

Questions asked in Sitecore® 9.0/9.1 Certified Platform Associate Developer

- Questions asked – 50
- Time – 90 min
- Instructions –
 - Keep 2 Government ID with you
 - Reach exam center 30 min before
 - All questions are single option except one was match the pair
 - Result will be shown on screen just after Submit the exam
 - You will get your certificate on your email id within 5 min of exam completion

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

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

Provides log in functionality to a website

Speeds up the performance of a web server

Offers a content storage system

2: Why does Sitecore have both a Master and Web database?

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 make version upgrades much easier

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

3: From which template should items eventually inherit in Sitecore?

Content Template

Layout definition template

Standard Template

Base Content

5: What is the purpose of the Standard Template?

To define default values for templates

Define fields that Sitecore uses internally but are not shown to the user

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

To define the overall structure of your page

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

`@Html.Sitecore().Field("Title")`

7: How can you make sure that you can undo a package installation?

A package installation cannot be undone

Create an Undo Package when you create the package

Install the Package Uninstaller module

`Create an Anti-Package when you install with Sitecore Rocks`

8: 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 the /system/settings section of the Master database

In the IIS website definition settings

In the Core database

`In a Config Include file patching the web.config`

9: Which class can you use to access the contents of a TreeList field?

TreelistExfield

TreelistFeld

`MultilistField`

GenericField

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

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

Update index operations will be faster

The tokenization process will be more efficient

The index will take less space

1. What is the advantage of using components? Your Presentation artifacts are more reusable
2. Where does Sitecore Store the Rendering Parameters? Any Sitecore field
3. In a view, what do you need to do so the Field() extension method retrieves the content from the datasource? Nothing, this is its default behaviour
4. How can you retrieve the Datasource in a view rendering with the default model? Model.Item
5. When you are working a Sitecore.Data.Items.Item object, how do you get a reference to its parent item? .Parent
6. What is the purpose of a Field Editor button? To open a pop up where fields are edited
7. From which template should items eventually inherit in sitecore? Standard template
8. How can you populate the property of a ViewModel and still support inline editing in the Experience Editor? By using the Render() method in the FieldRenderer Class
9. 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.
10. By Default, sitecore instance indexes store in which location? server\solr
11. Horizontal Scaling-Load Balancing
12. Vertical Scaling-Servers Performing different roles
13. How you can get the StartPath from sitecore.config through code? string startPath = Sitecore.Context.Site.StartPath
14. How you can get the Rendering Parameter name in view? Rendering.Current.Rendering.Parameters["Paramter name"]
15. Which of these tools is designed for the non-technical content author? Experience Editor
16. Which of the following best describes the purpose of the Field Source in Sitecore? The Field Source allows the configuration of extra properties in a template's field definition.
17. For Performance reasons it is best to? Add only what is required to the index
18. How can you define renderings as compatible? Modifying a field in their component definition item.
19. What part of Sitecore is in charge of generating URLs? If it will have a large number of descendants
20. 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 .GetChildren()
21. How can you get Sitecore to produce translated URLs? By setting the LinkManager to use the item's DisplayName
22. On a multisite implementation, what is the recommended practice for storing content that may be used across more than one site? Store any shared content outside of any site structure.
23. When you patch in changes to the sitcore.config file through include files, in which order are your changes applied? Alphabetically according to the name of the file and subfolder.
24. Which of the following field types can be edited inline in the Experience Editor? General Link
25. Why would you make an item into a bucket? If it will have a large number of descendants
26. Why would an item show in the content tree even though it is a child of a bucketed item? It is not bucketable.
27. How get the item from the database? Item Homepage = Sitecore.Context.Database.GetItem(homePath)
28. Matching Question

All Product and modules for Sitecore Experience Platform 8.0 can be downloaded from → The Sitecore Developer Portal

Video Tutorials are available from → The Master Sitecore YouTube Channel

You can contribute to the learning community by adding to the → The Sitecore Marketplace

All product documentation prior to Sitecore Experience Platform 8.0 can be downloaded from → The Sitecore Developer Network.

1.What is the name of the digital marketing management part of the experience Platform that collects and Search information to xDB

Ans: XConnect

2.Why assign icon is not necessary on template

Ans: When use for create Parent item and not reuse for any other item

3.Where does Sitecore store the rendering parameter ?

- A. Rendering file
- B. Rendering parameter template
- C. Item
- D. Rendering field

4.SearchResultClass attribute to get descendances of item

- A. Children
- B. Descendants

5. What are raw values for fields?

- For storing values
- For Binary representation for field values

1. What happens when you set a field as unversioned? The field contains one value per language.

2. How are component parameters stored in Sitecore database? In a plain text like URL query string parameter.

3. You have component you like to get cached anywhere it is used, where would you define its cache settings? on the component definition item in the Sitecore tree.

4. Where can you find out the inheritance chain of a data template - In the inheritance tab of that data template

5. How do we add dynamic field values to fields–using tokens

6. How can you skip certain items in the navigation – Using LINQ Queries to filter by template/field

7. Name the method used to retrieve items – GetItem()

8. Why can't we preview items under global? - Because it doesn't have presentation details

9. In which database do we create custom edit buttons – core database

10. Which method should you use to return a large search results object? GetResults()

11. Which reference is required for Sitecore Search using Linq? Sitecore.Contentsearch.Linq

12. Which application is used to view the resolved access rights – Access Viewer

Complex field type that can not be used as Render method

Single line text

Number

Image (Not Sure)

Check Box

RenderingContext.Current.Rendering.Item

Current Rendering Data source

Current Rendering item

Data Source or Current item

Data source. Allows rendering to fall back to context item (page or parent rendering) if datasource is empty

RenderingContext.Current.ContextItem

Rendering Datasource

Current Rendering item

RenderingContext.Current.PageContext.Item

Page item (equivalent to writing Sitecore.Context.Item in WebForms)

Dlls required for Sitecore Search Linq.

Sitecore.Contentsearch.Linq

Sitecore.Search

Why Azure plateform for Sitecore Search is required

It is compatible with other Web server (No Sure)

High Availability

Group by is not returning the result as expected. Why

Group by is not supported in Sitecore ContentSearch

When you are write a query for Sitecore search it is giving compile time error. Reasons?

Solr is not installed

Data folder is not configured

Reference is not added for Sitecore.ContentSearch api.

Dynamic placeholders used for

Use dynamic placeholders to add the same placeholder name several times

How to show Multilist field value to the front end

Using MultiListField

Using the API method and show it on front end

1. What's the name of Component architecture guideline of Sitecore
 - Bootstrap
 - **Helix**
 - Adaptive Design
 - Habitat
2. What's the tag in Layouts.config file to define sequence of execution of config files? => <loadOrder>
3. What's the use of ph_<PlaceholderName>_<Propertynname>?
 - Replace the PlaceholderName with name and set the value of PropertyName [Not Sure]
 - Create number of dynamic placeholder specified in Propertynname
4. How to get data from xDB? => xConnect
5. Where Sitecore stores all data? => Item
6. What's the use of Standard Template => To store data that is hidden and used for internal purpose
7. How to force Content editor to create similar kind items under news? => Insert Option
8. How to uniquely identify placeholder? =>
 - **By Placeholder Key**
 - By Placeholder ID
 - You can't uniquely identify Placeholder
9. What's the use of CORE database? => Environment settings and Membership details
10. Why Sitecore has Master and Web database? => Changes in master database in sandbox mode didn't affect LIVE website mode
11. Content delivery is LIVE website but you can't edit items into this? Which databases are required to it?
 - Master and Core
 - **Web and Core**

12. Why Placeholder allows components in experience editor?

- To allow reuse of component [Not Sure]
- To render the component
- To edit in experience editor

13. What makes experience management system unique?

- It provide non-technical user to control the content of the site

14. Why one of the item in bucket is visible? => It is not marked as bucketable.

15. Why \$token is visible in one of the item as “\$token” and not replace it with its value? => \$token will replace by value for new items, not the old ones.

16. Where is default location for search indexes when Sitecore installation finished?

- Data/Indexes

17. You have used Group by clause to get result from index, but you didn't get anything, why?

- Group by clause is not supported by Sitecore search API [Not Sure]
- You have to include Sitecore.ContentSearch.Linq

18. Which attribute must be set to 'YES' in order for values to be stored in the index?

- storageType

19. For performance what you will do ? Ans: index only those field which are required.

20. Which DLL is required to get RenderingCOnText?

- Sitecore.Kernel.dll
- Sitecore.MVC.dll
- Sitecore.Presentation.dll
- Sitecore.MVC.Presentation.dll

21. You have two rich text fields with same name, in first rich text field you want the authors to modify the font size of the text and in other you do not want to give authors functionality to modify the font, will you create base template with one field? Why?

- No, Because fields required the different sources [Not Sure]
- No, Rich text boxes are not inherited

22. Sitecore recommends template inheritance? In which scenario you inheritance will not work?

- When you have image fields in template
- When you have fields with different data sources [Not Sure]
- When you have fields with same data sources
- When fields need to be validated

23. Match the pair

- Sitecore products and modules download after 8.0 -> Sitecore developer Portal
- Sitecore videos -> Sitecore youtube channel
- Sitecore products and modules download before 8.0 -> Sitecore developer Network
- Raise tickets for issues -> support.sitecore.net

24. Which field is editable inline in experience editor?

- Treelist
- Multilist
- **Datetime**
- Checkbox

25. How to render Title field?

- `@HTML.Sitecore().field("Title");`

26. You have created layout in file system. How to get it in Sitecore

- Create Layout definition item in Sitecore

27. You have a “News List”, and you have another template “News Item”. What will you do to show only news list items when content author select the items through Datasource?

- Set Datasource Location field to News list in component definition item

28. Where Sitecore stores structure of item?=> Template

29. Why to store media in sitecore database?

- Media item and image both get published directly

30. How to get first level decendent of home item?

- **Item.Children**
- `Item.Axes.Descendant()`
- `Item.Decesndant()`

31. How you find items in buckets?

- Content Search API

32. How to get Treelist object in code? => MultilistField

33. How to edit Treelist in experience Editor? => Use edit frame and add buttons in toolbar

34. You have Sitecore instance and you have to keep 3 domain names on this? How will you specify different home nodes for these domain names?

- **Create Patch file for web.config file in include folder?**
- Create entry in IIS definition item

35. How will you keep three different home node in Content Tree?

- **Create folders for each site and keep their Home node into each folder [Not Sure]**
- Sitecore automatically does this through alphabetic orders
- Create items under single home node and prefix site for each item
- Create default site folder and create folder under this and keep Sitecore Home item into this folder

36. Why we set icons in Sitecore?

- To uniquely and easily identify the item

37. Which editor is mainly designed for non technical Content Editor => Experience Editor

38. How to do specify static component in cshtml file?

- `@HTML.Sitecore().Renderings("Path of the cshtml file")`

39. Which is responsible for generating URL in Sitecore => Linkmanager
40. How can you globally control URL generation in Sitecore? Creating patch file for Linkmanager
41. Which fields are editable inline in experience editor? => Fields which don't have XML
42. What does shared for field versioning mean?
- Single value for all numbered versions in all languages
43. How can you force a Sitecore control to output the content of an item's Datasource instead of context item?
- Set ItemContext to other item
44. How will you use parameters to change colour in component rendering?
- Define fields in Parameter rendering template
45. How can you edit Treelist in Experience Editor?
- Using Edit frame and adding custom buttons to toolbar
46. What's the use of Sitecore packages?
- to create Zip files that contain items and code files and to install it on some another Sitecore instance
47. You have Title field in Event template and Title field in Article Template. What you will do to follow the recommended approach?
- Create a base template and inherit on both

Other Questions collected from Different resources

Q1. What is Sitecore?

Experience platform (Experience CMS + Marketing Platform)

Q2. When do you contact support for Sitecore?

When we were able to replicate the issue everytime

Q3. What makes experience management system unique?

It provide non-technical user to control the content of the site

Q4. Why you should assign access rights on roles?

It is easy to maintain and can be assigned to multiple user

Q5. Which roles access right will take precedence?

Deny

Q6. Why an item under a bucket is still visible?

Option to view bucket is enabled on View tab in ribbon

Q7. What role you use for administrators?

Q8. Where you define insert values

Standard Value on Template

Q9. What this code tells sitecore.globalisation.translate.text("Description");

Get phrase of dictionary key "Description"

Q10. What engagement value tells?

It tell the organization about the importance of any goal/campaign.

Q11. What are the common ways to trigger a campaign?

There are two ways of triggering a campaign, the first one is by adding the campaign tag at the end of the incoming url. The second one is by triggering a campaign on the landing page

Q12. Why do we use Pattern and profile keys.

It tell the visitor behavior on the site

Q13. How does sitecore knows you are a returning customer.

By calling Identify() method based on the identity (email)

Q14. Where does sitecore stores visitors information.

XDB (Mongo)

Q15. What does a template defines?

Field Type Fields Field Section

Q16. What you commonly do in template section of content tree?

Define field and type. Set Standard Value. Insert Option, Rendering

Q17. Why to store media in sitecore database?

Media item and image both get published directly

Q18. When do you make an item bucket?

When it contains lots of children

Q19. How you get the children of buckets having thousands of descendants?

Content Search API

Q20. You have created a template T with fields A and B now you see that you already have a template S with same fields, what will you do to make it correct?

Inherit S on T

Q21. You have Title field in Event template and Title field in Article template, what will you do to follow recommended practice?

Create a base template with Title and inherit on both

Q22. You have two rich text fields with same name, in first rich text field you want the authors to modify the font size of the text and in other you do not want to give authors functionality to modify the font, will you create base template with one field?

No

Q23. How do you trigger a goal in a form?

Attaching goal on the form for its event like Form Submit Or Programmatically

Q24. How do you set the image in an item programmatically?

```
imageField.MediaID = sampleMedia.ID;  
assigning media item id to the image field
```

Q25. How can you make the field editable?

@Html.Sitecore.Field("FieldName") or FieldRenderer.Render("FieldName")

Q26. You want to use the view modal properties with the editing feature of field what will you do?

@Html.Sitecore.Field("FieldName")

Q27. How to get first level of children from an item in sitecore?

GetChildren(ChildOption option) or Children

Q28. Who is Non-technical author editor?

Q29. How to Get item parent (using sitecore.data.items.item)?

Item.Parent

Q30. When do you show raw values to user interface?

When filed type is of type Text/Multiline Text (View Tab)

Q31. In which configuration file you find the sitecore node if you want to access the sitecore system nodes?

Sitecore.config

Q32. What is Friendly URL's?

SEO Friendly URLs which can be fetched from **LinkManager.GetItemUrl(UrlOptions options)**

Q33. Which method do you use to find the URL of an item?

LinkManager.GetItemUrl(UrlOptions options)

Q34. What is friendly URL's in multi lingual site?

Urls which are having their display name in url or language embedding is in url or in the language cookie or sitecore.config or sc_lang

Q35. In Multiple site structure how to setup shared content?

By placing outside of the site structure node

Q36. Benefit of keeping Visual studio project outside the www root folder?

Easy to deploy, Easy to move, Portable

Q37. How do make field editable using field helper method?

FieldRenderer.Render("FieldName")

Q38. How do you set media in item field programmatically?

Using MediaCreatorOptions

Q39. What is Analytics interface in sitecore?

Experience Analytics

Q40. What is Sitecore analytics?

Sitecore Analytics is valuable digital marketing tools. They provide data analysis and reporting to measure website performance and marketing campaign effectiveness. Campaigns can then be optimised to be more successful.

Q41. To determine the language what sitecore looks first in the Multilanguage site.

Query string sc_lang

Language Embedding in URL

Browser Cookie

Sitecore.config

Q42. Why we use Lucene.Net over solar?

Solr provide multi server configuration and solr is more scalable

Q43. What lucene.Net search setting storage Type ="yes" depicts?

It store the value in index instead of reference to that item from DB

Q44. For configuring site nodes in multi-site solution where we do?

In SiteDefinition.config

Q45. Where can we set all the personalization?

Rendering

Q46. Where we can view all the details for contacts?

Experience Profile

Q47. On the content delivery what databases are required?

Core, Web, Session, Collection, Reporting

Q48. What role does a user need to be able to log in to the Sitecore back end?

Sitecore Client User

Q49. Default option for internet publishing?

Web

Q50. How to switch between workflow states.

Using Command

Q51. Every item should inherit from?

Standard Template

Q52. Difference between tree list and treelistEx datatypes

Treelist always load while TreelistEx loads on demand

Q53. What is Anti package for roll back changes in rocks?

