Competency 1: Sitecore structure & platform - 12 %

Competency 1: Sitecore structure & platform —

A Sitecore .NET Developer must be able to describe the basic structure of the Sitecore Experience Platform (XP) product, define specific Sitecore terminology when used in context of Sitecore XP, and prepare their workspace for development tasks.

To meet this competency, you need to be able to do the following:

- Define Sitecore-specific terminology in a Developer context. Terms include Content Editor, Experience Editor, component, rendering, placeholder, template, layout, item, and serialization.

- Differentiate between Sitecore MVC and Sitecore Headless Development methods, tools, and processes at a high level.

- Identify the different deployment options for a Sitecore Experience Platform environment (e.g., on-premise, containers, Managed Cloud).

- Install Sitecore Experience Platform on a development workstation without the use of containers.

- Create a .NET solution with the appropriate projects for your development method.

- Execute development tasks assigned from a development plan for a Sitecore environment.

Prior to taking the Sitecore 10 .NET Developer Certification Exam, there are three

study recommendations you should consider:

1. Complete Learning@Sitecore's Developer's Fundamentals 9.3 Collection.
2. Complete Developer eLearning for Sitecore 10. You can find this training in the Developer's Fundamentals 10 Collection in All Access Product Solution or in Development with Sitecore 10 in the Pro Subscription tier.
3. Complete Learning@Sitecore's Sitecore Experience Solution Developer 9.1 Instructor-Led Training.

