



Sitecore Azure 2.0.0

Getting Started with

Sitecore Azure

An Overview for Sitecore Administrators

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Chapter 1

Getting Started with Sitecore Azure

This document introduces Sitecore Azure. Sitecore administrators should read this document before installing or using Sitecore Azure.

Beginning with an overview of the underlying Windows Azure and Sitecore Azure concepts and terminology, this document describes procedures for accomplishing specific tasks with Sitecore Azure, attempts to answer common questions about Sitecore Azure, and then provides information about known issues and troubleshooting techniques.

This document contains the following sections:

- Overview
- Using Sitecore Azure
- Answers to Common Questions
- Known Issues, Considerations, and Troubleshooting

1.1 Overview

Sitecore Azure provides a set of software and services to simplify the deployment of your web solutions to the Windows Azure cloud. You can use Sitecore Azure with the Sitecore CMS to host Sitecore solutions in the Windows Azure cloud.

Windows Azure is an edition of the Microsoft Windows operating system that runs in an Internet cloud. The Windows Azure fabric consists of hardware and software to manage that hardware. The fabric supports web roles, which provide IIS, and worker roles, which do not. Roles correspond to virtual machines in the cloud. Each web role hosts a single IIS Web site (usually a single Sitecore instance).

The Windows Azure fabric coordinates some number of roles to implement each task, such as hosting a website. You can acquire Windows Azure services from Microsoft and manage deployment of your own Web Applications, or you can acquire services through Sitecore and gain special licensing benefits, such as free bursting for increased loads. Sitecore Azure also provides an integrated user interface to manage your cloud content delivery infrastructure.

SQL Azure is an implementation of Microsoft SQL Server that runs on Windows Azure. SQL Azure presents some limitations in comparison with traditional SQL Server.

With Sitecore Azure, you can deploy from one or more internal content management servers to any number of Sitecore Azure content delivery instances hosted at the various Windows Azure locations. Sitecore Azure provides automation and a browser-based user interface to manage your Windows Azure deployment.

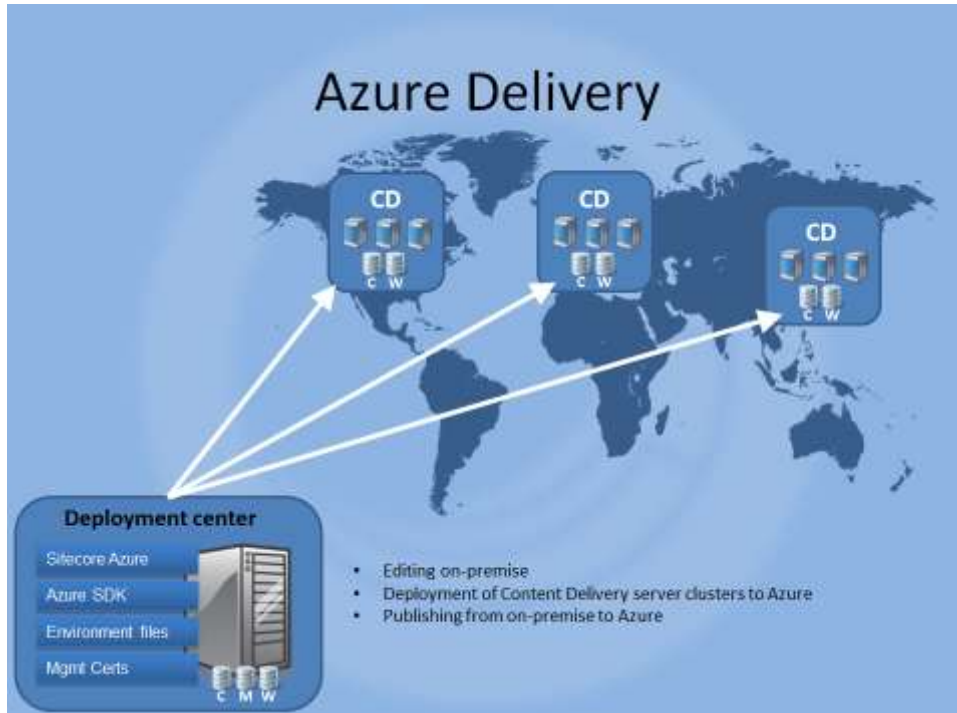
Sitecore Azure provides the following benefits:

- Sitecore Azure provides for extreme scalability.
- Sitecore Azure significantly reduces the costs of providing geographically distributed load balancing and redundancy between geographies for performance, disaster preparedness, and other purposes.
- Sitecore Azure reduces the cost and time required to add and remove instances from server farms in order to meet expected load.
- Sitecore Azure automates much of the process of migrating a website to Windows Azure.

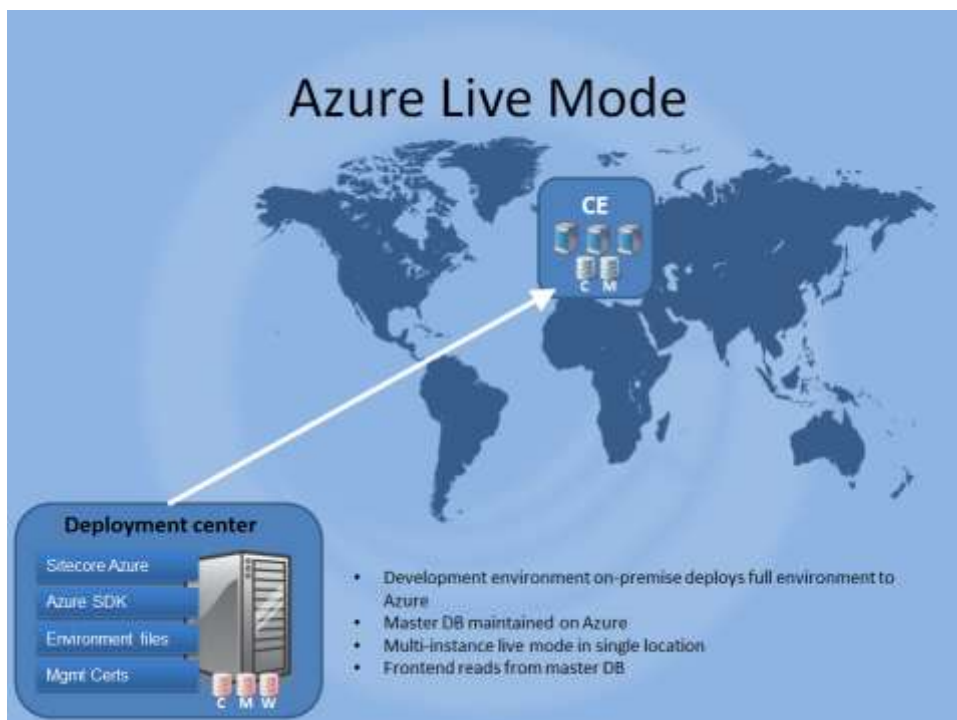
1.1.1 Options for Sitecore Azure 2.0.0 Deployment

Sitecore Azure 2.0.0 now supports Content Editing as well as Content Delivery from the cloud. You can decide on the best combination of on-premise or cloud-based editing and delivery environments, called “Editing Farm” and “Delivery Farm”. A “farm” is a set of webrole instances attached to a single SQL Azure instance. Some example deployment topologies are shown here for consideration.