The package which is used to revert any installed package to its original state

Q54. Where is default location for search indexes?

Root/Data/Indexes

Q55. Location for sitecore Lucene.NET config files?

AppConfig/Include

Q56. Name the five official Sitecore Documentation Resources and their purpose.

Sdn.sitecore.net

Kb.sitecore.net

Doc.sitecore.net

Community.sitecore.net

Dev.sitecore.net

Feeds.sitecor.net

Support.sitecore.net

Q57. Template define item's field and field type.

Q58. Sitecore is a Experience Platform

Q59. Where to get the template path of an item?

From Quick Info Section

Q60. Newly created item contains image field and we want to ensure image will also publish on publishing item.

Publish item with Related Option Checked

Q61. Why we set icons on templates?

To uniquely identify the item

Q62. Which fields are editable inline using the Experience Editor?

Text Fields

Q63. How can you make your Visual Studio project portable?

Placing solution outside the webroot folder

Q64. You have a component that you want cached on every Event Details page. Where would you define its Cache settings in Sitecore?

On Event Details Component Standard Value

Q66. Why should you not create or modify items directly on the web database?

It will get deleted after next publish

Q67. How does Sitecore initially identify a contact?

Using Identifier (Email)

Q Name two key components that make up SitecoreXP:

❑ Experience CMS and marketing platform

Q What should you do before you contact support?

❑ Refer to HelpDesk best practices

Q Name some sites that you can refer to for more information and module downloads.

❑ SDN: <http://sdn.Sitecore.net>

❑ Knowledge Base: <https://kb.Sitecore.net>

❑ Marketplace: <https://marketplace.Sitecore.net>

❑ SitecoreXP 8: <https://dev.Sitecore.net>

❑ SitecoreXP 8 Documents: <https://doc.Sitecore.net>

Q What are your responsibilities as a developer?

❑ Build according to recommended practices

Q Name three Sitecore interfaces:

❑ Desktop, Content Editor, Experience Editor

Q Everything in Sitecore is an...

❑ Item

Q An item is not a...

❑ File

Q An item's URL is determined by...

❑ Its position in the Content tree

Q Name the process by which items are synchronized between the master and web database:

❑ Publishing

Q Which Experience Editor mode would you use to add a new component?

❑ Designing mode

Q Which Experience Editor mode would you use to add an image or edit text?

❑ Editing mode

Q When a request comes in, Sitecore...

❑ Maps URL to an item in the content tree and dynamically assembles presentation

Q Name the three databases that are installed by default:

❑ Master, web, core

Q Name some foundation features that Sitecore provides out of the box

❑ Content versioning, multi-language support, devices (adaptive design) support

Q What is the name of the digital marketing management part of the Experience Platform that collects and aggregates contact information?

❑ xDB (or Experience Database)

Q An item's type is determined by the _____ used to create it.

❑ Data template

Q What is an item composed of?

❑ Field sections and fields

Q What do you need to specify when creating a new field?

❑ Field name and type

Q In the Content Editor, where can you find out which data template an item is based on?

❑ Quick Info section on that item

Q Some examples of field types are...

❑ Single-Line Text, Rich Text, Image, Date

Q In which scenario would you use data template inheritance?

❑ When fields are repeated in multiple data templates

Q Why is it important to think of your data template creation and inheritance structure from the beginning?

❑ Refactoring template inheritance may cause data loss

Q By default, all data templates eventually inherit from which Sitecore data template?

❑ Standard Template

Q What happens if the same field section name is used in multiple templates in a data template's inheritance tree?

❑ The field sections will merge

❑ Fields will be listed under this single section

Q What happens if the same field name is used in two separate inherited data templates?

❑ Fields do not merge

❑ Both fields will appear

❑ Best to avoid reusing the same field names

Q Describe the standard values item

❑ Always named __Standard Values

❑ Child item of owning data template

❑ Is a special instance of an item –contains all inherited fields

Q What type of settings can be applied to standard values?

❑ Default field values, default Insert Options, default presentation, default Workflow

Q What are the two types of default field values?

❑ Dynamic (uses tokens) and Static.

Q How do tokens work?

❑ Tokens are replaced when an item is created. For example, there are tokens for the name of the item or the ID of the parent item.

Q Name three tokens:

❑ \$name, \$date, \$id, \$parentid, \$parentname, \$time, \$now

Q What are Insert Options?

❑ A list of item types (data templates) that can be created under a specific item

Q Where should Insert Options be configured?

❑ On the data template's standard values which can be overridden at item level

Q Why is it a good idea to configure Insert Options on standard values?

❑ All items using that data template will have the same Insert Options

Module 3: Presentation

Q What are presentation details?

Q Configuration that determines what an item looks like when requested by the browser

Q Describe how Sitecore resolves a page in comparison to a static HTML site.

Q Normally, a URL points to an HTML file. In Sitecore, a request maps to an item and the page is dynamically assembled from smaller pieces.

Q What is the name of the main Sitecore .dll?

Q Sitecore.Kernel.dll

Q What happens if you do not set Copy Local to False for your Sitecore.Kernelreference?

Q Some dll's in bin folder will be deleted and you will need to get the full set from another installation to continue working.

Q In a Sitecore context, what is the name given to an .aspx file?

Q A Layout

Q How is a Layout definition item connected to a Layout file?

Q The Pathfield on the Layout definition item points to the location of the .aspx file

Q How do you configure an item's presentation details in Sitecore Rocks?

Q Right-click->Tasks->Design Layout or CTRL+U. You can also use Commandy

Q How many Layouts can you assign to a single item?

Q One –per device!

Q Name three different types of Sitecore components

Q Sublayout, XSLT rendering, web control

Q What type of file is a Sitecore Sublayout?

Q .ascx

Q A component consists of a file on the file system and...

Q A definition item in Sitecore

Q How does a component definition item know where to find the associated file?

Q By a Pathfield on the definition item

Q What is the Sitecore control that allows you to dynamically bind components to a page?

Q sc:Placeholder

Q What is the Sitecore control to statically include Sublayouts on a page?

❑ sc:Sublayout

Q Describe the process by which a component is bound to a placeholder?

❑ Open presentation details -> Add Rendering -> select rendering -> Edit PlaceholderKey property

Q Name the property that you must set on a placeholder to identify it.

❑ Key

Q Name three specialized Sitecore field controls

❑ <sc:Text />, <sc:Date>, <sc:Image />

Q How can Sitecore help you resize images dynamically?

❑ Set MaxWidth and/or MaxHeight on the sc:Imagetag

Q Name the one mandatory property that must be specified on the Sitecoreweb controls

❑ Field (note: on <sc:FieldRenderer/>, the equivalent isFieldName)

Q If all items of a particular type require a particular component, where should these presentation details be configured?

❑ On the standard values of the data template

Q What type of components might be good candidates for static binding?

❑ Page scaffolding, like headers and footers

Module 4: Sitecore API

Q In which .dll can you find the majority of the API?

❑ Sitecore.Kernel

Q When Sitecore makes a request, what is the name of the static class that is assembled?

❑ Sitecore.Context

Q Name four properties that you might get from Sitecore.Context:

❑ Context user, language, database and item

Q When you are looking at a page in Experience Editor mode, what is the context database?

❑ Master

Q Name the method used to retrieve items?

❑ GetItem()

Q Items can be retrieved by path or...

❑ By ID

Q What does the Sitecore.Context.Item.Database property return in the context of a live website visitor?

❑ Web

Q How should you compare two items in code?

❑ Using their IDs

Q What method do you use to retrieve an item's URL?

❑ LinkManager.GetItemUrl()

Q Why should you not use GetDynamicUrl() for your site's front end?

❑ Unreadable 'developer' URL, uses IDs

Q What object can you pass into the GetItemUrl() method to customize the way your item's URL is rendered?

❑ A UrlOptions object

Q Where can you customize how URLs are rendered globally?

❑ In the LinkManager section of the web.config

Q Sitecore security is an extension of...

❑ Standard .NET membership

Q All code is executed in the context of...

❑ The current user

Q What affects whether or not a piece of code will run?

❑ That user's permissions

Q What permissions does extranet\anonymous lack by default?

❑ Permission to create or edit items

Q When creating or editing an item, the code must be executed with the appropriate security rights. Name two ways that this can be done

❑ UserSwitcher or SecurityDisabler

Q How do you put an item into an editing state?

❑ Creating an EditContext;

Q Why should you create / edit items in the master rather than the web database?

❑ Web overwritten by publish

Q Why is it a bad idea to output a field's value straight to the screen?

❑ Not editable in Experience Editor and complex fields contain custom XML

Q Which field types are suitable for editing using the .Valueproperty?

❑ Simple text fields. For example, Single-Line Text

Q Why is it a bad idea to output raw values to the screen?

❑ Not editable in Experience Editor, complex field types will not make sense –images, for example

Q Name the best suited field object for the following field types: single-line text, treelist, droplink, general link:

❑ Field, MultilistField, ReferenceField, LinkField

Q What method should you use to render the contents of text, date, image and link fields to the screen (and why)?

❑ FieldRenderer.Render() –Experience Editor support, transforms custom XML, transforms Rich Text links

Q Why are you unable to render a multilist field to the page using .Render()?

❑ It contains IDs, not readable content

Module 5: Advanced Presentation Concepts

Q Setting a component Datasource allows that component to _____.

❑ Output content from a content item elsewhere in the tree

Q How can you force a Sitecore control to output the content of an item's Datasource?

❑ Set DataSource or Item property

Q What do parameters allow you to do?

❑ Allow properties to be set per instance of a component

Q How are parameters encoded when sent to your component?

❑ As a URL query string, that is: key1=value1&key2=value2

Q What utility converts parameter lists to a NameValueCollection?

❑ WebUtil.ParseUrlParameters()

Q Why would you set the Datasource for a component on the presentation details of an item?

❑ When that Datasource should only be used on a particular page

Q Why would you set the component and the Datasource on the standard values' presentation details?

❑ When you want all items based on a particular template to have that component with that particular Datasource as default

Q Why would you set the component on the standard values and override the Datasource on the item?

❑ When your component has to appear on every page but has a different Datasource for a particular page

Q When does a layout delta get created?

❑ When presentation coming from the standard values of an item's template is overridden on that item.

Q How does the XML of a layout delta differ from the XML specified on a template's standard values?

❑ Layout deltas only contain differences between an item's standard value presentation and any changes made by the author on the item. The standard value XML contains all presentation details.

Module 6 Real World Solution

Q What can you do with methods that could be used across multiple Sitecore projects?

❑ Abstract code to a generic utilities project

Q Why can't you preview items under Global?

❑ They do not have presentation details

Q Why is the Settings item outside any individual site folder structure?

❑ Values shared across all sites

Q What kind of content can you display using a General Widget?

❑ Promotions, announcements – anything that could be re-used across the site

Q Name 2 devices you may want to target with different presentation details:

❑ Tablets and mobiles

Q When will Sitecore use the language attribute of the site definition in the web.config?

❑ If there is no explicit language in the URL nor a language cookie.

Q How do visitors to your site change the site's language?

❑ You have to build language switching for the front-end yourself –using a query string, for example

Q What kind of error checking should you do when rendering items to the screen?

❑ Check that each item has a version in the context language

Q What are some important considerations with a multi-site implementation?

❑ Large codebase, sites affect each others' performance -see Multi-site slide for more

Q Which shared field is used to store presentation information for all versions of an item?

❑ __Renderings field

Q What does the presence of the __Final Renderings field allows an author to do?

❑ To define individual presentation details for each version of an item

Q Which item versions can have individual presentations defined on them

❑ Numbered and language versions of an item

Q How do you access the Layout Details window for each item?

❑ In Content Editor or Experience Editor click the Details command. In Sitecore Rocks choose Tasks -> Design Layout

Q What is the difference between the Shared Layout tab versus the Final Layout tab of the Layout Details window?

❑ The Shared Layout tab is for defining presentation details for all versions of an item while the Final Layout tab focuses on the presentation detail of that specific version of the item.

Q What will . return?

❑ The context item.

Q Name two axes available in Sitecore query:

❑ ancestor-or-self::, parent::

Q Why shouldn't you query the entire content tree?

☒Expensive –particularly if you are iterating through all descendants

Q Unless you are doing a very simple query on a very limited area of your Sitecore tree, what should you use instead?

Sitecore search

Module 7 Configuring Exp Editor

Q What does the Datasource Location field automatically do in the Experience Editor?

☒Opens the *Select the Associated Content* dialog when authors add a new component

Q What happens if the Datasource Location and the Datasource Template fields are both filled in?

☒The Select the Associated Content dialog opens and authors can create a new content item using the template specified

Q What happens if the Datasource Location field is empty, but the Datasource Template field is not?

☒The dialog doesn't open automatically, but when the author requests it, they see the whole tree with irrelevant items ghosted

Q What is the benefit of rendering Parameters Templates to authors?

☒They reduces error -authors do not have to specify the parameter name and they can choose values from dropdowns.

Q Which data template is used as a base template for your Parameters Template?

☒Standard Rendering Parameters template

Q If you want your component to use this new Parameters Template, where do you assign it?

☒On the component's definition item in the Parameters Template field

Q When you add <sc:PlaceholderKey="myKey" runat="server" /> to your sublayout, what must you do for the placeholder to be selectable in the Experience Editor?

☒Create a Placeholder Settings definition item in Sitecore

Q What else do these Placeholder Settings items allow you to specify for authors?

☒Which components authors can insert into a placeholder.

Q What are Allowed Controls?

❑ They determine which components can be added to a particular placeholder

Q Which Experience Editor mode supports adding components into placeholders?

❑ Designing

Q If a component is not in the Allowed Controls list, can it be added into that placeholder through the Experience Editor?

❑ No

Q What are Compatible Renderings?

❑ Components that can be used in place of another component

Q What two elements should you keep in mind when setting up Compatible Renderings?

❑ Both components need to be able to accept the same Datasource and the same Parameters

Q If a component is not in the Allowed Controls list, can it still be used as a Compatible Rendering?

❑ No

Q Once Custom Experience buttons are assigned, where do they show up?

❑ On a component / field and displayed in the Experience Editor

Q Name two examples of custom buttons:

❑ FieldEditor and WebEditbuttons

Q On what type of definition item can you assign Custom Experience buttons?

❑ A component definition item or a field definition item

Q What do Edit Frames do?

❑ Surround an area on a page or component and display buttons allowing you to edit fields that would not be normally editable in the Experience Editor

Q In which database do you create the Custom Experience buttons and Edit Frames?

❑ core

Module 8: Dealing with your data: Item buckets, Search

Q Use a bucket when...

❑ You do not need a hierarchical item structure and/or you have a large number of items

Q In order to store an item in a bucket, you must...

¶ Make that item or the data template's standard values it is based on bucketable

Q After making changes to the bucketability of the items in a bucket, you must...

¶ Sync the bucket

Q What do facets allow you to do?

¶ Progressively apply filters (based on fields) to narrow down your result set

Q How do you create a bucket?

¶ Select the item you want to turn into a bucket and click the 'Bucket' command on the Configure tab

Q What defines how Sitecore items should be indexed?

¶ Index configuration files in /App_Config/Include

Q Search is built using a provider model. What does this mean?

¶ You can plug in whatever search provider you want

Q What syntax do you use to query an index?

¶ LINQ

Q What is the name of Sitecore's default search result class?

¶ SearchResult

Q When building your own search result class, how do you account for fields with spaces?

¶ Decorate with [IndexField("Page Heading")]

Q What method should you use to return a rich results object?

¶ .GetResults();

Q You can configure how fields get indexed by type or...

¶ Name

Q You can include/exclude by individual field names or...

¶ Item templates

Q Which attribute must be set to 'YES' in order for values to be stored in the index?

¶ storageType

Q Which two search providers does Sitecore ship with?

②Lucene and Solr

Q If you wanted to store the number of comments a news article has, what type of field might you use to perform the calculation?

②A computed field

Q Why should you tune your index configuration and not index everything by default?

②Large, unwieldy index as your solution grows

Module 9 Beyond the developer Environment

Q What are the three layers that the item cache mechanism have?

②Item, Data and Prefetch

Q What operation clears the HTML cache?

②Publishing

Q Which cache is populated when the application starts?

②Prefetch cache

Q What is the path for the .aspx page that clears all cache?

②/Sitecore/admin/cache.aspx

Q Cache settings are defined in what file?

②web.config

Q Name three places where component HTML caching options can be defined

②Definition item, standard values or per instance of the component

Q What mode in Experience Editor shows profile, cache settings and HTML output for individual components?