Sitecore xp consists of xm,xconnect and xDB

Sitecore Experience Platform		
xManagement	xConnect	xDB

`
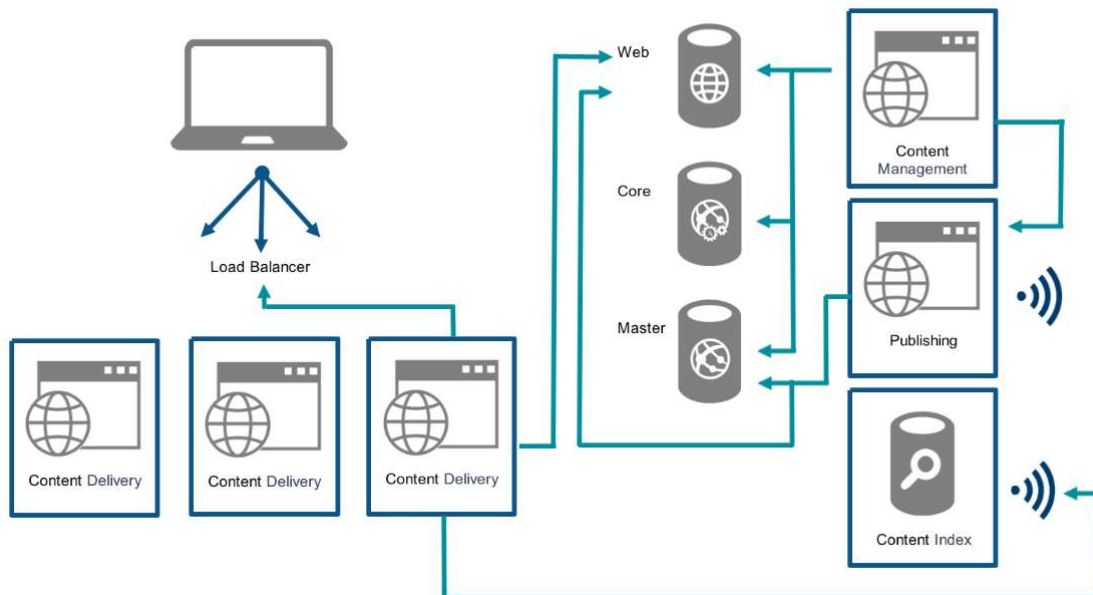
3

Optional component built on .NET Core

A stand-alone micro-service that can be deployed onto a IIS web server

Publishes large numbers of items in bulk

Can publish to multiple web databases in parallel
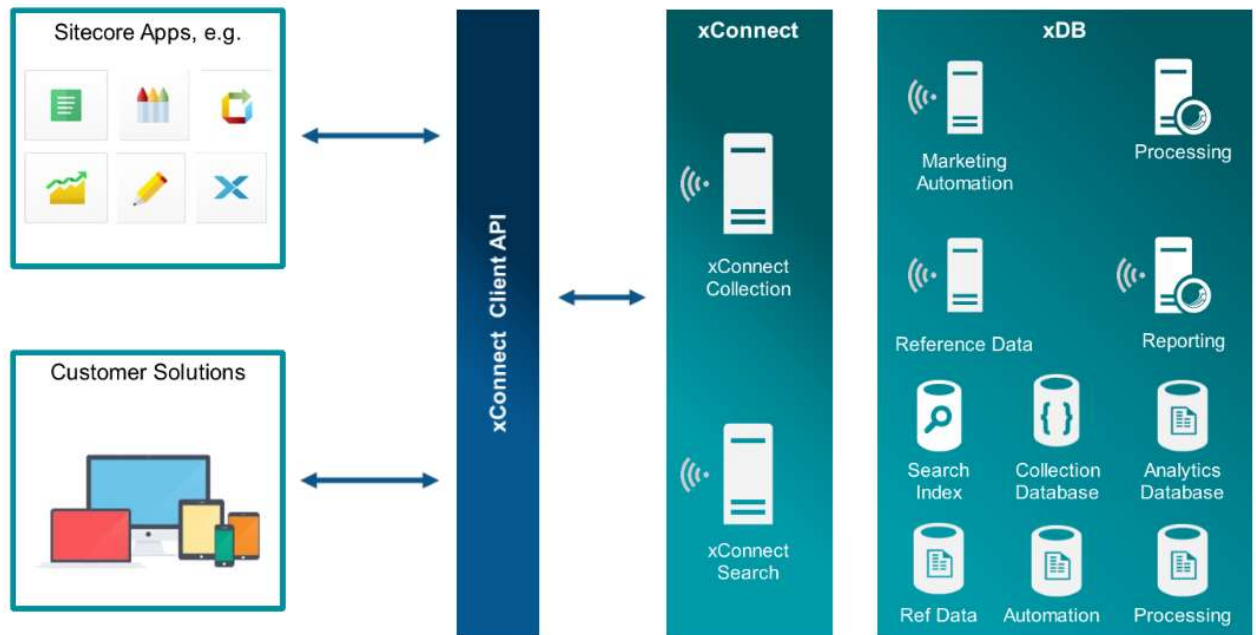
Geo-distributed publishing

Xconnect is the set of services that sit in between the xDB and any client, device or interface that wants to read or write the data to the xDB. It comprises of 2 services : Collection and search

xDB is the name given to the collection of services and storage roles that store and process experience data. It contains several databases and indexes, plus services that allow access to read and write the data.

Guidelines and conventions for any Sitecore project

Focuses on architecture and mapping dependencies correctly

Sample solution following the Helix principles

Use the link to see the Video on Layers

Use the link to see the Video on Modules

3 Imp topics
Dependencies – Describes how feature and functionality in solution relates to each other.
Layers - Controls the direction of dependencies and assures a manageable solution
Modules - Defines isolation of features and functionality leading to greater discoverability & simplicity in the development

What is the main purpose of a Web Content Management System?

○ Speeds up the performance of a web server

○ Provides log in functionality to a website

○ Allows non-technical users to administer the content of a website

○ Offers a content storage system

Allow not technical users to administer the content of a website

Why does Sitecore have both a Master and Web database?

◉ To allow editing content in a sandbox without affecting the content on the live site

○ To be able to have multiple servers delivering your live site content

○ To separate your own configuration from the standard one that comes with Sitecore

○ To make version upgrades much easier

From which template should items eventually inherit in Sitecore?

○ Content Template

◉ Standard Template

○ Base Content

○ Layout definition template

Why are icons on templates important?

○ Because in Sitecore, the data templates will not work without an icon

○ Icons help users create an attractive look and feel for their websites

○ Because all the existing data templates have icons

◉ Icons make it much easier to identify the different item types

What is the purpose of the Standard Template?

○ To define the overall structure of your page

◉ To define fields that Sitecore uses internally but are not shown to the user

○ To define default values for templates

○ To define some fields you will need in all your pages: title, text, keywords, etc.