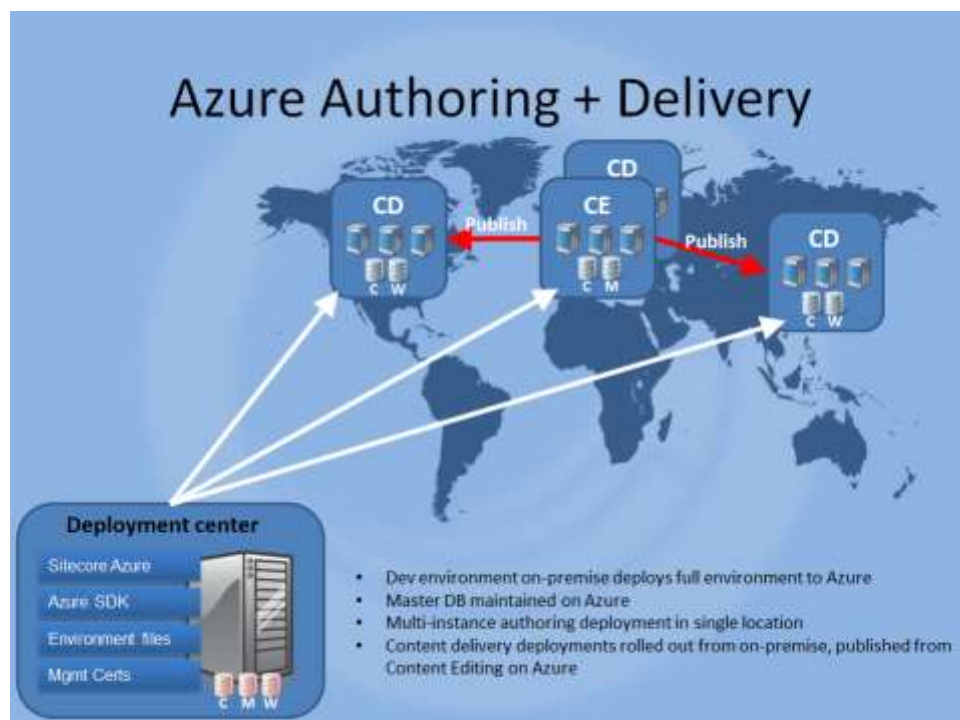
Sitecore Azure 2.0.0 also supports the ability to run Sitecore installations in the cloud in Sitecore’s “live mode”. When running in live mode changes made in the content editing environment are immediately available in the content delivery environment without requiring an explicit publishing operation.



This example shows an installation that uses an on-premise Sitecore installation for content editing and then publishes to a Sitecore content delivery instances, using multiple Microsoft Azure locations.



This example shows a Sitecore Azure installation that runs in live mode. Both content editing and content delivery run in the same instance. No publishing is required. Changes made in the content editing environment are immediately available to the content delivery environment.



This example shows a deployment topology in which both content editing and content delivery are running on Microsoft Azure instances.

1.1.2 Prerequisites for Sitecore Azure Installation

You must have the following requirements in place before installing Sitecore Azure.

- Sitecore Azure requires a 64-bit edition of Microsoft Windows.
- Sitecore Azure requires .NET Framework v 4.0.
- You must have a Windows Live ID.
- Sitecore Azure requires Sitecore CMS version 6.5-Update 5 or newer.
- For SQL Server installations, Sitecore Azure requires SQL Server 2008 R2, Service Pack 1 or newer.
- Sitecore Azure requires that you install the Windows Azure SDK version 1.7 in the internal content management environment. Download and install both of the following tools from Microsoft:
 - [WindowsAzureAuthoringTools-x64.msi \(v 1.7\)](#)
 - [WindowsAzureLibsForNet-x64.msi \(v 1.7\)](#)
- You must request a Sitecore Azure environment file from Sitecore. See the section *How to Install Sitecore Azure*.

Important

You must configure your web server's firewall rules to allow Sitecore Azure traffic. For more information see the section *How to Configure Firewall Rules*.

1.1.3 Using a Microsoft Azure Subscription vs. a Sitecore-Managed Azure Subscription

When you purchase a Sitecore Azure subscription you receive the benefits of Sitecore's automated features for managing your Azure installations. These benefits include automated set-up of subscriptions and databases. You will also receive licensing benefits such as bursting and prioritized support. Your local Sitecore office can provide more details about the licensing benefits.

If you already have an existing Microsoft Azure subscription that you want to use for your Sitecore installation, you can provide that information to Sitecore and we will assist you in your installation.

If you are using a Microsoft Azure subscription, you will still get many of the benefits of using Sitecore's Azure tools, but you will have to install and manage your own certificates.

1.1.4 How to Install Sitecore Azure

To install Sitecore Azure, you need a Sitecore CMS license and a Sitecore installation. To use Sitecore Azure, you will need a Sitecore Azure environment file. If you have not already done so, contact Sitecore in your region to obtain software and licensing. To contact Sitecore, see <http://www.sitecore.net/contact.aspx>.

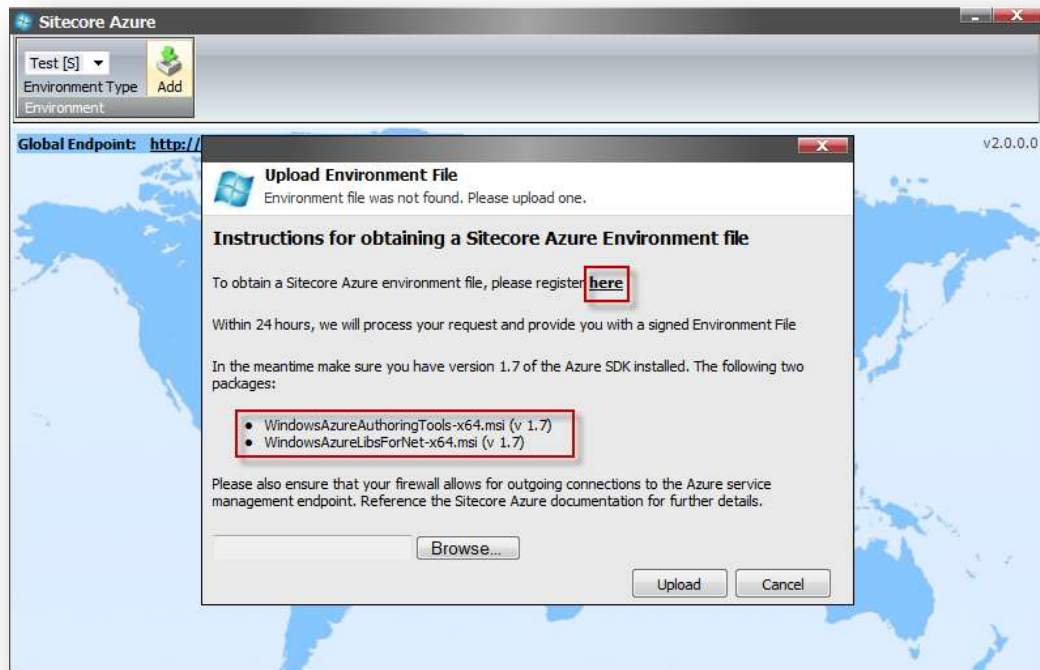
Sitecore environment files are configuration files that contain information about your Windows Azure subscription. You can have more than one environment file so that you can support different kinds of environments, for example, you may have separate development, testing and production environments. Sitecore Azure allows you to manage all of these environments from within the Sitecore Azure application.

Download the Sitecore Azure installation package from <http://sdn.sitecore.net/Products/Sitecore%20Azure/Download%20Sitecore%20Azure.aspx>.

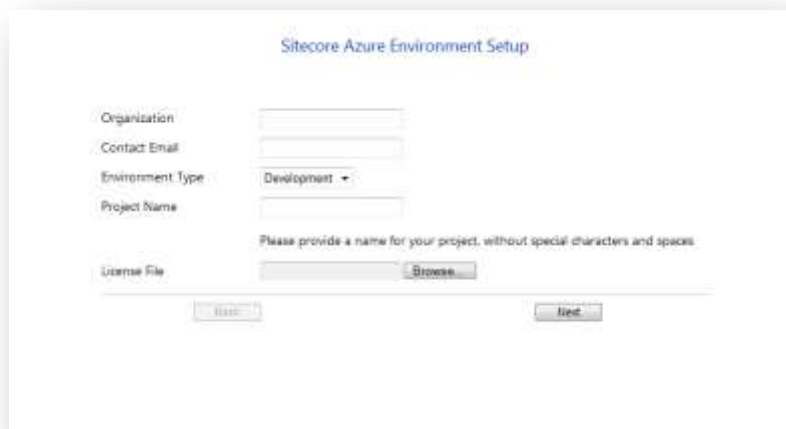
To install Sitecore Azure:

1. Log in to the desktop of your internal content management environment as an administrator.
2. In the Sitecore desktop, click **Sitecore, Development Tools, Installation Wizard**, and then use the **Installation Wizard** to install the *Sitecore Azure* package, overwriting any existing components when prompted.
3. In the Sitecore desktop, click **Sitecore**, and then click **Sitecore Azure. Sitecore Azure** appears prompting you to upload the Sitecore Azure Environment file that you have received from Sitecore.