②Debug mode

Q Name the 3 publishing modes

②Incremental , smart and republish

Q Publishing restrictions can be applied to _____, _____ and _____

②Numbered versions of items , the item itself and targets

Q List some benefits of using Sitecore Installer

②Checks prerequisites, correct DLLs, logs, remove an existing installation

Q Can you do a manual installation?

Yes

Q What are the recommended servers for an installation and which databases are on each server for a production environment?

CM with core, master and web

CD with core and web

Separate DB server

xDB with separate collection, reporting and aggregation servers

Q Name some features of Sitecore Instance Manager

Packages, customize, extend, reinstall & remove instances

Q Name two development models

Inside and outside the web root

Q Which is the best practice?

Development outside the web root

Q What are the options to source control your items?

You can serialize your items for source control with Sitecore Rocks or use a product like TDS to do it.

Q What is the recommended way of patching in changes to web.config?

Patch web.config with include files, located under /App_Config/Include

Q What are Sitecore packages and what do they contain?

Zip files that contain items and code files

Q What is the name of the .aspx that you go to when upgrading Sitecore?

/sitecore/admin/updateinstallationwizard.aspx

Q Which application is used to view the resolved access rights

Access Viewer

Q You can assign access rights to _____ and _____

Users and roles

Q Can access be explicitly given to a user to override the role access right?

Yes

Q Name three permissions that are applied to access rights

Allow, deny and not specified = deny

Q What are workflows used for?

Content approval, versioning and tracking

Q Items go through a series of _____

States

Q Each state can contain certain _____ and _____

Commands and actions

Q When is an item publishable?

In the final state

Q When is a new numbered version created?

When an item's version is in a final workflow state and then subsequently is edited by a non-Administrator.

Module 10 Marketing Functionality

Q What tool will show you all contacts that have been to your site?

Experience Profile

Q How does Sitecore store visitor data?

Data is collected in a MongoDB collection database.

That information is aggregated and stored in a SQL Server database optimized for reporting

Q Engagement is measured using...

Goals

Q Goals can be assigned to specific items and/or...

They can be triggered programmatically

Q What is the purpose of testing?

Establish which content or components makes your visitors react more favorably

Q When can authors start a test?

❑ As part of workflow—whenever they have made a change on a page

Q What can be tested?

❑ Content, components or entire pages

Q What to do to make sure your authors can use the testing functionality?

❑ Add ‘Launch Create Test Dialog’ to workflow

❑ Make sure the Experience Editor works and is configured correctly

❑ Ensure components that should be tested are configured to accept data sources

Q What does it mean to profile content?

❑ Assigning points in certain categories based on the audience that a content item is aimed at

Q How does componentization and use of data sources support personalization?

❑ As a visitor navigates around the site, components can be added / hidden or their data changed to match a particular pattern card or profile key score

Module 11

Q What function do branch templates have?

❑ Allow authors to create an item and a list of child items in one click

Q Items exist in a ___ and ___ version.

❑ Language and numbered

Q What does unversioned for field versioning mean?

❑ Single value per language

Q What does shared for field versioning mean?

❑ Single value for all numbered versions in all languages

Q What is the default field versioning?

❑ Versioned –different values for all languages and numbers

Q What is the field called where you set up field sorting?

❑ Sortorder

Q Where is this field found?

❑ Standard fields

Q On what type of item do you do field sorting?

❑On the field definition item

Q Name two fields that you can use to help a multi-lingual audience

❑Long Description and Short Description fields -also part of the standard fields

Q What are pipelines?

❑Break down operations into multiple configurable steps

Q Where are pipelines defined?

❑In the web.config as<processors />and <pipelines />

Q In what folder on the file system do you store your pipeline configuration files?

❑The Include folder

Q What method do all processors implement?

❑Process()

Q What are the three options for creating pipelines

❑Add processor to existing pipeline

❑Override and extend existing processors

❑Create new pipelines that are called from code

Q Give an example of an event that you can subscribe to

❑Item saved / created / updated / deleted / moved / renamed / and so on

Q How do you subscribe to events?

❑Using event handlers

Q Where are events defined?

❑In the web.config

Q A rule consists of a _____ and _____

❑Condition and action

Q What should the final result be for a condition for the action to be executed?

❑True

Q In what other scenarios can rules be used, besides personalization?

For example, Insert Options

Intro To Sitecore

How does Sitecore define a type of item (data schema)?

Using data templates

What is the name of the feature that makes WCM possible in Sitecore?

Experience Management (xManagement)

What do you need in addition to the Experience Management to take full advantage of the Sitecore Experience Platform?

You need the Experience Database to take full advantage of the available features. It supports the Analytics and Marketing features.

Are all items pages in a Sitecore project?

No, items that are pages have their **presentation details** set.

Configuring the Sitecore Environment

What is the recommended version of Visual Studio for Sitecore development?

Any version that supports the .NET framework 4.0 will work for Sitecore development.

What additional databases are required when running xDB?

Collection Database (MongoDB), Reporting, Session State

You have just created new content but you cannot see it on your live website. Why not?

You need to publish new or edited content.

What tools can you use to install Sitecore?

Manual or zip file, EXE, Sitecore Rocks, SIM

How do you patch in changes to the <sitecore> section of web.config?

Put a .config patch file in the App_Config/Include folder

Setting Up a MultiSite Project

When you set up multiple site structures in the content tree, what is the recommended practice for handling content that will be shared between sites?

Keep it outside of any site structure.

What types of Visual Studio projects does Sitecore support?

ASP .NET Web Application, supporting MVC or Web Forms.

How can you make your Visual Studio project portable?

By working outside the webroot.

What is the difference between publishing and deploying?

Publishing copies items from the Master to Web databases while deploying copies files from your Visual Studio project to your webroot.

Name some the attributes that can be configured in the site node for a website. (think SiteDefinition.config file).

Name, host name, rootPath, startItem, language

What are some of the features of Sitecore Rocks?

Integration with Visual Studio. Creating and editing items, management tools, viewing website file system

Creating the Site Structure

To provide a rich user experience, what are some recommended practices you should use when you create templates?

Provide default values, use user friendly names and icons, limit the use of Rich Text Editors.

Where are default field values defined?

On the Template Standard Values item

Why is storing media in the Sitecore database an advantage?

It makes publishing easier because the item and the media are both published so you do not have to keep files in sync.

What item setting needs to be specified for authors to be able to add content?

Insert options

What is the recommended practice for setting insert options?

Insert options are set on the Template Standard Values item

Describe the anatomy of a Sitecore Layout?

A code file on the file system and definition item in the content tree

How is the layout file linked to the definition item?

By the Path field on the definition item.

How do you display the contents of a field in code?

`@Html.Sitecore().Field("<Field name>")`

What can you use to translate fields and Help texts in the Sitecore Client?

Sitecore Dictionary entries

Building Component Based Sites

Which type of component would you create if you wanted to closely follow MVC patterns or invoke complex logic?

Controller Rendering

True or False: The view should contain all the business logic.

False

What happens if allowed controls are not specified on a placeholder settings item?

In the Experience Editor, the user will be able to add any component to the placeholder.

How do you make Sitecore recognize a controller rendering?

Create a component definition item and set the controller and controller action. Additionally, you can also set an Area.

You want to ensure headers and footers are always visible on your Main layout. Will you statically or dynamically bind it?

Statically bind it when you need it to always appear on a layout or rendering.

What is the difference between the Renderings and Final Renderings fields?

The Renderings field is shared between all item versions and is used for global changes. The Final Renderings field is not shared and stores language and version-specific changes.

When you add
`@Html.Sitecore().Placeholder("main")`
to your rendering, what do you need to do to make the placeholder selectable in the Experience Editor?

Create a Placeholder Settings *definition item*.

Increasing Component Reusability

An author adds a component to a page in the Experience Editor and then selects the Associated Content dialog box automatically appears. What triggers this behavior?

The component's Datasource Location field is filled in.

How can you restrict authors to specific types of item for a component's data source?

Add the data template to the component's Datasource Template field.

How are component parameters stored in the Sitecore database?

As clear text in URL query string format.

You have created a new Parameters Template. How do you ensure your component uses it?

Through the component's definition item in the Parameters Template field.

What are Compatible Renderings?

Components that can be exchanged or replaced with each other.

What should you keep in mind when configuring Compatible Renderings?

They should be set on both components so you can exchange them. Both need to be in the Allowed Controls for any placeholders they will appear in. They may need to share data source and parameters.

You have a component you would like cached anywhere it is used. Where would you define its cache settings?

On the component definition item in the Sitecore tree.

Why should you never cache a component that displays personal information?

Another visitor to your site can see that information.

You have a component that you want cached on every Event Details page. Where would you define its cache settings?

On the component on the Event Details Template Standard Values item.

Applying Navigation Practices

Why would you want to have the languageEmbedding option set to never?

The site is not multilingual.

How would an author cause a broken link when renaming an item?

The URL is usually made using the item names. If the page was bookmarked in the browser, it will no longer work. You will need to implement 301 redirect logic.

How would you disable .aspx being added to all URLs that are generated from Sitecore?

By changing the addAspxExtension attribute of the LinkManager.

How can you globally change characters in the URLs that are generated from and resolved from Sitecore?

Using the encodeNameReplacements option in the web.config.

In which situations would you want to change the Links that are generated for an individual link?

If you need to force the language of content that is to be rendered from Sitecore.

Why is it important to have friendly folder structures within your content tree?

Because they dictate the segments that are within your URL.

How would you display the direct children of the Home item?

- By retrieving the Home item using the Sitecore.Context.Site.StartPath.
- By invoking the GetChildren() method.

What is the danger of using a method like Axes.GetDescendants()?

It retrieves recursively all the children of all the children of the item. If invoked in an item near the root, it would load the entire tree in memory, with the corresponding performance penalty.

How can you skip certain items when you build the navigation?

Use LINQ to filter by template or the value of a particular field.

Working with Complex Field Type and Item Sorting

How would you render the content of an Image field on the website?

- `@Html.Sitecore().Field()`
- `FieldRenderer.Render()`

What happens if you use one of those methods to render a Multilist field?

It would render the raw value of the field: pipe-delimited GUIDs

How would you render a Multilist field?

By retrieving its value in code and using it to create some output.

What class would you use to retrieve the contents of a Treelist field?

`Sitecore.Data.Fields.MultilistField`

How do you get the children items of an item?

- `.Children`
- `.GetChildren()`

In what order do children item appear by default?

Alphabetically

Why would you preferably avoid sorting items in code, for example, using LINQ?

It might confuse authors to see items appear in a different order to the order shown in the Content Editor.

What is the name of the pop-up window in the Experience Editor that can be used to edit fields that are not editable inline?

A Field Editor

How would you enable the use of a Field Editor?

By adding a Field Editor Button to a toolbar

How would you show a toolbar in a random part of the page?

Using an Edit Frame

How would you configure the buttons shown in an Edit Frame?

- By creating some definition items in the Core database
- By adding the Buttons property to the Field Editor

Tracking and Interacting with Site Visitor

What is the biggest challenge when you post forms with Sitecore MVC?

Having multiple controllers invoked in the same page request. Only one of them should handle the post.

What method do you need to invoke inside a View Rendering form to ensure only its controller reacts to the post?

Html.Sitecore().FormHandler()

How do you bind a controller to deal with the post of a View Rendering?

By filling the Form Controller Name and Form Controller Action fields in the definition item of the View Rendering

What three pieces of information do you require to create an item?

- Name
- Template
- Location (parent node)

How can you run part of your code with a set of privileges different from those of the context user?

- UserSwitcher
- SecurityDisabler

Why does Sitecore not allow the use of certain characters in an item name?

Item names are used to form the URLs. Some characters have a special meaning in a URL.

What methods do you invoke when you begin and finish editing an item through the API?

- .Editing.BeginEdit()
- .Editing.EndEdit()

What two core services conform to the Sitecore Services Client?

- ItemService
- EntityService

Working with Adaptive Personalization

What is the difference between a profile card and a pattern card?

A profile card is used to profile content. It acts as a preset of profile keys and values.

Used during personalization or contact segmentation, pattern cards define archetypes to compare with the current profile of a contact and establish which one corresponds most closely with the interests of the visitor.

How can authors change a component through personalization?

They can change its data source, hide it, or exchange it for another component.

What do you need to do to support the use of personalization?

Componentize the page, and use data sources whenever possible.

What happens if you forget to include @Html.Sitecore().VisitorIdentification() inside the <head> of the page?

All visitors will be treated as bots and their information not stored in the xDB

How does Sitecore track a device?

Sitecore places a tracking cookie in the browser and stores a reference to this in the xDB.

How does Sitecore initially identify a contact?

By using the Identify() method invoked with a suitable identifier.

Why is Engagement Value so important?

It is a better metric than simply measuring traffic to evaluate the success of the site.

Most Sitecore reporting provides engagement value/visit information.

How does Sitecore calculate the engagement value?

By adding up the points assigned to all the goals triggered by the visitor

Implementing Search Driven Component

Why would you choose Solr over Lucene.net?

SOLR is a multiserver implementation of Lucene, which allows easier scaling, better language support and allows there to be a dedicated endpoint for Search.

When should you use a Computed field?

When you need to use field data to calculate a different value to be stored in the index itself.

Why do you use an Item Bucket?

If you have a large amount of content within the content tree and need a scalable solution for authors to work with.

How do you use Search facets?

To filter results after an initial search has been run.

Driving Robust Development

Why would you script your build process when you develop with Sitecore?

To achieve automated repeatable builds

Why is it easier to work outside the webroot when it comes to deployment?

It is easier to manage files that need to be deployed and configure deployments to multiple Sitecore installations.

Why is it a good idea to secure Sitecore before it is deployed?

The default Sitecore installation is set up for development not production, so it is set up to optimize convenience not security.

Why would you use the zip version of Sitecore to drive your scripts?

It is easier to create scripts working from a compressed version of all the necessary files to run Sitecore than a executable wizard.

How should you persist your items in source control?

By serializing them. How they get serialized will depend on the tools you have at your disposal.

What elements should be committed to source control?

All the assets that can't be re-generated from other sources. This will include mostly your code and items.

What are the main steps involved in deploying your application?

1. Install Sitecore
2. Copy the assets from your solution (Views, JS, CSS, DLLs)
3. Restore serialized items (deserialization or through a package)
4. Extra steps (publishing, index rebuild)

What process is used to write database rows of Sitecore to files on disk?

Serialization.

Exploring Security and Workflow

What is Sitecore's security based on?

asp.net providers

What are the two types of accounts?

Users
Roles

Where are access rights stored?

Standard field on items

What happens if an access right is unspecified?

Sitecore will inherit the value from the parent item unless inheritance is disabled (denied).

What are the effective permissions of a user?

Those defined on the user, plus those defined on any role it belongs to.

What role can you give access rights so that they apply to all accounts in Sitecore?

Everyone

What happens if a role denies an access right and another one allows it?

It is denied

How can you check the effective permission of an account?

Using the Access Viewer

What are the two main security best practices?

- Don't set security on users
- Avoid using explicit denies

Which user is bound to unauthenticated requests to the front-end website?

extranet\Anonymous

What role does a user need to be able to log in to the Sitecore back end?

Sitecore Client Users

Can you assign a user to a role from a different domain?

Yes

What are workflows made of?

- States
- Commands
- Actions

How are workflows defined?

Through definition items under /sitecore/settings/workflow

How do you bind a particular workflow with a certain type of items?

Setting the initial workflow in the data template's standard values.

What is a workflow action?

An automatic side effect of invoking a command or entering a state

What are the two consequences of making a state Final?

- Items in it can be published
- Sitecore creates a new version when a (non-admin) user tries to edit it

What is the point of the workflow state Write access right?

To override the Write Permission for an item while it is in a particular workflow state

Documentation and Support

Name the five official Sitecore Documentation Resources and their purpose.

- **Sitecore Developer Network:** Contains downloads and documentation of supported Sitecore products and modules prior to the 8.0 versions.
- **Sitecore Developer Portal:** Download the Sitecore Experience Platform and all associated products and modules for 8.0 and beyond - including Print Experience Manager and Sitecore Commerce.
- **Sitecore Documentation:** Contains all relevant documentation for the Sitecore Experience Platform and all associated products and modules for 8.0 and beyond.
- **Sitecore Knowledge Base:** Contains details about known issues, problems, and common questions related to Sitecore products with guidance to find the right solution.
- **Master Sitecore YouTube channel:** Contains freely available video tutorials for developers, business users, and optimization experts.

List the benefits of participating in the Sitecore Community.

