



# Sitecore Azure 1.0.3

# 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.

This document contains the following sections:

- Overview
- Using Sitecore Azure
- Answers to Common Questions

## 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 (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 use Sitecore Azure 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.

### Requirements

- Sitecore Azure requires Sitecore CMS 6.3 or higher.
- Sitecore Azure requires a 64-bit edition of Microsoft Windows.
- Sitecore Azure 1.0.3 requires that you install the Microsoft Windows Azure SDK 1.4 in the internal content management environment.<sup>1</sup>
- The recommended version of Microsoft SQL Server is 2008R2.

### 1.1.1 How to Set-up Your Microsoft Azure Account

You must create a Windows Azure account with Microsoft which is connected with your Windows Live ID. You must create the required Windows Azure subscriptions for each datacenter. Make sure to add [azure.accounts@sitecore.net](mailto:azure.accounts@sitecore.net) as a co-administrator for each subscription that you create with Microsoft. This will allow Sitecore to help you configure and manage your subscriptions. Be aware that you may be charged by Microsoft for your usage, review their usage levels and fee schedules carefully when you sign

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<sup>1</sup> For more information and to download the Windows Azure SDK, see <http://www.microsoft.com/windowsazure/windowsazuresdk+tools/>.

up for your account. See the instructions at [www.microsoft.com/windowsazure](http://www.microsoft.com/windowsazure) for more information about creating accounts and subscriptions and usage charges.

Follow these steps to create your Microsoft Azure account:

1. If you do not already have one, create a Windows Azure subscription at <http://windows.azure.com>. (Requires Microsoft Windows LiveID and credit card information.)  
Or  
Create a temporary Azure trial account <https://windowsazurepass.com> (A trial account expires after 30 days, and all trial data will be deleted at the end of this period.)
2. Login to <http://windows.azure.com> and:
  - a. Create a SQL Azure DB server in your subscription. If you need to deploy to multiple locations, you will need separate subscription for each location, each holding its own DB server.
  - b. Set up firewall rules so your content management environment can access this DB.
  - c. Make `azure.accounts@sitecore.net` co-admin for your subscription(s).
3. Make sure you have the Microsoft Azure SDK 1.4 version installed.  
(<http://www.microsoft.com/windowsazure/windowsazuresdk+tools/>)

## 1.1.2 How to Obtain a Sitecore Azure Environment File

In order to complete Sitecore Azure installation, Sitecore technical support will assist you in creating an environment file. This file contains all of the details regarding your Microsoft Azure subscription and accounts, your Sitecore license and the Sitecore Azure certificate file that was created when you installed Sitecore Azure. Please follow the following steps to obtain this file.

1. Email the following information to `azure.accounts@sitecore.net`:
  - a. The location, hostname, login and password for the Microsoft Azure DB Server(s). Your Certificate file: `/sitecore/admin/azure/certificate.cer` file from Sitecore Azure installation. This file is created during the package installation and will be available once you have completed the Sitecore Azure package installation as described in the section *How to Install Sitecore Azure, Step 2*.
  - b. Your Sitecore license file.
2. We will then provide you with a signed `Environment File.xml`, which will enable Sitecore Azure cloud deployments. You will use this file in the following steps for installing Sitecore Azure.

### Important

Please make sure that you keep a copy of this Environment File in a safe place. You will need to upload it again if you re-install Sitecore Azure or install any future updates to Sitecore Azure.

## 1.1.3 How to Install Sitecore Azure

To install Sitecore Azure, you need a Sitecore CMS license and a Sitecore installation. To use Sitecore Azure, you need a Sitecore Azure Environment file. If you do not already have a Sitecore CMS 6.4