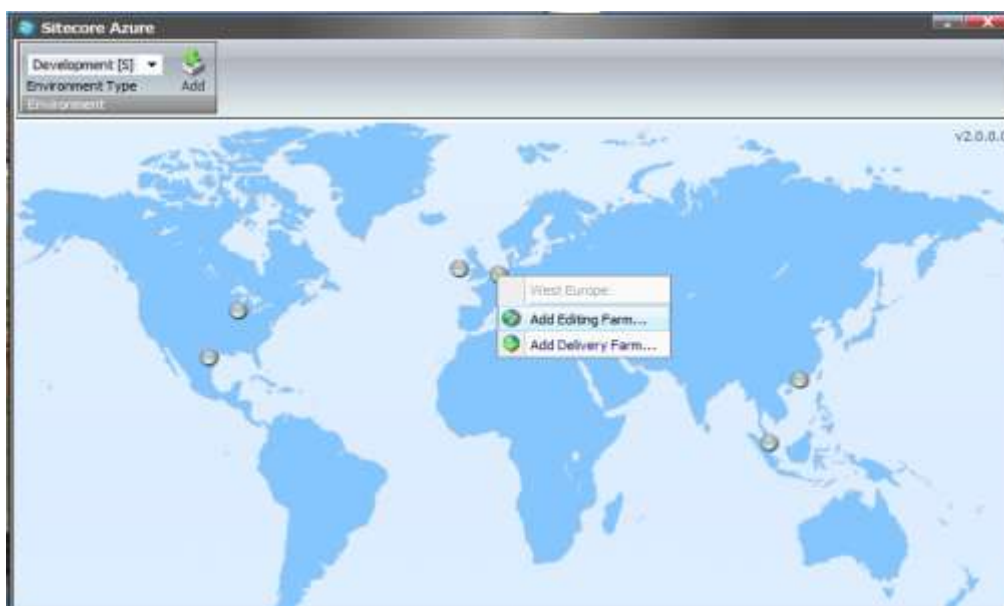
If this is a first time installation and you have not already obtained a Sitecore environment file; click on the link shown in the dialog box to submit your information to Sitecore and you will receive an environment file within 24 hours.



This link to Sitecore’s web site will present a page that asks you for basic contact information, a project name, and to upload your Sitecore license file.



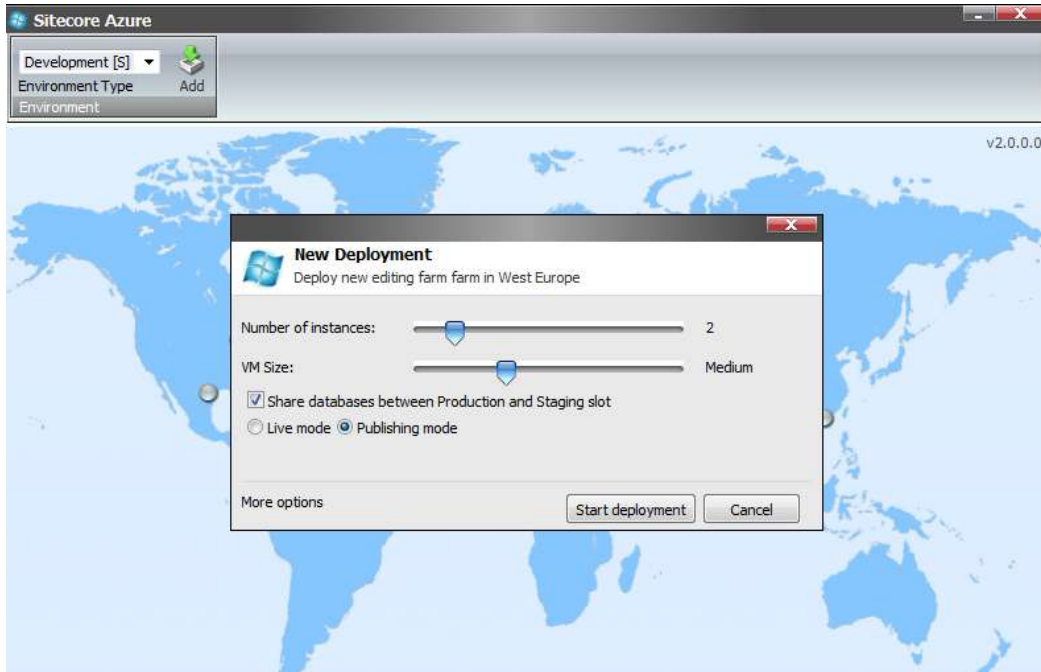
4. Once you have obtained your environment file, you can continue with the Sitecore Azure Set-up dialog box, click **Browse ...** and locate the *Environment* file you obtained from Sitecore. Once you have selected the file, click **Upload** to continue. Your environment file name will be in the format of `ProjectName<Test>_Environment.xml`.
5. Click on your selected location to add a farm. You may add either an Editing Farm or Delivery Farm, depending on your planned deployment strategy.



- If no credentials have yet been established, you will be prompted to set up certificate access. There are two options available, where Option A is a very fast and simple method offered by Microsoft. Click the link to get a ".publishsetting" file from Microsoft. Follow the instructions on the Microsoft site, to get the file, then upload the file for Sitecore. Alternatively, you may choose Option B in which you either use an existing certificate or generate a self-certificate. Upload the your ".pfx" for Sitecore. Once you have selected either a ".publishsettings" or ".pfx" file (you must provide a password for a ".pfx" file), then click **Upload**.



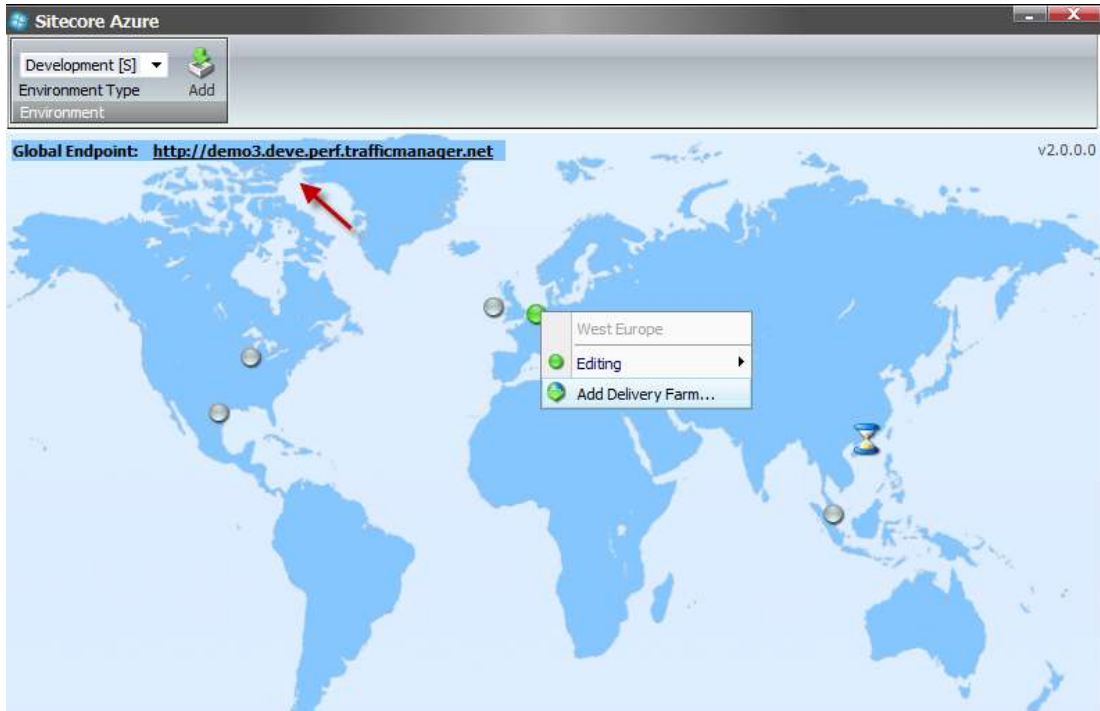
If you do not already have a certificate from a certificate authority installed on your web server you can create a self-generated certificate for development and testing purposes. See the section *Creating a Self-Signed Certificate*.