Complete sample modules can be found on the Sitecore Marketplace. You can reuse these sample modules in your own project.

You can get free 24/7 help from hundreds of community members around the globe, including Sitecore employees, Sitecore Certified Developers, and MVPs. While contributing actively to the Sitecore Community, you can become a Sitecore MVP. This gives you all kinds of Sitecore related benefits.

What should you do before contacting Sitecore Support?

- Examine the Sitecore log files for errors and warnings.
- Compare your configs, with the Sitecore stock configs or with prior deployments.
- Search for solutions on the various official and community documentation sources.
- Run the self-test diagnostics from the Sitecore Diagnostics Toolset.

If these solutions do not help, reproduce the issue on a clean Sitecore environment, and create a Sitecore Support package with the diagnostics information.

What do you need when contacting Sitecore Support?

Your own personal Sitecore credentials that are allowed write access to the Sitecore Support Portal.
A valid License ID for the customer where the issue relates to. Partner License ID's should only be used for pre-sales and R&D purposes.
A case description on how to reproduce the issue.
Attach relevant configuration, log and environment related files. Errors should be added as plain text files.

Who should you contact when encountering issues with Sitecore Support?

When you encounter communication, timing or access issues, you can always contact your regional sales office.

1. Where sitecore store all data? **Item**
2. Why we use Solr over Lucene? **Solr is more scalable**
3. Why we use Lucene over Solr? **Lucene is easy to use**
4. Why Web Content Management is useful to the organization? **It provide flexibility to non technical user to manage the content of the site**
5. When Web Content Management is not useful to the organization? **When the content of the site is no longer going to be changed**
6. We want to remove an item from live site on 1 Dec 2017. What u will do? **Need to discuss**
7. What role sitecore admin has? **Need to discuss**
8. What happen if you have sitecore admin role? **Need to discuss**
9. What is the recommended practice to use personalization? **Use Datasource**
10. How we achieve personalization? **Using Rule**
11. How sitecore identify a returning customer? **Using cookie stored in the browser**
12. What you will do to modify the default sort order of item? **Need to discuss**
13. From where we can see item template info? **Quick Info**
14. From where we can see item template inheritance chain? **Template**
15. You have Title field in Event template and Title field in Article Template. What you will do to follow the recommended approach? **Create a base template and inherit on both**

- 16.**If template B inherit from Template A. What fields Template B will have? **All fields of B and A**
- 17.**How to scale sitecore vertically? **Need to discuss**
- 18.**How to scale sitecore horizontally? **Need to discuss**
- 19.**Part of sitecore responsible for Generating link? **LinkManager**
- 20.**Syntax of using sitecore dictionary?
`Sitecore.Globalization.Translate.Text("main_site");`
- 21.**You have a template “News List”, and you have another template “News Item”. News item can only be created under News list. Where you will change the sort order for News items. **Need to discuss**
- 22.**How sitecore editor can change sort order? **Need to discuss**
- 23.**What is SEO Friendly URL? **Are generated for item**
- 24.**What is the use of insert option? **It provide flexibility to content author to insert item**
- 25.**Why we set icon to items? **To provide meaningful info**
- 26.**When it is not advisable to set icon on item? **Need to discuss**
- 27.**Where do we apply patch? **Appconfig/include**
- 28.**In a multisite, where we specify the home node setting for each site? **In patch file for sitedefinition.config**
- 29.**Which search provider is by default come with sitecore? **Lucene**
- 30.**How to login to sitecore for the first time? **Admin b**
- 31.**What is launch pad? **First screen which we see when we login to sitecore**
- 32.**What is content editor? **A user interface to edit the content**
- 33.**Why we create project outside of the web root? **portable**
- 34.**What is profile and profile key? **Need to discuss**
- 35.**Why we use profile and profile key? **To identify the behavior of visitor**
- 36.**Which property of SearchResultItem will be used to group the descendants of Home Item? **Descendant**
- 37.**If we delete Home item and publish the item. What will happen to the live site? **Site will not be available**
- 38.**What happened when we publish the site? **Item which are deleted from master will get deleted from web**
- 39.**What happen if we publish full site? **Need to discuss**
- 40.**How to trigger a goal on the form submit event? **Need to discuss**
- 41.**On which DB we do content editing? **Master**
- 42.**What DB are required on the live site? **Web and Core**
- 43.**Use of all Sitecore support links like SDN Dev DOC Marketplace (Match the following type)
- 44.**What do we store media in sitecore DB? **Media item and image both get published**
- 45.**What does a template define? **Field and Filed type for item**

- 46.What makes Experience Management system unique? It provide flexibility to non technical user to edit the content**
- 47.Why we should assign access right on role? Easy to maintain**
- 48.Where do we see effective permission of Role? Access Viewer**
- 49.Why we use bucket? To store thousands of items**
- 50.To get the children from bucket, what we use? ContentSearchAPI**
- 51.What you will do to not make any field editable? Mark as non editable in field definition**
- 52.Where sitecore look for the language of the site initially ? ans: sc_lang query string**
- 53.For performance what you will do ? Ans: index only those field which are required.**
- 54.How do you make sure that all templates are inheriting from Standard Template? Ans: Nothing, as it is the default behavior**

Databases

- *Master*—authoring database, *work in progress*
- *Web*—published, *live content*
- *Core*—settings and membership
- *xDB*—MongoDB NoSQL collection. New starting with 7.5!
- *Reporting*—replaces Analytics DB previous to version 7.5

File system

- *Website*—Web root of your Sitecore application
- *Database*—database files
- *Data*—license, Sitecore logs, packages, indexes

SitecoreNamespaces

- *Sitecore.Data*—CRUD operations, item manipulation

- Sitecore.Context—Information about current request

- Sitecore.Links—Links management

Useful in-built utilities

- Sitecore.DateUtil

- Sitecore.IO.FileUtil

- Sitecore.StringUtil

- Sitecore.UIUtil

- Sitecore.MainUtil

Dynamic vs. Static Binding

What are the benefits of dynamic binding?

- New page types can be assembled *from existing* components
- Changes to page structure *do not require* a developer
- Supports *content re-use* (more in Module 5)
- Supports Sitecore's *personalization* and *testing* features

Static binding

- Some components, like headers and footers, may be *statically* bound

```
<sc:Sublayout Path="/layouts/Header.ascx" runat="server" />
```

- All items have a collection of *Fields*

```
FieldCollection fields = Sitecore.Context.Item.Fields;
```

Getting and Setting Raw Values

Access the field value directly...

```
string fieldValue = Sitecore.Context.Item["Profile Text"];
```

(note: this returns *String.Empty* even if field is *null*)

....or retrieve the field as an object first

```
Field field = Sitecore.Context.Item.Fields["Profile Text"];
string fieldValue = field.Value;
```

Simple text fields can be changed by setting their .Value

```
field.Value = "My new value!";
```

Note: If you bind `field.Value` to a .NET Literal, it will not be editable in the *Experience Editor*!

Security and Editing Contexts

Security context

- Requests are made in the context of *anonymous* or *currently logged-in user*
- You can force code to run regardless of context user's permissions:
 - Switch to another user
 - using (new UserSwitcher(user)){};
 - UserSwitcher is safer in production, however you can also use SecurityDisabler
 - using (new SecurityDisabler()){};

Editing context

- Editing and renaming must happen in the *editing context*

```
try
{
    newItem.Editing.BeginEdit();
    Field heading = newItem.Fields["Heading"];
    if (heading != null)
    {
        heading.Value = "Vacations";
    }
    newItem.Editing.EndEdit();
}
catch
{
    newItem.Editing.CancelEdit();
}
```

- *Programmatically* create an item based on the **Trip** template

Tip: Use **Sitecore.Data.Items.ItemUtil.ProduceValidItemName()** to ensure your item's name adheres to convention

Using the API for Sublayout Datasources

- Sublayouts are just .NET user controls, no prior method to retrieve Datasources
- To get a sublayout's datasource, you can use the following snippet in your code-behind:

```
var datasource = Attributes["sc_datasource"]; //GUID as string
Item datasourceItem = Sitecore.Context.Database.GetItem(datasource);
```

Forcing Controls to Use the DataSource

By default the target of a Sitecore control is the context item

- If you use an `<sc:Text />` without explicitly setting the item that it should target, it will try to render the specified field from the context item.
- To force Sitecore controls to target the Datasource, you can either set the `.Item` property or the `.DataSource` property:

```
<sc:Text Field="Widget Heading" ID="Heading" runat="server" />
```

```
Heading.Item = myItem
```

OR

```
Heading.DataSource = "{6C0EB349-5FBA-481C-A350-7B9ECAD7D394}"
```

Or you can set the control's `DataSource` or `Item` property directly in the `.ascx` file!

Retrieve Rendering Parameters Using the API

Rendering parameters are stored as strings, to retrieve parameters in code for...

- **Sublayouts**

```
string parameters = Attributes["sc_parameters"];
```

- **Web Controls**

Use the `.Parameters` property

Sitecore has a utility for turning parameters into a `NameValueCollection`:

- `var nvcParameters = Sitecore.Web.WebUtil.ParseUrlParameters(parameters);`
- Retrieve values as usual from a `NameValueCollection`, that is:
- `nvcParameters["CssClass"];`

Compatible Renderings

- Configured on *component definition items*
- Must *define each other* as compatible
- Both must be *Allowed Controls* of any placeholder you want to add them to
- Consider whether components need to *share Parameters* or *Datasources*

Which of the following used to retrieve information from xDB -> xConnect

What we define inside `Layers.config` -> Order of config file get executed in Sitecore 9

How Do I Contact Support?

<http://support.sitecore.net/> (with SDN login details)

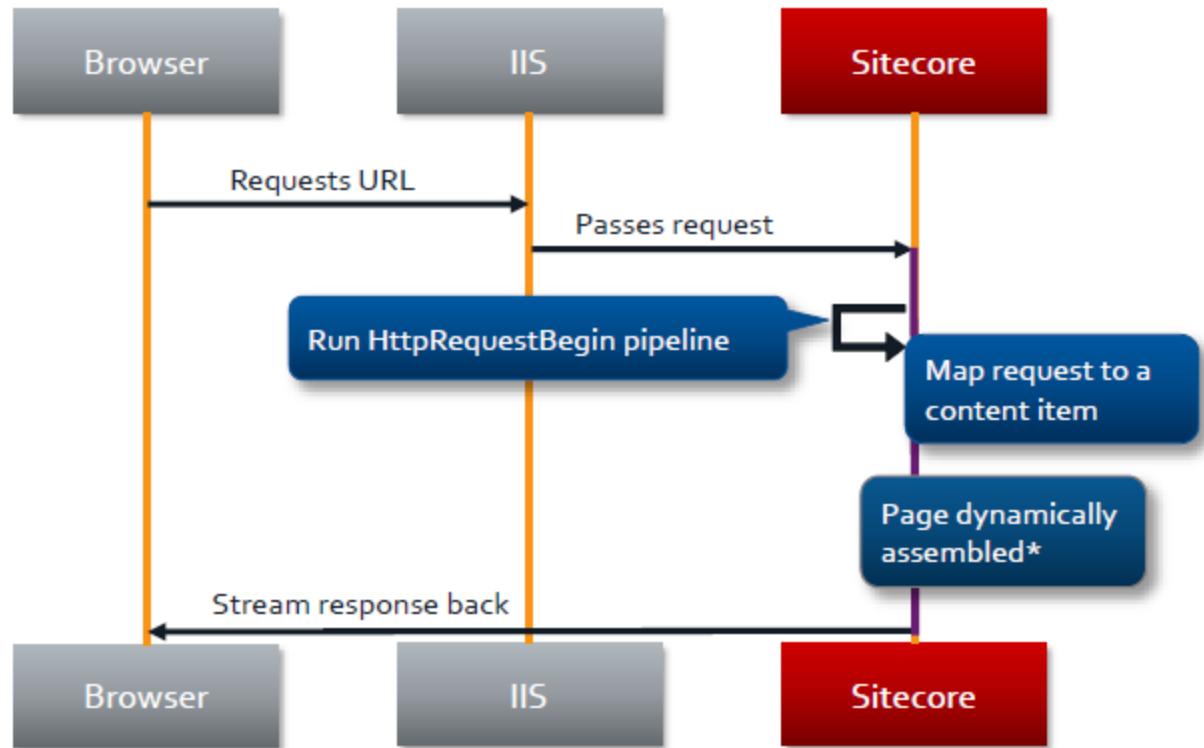
- *One problem per issue*
- *Timestamp your responses*
- Attach relevant *configuration files*
- Attach recent *log files, screenshots* of UI errors and *related files*
- Attach exceptions as *plain text documents*
- Try *reproducing the issue* on a *clean installation* before contacting support
- Look at log files using *log analyzer*
- Search *marketplace* before asking for code examples
- Compare *admin>ShowConfig.aspx* to stock web.config
- Use the *Support Package Generator* module

Public FTP (10MB+ files): <http://sdn.sitecore.net/Support/Sitecore%20Public%20FTP.aspx>

HelpDesk Best Practices: <http://sdn.sitecore.net/Support/Helpdesk%20Best%20Practices.aspx>

Screen clipping taken: 7/13/2018 7:13 PM

How Sitecore Handles a Request



Layout Not Found

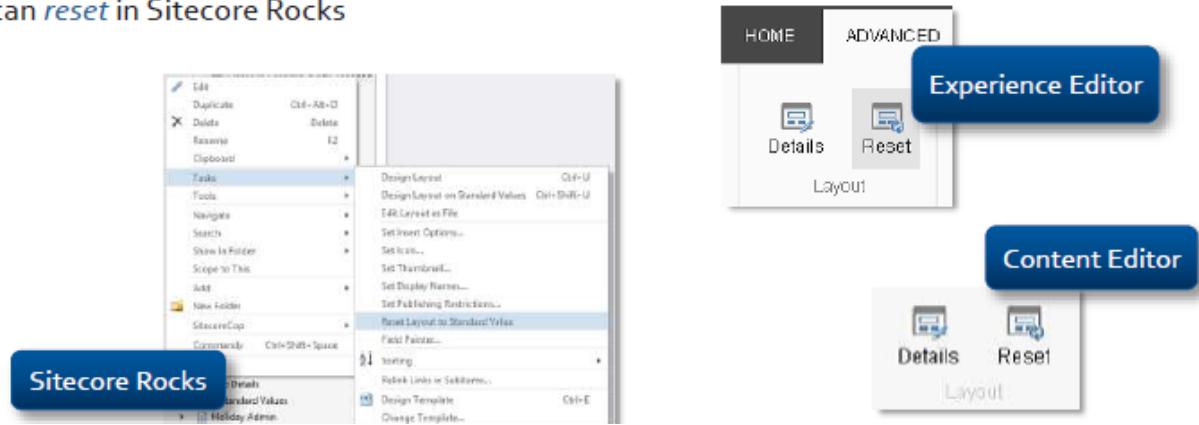
What will happen when you ...