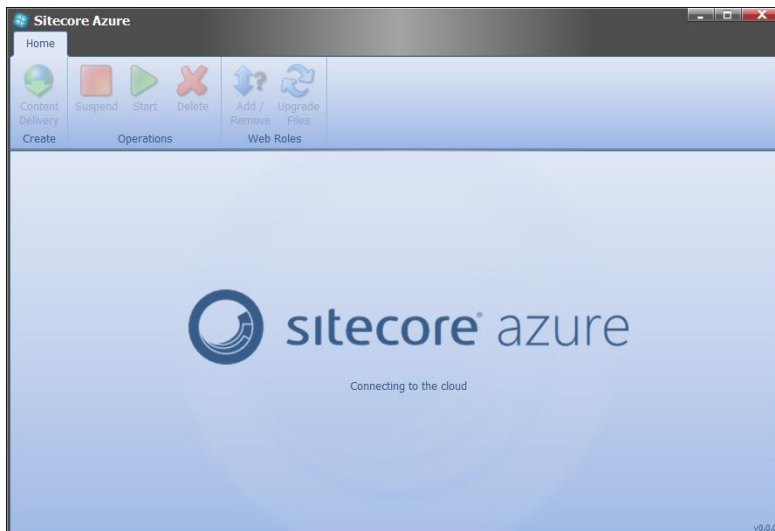
installation, contact your Sitecore regional manager to obtain software and licensing.<sup>2</sup> Visit <http://www.microsoft.com/windowsazure> to create your Microsoft Azure account and subscriptions, as described in section 1.1.1.

Download the latest version of Sitecore Azure from <http://sdn.sitecore.net/Products/Sitecore%20Azure/Download%20Sitecore%20Azure.aspx>. The .zip file that you download is a Sitecore package file. Install this package by using the Sitecore Installation Wizard, as described below.

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**, then click **Development Tools**, then click **Installation Wizard**, and then follow the prompts in the **Installation Wizard** to install the *Sitecore Azure* package, overwriting any existing components.

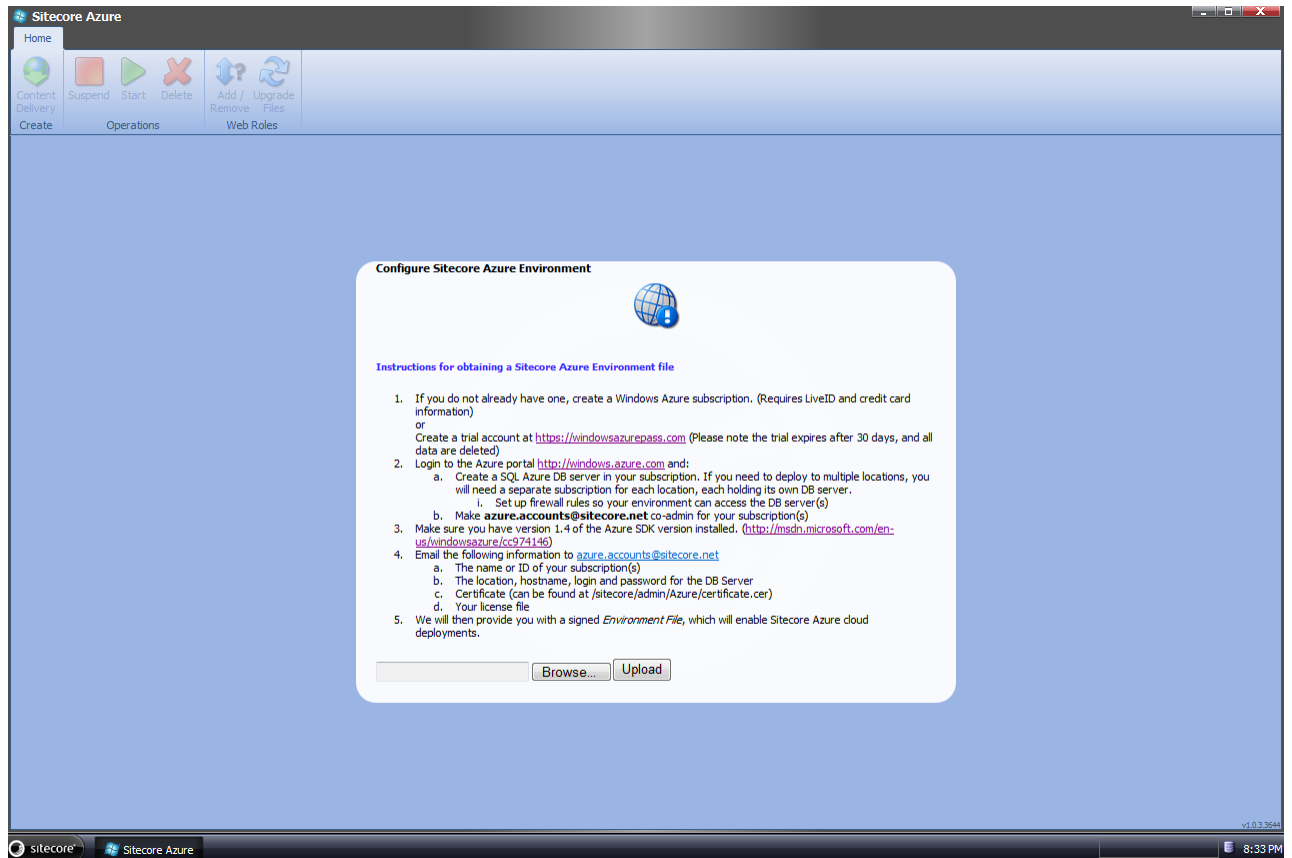
In the Sitecore desktop, click the **Sitecore** Start menu button, and then click **Sitecore Azure**. You will see the following screen with the message “Connecting to the cloud”.