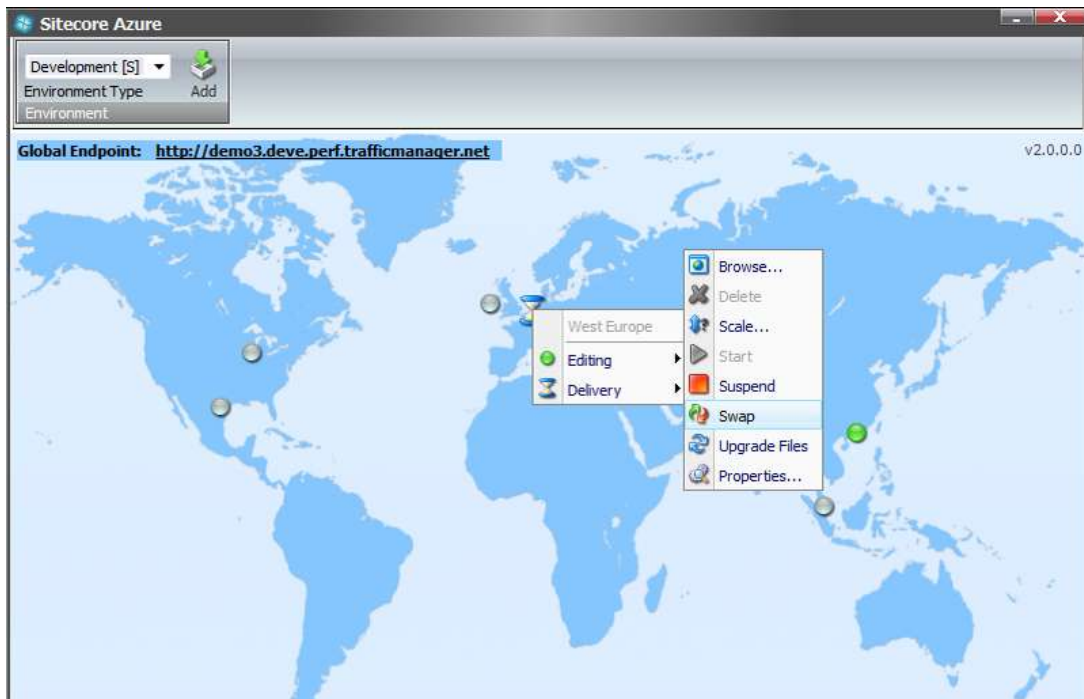
- For each new deployment of either an Editing Farm or a Delivery Farm you can set the number of instances, the size of the virtual machine, database options and publishing options. The default settings are shown in the screen shot. You may change these settings based on your deployment strategy. Click **Start Deployment**. This procedure will take some time, depending on the location and the amount of data that is transferred. See the section *Considerations for Creating a Sitecore Azure Content Delivery Farm* for more information.



- While the Editing Farm is being created, you can begin an operation to create a Delivery Farm in another location. You cannot create additional Editing Farms, only one Editing Farm per environment is supported by Sitecore Azure.



- Note the traffic manager endpoint. This URL will route incoming traffic to the fastest responding farms. Traffic Manager also monitors the state of the farms, and reroutes traffic should a farm not be available. Traffic manager links only production slots. Deployments in the staging slot will not be accessible through Traffic Manager.

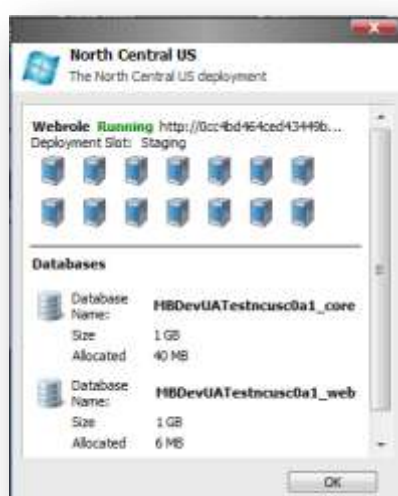


- Once your Editing and Delivery Farms are created (shown as a green circle on the map), you can then, click on a location and expand the Editing or Delivery menus. Use the Swap command to move a location from Staging to Production.

1.2 Using Sitecore Azure

Sitecore Azure provides a map overlaid with icons that represent available Windows Azure hosting locations. Each icon and its color indicate the status of the project in that environment:

- **Gray Circle:** Unused. You can create a content delivery environment.
- **Green Circle:** Started. You can access this content delivery environment over the internet.
- **Red Circle:** Suspended. You can start this content delivery environment.
- **Hourglass:** Busy. Sitecore Azure is attempting to start, suspend, delete, or otherwise administer the location, or the current operation for the location is queued.
- When you click an icon to select a location, Sitecore Azure displays a status dialog box for that location. Ribbon commands operate on the selected location. You can open multiple Sitecore Azure windows in the Sitecore desktop to access the status of tasks in multiple locations.



Warning

Certain operations in the Sitecore Azure user interface, such as, adding or removing an SQL Azure publishing target database, updating configuration, and so on, cause ASP.NET to restart. These operations can therefore interfere with other users and processes on the system. Deployment operations will also cause an ASP.NET restart during the final stage. If you attempt to run multiple deployments concurrently, Sitecore will wait until all deployments are finished to trigger the ASP.NET restart and for the changes in all deployments to be available.

Note

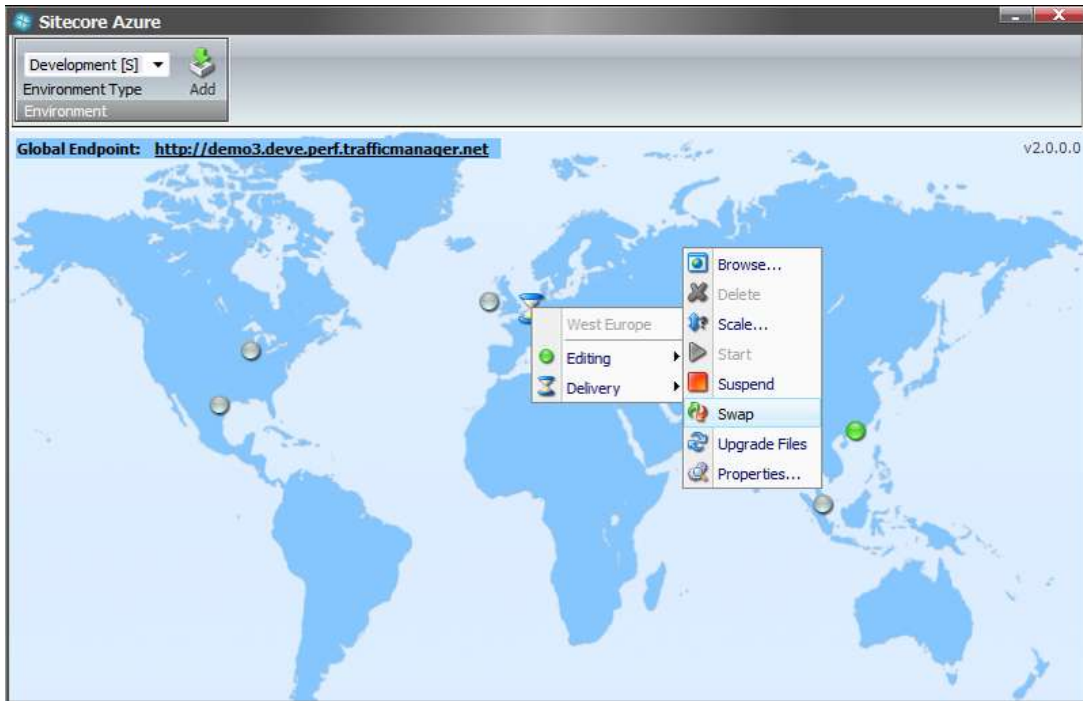
The Sitecore Azure user interface can seem unresponsive because of long-running remote service calls.