Adding the same placeholder key to the page multiple times

The same content appears on both placeholder definitions with the same key

A Dynamic Placeholder generates a unique key

@Html.Sitecore().DynamicPlaceholder("key")

The real key will be key_{guid}_x

Still bound to Placeholder Settings for "key"

Also useful to generate variable number of placeholders within the component

Component	
ph1-{guid}-0	ph1-{guid}-0
ph1-{guid}-0	ph1-{guid}-0
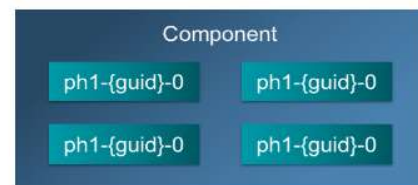
@Html.Sitecore().DynamicPlaceholder("ph",4)

How would you render the content of a single line text field called Title?

- ○ @Model.Field("Title")
- ○ @Html.Text("Title")
- ◉ @Html.Sitecore().Field("Title")
- ○ @Html.Sitecore("Title")

How can you populate the property of a ViewModel and still support inline editing in the Experience Editor?

- ○ By using an object from the FieldsCollection
- ○ By using the appropriate field class as the type of the property
- ◉ By using the Render() method in the FieldRenderer class
- ○ By wrapping the entire markup in a Sitecore Edit Frame

Which of the following fields is editable inline in the Experience Editor?

- ○ Checkbox
- ○ Multilist
- ○ Droplink
- ◉ Datetime

When you use the field helper, what do you do when you want to ensure that a field cannot be editable inline?

- ⦿ Use the DisableWebEdit option
- ○ Mark the field as non-editable in the field definition item
- ○ Set the Editable parameter to False
- ○ Choose a non-editable equivalent field type

What is the advantage of using components?

- ○ You can have different output depending on the device requesting the page
- ○ You can include content from Sitecore
- ○ It allows content to be editable inline through the Experience Editor
- ⦿ Your presentation artifacts are more reusable

Where does Sitecore store the Rendering Parameters?

- ⦿ Any Sitecore field
- ○ Fields that have been registered with the component
- ○ Fields that contain simple values: single-line text, checkbox or integer.
- ○ Only fields that support edit frames

In a view, what do you need to do so the Field() extension method retrieves the content from the datasource?

○ You have to use the FieldRenderer as the Field method can't do that.

○ Pass an anonymous object with the item reference: Field("fieldname", new {Item=Datasource})

◉ Nothing, that is its default behavior

○ Pass a second parameter :Field("fieldname",Model.Rendering)

What part of Sitecore is in charge of generating URLs?

◉ LinkManager

○ DataProvider

○ UrlProvider

○ LinksDatabase

When you are working with a Sitecore.Data.Items.Item object, how do you get a list of all its children (first-level descendants)?

○ By using .Axes.GetDescendants()

○ By using .Database.GetChildren()

◉ By using .GetChildren()

○ By using .Axes.GetChild()

How can you get Sitecore to produce translated URLs?

○ By configuring the EncodeNameReplacements

◉ By setting the LinkManager to use the item's DisplayName

○ By using the languageLocation attribute of the LinkManager

○ By using the GetFriendlyUrl method

When you are working with a Sitecore.Data.Items.Item object, how do you get a reference to its parent item?

○ .ParentItem

◉ .Parent

○ .Axes.Parent

○ .GetParent()

The layers are loaded in sequence

Files in the layer's folder are loaded first, then recursively files in subfolders–always in alphabetical order

You can force certain patch files to load first with the <loadOrder> attribute, for example:

```
<loadOrder>
        <add path="CMS.Core" type="Folder" />
</loadOrder>
```

You can disable a layer by adding a mode="off" attribute in the layers.config file

Environment

Custom

Modules

Sitecore

(base)
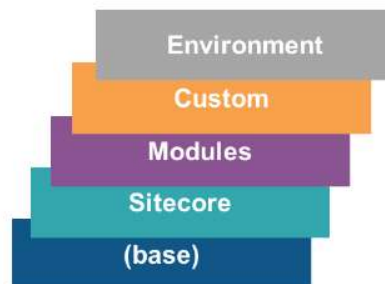
Environment

Default Location	Purpose
App_Config\Environment	Non-production environment settings (QA, Dev)

On a multisite implementation, what is the recommended practice for storing content that may be used across more than one site?