- Browse to <http://basicsitecore/Family> Holidays

Designs Change

Resetting Presentation

- Editors *may modify* appearance of a page using Experience Editor
- Changes* are stored on the item
- Presentation *can be* reset back to the default Standard values
- Reset buttons *available* in Experience Editor and Content Editor for *editors*
- Developers can *reset* in Sitecore Rocks



Sitecore Controls Have Optional Attributes

Sitecore offers a different set of options depending on the control

On Sitecore's **Image** control, you can configure:

- CssClass** for a particular instance of an image
- Dynamically resize with **MaxWidth** or **MaxHeight** (*caches an image of that size on the server!*)

```
<sc:Image Field="Main Image" MaxWidth="200" runat="server" />
```

In code, your settings trump the author settings

- If you set an image's **Alt** text in code, an author's changes in the Content Editor will *not* take effect. Determine whether you want authors to have control of this property

The GetItem() Method

Retrieving items

- *Items* represented by the type Sitecore.Data.Items.Item
- *Items* can be retrieved using the GetItem() method:
 - Sitecore.Context.Database.GetItem("/sitecore/content/Home");
- GetItem() accepts a Sitecore *ID* or *path* to an item
- Whenever possible, IDs or paths should not be hardcoded in your solution
 - Keep IDs or paths in one place in your solution. For example, a References.cs file

Retrieving the context site's start item

- To get the context site's start item (specified in the <site> node in the web.config), you can use the following method:

```
string startPath = Sitecore.Context.Site.StartPath;  
Item home = Sitecore.Context.Database.GetItem(startPath);
```

Getting Items from Other Databases

- Context.Database points to the **web** database when browsing the *live* site
- Context.Database points to the **master** database when authors *edit* the site
- If you want to get an item from *another database* (for example: editing an item in the **master** database), get the desired database by name:

```
Sitecore.Configuration.Factory.GetDatabase("master");
```

- Use the same *GetItem()* method directly on the database object:

```
Database master = Factory.GetDatabase("master");  
Item = master.GetItem("/sitecore/content/home");
```



- Use .GetChildren() and .Children
 - These return a collection of items of type Sitecore.Collections.ChildList
- Example:

```
Sitecore.Collections.ChildList children = item.GetChildren();
```
- Display Names allow alternative item names for different languages. If the site was translated into Danish, the content editor would see ‘ferier’ rather than ‘Family Holidays’
- Example:

```
Item item = Sitecore.Context.Database.GetItem("{565A8A17-032F-44AC-B506-B65F27A31241}");

UrlOptions options = UrlOptions.DefaultOptions;

options.UseDisplayName = true;

string url = LinkManager.GetItemUrl(item, options);
```

Fields and Raw Values

All items have a collection of *Fields*

```
FieldCollection fields = Sitecore.Context.Item.Fields;
```

A field's *raw value* (value stored in database) depends on the field type

Field type	Controls
Single-Line Text	Welcome to the world of Sitecore!
General Link	<link text="Read the feature guide" linktype="internal" url="/Home/holidays.aspx" id="{54089BF1-790F-44E0-93E4-66BEC9CD61D1}" />
MultiList Field	{743C2FAD-0E01-426E-8972-2CCFEBDC20F9} {243C2FAD-0E01-C26E-8972-1CCFEBDC20F9}

Simple Fields

Simple fields contain text only

Field	Raw value	Source	Control	Class
Singe-Line Text	text	n/a	<sc:Text />	Field
Multi-Line Text				
Integer				
Rich Text	text	Path, GUID	<sc:Text />	Field
Droplist	text	Path, GUID, Query	<sc:Text />	Field
Grouped Droplist				

Complex Fields

Field	Raw value	Source field	Control	Class		
Image	Custom XML	Path, GUID	<sc:Image />	ImageField		
Date	ISO date	n/a	<sc:Date />	DateField		
General Link	Custom XML	n/a	<sc:Link />	LinkField		
Droplink	Single GUID	Path, GUID, Query	n/a	ReferenceField		
Grouped Droplink						
Droptree						
Multilist	Pipe- delimited GUIDs	Path, GUID, Query	n/a	MultilistField		
Checklist						
Treelist		Path, GUID, Parameterized Datasource				
TreelistEx						
Checkbox	1 (true) or not 1 (false)	n/a	n/a	CheckboxField		
File	Custom XML	Path, GUID	n/a	FileField		

Base Field Object

```
Sitecore.Data.Fields.Field
```

Example of using a Field object:

```
Sitecore.Data.Fields.Field heading = item.Fields["Heading"];
string fieldValue = heading.Value;
```

Examples of Specific Field objects

Namespace: Sitecore.Data.Field

```
ImageField myImage = item.Fields["Main Image"];
LinkField myLink = item.Fields["Company URL"];
ReferenceField myRelatedItem = item.Fields["Holiday Type"];
MultilistField myRelatedItems = item.Fields["Related Trips"];
```

Raw Value of a Rich Text

Example of the raw value of a Rich Text field containing a link:

```
<p>Have an <a href="~/link.aspx?_id=992233B83B0447F4B23BE548AACED6AA&_z=z">awesome holiday</a> with us!</p>
```

Notice the URL – this uses non-SEO friendly GetDynamicUrl()

Notice _z=z in the URL. This is a terminator, everything after this is treated as a normal queryString

ImageField Object

```
Sitecore.Data.Fields.ImageField
```

Example of using an ImageField object:

```
ImageField imageField = item.Fields["Banner"];  
MediaItem mediaItem = imageField.MediaItem;  
string altText = imageField.Alt;
```



An Image field's raw value

```
<image mediapath="/BaseCore/Images/Holiday Image"  
mediaid="{743C2FAD-0E01-426E-8972-2CCFEBCD20F9}"  
src="~/media/743C2FAD0E01426E89722CCFEBCD20F9.ashx" />
```

LinkField Object

```
Sitecore.Data.Fields.LinkField
```

Example of using a LinkField object:

```
LinkField linkField = item.Fields["Search Engine"];  
ID targetID = linkField.TargetID;  
string linkText = linkField.Text;  
string linkType = linkField.Type;
```

A General Link field's raw value

```
<link text="Read more" linktype="internal" url="/Home/holidays.aspx"  
id="{54089BF1-790F-44E0-93E4-66BEC9CD61D1}" />
```



ReferenceField Object

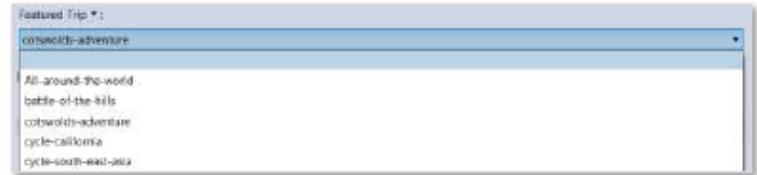
```
Sitecore.Data.Fields.ReferenceField
```

Example of using a ReferenceField object:

```
ReferenceField refField = item.Fields["Featured Trip"];
Item targetItem = refField.TargetItem;
```

Used with Sitecore Data Types

- **Droplink**
- **Grouped Droplink**
- **Droptree**



The raw value of those field types:

```
{54089BF1-790F-44E0-93E4-66BEC9CD61D1}
```

MultilistField Object

```
Sitecore.Data.Fields.MultilistField
```

Example of using a MultilistField object:

```
MultilistField listField = item.Fields["Related Trips"];
IEnumerable<Item> itemList = listField.GetItems();

listField.Add(tripItem); // Add item
listField.Remove(tripItem); // Remove item
```

Used with Sitecore Data Types

- Multilist
- Checklist
- Treelist
- TreelistEx



The raw value of those field types:

```
{54089BF1-790F-44E0-93E4-66BEC9CD61D1} {14289BF1-29AF-4EE0-93E4-66BEC9CD62D4}
```

Some Fields Can Be 'Rendered'

Rendering images, links, text and dates for web pages

- The *FieldRenderer pipeline* can turn raw values that are unfit for websites into rendered field values that can be used on web pages
- For example, this is an **Image** field's raw value in the **master** database:

```
<image mediaid="{743C2FAD-0E01-426E-8972-2CCFEBDC20F9}"
mediapath="/BaseCore/Images/Holiday Image"
src="~/media/743C2FAD0E01426E89722CCFEBDC20F9.ashx" />
```

For that same **Image** field, here is the rendered HTML tag:

```

```

Some fields cannot be 'rendered'

- Checkboxes
- Lists (Multilist, Checklist, Treelist or TreelistEx)
- References (Droplink, Grouped Droplink or Droptree)
- Files

FieldRenderer.Render()

Use `FieldRenderer.Render()` to get rendered field values in code-behind

```
string strRendered = FieldRenderer.Render(Sitecore.Context.Item, "Image");
```

Sitecore controls use
this method too!

Why should you use `FieldRenderer.Render()`?

- Transforms field content into *valid HTML* – Sitecore controls ultimately go through this method
- Automatically makes fields *editable in Experience Editor*
- Allows you to pass in *parameters* that match the ones available in Sitecore controls – for example: image max width
- *Translates dynamic links* in Rich Text Editor fields into SEO-friendly URLs

Render() Method Parameters

Different Parameters for the Render() Method

- **Image** – image formatting string, such as "w=120&as=1" for *width* of 120 pixels and *allow stretching* the image

```
FieldRenderer.Render(item, "Main Image", "w=120&as=1");
```

- **Date** – date formatting string, such as "format=MM/dd/yyyy"

```
FieldRenderer.Render(item, "Trip Date", "format=MM/dd/yyyy");
```

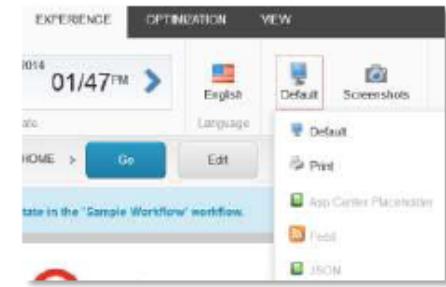
Which parameters take precedence?

- Hard-coded parameters *override* any author-entered property
- For example, if a user specified an image field width of 300 in the Content Editor and a developer specified a width of 120 using the `Render()` method's parameter, the rendered image width will be 120

Devices

Sitecore architecture supports adaptive design

- *Different presentation, same content*, depending on site is accessed
- Functionality achieved using *devices* that are represented as *definition items* in Sitecore
- Configure presentation *details* per *item* (or item type) and per device
- Change device using ?sc_device={ID} or a custom query string defined on definition item
- Use *custom code* to determine the type of *device* that is *accessing* Sitecore, and set context device accordingly

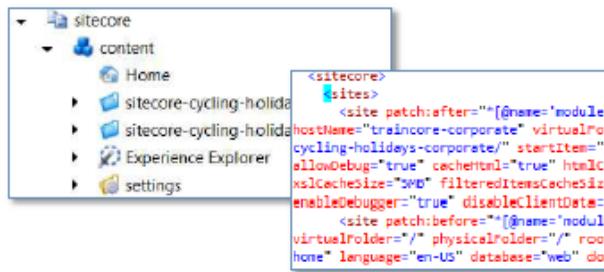


Screen clipping taken: 7/13/2018 7:29 PM

Multi-Site

How?

- Multiple *site root items* in tree
- *Shared content* outside individual site structure
- Individual `<site>` node in config (use include folder!)
- *Different* host name, start item, language, caching options



Warning!

Multi-site can become too complex!

- URL resolving/generation affected
- Shared templates/presentation or separate? *Duplication vs. complexity*
- Complex security considerations
- Sites share the same *application pool*

Demo 6.4 – Sitecore Query using XPath Builder

Context Node: `/sitecore/content`

Absolute query

`/sitecore/content/#sitecore-cycling-holidays#/*`

Relative query

`.//*[@@templatename='Bike']`

templatekey is lower case

Filter by template

`/sitecore/content/#sitecore-cycling-holidays#///*[@@templatekey='bike']`

Filter by content

`/sitecore/content/#sitecore-cycling-holidays#///*[@#Page Title# = 'Home']`

Return at index

`/sitecore/content/#sitecore-cycling-holidays#/*[3]`

Using axes – ancestor-or-self::

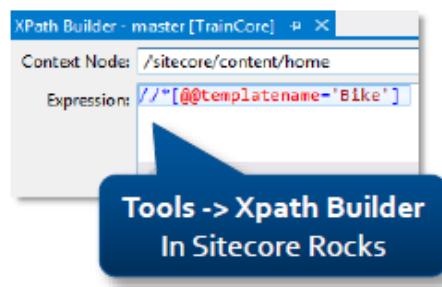
`/sitecore/content/Home/#sitecore-cycling-holidays#/Home/news/#our-plans-for-the-new-year#/ancestor-or-self::*[@@templatekey='news listing']`

`./descendant-or-self::*[@@templatekey='trip']`

Sitecore Query

Allows you to interrogate an XML representation of Sitecore tree

- Primarily used to limit selection in *field source*
- Can contain *axes* (e.g. ancestor-or-self) and wildcards
- Test with Tools -> *XPath Builder* in Sitecore Rocks
- Sitecore query is *not* Sitecore search – serious *performance implications*
- Number of results limited by *Query.MaxItems* setting (default is 100)



Context Node is the item you want to execute the query from – it's not part of the query

Escape item names with special characters such as hyphens or spaces with # (e.g. #sitecore-cycling-holidays#) in the Expression field

Make sure you use straight quotes, not smart quotes – for example, 'Bike'

Screen clipping taken: 7/13/2018 7:32 PM

Uses for Sitecore Query

Source field

- Query is supported in *most list* field types that accept a source
- Prefix with *query*: when using in source fields
- For Treelists use a *Parameterized Datasource* in the source field

In the API (but only sparingly!)

For example:

```
Sitecore.Context.Database.SelectItems("/sitecore/content/*");
Sitecore.Context.Item.Axes.GetDescendants();
```

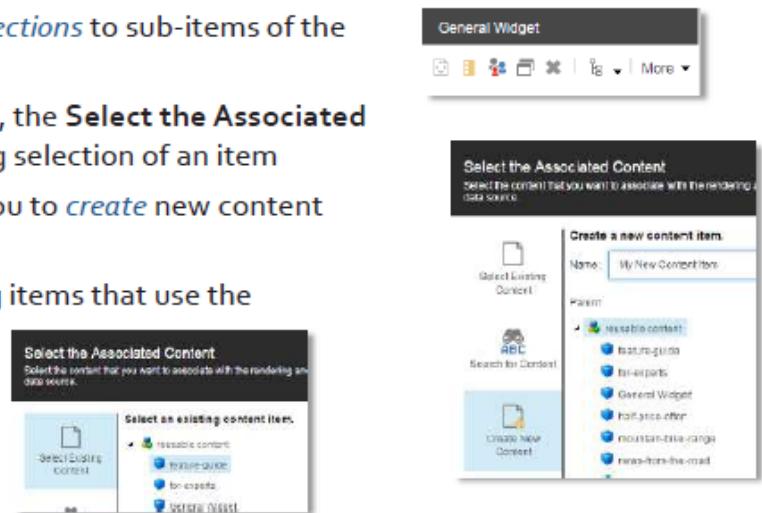
For any complex querying, use Sitecore search! (Module 8)

- Queries an *index*
- *LINQ API*
- Sitecore query more likely to lead to *performance issues*

Datasource Location and Template Restrictions

Configured on component definition item

- **Datasource Location** limits *selections* to sub-items of the indicated item location
 - When you insert a component, the **Select the Associated Content** dialog opens allowing selection of an item
- **Datasource Template** allows you to *create* new content using that indicated template
 - Limits the selection of existing items that use the indicated template.



Placeholder Settings Items

Placeholder Settings items are *definition items* for Placeholder Keys

Placeholder Setting items...

- Make placeholders *selectable* in the *Experience Editor*
`<sc:Placeholder Key="content" runat="server" />`
- Used to set up *restrictions*
- Does not affect presentation details dialog in any interface – only *Add Component* in the *Experience Editor*

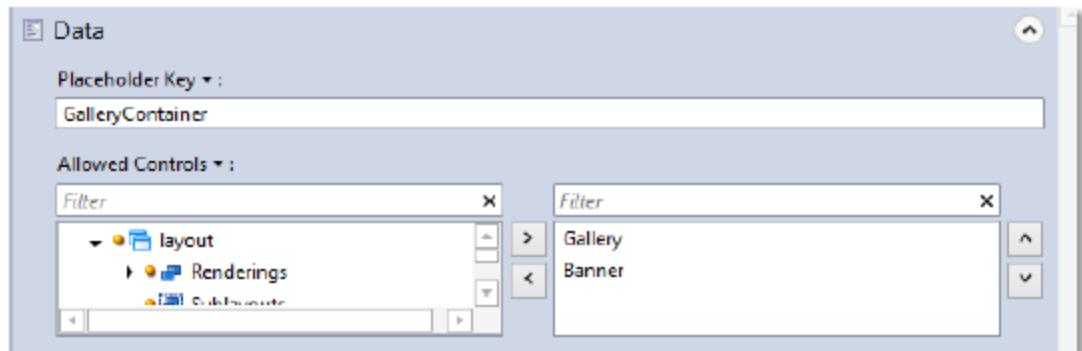
See tip in student manual for instructions on how to create a placeholder settings item



Allowed Controls

Allowed Controls

- Configured on Placeholder Settings item
- Define which components can be added to that particular placeholder
- If none selected, everything is allowed



Compatible Renderings

Compatible Renderings

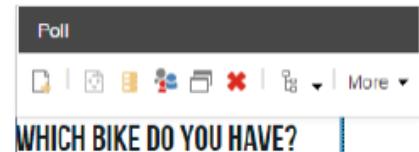
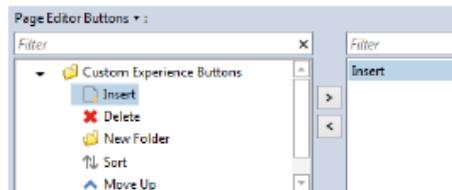
- Configured on *component definition items*
- Must *define each other* as compatible
- Both must be *Allowed Controls* of any placeholder you want to add them to
- Consider whether components need to *share Parameters or Datasources*



Custom Experience Buttons

Custom Experience buttons are a configurable

- Floating toolbar around fields and components

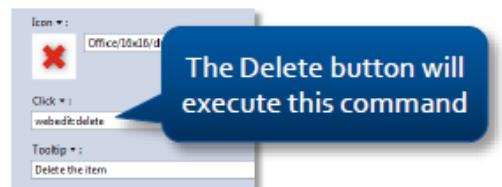


- Buttons list can be *extended* with *Custom Experience buttons*
- Lives in *core* database ([/core/sitecore/content/Applications/WebEdit/Custom Experience Buttons](/core/sitecore/content/Applications/WebEdit/Custom%20Experience%20Buttons))
- Context aware – *executes in context* of either the Context Item or if the component's Data Source field is set, then it executes in the context of the Data Source item

Custom Experience Button Types and Assignment

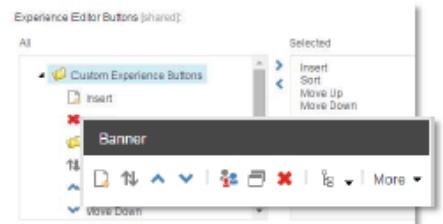
Customizing buttons

- **Field Editor** – Displays a field's editor in a pop-up window. This is useful for editing complex fields in the Experience Editor, such as a Multilist field.
- **WebEdit** – Indicates which code is triggered by a button. For example, the default for the Delete button is to fire `webedit:delete`



Where are these buttons assigned?