1.2.1 Considerations for Creating a Sitecore Azure Content Delivery Farm

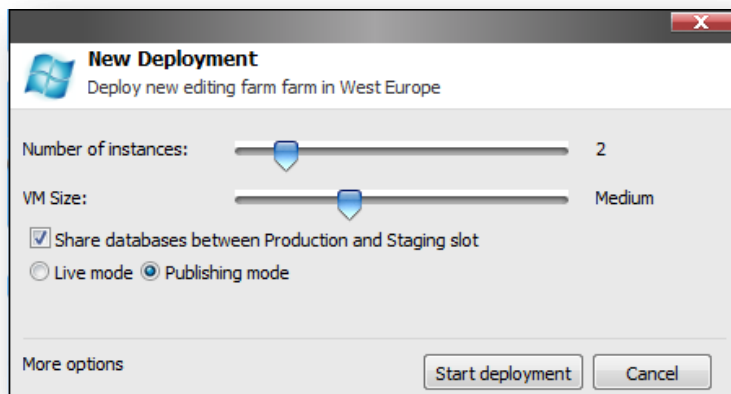
For information about how Sitecore Azure assembles a solution to deploy, see the section *How Does Sitecore Azure Assemble a Solution to Deploy?*

During Sitecore Azure installation you created one or more delivery farms. Here are some additional considerations:

1. To avoid the need to publish after deployment, before creating a Sitecore Azure content delivery environment, publish to the default publishing target named Internet (the Web database).
2. To minimize deployment time, remove unnecessary files from the document root of the content management environment.



3. You can add edit or add additional delivery farms at any time. In **Sitecore Azure**, click a gray circle to add new locations, following the same steps as during your original installation. Click a green circle to edit an existing farm. Expand the Editing or Delivery menu to display your choices for editing and managing your farms.



4. In the **New Deployment** dialog box, make selections for Number of Instances (at least 2 instances are recommended) and Virtual Machine Size (Medium is the default, Small can be used for Evaluation and Test deployments). The default selection is to share databases between Production and Staging. You can also select between a controlled publishing

environment and live mode. Live mode causes changes in the content editing farm to be immediately transferred to the content delivery farm.

By default, Sitecore Azure allocates two instances in each location. For information about changing the number of instances in a location, see the section *How to Change the Number of Instances in an Environment*.

Note

The length of the deployment process can vary greatly between environments depending on the size of the solution, network conditions, and other factors. Expect a minimum of 15 minutes.

1.2.2 How to Publish to a Sitecore Azure Content Delivery Environment

To publish to a Sitecore Azure content delivery environment:

- Publish to the publishing target database associated with the Windows Azure location.

Note

If you have chosen a live mode deployment for your Sitecore Azure instances, you do not need to run a publishing operation. Attempting to run a publishing operation when your site is configured for live mode may generate runtime errors.

1.2.3 How to Deploy Files to an Environment

To deploy files to a Sitecore Azure content delivery environment:

1. In **Sitecore Azure**, click the icon that represents the location. Expand the Editing or Delivery menu and select the **Upgrade Files** option.

When this operation is invoked, the solution is packaged and uploaded with the new files included, then added to the farm as a whole with any downtime. This operation works with files only, no data base or item changes will be applied.

1.2.4 How to Change the Number of Instances in an Environment

To change the number of Sitecore instances in a Sitecore Azure content delivery environment:

1. In **Sitecore Azure**, click the icon that represents the location. Expand the Editing or Delivery menu and select the **Scale** option.
2. Enter the number of instances to configure at this location.

Note

Microsoft recommends that you create at least two web role instances in each location. When there are two or more web roles instances, there is no down time when you upgrade the files.

1.2.5 How to Suspend or Start the Instances in an Environment

To suspend the Sitecore content delivery instances (Windows Azure web roles) in an environment:

1. In **Sitecore Azure**, click the icon that represents the location. Expand the Editing or Delivery menu and select the **Suspend** option.

To start the instances in an environment:

1. In **Sitecore Azure**, click the icon that represents the location. Expand the Editing or Delivery menu and select the **Start** option.

1.2.6 How to Remove Instances from an Environment

To remove all instances from an environment:

1. In **Sitecore Azure**, click the icon that represents the location. Expand the Editing or Delivery menu and select the **Suspend** option.
2. When the **Suspended** operation is complete, expand the Editing or Delivery menu and select the **Delete** option.

1.2.7 How to Create a Sitecore Azure Content Delivery Environment for Multiple Sites

For information about how create multiple sites in Sitecore CMS, see the article *Configuring Multiple Sites* <http://sdn.sitecore.net/Articles/Administration/Configuring%20Multiple%20Sites.aspx> on SDN.

To create a Sitecore Azure content delivery environment for multiple sites:

1. Configure a Web Role for Multiple Web Sites in the `ServiceDefinition.csdef` file. The value of the `ServiceDefinition.csdef` file is stored in the deployment item, in the `ServiceDefinition` field.

Under `/sitecore/system/Settings/Azure/Environments` there are one or more `Environments` items which represent installed environments. Under this item are deployment items which represent settings for deployment. You can access this through the Content Editor or by using the **More Options** button in the **New Deployment** dialog box.

Note

Please look at the following article about how to *Configure a Web Role for Multiple Web Sites in Windows Azure* via `ServiceDefinition.csdef` file: <http://msdn.microsoft.com/en-us/library/windowsazure/gg433110.aspx>

2. In the `ServiceDefinition` field, under the `Sites` element for the `WebRole`, copy the following XML code after the existing `Site` element:

```
<Site name="web-site-name" physicalDirectory=".\\SitecoreWebSite">
  <Bindings>
    <Binding name="HttpIn" endpointName="HttpIn" hostHeader="custom-domain-name" />
  </Bindings>
</Site>
```

3. Fill out the `name` attribute of the `Site` element with a unique value.
4. Fill out the `hostHeader` attributes of the `Binding` element with a host name for your new web site.
5. Save changes in the `AzureDeployment` item.

Note

The `physicalDirectory` attribute must be the same for all **Site** elements.

The `hostHeader` attribute must be filled out for all **Binding** elements.

The `hostHeader` attribute value should be the same as it is in the `hostName` attribute for a logical site in the `web.config` file under the **Sites** section.

A deployment is now configured to create a multiple sites solution in Sitecore Azure Content Delivery Environment.

In Sitecore Azure, select your *deployment* on the map and click the Upgrade Files button in the ribbon.

If you deploy a new solution, come back to the Sitecore Azure and click Start deployment button.

To test Sitecore Azure content delivery environment for multiple sites on local machine:

1. In **Sitecore Azure**, click the running deployment on the map. From the **Farm menu** select **Properties**.
2. In the **Properties** dialog box, copy the value of your Windows Azure host name from the **Webrole** section.
3. In the Windows host file, map your hostname (`hostname` and `hostHeader` attributes value) to your Windows Azure host name.

Note

Please look at the following article about Overview of Managing Deployments in Windows Azure:
<http://msdn.microsoft.com/en-us/library/windowsazure/hh386336.aspx>

1.3 Answers to Common Questions

This section provides answers to some common questions.

1.3.1 How Do Sitecore Azure Content Delivery Environments Clear Caches?

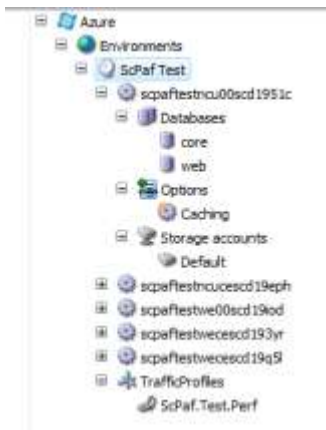
After completing a publishing operation, the Sitecore Azure content management environment writes a timestamp to the publishing target database. Sitecore Azure content delivery environments check the timestamp on each request, and clear caches accordingly.