○ Location does not matter and content can be retrieved from anywhere

○ Create a shared content folder in each site and use cloning

○ It is not recommended practice to share content between sites

● Store any shared content outside of any site structure

Why would you define a Sitecore package?

○ You need to publish the changes made by an author

○ You need to copy an entire database between environments

● You need to copy certain items/files from one Sitecore installation to another

○ You want to deploy a new Content Delivery instance

You are setting up a Sitecore instance to accommodate three public facing websites. Where will you map which home item corresponds to each hostname?

● In a Config Include file patching the web.config

○ In the /system/settings section of the Master database

○ In the IIS website definition settings

○ In the Core database

What is the raw value of a field?

○ The value the user typed in the Content Editor

○ The value returned by the FieldRenderer

○ The binary representation of the contents of the field

◉ The value of the field as stored in the database

What is the purpose of a Field Editor button?

○ To open the Rich Text Editor for a field

◉ To open a pop up where fields are edited

○ To allow authors to change the field type

○ To enable editing of Image fields in the Experience Editor

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Which of the following field types can be edited inline in the Experience Editor?

○ Check box

○ File

◉ General Link

○ Multilist with Search

Why would you make an item into a bucket?

○ So that all its descendants are published at the same time

◉ If it will have a large number of descendants

○ In order to group items that relate to the same functional area

○ If you want to allow users to be able to search for descendants

Why would an item show in the content tree even though it is a child of a bucketed item?

○ It lacks the item: bucket security permission

○ It is not marked as hidden

◉ It is not bucketable

○ It was created after the bucket was created

What is the advantage of setting StorageType=Yes in an index field?

○ The tokenization process will be more efficient

◉ There is no need to access Sitecore database to query its value

○ The index will take less space

○ Update index operations will be faster

For performance reasons it is best to:

○ Index only parent items to keep the index size manageable

○ Set StorageType=Yes as often as possible

◉ Add only what is required to the index

○ Index everything for fast search results

Dynamic placeholders have a unique ID assigned when they appear on a page created from the original placeholder key. Which of the following is the appropriate format for the unique ID takes ?

⊗ {GUID}-Key-#

⊗ Key-#

⊗ Key-#-{GUID}

✓ Key-{GUID}-#

Only one parameters template can be assigned to a component definition item. What could you do if there are parameters in two or more templates that need to be assigned to a single component definition item.

ⓧ   Create a new template with all new fields for each parameter the component needs.

ⓧ   Report to the project manager that only one parameter can be used and the design team must first choose which is most necessary.

✓   Create a new template that inherits from the existing templates that have the required fields.

ⓧ   Report to the project manager to note that the designers should manually enter the required parameters.

A new Sitecore developer says they want to start to build out the general structure of the rendered appearance of a webpage. They are describing a:

◯ Template

⦿ Layout

◯ Data Source

◯ Content Tree

You've been hired to create a site for a company, and you must define the data structures in Sitecore to create items and content. What should you use to define your data structures?

- ✓ Templates
- ✕ Renderings
- ✕ SQL Tables
- ✕ Config files

As a developer, why is it important to implement unit testing?

- ○ Unit testing allows you to determine the best practices for writing your code during development.
- ○ Unit testing allows you to quickly test your entire site's code to make sure it can deploy properly.
- ● Unit testing allows you to refactor with confidence, and checks your code behaves as you intended.
- ○ Unit testing allows you to share your code with other Developers who are working on the same project.

SUBMIT

Why should you utilize Attach to Process in Visual Studio when working with Sitecore?

- ⊗ To push all of your items to your Sitecore site.

- ⊗ To pull all of your items into your Sitecore project.

- ⊘ To ensure you are attaching to your Sitecore site.

- ⊗ To debug while your Sitecore site is not running.

✓

Template B inherits from Template A. Template C inherits from Template B. Which of the following type of inheritance best explains the relationship between Template A and C?

- ⊗ Direct inheritance

- ⊗ Circular inheritance

- ✓ In-direct inheritance

The concept of template inheritance in Sitecore ensures:

- ⊗ Reusability

- ⊗ Maintainability

- ✓ Both

✓

Correct

What feature needs to be specified for authors to be able to add content items based on templates?