- **Component floating toolbar buttons** are assigned on the component definition item
- **Field floating toolbar buttons** are assigned on the field definition item (child of the data template item)



Edit Frames

Sitecore Control Pointing to List of Custom Experience Buttons

```
<sc:EditFrame Buttons="My Edit Frame" runat="server">  
    Option 1, Option 2, Option 3  
<sc:EditFrame />
```

- Defined in code; surround any mark-up (for example, content from a Multilist field)
- Floating toolbar will appear in that location
- *Buttons attribute* points to *folder of WebEdit/Field Edit buttons* in Sitecore tree
- Defined in *core* database – */core/sitecore/content/Applications/WebEdit/Edit Frame Buttons*
- *Not* aware of Datasource (but can be assigned using *DataSource* attribute)

When to Use a Bucket

Advantages of Buckets

- Support for potentially millions of items that would not suit a tree structure and slow down the UI – for example, products, repositories and orders
- Automatically organizes content items into a folder structure that improves *database retrieval performance*
- Queries run against an *index*, ensuring high performance
- Find what you want quickly by using *free text search, facets* and *search filters*

Should I bucket?

Bucket if:

- You *do not* care about the *structure* of the data stored in the bucket
- You anticipate a *large volume* of items
- You would *benefit* from *searching* for items rather than locating them in the tree

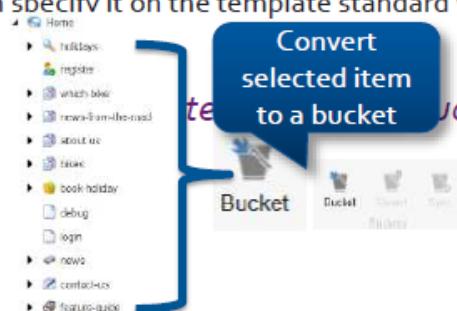
Creating a Bucket

Any item can become a bucket

- Items inside the bucket no longer have a parent / child relationship with *semantic meaning* and are organized into folders based on *creation time* (by default, this structure is *hidden*)
- Items in a bucket can still be created, edited and deleted by conventional means
- If you want to retain the parent/child relationship for items stored in a bucket (for example, comments should always be children of a news article), you can specify it on the template standard values of the intended parent

Bucket settings configured under: /sitecore/settings/buckets

- Facets
- Number of items in search results
- How results should open



Screen clipping taken: 7/13/2018 7:35 PM

Making Items Bucketable

Items inside a bucket need to first be bucketable

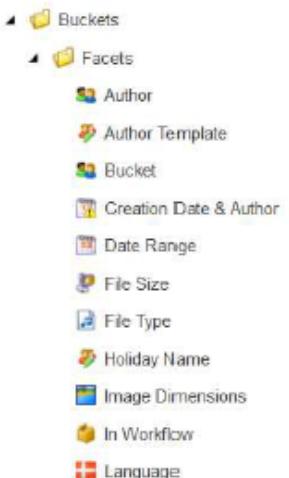
- In practice, this means that the items will be *hidden* and restructured according to configuration
 - Note you can store *regular* content items in a bucket
 - Will behave like regular content items – some bucket functionality will *not apply*
- You can either make *individual items* or *templates* bucketable
- *Sync the bucket* when you:
 - 1) Create a new bucket
 - 2) Make items or templates bucketable
 - 3) Make items unbucketable

Screen clipping taken: 7/13/2018 7:36 PM

Search Facets

Facets allow you to narrow down your search results

- Configurable items in /Settings/Buckets/Facets
- Specify *index field* to facet on – for example, 'size range' may be a special *computed index field* that does not exist in Sitecore
- If you facet on a **Droplink**, you would get a list of GUIDs to facet on – not useful and would require *custom index configuration*



- /sitecore/system/Settings/Buckets/Facets

Screen clipping taken: 7/13/2018 7:36 PM

Simple Search

- Item buckets uses Sitecore's Search API
- You can leverage the same API to build search functionality for your website's front end

```
Get index by name
Create a search context
Return an instance of IQueryable<T> and use standard LINQ statements
Return type

var index = ContentSearchManager.GetIndex("sitecore_web_index");

using (var context = index.CreateSearchContext())
{
    var queryable = context.GetQueryable<SearchResultItem>()
        .Where(x => x["page heading"].Contains("bikes"));
}
```

Screen clipping taken: 7/13/2018 7:36 PM

Basic Index Configuration

Search works on an *index* that is *external to Sitecore*

- Configuration in `/App_Config/Include/` (default and index-specific)
- Determine *how* items should be indexed

Uses provider model

- Identical *LINQ layer*
- Provider *translates* to work with chosen search technology
- Which one should I use?
- Sitecore ships with **Lucene** and **Solr** (Solr wraps **Lucene** and is more advanced)
- Use **Solr** to *scale*



Demo 8.2.2 – Rebuilding the Index

Demo objectives

- Using the Sitecore Content Editor, expose the Developer toolbar
- Examine the rebuilding commands available
- View the default three indexes – one per database (master, core and web)
- Use the Rebuild button
- See how to rebuild without deleting the index folder
- Using the file system, examine the `/Data/indexes` folder to view each index's folder

	sitecore_core_index	14/04/2013 14:07
	sitecore_master_index	14/04/2013 14:06
	sitecore_web_index	14/04/2013 14:06

LINQ Examples

The API implements the `IQueryable<T>` interface and supports *most* options

Standard LINQ	Custom extensions
<code>.Where</code>	<code>.Boost</code> (make this part more important)
<code>.Any</code>	<code>.Page</code> (does skip/take)
<code>.OrderBy</code>	<code>.Between</code> (exclude/include start and end ranges)
<code>.Filter</code>	

Fuzzy search

```
queryable.Where(x => (x["page heading"].Like("Citecoar", 0.8));
```

Pagination

```
queryable.Page(2, 50);
```



Custom Search Result Type

You create your own search result type

- Map Sitecore fields to index fields
- Empty constructor and public properties
- Support for various property types, *not just strings!* (see Student Manual)
- Can inherit from `SearchResultItem`

Standard .NET class

```
public class CustomResultItem : SearchResultItem
{
    [IndexField("page heading")]
    public string Heading { get; set; }
}
```

Heading property mapped to
'page heading' field

```
queryable.Where(x => (x.Heading.Like("Bike", 0.8)));
```

Query using properties

Returning a Result Set

A query returns an `IQueryable<T>`:

```
var query = context.GetQueryable<SearchResultItem>();
```

Sitecore gives you a `.GetResults()` item that contains results and count

```
var results = context.GetQueryable<SearchResultItem>()
    .GetResults();
int count = results.Count();
var facets = results.Facets.Categories;
int total = results.TotalSearchResults;
var list = results.Hits.Select(x => x.Document);
```

Facets

Use `.FacetOn()` to get a list of facet categories (for example: Template Name)

```
var results = context.GetQueryable<SearchResultItem>()
    .FacetOn(x => x.TemplateName)
    .GetResults();
```

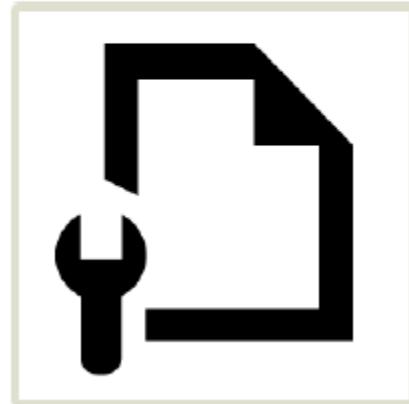
Each category has a number of values, with a **Name** (for example: News Article) and an **Aggregate** (for example: 10)

```
var facetCategories = results.Facets.Categories;
```

Feed back into a `.Filter()`

Index Configuration

- By default, the majority of index configuration is shared between indexes and stored in `.DefaultIndexConfiguration.config` per provider type
- For **Lucene**, that file is:



`Sitecore.ContentSearch.Lucene.DefaultIndexConfiguration.config`

Which Fields Should Be Indexed?

The more data you store, the larger the index

- Make sure you have configured your index to include only what you need by controlling what is indexed
- Selectively **exclude** or selectively **include** fields and templates

`<IndexAllFields>true</IndexAllFields>`

- Settings can be overridden per index

```
<exclude hint="list:ExcludeTemplate" />  
<include hint="list:IncludeTemplate" />  
<include hint="list:IncludeField" />  
<exclude hint="list:ExcludeField" />
```

Index all except explicitly excluded OR index nothing except included

Include or exclude specific fields or items based on specific templates

By default, the **ExcludeField** list has many standard fields that would not be valuable in an index – for example, `Allowed_controls` and `UpdatedBy`.

How Should Fields Be Indexed?

- How a field is indexed is determined by the field name (for example, the **Page Heading** field) or its type (for example: **Single-Line Text** fields)

```
<fieldNames hint="raw:AddFieldByFieldName" />  
<fieldTypes hint="raw:AddFieldByFieldType" />
```

- The configuration files allow you to control what goes into the index and how it is stored with increasing granularity
- Indexes can target all fields, individual types, or particular fields
- You can completely override the analyzer and write a new one if needed



Standard field using a particular analyzer

```
<fieldType fieldName="sizerange" storageType="YES" indexType="TOKENIZED" vectorType="TOKENIZED" ...>  
  <Analyzer type="Sitecore.ContentSearch.LuceneProvider.Analyzers.LowerCaseKeywordAnalyzer" Sitecore="1" />  
</fieldType>  
<fieldType fieldName="title" storageType="NO" indexType="TOKENIZED" vectorType="TOKENIZED" ...>  
<fieldType fieldName="text" storageType="NO" indexType="TOKENIZED" vectorType="TOKENIZED" ...>
```

Store or Index?

Indexes can store either the value of a field or a pointer to the field

- It's useful to set the **storageType** to **YES** and store the field value if you want to retrieve this value from the index instead of from the database

Stores the field value in the index

```
<fieldType fieldName="sizerange" storageType="YES" indexType="TOKENIZED" vectorType="TOKENIZED" ...>  
  <Analyzer type="Sitecore.ContentSearch.LuceneProvider.Analyzers.LowerCaseKeywordAnalyzer" Sitecore="1" />  
</fieldType>  
<fieldType fieldName="title" storageType="NO" indexType="TOKENIZED" vectorType="TOKENIZED" ...>  
<fieldType fieldName="text" storageType="NO" indexType="TOKENIZED" vectorType="TOKENIZED" ...>
```

Stores a pointer to the field in the index

Only properties in the *result* object that map to stored *field values* will be populated

Computed Fields

- *Simple indexing* is when a field value is put into an index without any processing
- *Computed fields* perform lookups and complex logic to determine what gets put into the index and they do not have to match up directly to a Sitecore field

Example: Image size

You want to *facet* a list of articles by associated image size with potentially hundreds of dimensions

A *computed field* can categorize images into **image size** of *small*, *medium*, or *large* depending on specific size boundaries and then put these image size category values into the index

Faceting on **image size** gives a distinct subset with a smaller number of results

- To create your own computed field, add an entry in the search configuration files:
`<fields hint="raw:AddComputedIndexField" />`
- Your computed field class must implement `IComputedIndexField`

Item Cache



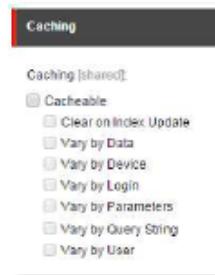
- When returned from the database, each caching level is regenerated with a more complex object
- Defined in the `<databases>` section in `web.config` and `Prefetch.config` files
- There are more caches for XSL, standard values, paths, registry, etc.

HTML Cache

For pages assembled from presentation components, each component can be cached

How to cache a component?

- Per instance of the component
- Standard values
- Definition item



Vary by allows you to store a *different version* of the component based on for example, user, datasource and so on

Statically bound components have cache settings set in the markup:

```
<sc:Sublayout Path="/layouts/Intro.ascx" Cacheable="true" VaryByData="true" runat="server"/>
```

Clearing Cache

- The *HTML cache* is cleared by any form of publishing  
- At the end of publishing, the **HtmlCacheClearer** clears the cache. Found in the **publish:end** event in the **web.config**
- *Item* and *Data caches* are cleared only for the items published
- *Prefetch cache* is populated *when application starts*
- When published items get requested for the *1st time*, they comes from the *database*
- View Cache admin page at <http://<your site>/sitecore/admin/cache.aspx>
- View administrative information in Sitecore Rocks by right-clicking the **master** database and clicking **Manage**



Use 'Clear all' to clear all Sitecore caches

Action	Refresh	Clear all	Total	Entries: 9710, Size: 36830108
Caches (194)				
Name	Count	Size	Delta	MinSize
AccessRendCache	232	12KB	12KB	20KB
admin[filtered items]	0	0	0	2MB
admin[grid]	0	0	0	0
admin[egallery]	0	0	0	2MB
admin[viewstate]	0	0	0	5MB
admin[ui]	0	0	0	10MB
Total	4	60	60	14.1MB

Cache Tuning and Configuration

Cache sizes are per database and per site

- Cache settings are defined in multiple places in the `web.config`
 - For example, the default size of the standard value cache:

```
<!-- STANDARD VALUES CACHE SIZE
    The default size of the standard value cache.
    Default value: 1MB.
-->
<setting name="Caching.StandardValues.DefaultCacheSize" value="1MB" />
```

- You can disable all cache limits by setting `DisableCacheSizeLimits` to `true`:

```
<setting name="Caching.DisableCacheSizeLimits" value="false" />
```

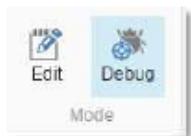
- Items to be included in the *prefetch cache* are defined in `<database-specific>.config` files in `/App_Config/Prefetch`

Prefetch

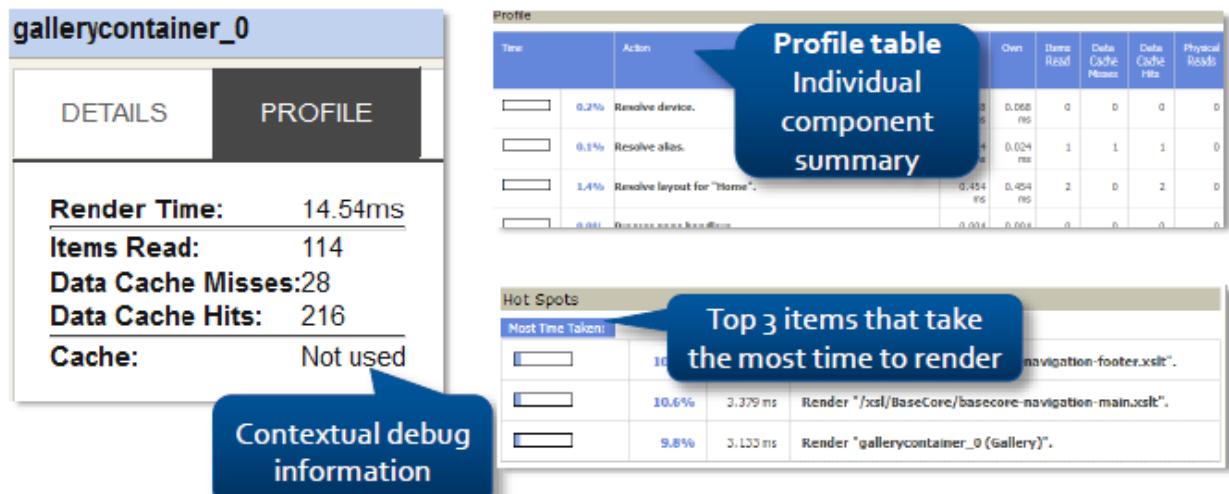
Experience Editor Debug Mode

Debug mode – runs against the WEB database

- View the profile, cache settings and HTML output of individual components in the Experience Editor



Sitecore Glimpse (<https://www.nuget.org/packages/Sitecore.Glimpse>)



The screenshot displays the Sitecore Glimpse interface, which provides performance analysis for a component named "gallerycontainer_0".