1.3.2 Where does Sitecore Azure Store Configuration?

Sitecore Azure stores configuration information in a number of locations. Sitecore Azure stores basic configuration details in the `/App_Config/Include/Sitecore.Azure.config` file.

Sitecore manages configuration information using the `/Sitecore/System/Settings/Azure` item and its descendants.

Under `/sitecore/system/Settings/Azure/Environments` there are one or more `Environments` items which represent installed environments. Under this item are deployment items which represent settings for deployment. You can access this through Content Editor or by using the More Options button in the New Deployment dialog box.



There are several fields which contain configuration information s for deployment, and can be changed manually for customization.

- Under each deployment item there is a `Databases` item which contains database projects for deployment to SQL Azure. By default there are “web” and “core” database. If you need to deploy another database to SQL Azure you can create another database item.
- Under each deployment item there is `Storage accounts` item which contains storage projects for deployment to Azure. There is “Default” storage, which is used for uploading a package before deploying. If you need custom storage for a diagnostic configuration you can add one with the predefined name “Diagnostics”. This storage will be created if it does not already exist and is used for diagnostics set up.
- During the “Preparing Environment” operation each SQL Azure database server and storage will be created if it does not already exist, and will be used during the deployment process.

1.3.3 How Does Sitecore Azure Assemble a Solution to Deploy?

To assemble the document root of a solution to deploy, Sitecore Azure performs the following tasks, not necessarily in this order.

- Sitecore Azure copies the document root subdirectory of the content management environment to the `Data\AzurePackages\ (xxx) Deployment\SitecoreWebSite` subdirectory of the directory specified by the `dataFolder` variable in the `web.config` file.
- Sitecore Azure removes some unnecessary files and subfolders from the `Sitecore/Website` folder.
- Sitecore Azure copies the contents of the `Deployment item\ OverrideSourcesFolder` subdirectory in the document root of the CM environment to the `Data\AzurePackages\ (xxx) Deployment\SitecoreWebSite` subdirectory.
- Sitecore Azure prepares `web.config` by including files from the include folder as in a normal installation, does an XSLT transformation based on the XSLT patch file which is stored in the `Deployment item\webConfigPatch` field. In order to decrease size of `web.config` by the end of preparation, the `web.config` is divided into several include files which are stored in the `App_Config/Include` subdirectory.
- Sitecore Azure edits the `ConnectionStrings` section of `web.config`. It removes unnecessary connection strings and adds new ones based on databases which are stored in the `DeploymentItem/Databases/ settings`. If you want add additional connection strings it can be done with `WebConfigPatch`.
- Sitecore Azure copies license information from the local installation to the content delivery package. If you need a different license file in the content delivery installation, add this file into the `"OverrideSourcesFolder\AppData"` subfolder.
- Sitecore Azure modifies the `web.config` file in the Content Delivery package to configure or eliminate databases, archives, agents, sites, watchers, and other features.

1.3.4 How Do I Use My Own Domain Name?

To use your own domain name you must create a CNAME record with your internet registrar. Using the tool provided by your internet registrar, create an entry that maps the desired alias (such as "www") for your domain to the host name that was assigned when your Windows Azure application was created (such as "sitecoreassignedpolicyname.trafficmanager.net"). Then use the tool provided by your internet registrar to forward the root domain to the subdomain that you have mapped to your Windows Azure host name.

CNAME records must always be mapped to a specific subdomain, you cannot map to the root domain itself or do wildcard mappings. You can find an article that describes this procedure in more detail at <http://blog.smarx.com/posts/custom-domain-names-in-windows-azure>.

Never map directly to a Virtual IP address (VIP) because in certain instances Windows Azure may change the underlying VIP.

1.3.5 How to Encrypt Your Package

The package for Sitecore Azure is encrypted by default. If you want to disable encryption set `Azure.Package.NoEncryptPackage` setting to `true`. This setting is found in the `/App_Config/Include/Sitecore.Azure.config` file.

```
<setting name="Azure.Package.NoEncryptPackage" value="true" />
```

1.3.6 How to Enable SSL in a Sitecore Azure Project

Basic information about using SSL with Microsoft Windows Azure can be found at:
<http://msdn.microsoft.com/en-us/library/windowsazure/ff795779.aspx>.

Sitecore settings that control SSL are found in the Service Configuration and Service Definition fields of the Deployment item. After your initial installation edit the following sections in these fields to enable SSL. See section *Where does Sitecore Azure Store Configuration?*

1.3.7 How to Enable Remote Desktop Access to Webrole Instances

Basic information about enabling Remote Desktop Access to Webrole Instances can be found at:
<http://msdn.microsoft.com/en-us/library/windowsazure/hh124130.aspx>

Sitecore settings that control Remote Desktop Access to Webrole instances are found in the Service Configuration and Service Definition fields of the Deployment item. For more information see the section *Where does Sitecore Azure Store Configuration?*

Enabling Remote Desktop Access to a Webrole Instance can be done after creating a Sitecore Azure content delivery environment and adding a new certificate to the Certificate Store. Therefore a Certificate file with a private key must be uploaded to a cloud service.

Note

It is necessary to upgrade the Sitecore Azure content delivery environment after changing Configuration and Service Definition fields.

Basic information about creating a Certificate for a Role can be found at:
<http://msdn.microsoft.com/en-us/library/gg432987.aspx>

Basic information about adding a new Certificate to the Certificate Store can be found at:
<http://msdn.microsoft.com/en-us/library/gg465712.aspx>

Edit the following sections in these files to enable Remote Desktop Access:

ServiceConfiguration

```
<Role name="WorkerRole">
  <Instances count="5" />
  <ConfigurationSettings>
    . . .
    <Setting name="Microsoft.WindowsAzure.Plugins.RemoteAccess.Enabled" value="true" />
    <Setting name="Microsoft.WindowsAzure.Plugins.RemoteAccess.AccountUsername"
      value="username" />
    <Setting name="Microsoft.WindowsAzure.Plugins.RemoteAccess.
      AccountEncryptedPassword" value="REDACTED" />
    <Setting name="Microsoft.WindowsAzure.Plugins.RemoteAccess.AccountExpiration"
      value="2011-01-27T23:59:59.0000000-05:00" />
    <Setting name="Microsoft.WindowsAzure.Plugins.RemoteForwarder.Enabled" value="true" />
  </ConfigurationSettings>

  <Certificates>
    <Certificate name="Microsoft.WindowsAzure.Plugins.RemoteAccess.PasswordEncryption"
      thumbprint="REDACTED" thumbprintAlgorithm="sha1" />
  </Certificates>
</Role>
```

ServiceDefinition

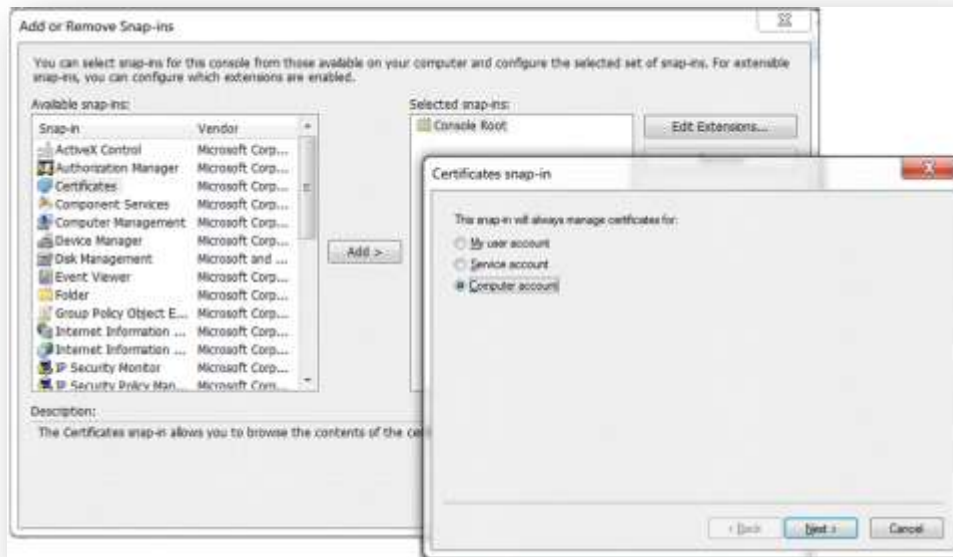
```
<ServiceDefinition name="AzureAtHome" upgradeDomainCount="2"
  xmlns="http://schemas.microsoft.com/ServiceHosting/2008/10/ServiceDefinition">
  <WebRole name="WebRole">
    . . .
    <Imports>
      <Import moduleName="RemoteAccess" />
    </Imports>
  </WebRole>
```

For more information about using Remote Desktop Access with Microsoft Windows Azure see <http://blogs.msdn.com/b/jimoneil/archive/2010/12/29/azure-home-part-13-remote-desktop-configuration.aspx>.