3. After a few moments, once your connection is verified, you will see the next screen, prompting you to upload your Sitecore Environment file. If you receive an error message or do not move from the *Connecting to the cloud* status after a few minutes, see the **Error! Reference source not found.** section.
4. When you have successfully connected, **another dialog will display** prompting you to upload the Sitecore Azure Environment file that you have received from Sitecore.
5. In the **Sitecore Azure Set-up dialog**, click the `Browse ...` and locate the `Environment File.xml` file you obtained from Sitecore. Once you have selected the file, click `Upload` to continue.

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<sup>2</sup> To contact Sitecore, see <http://www.sitecore.net/contact.aspx>.



6. Grant the account that is used to run the application pool required security rights to the certificate. For more information about granting security rights to the certificate, see the *How to Grant Security Rights to the Certificate* section.

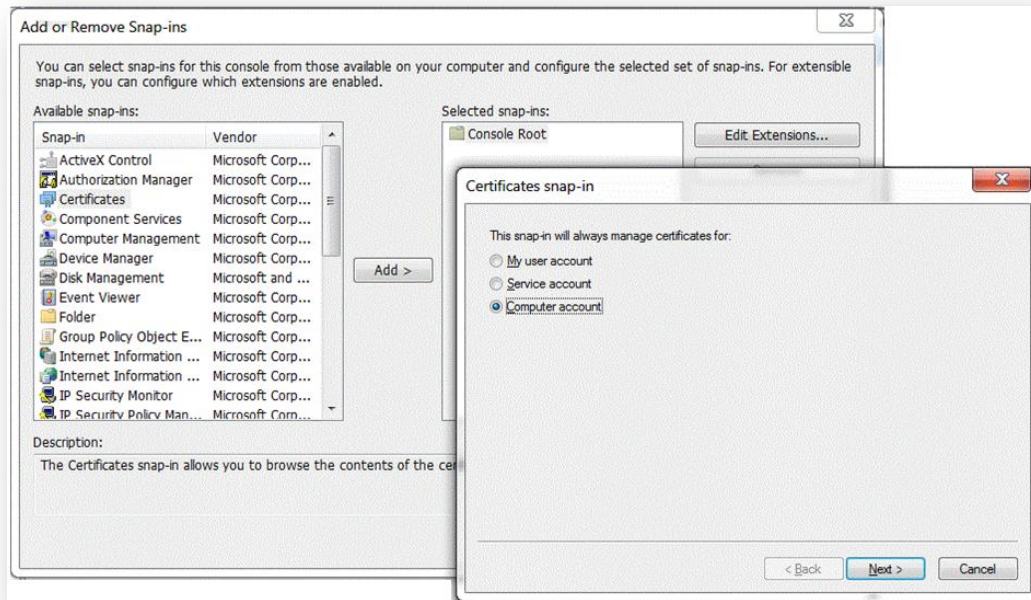
### 1.1.4 How to Grant Security Rights to the Certificate

You must also grant the appropriate security rights to the certificate.