Contextual debug information: This section shows summary statistics for the component: Render Time (14.54ms), Items Read (114), Data Cache Misses (28), Data Cache Hits (216), and Cache (Not used).

Profile table: Individual component summary. This table details the time taken for various actions:

Action	Time	Own	Items Read	Data Cache Misses	Data Cache Hits	Physical Reads
Resolve device.	0.2%	0.068 ms	0	0	0	0
Resolve alias.	0.1%	0.024 ms	1	1	1	0
Resolve layout for "Home".	1.4%	0.454 ms	2	0	2	0
Process user's request.	0.001	0.004 ms	0	0	0	0

Hot Spots: Top 3 items that take the most time to render. These are likely XSLT files:

Most Time Taken	Time	Action
10.6%	3.379 ms	Render "/xsl/BaseCore/basecore-navigation-main.xslt".
9.8%	3.133 ms	Render "gallerycontainer_0 (Gallery)".
1.0%	0.454 ms	Resolve layout for "Home".

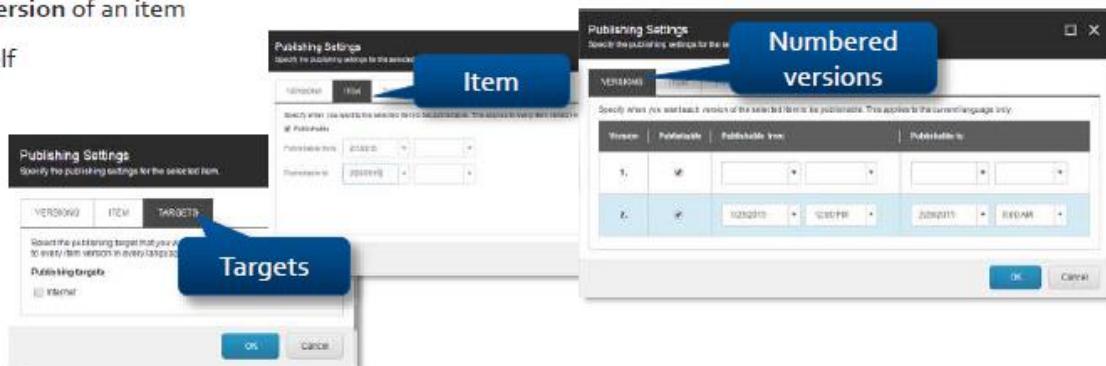
Publishing Restrictions

Change publishing restrictions in the Content Editor



Options are applied to:

- Numbered Version of an item
- The Item itself
- Targets



Note: Setting a publish restriction does not automatically publish your items, but simply sets the restrictions. Publishing still needs to be triggered either manually or scheduled.

Publishing Strategies

Options for scheduled publishing

- Publishing agent allows you to specify publishing interval and type of publishing
- Dependent on the Sitecore scheduling agent
- Windows scheduled tasks can be used to run a custom service or page
- See blog for more information: <https://www.sitecore.net/Learn/Blogs/Technical-Blogs/Reinnovations/Posts/2014/03/Publishing-Improvements-in-7-2.aspx>



Manual publishing may not be desired

- Full republish can slow performance
- If you do disable publishing for editors, use workflow's publishing approval action*

* Workflows covered later

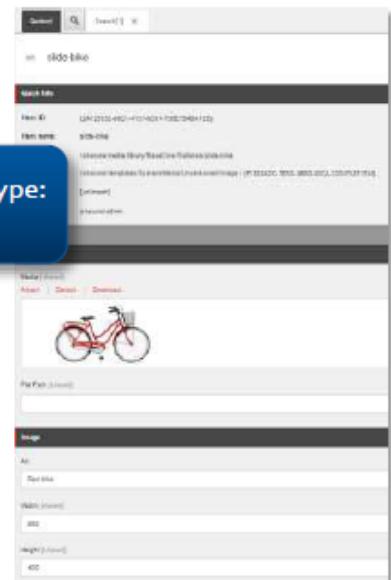


Storing Media

Media definition items are stored in the database

- Point to the corresponding database BLOB or file
- Located in the content tree
- Based on a template
 - Can be extended
- Need to be published

Templates are specific to media type:
image, docx, pdf, etc.



Media stored in the database as a BLOB

- Less fragile because files could be renamed or moved
- No file maintenance when moving or syncing the environment – for example, between developers, QA, production and so on
- Note: Media items are cached to the file system when rendered

Setting Up a Solution

Development model	Benefits	Drawbacks
Inside the web root: 	<ul style="list-style-type: none">• Solution setup is quick• You are able to see your changes almost immediately	<ul style="list-style-type: none">• No clear separation of ownership• Difficult to transform configuration files• Development sites may contain unnecessary artifacts that may alter site behavior inadvertently
Outside the web root: 	<ul style="list-style-type: none">• Clear separation between solution and Sitecore files• Ability to transform configuration files within local developer environments• Better suited for multi-site solutions• Solutions can be bundled easily for shipment• Development sites remain clear of code-behind files	<ul style="list-style-type: none">• Changes to code typically need to be compiled and copied to the web root• Initial solution setup can be complex

Patching the web.config

App_Config/Include config files merge into in-memory web.config

- Use specific .config files in the **Include** folder for each *pipelines*, *events*, etc
- You can configure where the nodes *merge* into the **web.config** (only works on **<sitecore>** portion of the **web.config**)
- You can *version control* these include files, which makes Sitecore upgrades easy
- View the final, in-memory, merged **web.config** with the <http://<yoursite>/sitecore/admin/showconfig.aspx> page



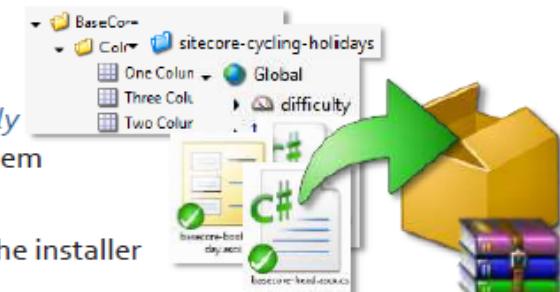
Tips

- .config files are applied to the **web.config** in *alphabetical order*
 - Use prefixes and sub-folders if you would like to control the order
- See *Include File Patching Facilities Guide* for more information,
http://sdn.sitecore.net/upload/sitecore6/60/include_file_patching_facilities_sc6orlater-usletter.pdf

Sitecore Packages

Moving Items and Files with Sitecore Packages

- Sitecore packages allow you to move *item* and *file* changes from one server environment to another
- Sitecore distributes most additional software modules as Sitecore packages
- With the **Package Designer**, you can *manually* select items and files to add or you can add them *dynamically* using a query
 - You also configure conflict resolution (how the installer behaves when existing items are found)



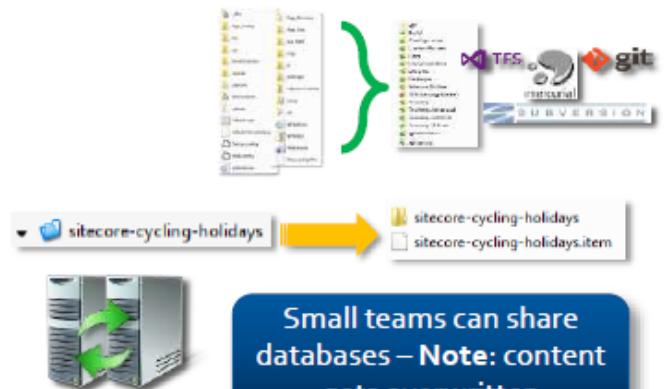
Sitecore Rocks

- Rock has an **Anti Package**
- Allows you to set up **dependencies**



Source Control and Serialization

- Sitecore items can be *serialized* into text files then added to source control
- Working *outside the web root* makes it easier to source control your custom code
- Serialization makes it easier to synchronize changes across local development environments



Methods of serializing:

- **Serialization page** - </sitecore/admin/serialization.aspx>
- Post-save macro in **Sitecore Rocks**
- **Content Editor's Developer tab** has serialization commands
- Serialization settings in the **web.config**
- Third party products like **Hedgehog's Team Development for Sitecore or Unicorn**



Continuous Integration

Team Development for Sitecore (TDS) – by Hedgehog

- TDS serializes items to disk and stores references in a **.csproj** file
- Use a **MSBuild** project (or pass in additional config info) to deserialize into Sitecore instance on CI server (Continuous Integration server)

Ship and Unicorn

- Two open-source options for serializing items and deploying

Razl (by Hedgehog) and Courier

- Two database comparison tools for synchronizing changes between environments (rather than overwriting everything)

Roles

Role inheritance

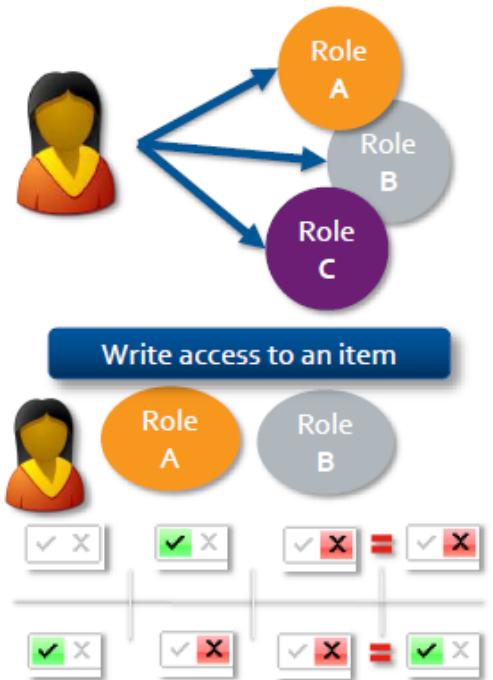
- Access rights are *cumulative* - a user inherits all access rights from all roles

Conflicting access rights

- Explicit deny* will always take precedence
- Can be *overridden at user level*

Client

- Sitecore comes with *pre-defined roles*
- Restricts what actions an editor can perform, for example, **Sitecore Client Publishing** – allows the user to publish



Marketing Functionality

Collect, measure, report, personalize and optimize

- Collect* visitor behavior, geographical location, visit origin, etc.
- Measure* the effectiveness of your site by tracking visitor interaction
- Report* information about the site, campaigns, individual visitors, etc.
- Personalize* content to adapt it to your visitors' interest
- Optimize* your website using tests



What Data Is Collected?

- Where are the visitors from? Country, City, Region, Business name
- How do the visitors arrive on the site? Pay-per-click ad, social campaign, referrer, keyword search, etc.
- Are they known visitors? Have they visited the site before?
- What pages are they visiting? What do they do on those pages? How long do they spend on each page?
- Are the visitors providing us any data? Form filling, social login integration?

Sitecore collects all of this information concerning each visitor and each visit



How Is Analytical Data Collected?

Experience Database (xDB)

- Non-SQL database, allowing for flexible scaling
- Collects information resulting from visits to the site
- Supports sharding, multiple collection centers & distributed geographical locations
- Allows for cloud and on-premise functionality

Data Aggregation

All this data needs to be aggregated for optimal reporting

A customizable aggregation pipeline exists

This can run on dedicated servers

Stores data in a SQL Server reporting database

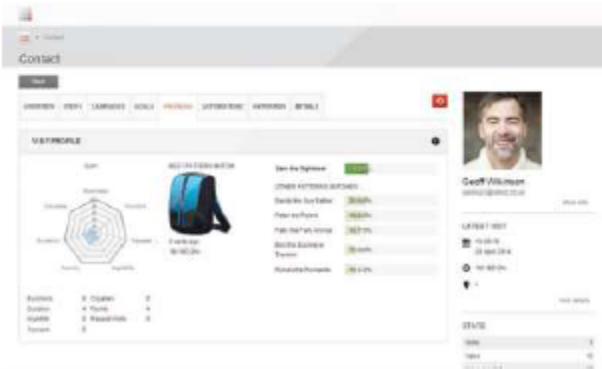


Contacts

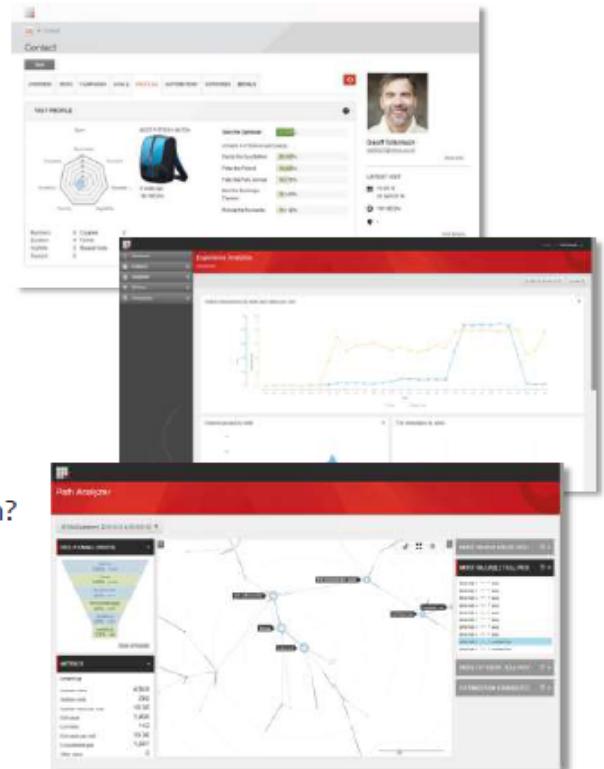
Sitecore helps you know your visitors better

You can:

- View all information about a visitor in their Contact Record
- See all contacts in the Experience Profile
- Create groups of contacts in the List Manager to target them in campaigns



Reporting



Experience Profile

- Complete view of individual contacts
- Drill down to information of any interaction

Experience Analytics

- *Aggregate data over time*
 - Engagement *value per visit*
- **Audience:** Who are they? Where are they from?
- **Acquisition:** How did they arrive to the site?
- **Behavior:** What did they view on the site?
- **Conversions:** Which desirable actions did they perform?

Path Analyzer & Page Analyzer

- View the sequence of pages contacts follow during interactions

Value vs. Traffic

- Traffic figures (number of hits) are **not a true representation** of how much a visitor is engaged with your site – for example, visiting the homepage (low engagement) versus booking a holiday (high engagement)
- A site that encourages **engagement** is more effective – for example, 10,000 visits and 10 bookings versus 1000 visits and 100 bookings
- Sitecore introduces the concept of engagement value
 - A number that represents how much quality time a user spent on your website
- The more **valuable** actions a customer performs on your site, the higher their engagement (for example, request a brochure, fill in the contact form, make booking)



Engagement Value Is Measured Using Goals

- Goals are defined in the Marketing Center and have a **value** associated with them
- A goal's value depends on its **value to the business** – for example, a holiday booking is worth more to the business than a brochure request
- Goals are either assigned to **pages** (for example, the contact form thank-you page) **or**
- **Triggered programmatically** – when a visitor triggers a goal, the engagement value for that visit increases

The screenshot shows the Sitecore Marketing Center interface. On the left, under 'Goals', there is a list of actions: Book a holiday, Brochures Request, Instant Demo, Login, Newsletter Signup, and Register. 'Book a holiday' is selected and highlighted in blue. To the right, a 'Data' panel shows the details for 'Book a holiday': Name [shared]: Book a holiday, Points [shared, standard value]: 50, and a 'value' speech bubble. Below this, two images illustrate the concept of engagement value: a couple booking a holiday with a value of 100, and a person holding a brochure with a value of 25. A large blue arrow points from the high-value booking to the lower-value brochure. At the bottom, a 'Goals' section allows selecting goals for a page, with 'Book a holiday' checked. A speech bubble says 'Assign a goal to a page'.