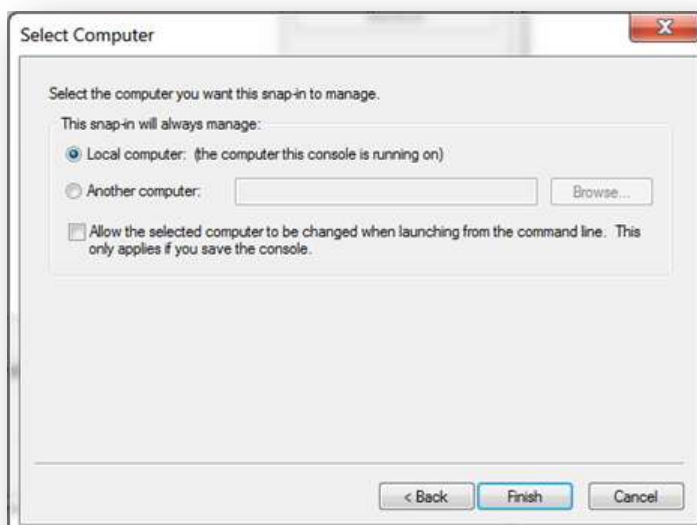
1.3.8 How to Add or Replace Management Certificates

To grant the account that is used to run Application pool required security rights to the certificate:

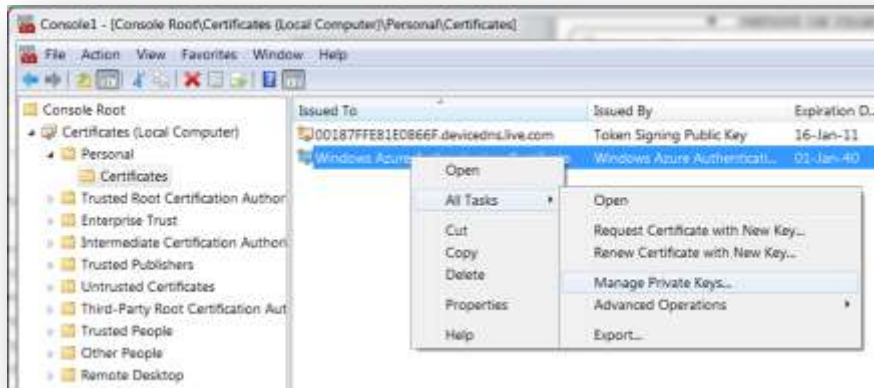
1. Run **Microsoft Management Console**.
2. In the **File** menu, click **Add/Remove Snap-in**.
3. In the **Available snap-ins** list, select **Certificates** and click **Add**.
4. In the **Certificates snap-in** dialog box, select the **Computer Account** option, and then click **Next**:



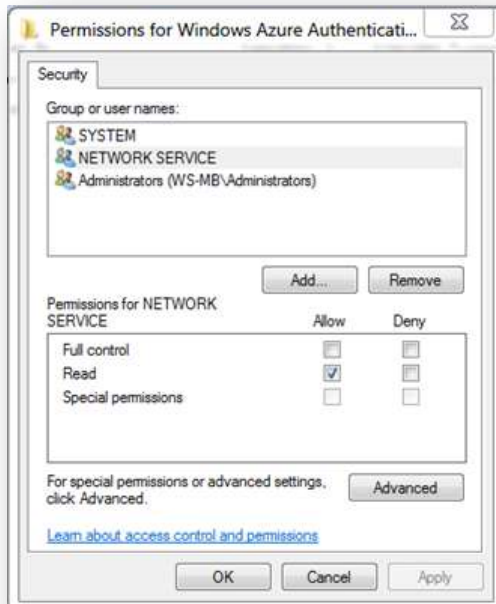
5. In the **Select Computer** dialog box, select the computer that you want to manage.



- In **Microsoft Management Console**, select **Windows Azure Authentication Certificate**, right click it, and select **All tasks — Manage Private keys**.



- Add the account that is used to run the corresponding application pool and grant it *Read* permission:



Note

In this example the NETWORK SERVICE account is used as an example, this may vary on different configurations. You can learn more about Application Pool Identities at <http://learn.iis.net/page.aspx/624/application-pool-identities/>

1.3.9 Environment File Deployment Naming Convention

When your Sitecore Azure Environment File is created a deployment name will be generated. The deployment name must be globally unique and may be used for multiple purposes in an Azure implementation. The deployment name will be assigned using the following pattern:

For Delivery Farms:

```
[projectname][environmenttype][location]00sc[first 3 chars of subscription id]
```

For Editing Farms:

```
[projectname][environmenttype][location]CEsc[first 3 chars of subscription id]
```

For example a deployment name of `myprojDevNcusc91a` would indicate a project with the name of “myproj” running as a development environment, using the North Central US hosting location.

There are four types of Sitecore Azure environments:

- Evaluation
- Development
- Test
- Production

1.3.10 How to Configure Firewall Rules

When configuring firewall rules, allow access for the following common servers and ports.

For Microsoft datacenters:

<https://management.database.windows.net:8443>

<https://management.core.windows.net> (443)

<https://blob.core.windows.net> (443)

In addition, depending on which deployment location you are using, port 1433 needs to be opened on the following hosts:

- **West Europe** — data.am2-1.database.windows.net [94.245.97.22]
- **North Europe** — data.db3-1.database.windows.net [94.245.114.93]
- **North Central US** — data.ch1-1.database.windows.net [207.46.203.22]
- **East Asia** — data.hkn1-1.database.windows.net [111.221.69.22]
- **South East Asia** — data.sgp1-1.database.windows.net [207.46.63.13]
- **South Central US** — data.sn1-1.database.windows.net [65.55.74.144]

Note

Locations and IP addresses may change and new locations may be added from time to time, contact technical support if you are having trouble with these addresses.

1.3.11 How to Implement a Custom WebRole Entry Point

By default Sitecore Azure extends the RoleEntryPoint class to add functionality to configure the diagnostics by using the Windows Azure Storage Account when the role instance is initialized (on start event). This class is named WebRole and placed in the `\bin\WebRole.dll` assembly of the Sitecore website.

To implement a custom WebRole entry point:

1. Implement a class that extends the default `WebRole.WebRole` class from the `WebRole.dll` assembly. This assembly is found in the `\Website\bin` folder after Sitecore Azure installation. It is recommended that you put your inherited assembly in a different folder in order to avoid reference conflicts.
2. Override the needed methods that execute when a role instance is initialized (`OnStart`), run (`Run`) and stopped (`OnStop`) in your class.
3. Compile your code into an assembly in a new folder that is located under the `\Website\bin` folder of your solution. **Important:** The custom assembly must be named `WebRole.dll`.
4. Create a new deployment or upgrade an existing one by using Sitecore Azure to apply the changes.

1.4 Known Issues, Considerations, and Troubleshooting

This section describes known issues with Windows Azure, SQL Azure, and Sitecore Azure.

1.4.1 ASP.NET Considerations on Windows Azure

Consider the following for any ASP.NET application such as Sitecore on Windows Azure.

- For ASP.NET session management the `DistributedCacheSessionStateStoreProvider` is now the default choice.
- Remote access to the Windows Azure environment is extremely limited. You cannot attach a debugger to the Windows Azure environment. You cannot directly access the file system of a Windows Azure environment, including log files, unless RDP access is set up.
- Before moving to the cloud, consider any integration within the solution to internal applications.
- Use configuration files rather than Windows IIS Manager.
- You cannot deploy an individual file to Windows Azure. You must deploy the entire document root.