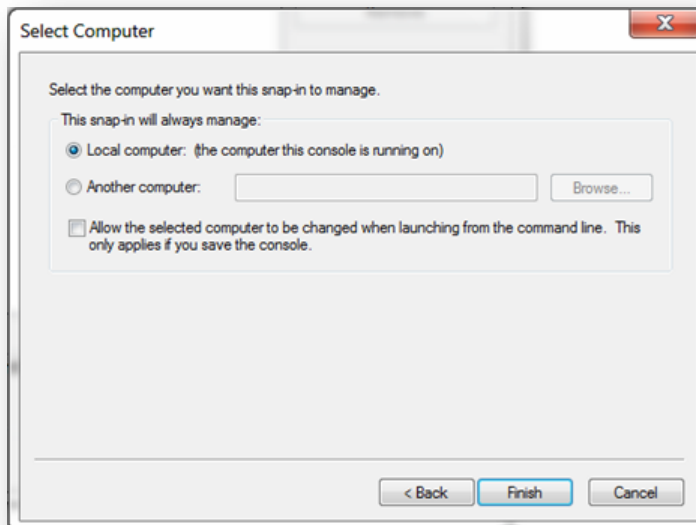
To grant the account that is used to run Application pool required security rights to the certificate:

1. Run **Microsoft Management Console**.
2. In the **File** menu, click **Add/Remove Snap-in**.
3. In the **Available snap-ins** list, select **Certificate** and click **Add**.

4. In the **Certificates snap-in** dialog box select the **Computer Account** check box:

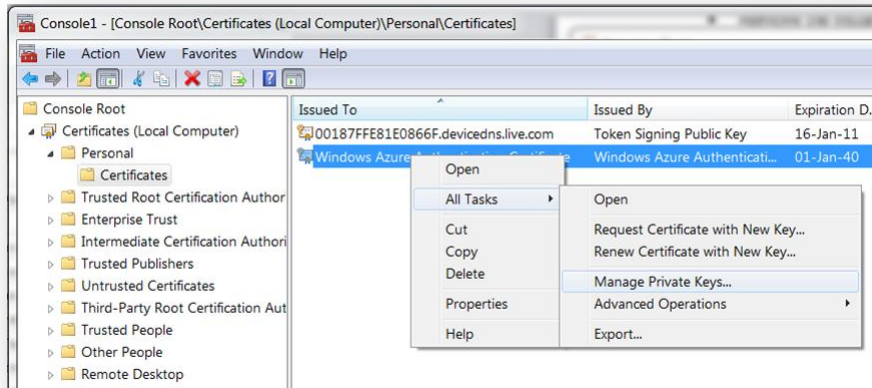


5. In the **Select Computer** dialog box, select the computer that you want to manage.

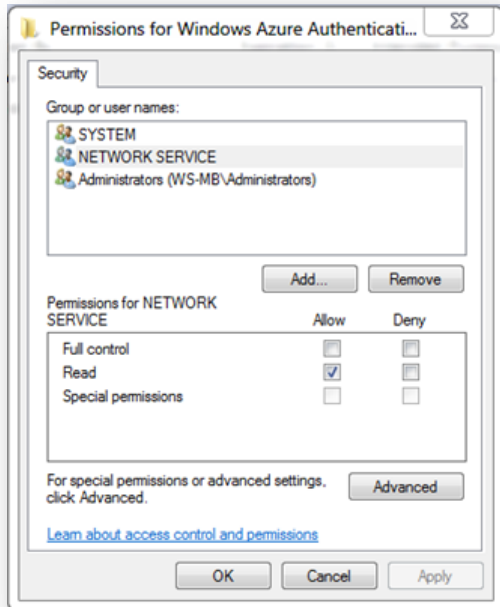




- In **Microsoft Management Console**, select **Windows Azure Authentication Certificate**, right click it, and select **All tasks — Manage Private keys**.



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



## 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.
- **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, the current operation for the location is queued, or the last operation for the location failed.

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. Sitecore Azure maintains a task queue. You can start a task for one location, close the dialog box, and start a task for another 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, update configuration, and so on cause ASP.NET to restart. These operations can therefore interfere with other users and processes on the system.

