

## Sitecore CMS - Development Requirements For New MVC Projects

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For new projects or sites using Sitecore CMS, all developments must conform to the following requirements.

### Requirements

- Important Documents
  - Information Architecture (IA)
  - Functional Specification
  - Technical Specification
  - Deployment and Installation
  - Content Management Manual
- Microsoft ASP.NET 4.5.2 or newer
  - Always use Microsoft ASP.NET MVC 5.2.3 or newer.
    - Use AJAX aka XHR to send form inputs to the server-side.
    - Implement protection against Cross-Site Request Forgery (CSRF).
  - Avoid using Microsoft ASP.NET Web Forms.
- C# 5.0
- Microsoft SQL Server 2014 or SQL Server 2014 Express
  - Use stored procedures.
  - Avoid raw SQL queries.
  - Avoid ORM (eg NHibernate, Entity Framework, LINQ to SQL).
- Sitecore Experience Platform 8.1 rev. 160519 (8.1 Update-3) or newer
  - Enable and configure the Experience Editor for content authors and editors.
  - Avoid using Sitecore Membership to store end-user information.
  - Avoid using third-party modules.
- Microsoft MSBuild
  - It should be possible to build Visual Studio projects and solutions without an IDE (eg Microsoft Visual Studio) installed.
  - By configuring the source and target paths, the script must be able to automatically deploy all required files from the "web project" to the webroot.
- Web Services
  - Always create using Microsoft ASP.NET Web API 2.2 (5.2.3) or newer.
    - Always support both formats, XML and JSON. The format has to be specified in the HTTP header.
    - Always versioning the service (eg /api/v2/users/123).
    - Use nouns for all resource URLs aka endpoint names.

- Avoid creating ASMX.
  - Avoid creating WCF.
- CDN (Content Delivery Network)
  - All non-HTML files must use the CDN.
  - Rackspace CDN : <https://www.rackspace.com/cloud/cdn-content-delivery-network>
  - Rackspace Cloud Files : <https://www.rackspace.com/cloud/files>
- jQuery 2.x (Library of JavaScript aka ECMAScript)
  - All third-party components, widgets, modules, add-ons, and plug-ins must based on jQuery or Plain JavaScript.
  - Avoid using other JavaScript libraries or frameworks (eg Prototype, YUI, Dojo, Ext JS, MooTools, Backbone.js, Ember, Knockout, AngularJS).
  - CDN hosted with local fallback fail-safe.
  - Validation : <http://www.jshint.com/>
  - Configure the validation tool by following jQuery guidelines : [http://docs.jquery.com/JQuery\\_Core\\_Style\\_Guidelines#JSLint](http://docs.jquery.com/JQuery_Core_Style_Guidelines#JSLint)
  - Avoid using abstract languages aka transpilers to output JavaScript (eg TypeScript, CoffeeScript)
- HTML5
  - Avoid using preprocessors aka transpilers to output HTML (eg Jade, Haml).
  - Avoid using inline JavaScript and inline styles.
  - Use lowercase for all tags and attributes.
  - Use double quotes around attribute values.
  - Close standalone tags (eg <br />).
  - If a front-end framework must be used, then Bootstrap is preferred. <http://getbootstrap.com/>
  - Validation : <http://validator.w3.org/>
- CSS3
  - Use lowercase for all rules, selectors, properties, and values.
  - If a preprocessor aka transpiler must be used, then Sass is preferred. <http://sass-lang.com/>
  - Validation : <http://jigsaw.w3.org/css-validator/>
- Minification (minify CSS and JS files)
  - Web Essentials for Visual Studio : <http://vswebessentials.com/>
  - Avoid using other third-party tools not declared from this list.
- Desktop Browsers Minimum Support
  - Apple Safari 9+
  - Microsoft Internet Explorer 10+
  - Microsoft Edge Latest Stable Release
  - Mozilla Firefox Latest Stable Release
  - Google Chrome Latest Stable Release
- Mobile Browsers Minimum Support
  - Apple iPhone, iPad, iPod (WebKit) iOS 9+

- Google Android (Chrome) 4.2+

## Prohibited

- Visual Basic
  - Why? All versions of the Visual Basic development environment from 1.0 to 6.0 have been retired and are now unsupported by Microsoft. The associated runtime environments are unsupported too, with the exception of the Visual Basic 6 core runtime environment, which will be officially supported by Microsoft for the lifetime of Microsoft Windows 7.
  - Alternative? C#
- XSLT (Extensible Stylesheet Language Transformations)
  - Why? XSLT is a language designed to process XML data. XSLT is not meant to transform and render HTML/CSS/JavaScript in the presentation layer.
  - Alternative? Use ASP.NET user controls (.ascx) for presentation layer.
- Adobe Flash
  - Why? Microsoft Windows 8 Metro does not support Adobe Flash.
  - Alternative? Use JavaScript or HTML5 Canvas with JavaScript.
- Microsoft Silverlight
  - Why? Microsoft Windows 8 Metro does not support Microsoft Silverlight.
  - Alternative? Use JavaScript or HTML5 Canvas with JavaScript.
- Microsoft ASP.NET Web Forms
  - Why? The next version is Microsoft ASP.NET Core and it does not support Microsoft ASP.NET Web Forms.
  - Alternative? Use Microsoft ASP.NET MVC.