contents:

Question and Answers

5

## Question and Answers

**Question:** You can use SharePoint Designer 2013 to create a workflow in SharePoint 2016.

True

False

**Answer:**

True

False

**Feedback:**

SharePoint Designer 2013 is the last version of SharePoint Designer, but it is fully supported in SharePoint 2016 to build workflows.

**Question:** Data stored in Microsoft Dynamics CRM can be used in a composite report solution by using BCS.

True

False

**Answer:**

True

False

**Feedback:**

BDC can connect to external systems such as Microsoft Dynamics CRM and display the business information stored in the systems. You can implement CRUD operations to modify the data.

## Module Review and Takeaways

### Review Questions

**Question:** Which protocol does SharePoint 2016 use to request data from Exchange Server and other server products?

- OData
- OAuth
- REST
- Kerberos
- NTLM

**Answer:**

- OData
- OAuth
- REST
- Kerberos
- NTLM

**Feedback:**

Server-to-server authentication relies on OAuth tokens, which grant access to resources on behalf of users for a specified period of time.

**Question:** Which of the following is recommended when you use coauthoring with OneNote notebooks?

- Disable coauthoring for all OneNote notebooks.
- Disable major and minor versioning on OneNote notebooks.
- Disable minor versioning on OneNote notebooks.
- Require check out on OneNote notebooks.
- Limit the number of concurrent authors to five for OneNote notebooks.

**Answer:**

- Disable coauthoring for all OneNote notebooks.
- Disable major and minor versioning on OneNote notebooks.
- Disable minor versioning on OneNote notebooks.
- Require check out on OneNote notebooks.
- Limit the number of concurrent authors to five for OneNote notebooks.

**Feedback:**

If you want to use coauthoring with OneNote notebooks, you should disable minor update versioning because this conflicts with the integral OneNote synchronization and versioning functionality.

**Question:** In SharePoint 2016, each Access app has a unique SQL Server database on the database server.

- True
- False

**Answer:**

True

False

**Feedback:**

In contrast to SharePoint 2010, in SharePoint 2016 each Access app has its own SQL Server database. SharePoint 2016 supports Access 2010 databases.

# Module 12

## Upgrading and migrating to SharePoint 2016

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## Lesson 1

# Preparing for upgrade or migration

### Contents:

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## Question and Answers

**Question:** You have a SharePoint Server 2010 Standard farm, and you want to migrate to SharePoint 2016 Enterprise. What is your migration path?

**Answer:** First, you need to migrate to SharePoint Server 2013 Standard by using a database-attach upgrade. You then can migrate to SharePoint 2016, and then migrate to SharePoint 2016 Enterprise.

**Question:** When you upgrade from SharePoint Server 2013 to SharePoint 2016 by using a database-attach upgrade, the My Site Collection also is upgraded to SharePoint 2016.

True

False

**Answer:**

True

False

**Feedback:**

In SharePoint Server 2013, you can leave site collections in the SharePoint Server 2010 mode. However, in SharePoint 2016, a database-attach upgrade requires the upgrade of site collections.

## Resources

### Preparing for the SharePoint 2016 environment



**Additional Reading:** For more information about exporting the key, refer to Back up User Profile service applications in SharePoint: <http://aka.ms/khif01>

## Lesson 2

# Upgrade to SharePoint 2016

### Contents:

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## Question and Answers

**Question:** The **Upgrade Status** page in Central Administration lists the SharePoint content-database upgrades.

True

False

**Answer:**

True

False

**Feedback:**

The **Upgrade Status** page in Central Administration displays the content database upgrades, and it also lists the status of service-application database upgrades.

## Resources

### Troubleshooting upgrade issues



**Additional Reading:** For more information about common upgrade questions and issues, refer to Troubleshoot database upgrade issues in SharePoint: <http://aka.ms/ktph0j>

### Real-world Issues and Scenarios

Consider a scenario in which you have several customizations in your SharePoint 2013 farm, including farm solutions, Client-Side Rendering (CSR) with JavaScript, and user-code solutions. You started planning your migration, and you selected some content databases on which to test your migration path. In this scenario, you must ensure that you include all of the customizations during the migration test phase, because customizations might deploy throughout your SharePoint 2013 farm. If you do not test all of them, your migration might fail.

## Lesson 3

# Planning and managing a site-collection upgrade

### Contents:

Question and Answers

7

## Question and Answers

**Question:** Farm administrators can upgrade site collections after a database upgrade completes.

True

False

**Answer:**

True

False

**Feedback:**

By default, site collections are upgraded during the database upgrade. However, you can prevent the site collections from upgrading.

**Question:** Can site collection administrators run site-collection health checks after a site collection is upgraded?

**Answer:** Yes. Site-collection health checks are used for upgrade scenarios and also to check site collections for errors or warnings at any time.

## Module Review and Takeaways

### Review Questions

**Question:** Which of the following is not a supported upgrade path?

- SharePoint Server 2013, Standard edition to SharePoint 2016, Standard edition
- SharePoint Server 2013, Enterprise edition to SharePoint 2016, Standard edition
- SharePoint Foundation 2013 to SharePoint 2016, Standard edition
- Project Server 2013 with SharePoint Server 2013, Enterprise edition to SharePoint 2016, Enterprise edition with the Project Server Service application
- SharePoint Server 2013, Trial edition to SharePoint 2016, Trial edition

**Answer:**

- SharePoint Server 2013, Standard edition to SharePoint 2016, Standard edition
- SharePoint Server 2013, Enterprise edition to SharePoint 2016, Standard edition
- SharePoint Foundation 2013 to SharePoint 2016, Standard edition
- Project Server 2013 with SharePoint Server 2013, Enterprise edition to SharePoint 2016, Enterprise edition with the Project Server Service application
- SharePoint Server 2013, Trial edition to SharePoint 2016, Trial edition

**Feedback:**

You cannot upgrade from SharePoint Server 2013, Enterprise edition to SharePoint 2016, Standard edition. You can upgrade only to SharePoint 2016 Enterprise edition.

**Question:** Which of the following Windows PowerShell cmdlets should you run to review the customizations in a SharePoint Server 2013 content database?

- Get-SPContentDatabase**
- Mount-SPContentDatabase**
- Repair-SPSite**
- Test-SPContentDatabase**
- Upgrade-SPContentDatabase**

**Answer:**

- Get-SPContentDatabase**
- Mount-SPContentDatabase**
- Repair-SPSite**
- Test-SPContentDatabase**
- Upgrade-SPContentDatabase**

**Feedback:**

You can verify that you have the required custom components for a content database by running the **Test-SPContentDatabase** Windows PowerShell cmdlet.

**Question:** What are the key advantages of using claims-mode authentication over classic-mode authentication?

**Answer:** The key advantages are:

- Overcome the double hop issue in NTLM.
- Use external apps and establish a trust relationship with Exchange Server 2016, Office Online Server 2016, and other platforms.