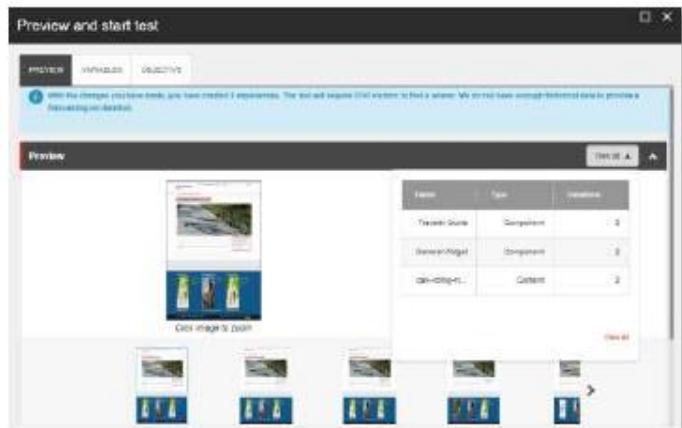
Testing

- Allows you to test the effectiveness of your site by seeing...
 - Which variation resulted in greater overall engagement value
 - The effect on individual goals
- Is Integrated as part of workflow
 - Whenever an author makes a change, content or presentation, they have the opportunity to create a test
- Tests can stop automatically when there is enough certainty that one of the variations provides better results
 - Specific goals or overall engagement value

The screenshot shows the Sitecore Experience Editor interface. At the top, a toolbar includes buttons for Home, Advanced, Experience, Optimization, and View. A prominent blue button in the center says 'Start test after a change'. Below the toolbar, a menu bar has items like File, Edit, Other, Components, Projects, Insert page, Delete page, Rename, Move page, Display name, Lock, Publish, Publish, Preview, Close, Publish, Preview, Close, and Publish. A status bar at the bottom indicates 'The item is in the "Awaiting Approval" workflow state in the "Sample Workflow" workflow. Access via Test' with a red circle around the 'Access via Test' link. The footer shows the Sitecore logo and navigation links: Home, Find and book a holiday, Bits, Contact us, search.

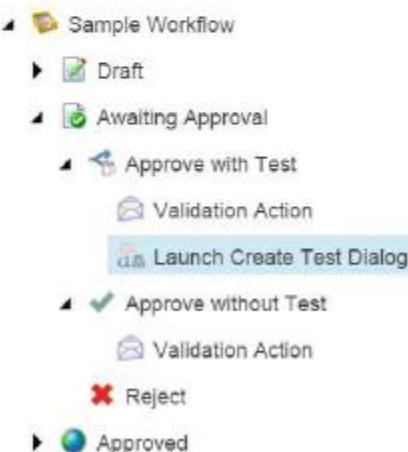
What Can You Test?

- *Change your content* – test different versions of your items
- Modify your presentation – change components or data sources
- Swap the entire page – test between multiple different items



How to Let Your Authors Test?

- Use *workflows* to add a **Launch Create Test Dialog** Workflow Action (Remember workflow does not work as expected if you are an admin)
- Components should be configured to accept *datasources*
- Make sure the **Experience Editor** is configured correctly



Personalization

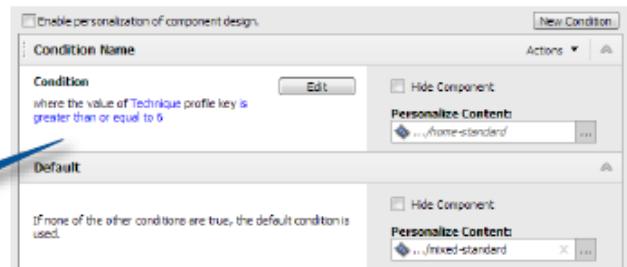
Content and component type can be personalized

Change a component's data source, component type, or hide the component

You can personalize based on:

- *Goals* and *events* triggered
- The visitor's accrued *profile points*
- The visitor's *location*, and more

Rule determining when
to change data source



It is important that you have componentized and made good use of data sources – otherwise personalization will not work

Profiling Content Items

Score items based on the audience you are targeting

Business stakeholders design **profiling taxonomy** (*configuration* done by developers)

Authors assign **points** to items in different categories based on audience being targeted (or bulk-assign using **Profile Cards**)

Visitors accrue points based on the content they visit and build up a profile

Content can be **personalized** based on browsing habits

The screenshot shows a software interface for managing a profiling taxonomy. On the left, there is a tree view of categories: Profiles, Advice, Bikes, Profile Cards, Pattern Cards, and Holidays. The "Bikes" category is expanded, showing sub-categories: Fixed Gear Bike, Hybrid Bike, Mountain Bike, Novelty Bikes, and Road Bike. To the right, there are two detailed views. The top view is for the "Custom" profile, which is described as "Profile keeps the custom key values." The bottom view is for the "Experts" profile, which is described as "Focus". A large blue arrow points from the text "Profile individual content items" towards the "Custom" profile view.

Help Text

Add helper text to field names
for authors

With help text

The screenshot shows the 'Bicycle Info' field definition item. It contains two fields: 'Type - hybrid / mountain / racing etc:' and 'Suitability:'. The 'Type' field has a tooltip 'This is the long description for the Type field'. The 'Suitability' field also has a tooltip. Below the fields is a tree view of field definitions:

- User Defined
- Base
- Bicycle
 - Bicycle Info
 - Suitability
 - Type

Field
definition
item

Without help text

The helper fields are in the
standard fields

The screenshot shows the 'Help' screen with sections for 'Long description [unversioned]' and 'Short description [unversioned]'. Both sections contain the text 'This is the long description' and 'hybrid / mountain / racing etc.' respectively.

Standard fields:
— Long description
— Short description

Title Field

- Change the field name that is displayed to authors
- For developers the field name stays the same

The screenshot shows the 'Holiday Admin' field definition item. It contains a single field: 'Booking reference number [shared, standard value]'. The value is '1'. To the right, there is a detailed view of the field settings:

Data	
Type	Integer
Title	Booking reference number

A speech bubble points to the 'Title' setting with the text 'Title field'.

A speech bubble points to the 'Booking reference number' field with the text 'What the user sees'.

Introduction to Pipelines

Pipelines break down complex operations into *multiple, configurable* steps

Pipelines are *defined* in /configuration/sitecore/pipelines in the *web.config*

Pipelines are defined in 2 places



<processors /> - UI processes (e.g. uiCloneItems, uiDeleteItems)

<pipelines /> - system processes (e.g. httpRequest Pipeline)

One of the *most important pipelines* is the **httpRequest** Pipeline, which is *invoked by* the **httpApplication.BeginRequest** event

The **httpRequest** Pipeline performs tasks such as *resolving sites* and *language*

Each of the steps is specified as a separate <processor /> within the pipeline

```
<httpRequestBegin>
  <processor type="Sitecore.Pipelines.PreprocessRequest.CheckIgnoreFlag, Sitecore.Kernel" />
  <processor type="Sitecore.Pipelines.HttpRequest.StartMeasurements, Sitecore.Kernel" />
  <processor type="Sitecore.Pipelines.HttpRequest.IgnoreList, Sitecore.Kernel" />
  <processor type="Sitecore.Pipelines.HttpRequest.SiteResolver, Sitecore.Kernel" />
  <processor type="Sitecore.Pipelines.HttpRequest.UserResolver, Sitecore.Kernel" />
  <processor type="Sitecore.Pipelines.HttpRequest.DatabaseResolver, Sitecore.Kernel" />
  <processor type="Sitecore.Pipelines.HttpRequest.BeginDiagnostics, Sitecore.Kernel" />
</httpRequestBegin>
```

Processor

Each step in a pipeline is a <processor /> with a type in the format of Namespace, Assembly

```
<processor type="Sitecore.Pipelines.HttpRequest.ItemResolver, Sitecore.Kernel" />
<processor type="Sitecore.Pipelines.HttpRequest.DeviceSimulatorResolver, Sitecore.Kernel" />
<processor type="Sitecore.Pipelines.HttpRequest.LayoutResolver, Sitecore.Kernel" />
```

Steps are *executed* in the *order* specified in the *web.config*

All processors

Implement the Process() method

Accept arguments that are particular to the pipeline they serve

```
namespace Training.Utilities.BaseCore.Pipelines
{
    public class CascadeDataSource : InsertRenderingsProcessor
    {
        public override void Process(InsertRenderingsArgs args)
        {
            // Pipeline code
        }
    }
}
```

InsertRenderingsProcessor

Creating Pipelines Option 1

There are *3 options* for using pipelines to customize Sitecore behavior

Option 1: Add processors to existing pipelines

Locate the processor that you want to extend – for example, `insertRenderings`

Decide where your step fits in – for example, if your processor modifies the parameters on a rendering, you want it to appear *after* the renderings have been added to the page – such as after: `Sitecore.Pipelines.InsertRenderings.Processors.AddRenderings`

Use *include files* to patch your processor into the pipeline

Determine whether processors in the pipeline inherit from an abstract class – in the case of the `insertRenderings` pipeline, all processors inherit from the abstract `InsertRenderingsProcessor` class

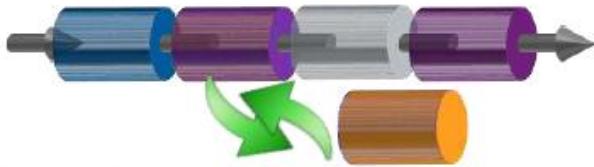
Decide what args the `Process()` accepts – in this case `InsertRenderingsArgs`

Write your pipeline code in the `Process()` method

Creating Pipelines Options 2 & 3

Option 2: Override and extend existing processors

Instead of adding extra steps to a pipeline, *replace the processor with your own* by deleting the existing processor, using include files and patching in your own



By either:

Inheriting from that processor giving you access to the methods in the original `AddRenderings`

```
class MyCustomAddRenderings : Sitecore.Pipelines.InsertRenderings.Processors.AddRenderings
```

Writing a custom processor can involve copying all or some of processor's code

Note: Pipelines may need updating if Sitecore has been upgraded

Option 3: Create new pipelines that you call from your code

Introduction to Events

An event is something that *happens* that you can respond to

For example an *item being saved*
or a *version being added* etc.

You can *subscribe* to events



2. Modified 5/8/2013 4:36
1. Modified 5/1/2013 2:08

Events can be *extended* and *overridden* with your own event handlers, or you can *write your own*

Events are *defined* in /configuration/sitecore/events in the *web.config*

Each event can have any number of <handler /> nodes that specify a *type* and *method*:

```
<event name="item:copied">
  <handler type="Sitecore.Links.ItemEventHandler, Sitecore.Kernel" method="OnItemCopied" />
</event>
```

Subscribing to Events and Using Event Handlers

Create a class with a method that accepts a sender *object* and *EventArgs*

Depending on what event the handler subscribes to, the type of the *EventArgs* changes – in this example it is a *SitecoreEventArgs*

A magnifying glass icon with the text 'SDN - Using Events' next to it.

SDN – Using Events

Event handler that is executed when an item is saved

```
public class LayoutInheritance
{
    public void OnItemSaving(object sender, EventArgs args)
    {
        // Event handler code
    }
}
```

Add your *handler* to the appropriate *event*, specifying the namespace, assembly, and method:

```
<event name="item:saving">
  <handler type="Sitecore.Tasks.ItemEventHandler, Sitecore.Kernel" method="OnItemSaving" />
</event>
```

When Would You Use Pipelines or Events?

If a task is not needed in realtime, Sitecore Jobs can be used to perform maintenance rather than packing those tasks in the save or publisher pipeline slowing down the process

Is it a pipeline or an event...

Intercept requests and authenticate the user against an external service **PIPELINE**

When a news item is saved, automatically move it into to the appropriate year / month / day folder structure **EVENT**

Change the way Sitecore resolves URLs **PIPELINE**

When publishing begins **EVENT**

Change how Sitecore resolves a language **PIPELINE**



Sitecore Rules Engine & Rules

A rule consists of *conditions* and *actions*

If a specific *condition* evaluates to **true** then a certain *action* gets *triggered* – just like an *if* statement

Rule 1

where the item name contains Title
and where the item language is equal to DE
set data source to off-the-beaten-path

Conditional renderings use the rules engine for personalization. A rule example: if a user has 5 value points, then change the datasource of a component

Technique	Actions ▾
<p>Condition</p> <p>where the value of <u>Technique</u> profile key is <u>greater than 5</u></p>	<p><input type="checkbox"/> Hide Component</p> <p>Personalize Content:</p> <p><u>.../expert-holidays</u> <input type="button" value="X"/> <input style="margin-left: 10px;" type="button" value="..."/></p>

Rules are part of the core Sitecore functionality and can be used everywhere for example, *conditional insert options* (if a user is ___, show ____)

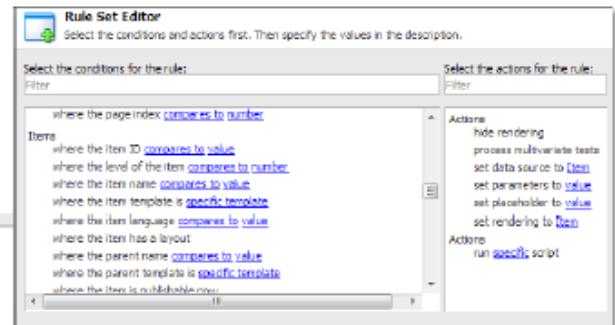
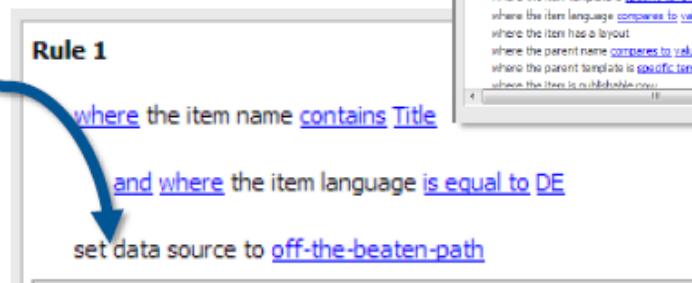
How Does a Rule Work for Authors?

Conditions and actions

User select any number of conditions and actions

Evaluated in succession

If end result is true, actions are executed



What Are Placeholder Overrides Used for?

You may want to keep the *same placeholder* on various pages throughout your website. But if you want to *allow different controls* into that placeholder will depend on which item the placeholder is on.

Placeholders have an Editable checkbox as do components

Make the placeholder *not editable* – restricting authors in *Experience Editor Design mode*

For example, the *Placeholder Setting* for the *gallerycontainer* is set up to allow Banner and Gallery components. You may want to make that placeholder *not editable* on the News Article page. To do this, you must create a placeholder override (for instance, *gallerycontainer-newsarticle*). This placeholder targets the same placeholder tag, but has different settings.

The screenshot shows the Experience Editor with a placeholder override dialog. The dialog has fields for 'Name: gallerycontainer-news-page', 'Placeholder Key: /main/gallerycontainer', and 'Available Controls: Banner'. There is also an 'Editable' checkbox. A blue speech bubble points to the 'Editable' checkbox with the text 'Uncheck the Editable checkbox'.

How to Override a Placeholder Setting

Overriding the placeholder settings for a placeholder in the Experience Editor

Select your placeholder and click *Edit the placeholder settings*



Click *Create New Settings*

Give the placeholder a name and allowed controls

Select the Placeholder Settings
Select the placeholder settings item that you want to use or create new settings.

Create a new placeholder settings item.

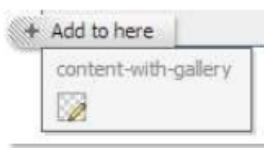
Name: content-with-gallery

Placeholder Key: main

Parent: Placeholder Settings

Editable

Allowed Controls:
Gallery



Now the author sees the new placeholder in the Experience Editor for that particular item

In the Content Editor

You get a placeholder settings item with a new placeholder key



Data

Placeholder Key - apply these settings to all placeholders with matching placeholder key [shared]:
content-with-gallery

Edit

Allowed Controls [shared]:
Gallery

content-with-gallery settings used in place of content in item presentation details

Select the Placeholder Settings
Select the placeholder settings item that you want to use or create new settings.

Edit the selected placeholder settings item.

Name: content-with-gallery

Placeholder Key: /main/content

Editable

Available Controls:

Gallery

Where to Override Placeholder Settings

On the instance of an item

Create a setting for one page to prevent authors changing components, for example, the gallery on the Cycling Holidays homepage

On the Standard Values

If you want the *placeholder override* to appear *on all items* instead of just once, you can override placeholders on the template *standard values* using the *Layout Presentation Details* dialog