⊗ Default Presentation

⊗ Standard Values

✓ Insert Options

What other **two terms** have the same meaning as **component**?

✕ Field

✓ Rendering

✕ Device

✓ Control

✕ Layout

You need to render the field "Page Title" as part of a banner component that will be part of each page. How would you write that line in your component?

- ⊗ @Html.Sitecore(Field: Page Title)

- ⊗ @HTML.Sitecore.Field("Page Title")

- ✓ @Html.Sitecore().Field("Page Title")

- ⊗ @Sitecore.Html.Field("Page Title")

What is the default model used by view Renderings and optionally by controller Renderings?

- ⊗ Rendering

- ⊗ Model.Rendering

- ✓ RenderingModel

- ⊗ SitecoreModel

Why must you create a corresponding Placeholder Settings items in the Sitecore environment after declaring a placeholder in the code of a layout or component?

⊗   You don't need a Placeholder Settings item for any practical reason other than to know a placeholder exists.

⊗   Placeholder Settings items are required for components and layouts to be properly registered in Sitecore.

⊘   A Placeholder Settings item is necessary for the placeholder to be accessible and used in Experience Editor.

You've been asked to ensure users can easily swap out a promotion component with an alternative component option that has no image when used in a smaller space on a page. How would you make the distinction that these two components are interchangeable?

⊗   You would make sure both components are allowed controls in the Placeholder Settings item.

⊘   You would add the alternative component to each component definition item's Compatible Rendering field.

⊗   You would add the smaller component option to the presentation details of the template's standard values for the page.

What is an item bucket?

- ✓ A container that allows you to hide innumerable items within, while still being easily retrievable

- ✕ A feature in the Experience Editor which allows you to store various versions of an item

- ✕ The default location that stores all draft items in the Content Editor

- ✕ A tool that is best used to store small amounts of items in the Content Editor

True or False: Once you sync your item bucket, it is impossible to unsync it.

- ✕ True

- ✓ False

ContentSearch API: Once you retrieve the index you need, what should you do to enable a query to run against that index?

- ✕ Write your search query

- ✓ Set up the search context

- ✕ Call a ToList() extension method

When would creating a custom index be beneficial?

⊗   You want a certain part of the content tree to be isolated inside an index by itself

⊗   You want to define your custom start path so you do not have to index the entire content tree

⊗   You need to shard indexes to support large amounts of content

☑   All of the above choices are correct

What must you do to ensure a controller rendering can be inserted into a placeholder on your site page?

⊗   Add the controller rendering to the Placeholders folder in the content tree

⊗   Create a placeholder setting with the name of your controller rendering

☑   Add the controller rendering to the placeholder settings of that placeholder

Which of the following best explains why you should modify your existing layout when adding a form to a webpage?

✕	To specify the positioning of the form on the page

✕ To ensure the form styling matches the main layout

✓ To support Sitecore Forms functionality

True or False: The Sitecore Forms application allows you to quickly construct web forms by using standard or custom elements that record and report information provided by contacts to your website.

✓	True

✕ False

As a Developer, your company has tasked you with creating a blog survey. You've reached the final step where you need to set a submit action for the submit button. Select the submit action that ensures the user is navigated to a **thank you** page upon clicking **submit**.

✕ Trigger an outcome

✕ Trigger goal

✓	Redirect to a page

Which of the following design settings on the form elements ensures that users can select more than one option?

- ⊗ CSS Class

- ✓ Selection Mode

- ⊗ Validation

True or False: With Sitecore, you can quickly scale your website to support multiple languages, as every field on a template can be marked as unique to a specific language or shared across all languages.

- ✓ True

- ⊗ False

Which of the following applications from the Sitecore Launchpad is used to implement additional languages in Sitecore?

- ⊗ Workbox

- ⊗ Media Library

- ✓ Control Panel

As a Developer, you're tasked with enabling Item-level language fallback on a content page. To support more than one language, which of the following steps is mandatory? Select all that apply.

☒   Modifying the existing layout

☑   Enabling site-level fallback

☑   Specifying language fallback rules

True or False: In Sitecore, the Dictionary functionality is used to create key-phrase pairs that can be used globally across your website.