1.4.2 SQL Azure Considerations

Consider the following when using SQL Azure with applications such as Sitecore.

- When accessing an SQL Azure database from a remote location, performance depends on network conditions and other factors.
- Use an encrypted connection over port 1433 when accessing SQL Azure remotely (outbound access from the content management environment).

For information about SQL Azure security, see <http://msdn.microsoft.com/en-us/library/ff394108.aspx>.

- SQL Azure licensing limits the maximum database size.

For information about SQL Azure sizing and licensing, see <http://msdn.microsoft.com/en-us/library/ee336245.aspx#dcasl>.

- If SQL Server 2008R2 is installed it must be with SP1.

1.4.3 Sitecore Azure Considerations

When you use Sitecore Azure:

- You cannot use the automated installer to install Sitecore on Windows Azure. You can use the automated installer to create a local Sitecore instance, and then use Sitecore Azure to replicate that environment to the cloud.
- Sitecore Azure *only* supports SQL Azure databases.
- Sitecore Azure does not support file media.
- Windows Azure uses certificates to exchange files securely over HTTP. Sitecore Azure Environment files are restricted to license. SQL Azure uses IP address restrictions for database security. Work with Sitecore Azure services if you plan to move your content management instance from one machine or location to another.
- Sitecore has not tested modules including the Online Marketing Suite (OMS 1.0) and Digital Marketing Suite (DMS 2.0) on Windows Azure.

1.4.4 Troubleshooting Sitecore Azure

General troubleshooting steps for Sitecore Azure include:

- Restart ASP.NET.
- Clear the browser cache.
- Investigate the Sitecore logs in the content management environment for errors.
- Remove the instances from the environment and deploy again.
- After deployment, configure the `$dataFolder/AzurePackages\ (xxx) Deployment` subdirectory as the document root of an IIS web site, and diagnose that site.
- Temporarily set the `mode` attribute of the `/configuration/system.web/customErrors` element in the `web.config` file to `Off`.

Warning

Setting the `mode` attribute to `Off` can expose detailed error information in the Sitecore Azure environment. Consider other techniques to protect the application while `mode` is `Off`. Remember to set `mode` to `On` or `RemoteOnly` after diagnosis, and remember to deploy that change.

1.4.5 Creating a Self-Signed Certificate

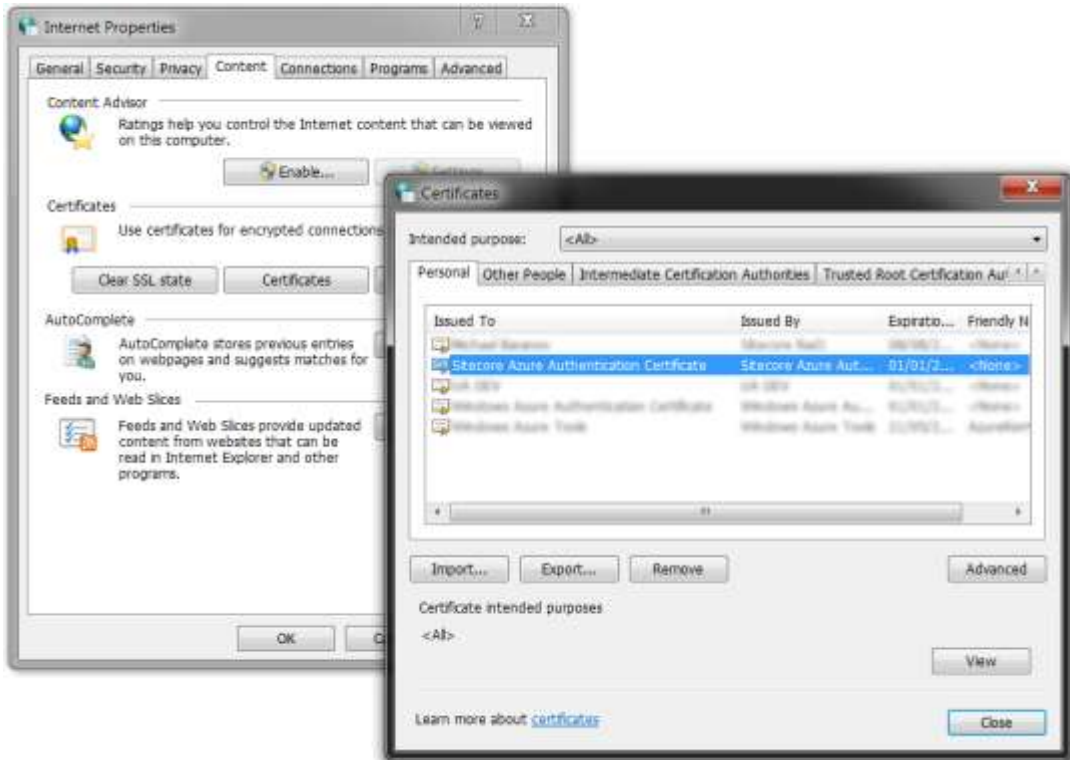
If you do not have a certificate from a Certificate Authority already installed on your web server, you can create a self-signed certificate for development and testing purposes.

1. Generate the self-signed certificate by using the `MakeCert.exe` tool. The following is an example of a command to create a certificate. This command will create a new key with private and public parts. The public key will be placed in file system (`certificate.cer`). The private key will be installed into Windows certificate storage.

```
makecert -r -pe -a sha1 -n "CN=Sitecore Azure Authentication Certificate"  
-ss My -len 2048 -sp "Microsoft Enhanced RSA and AES Cryptographic Provider"  
-sy 24 "certificate.cer" -sr CurrentUser
```

2. Locate the public key (`certificate.cer`) generated in the previous step and upload it to the Windows Azure Management Certificate store.

- Export the private key certificate as a .pfx file. This can be done from Control Panel, Internet Options or with use of MMC -> Add/Remove Snap-in -> Certificates.

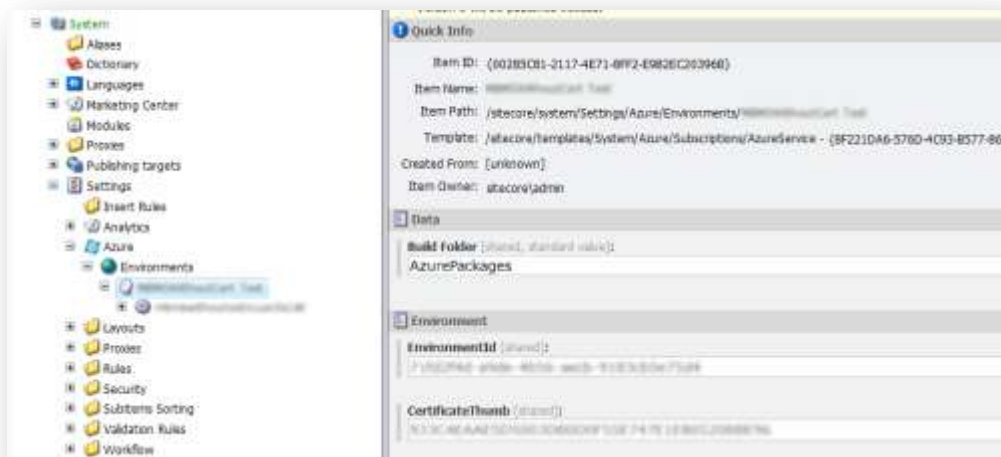


For more information about the `Makecert.exe` tool, see <http://msdn.microsoft.com/en-us/library/bfskty3.aspx>.

1.4.6 How to Replace a Certificate

If you need to replace an existing certificate, because of certificate compromise for example, you need to:

- Upload a new public key into the Windows Azure Management Certificate store.
- Delete the contents of the **CertificateThumb** field in the `/sitecore/system/Settings/Azure/Environments/<Project Name>` item.



The next time you create a new content delivery instance Sitecore Azure will prompt you to upload the new certificate.

Important

The certificate will be installed under the account that is used for the AppPool. Sitecore Azure does not store the .pfx file or the password. This information is only used during certificate installation.