✓   True

✕   False

Which of the following image properties allow you to specify how much space should be placed around the image?

✕   The Alternate Text field

✕   The Dimensions section

✓   The Space section

Which of the following editors are used to modify an image in Sitecore? Select all that apply.

- ✔ Content Editor

- ✔ Image Editor

- ✔ Experience Editor

- ✕ Media Library

True or False: In Sitecore, the media file is the same as a media item.

- ✕ True

- ✔ False

What is security hardening?

- ⊗ The reinforcement of security protocols within your company's external server.

- ⊘ The configuration of a computer system or website to protect sensitive data.

- ⊗ The restriction of public access to your Sitecore solution before deployment.

- ⊗ The establishment of company security guidelines for your physical workplace.

Why does Sitecore recommend using a static HTML page as a friendly response for a 500 error?

- ⊘ To protect your site from getting stuck in a loop if a major server issue occurs.

- ⊗ To protect your site from being overly complicated with too many items in the content tree.

- ⊗ To protect the time of Content Editors on your team and prevent their need to create an additional item.

- ⊗ To protect the stability of the other dynamic friendly-error pages on your site.

After creating a use-case scenario that covers the expected usage of your Sitecore solution, what is your next step in performance testing?

- ✕   Develop the specific performance test for each scenario.

- ✕   Complete your performance test as creating a use-case scenario is the final step.

- ✓   Determine the criteria for the successful test of the scenario.

- ✕   Identify the breakdown of users within the scenario.

What kind of information is stored in the Prefetch cache in Sitecore?

- ✓   Items that Sitecore will need to access during and just after initialization of instance.

- ✕   Items that a user will need to access only once during their visit to your site.

- ✕   Items that Sitecore will not need until your site is ready to be updated.

- ✕   Items that Sitecore will need to load quickly for maximum front-end performance.

Why would your team decide to disable the prefetch cache in your Sitecore solution?

     ✕   The cycle of continuous caching will negatively impact a Developer's ability to version and update your site.

     ✕   The cycle of continuous caching will improve the performance of your site to an unbelievable standard.

     ✕   The cycle of continuous caching will overload requests to the database and lead to the frequent crashing of your site.

     ✓   **The cycle of continuous caching and the prefetching of too many items will increase the load on the SQL server and may degrade the startup time of your application.**

After choosing the load-testing tool that you are going to work with, what is your next step in tuning your cache?

     ○   Ensure that all caches are stable by choosing a different tool to work with.

     ○   Click refresh on the /sitecore/admin/cache.aspx to see how caches react.

     ●   Begin a load test that will cover all items, on all sites, in all languages.

     ○   Navigate to the Content Delivery server to ensure that admin pages are not blocked.

How does Team Development for Sitecore support the deployment of your Sitecore solution?

✓ By creating deployment packages that contain the items and code needed to deploy changes within your build.

✕ By deploying individual items instead of packages so that Developers on your team can identify any potential roadblocks in your build.

✕ By pushing items in a continuous loop between the testing environment and the production environment.

✕ By instantly automating all aspects of the deployment of your Sitecore solution and identifying any major hurdles.

Why is it important to have a plan in place for 301 redirects for your site content?

- ⊗ Your current site does not have sufficient search-engine value for your content and you need to have a plan to instantly reverse all negative SEO impact.

- ⊗ Your new site already has a large amount of search-engine value and your team will need to ensure that value is cleared when the site is launched.

- ⊗ Your current site and the visitor experience has built up a certain amount of search-engine value for your content and you will need to ensure that your launch does not impact that value.

- ⊘ Your new site needs to build up visitor experience by maximizing the hits from search engines based on keywords and site content to ensure that your launch is successful.

Why is it important to provide Sitecore Support with reproducible scenarios when submitting a support case via the Support Portal?

- ⊘ Sitecore Support needs to be able to reproduce the issue to determine a solution within a clean environment.

- ⊗ Sitecore Support needs to understand how your team is coding within the staging environment.

- ⊗ Sitecore Support needs to be able to determine the specifics of your installation in a complex site architecture.

- ⊗ Sitecore Support needs to be able to backtrace your license information to identify the issue you are experiencing.