### Note

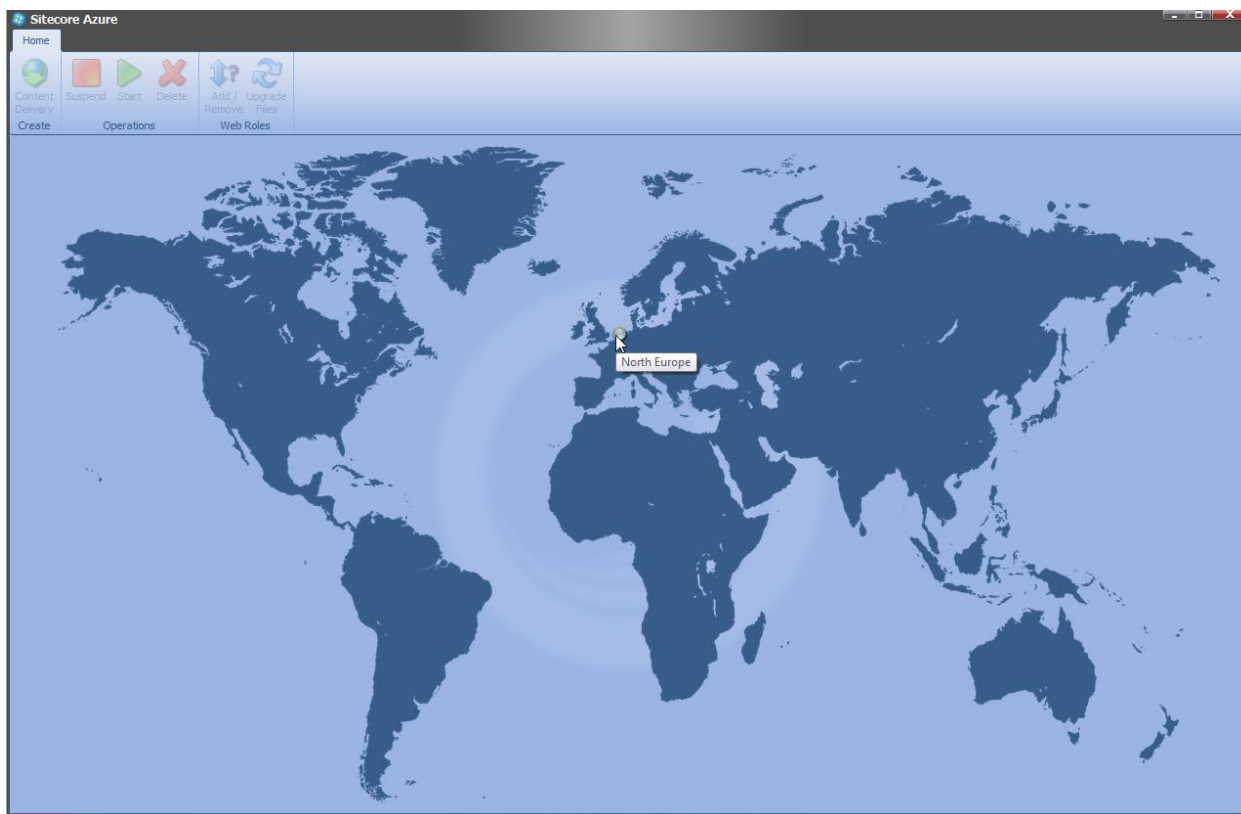
The Sitecore Azure user interface can seem unresponsive because of long-running remote service calls.

### 1.2.1 How to Create a Sitecore Azure Content Delivery Environment

When you are ready to deploy your Sitecore solution to the Azure cloud you must create the delivery environment. For information about how Sitecore Azure assembles a solution to deploy, see the section *How Does Sitecore Azure Assemble a Solution to Deploy?*

To create a Sitecore Azure content delivery environment:

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. In **Sitecore Azure**, click the gray circle that represents a location to which you would like to deploy your solution. A wizard appears prompting you to create a content delivery environment in that location.



4. In the wizard, click **Create Content Delivery Environment**. A dialog box appears indicating the status of the current task for that location.
5. When deployment completes, click the URL at the top of the status dialog box for the location to open the deployed solution in a new browser window.

By default, Sitecore Azure allocates a single web role in each location. For information about changing the number of web roles 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. Progress bars are estimates.

## 1.2.2 How to Publish to a Sitecore Azure Content Delivery Environment

After making changes or additions to content in your Sitecore solution you must publish those changes to the Azure cloud.

To publish to a Sitecore Azure content delivery environment:

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

## 1.2.3 How to Deploy Files to an Environment

After making changes or additions to the file system assets in your Sitecore solution you must deploy those files to the Azure cloud. To deploy files to a Sitecore Azure content delivery environment:

1. In **Sitecore Azure**, click the icon that represents the location. The status dialog box for that location appears.
2. In **Sitecore Azure**, in the **Web Roles** group, click **Upgrade Files**.

The Upgrade Files operation performs an “in-place upgrade” of the role instances, allowing you to deploy new files with the least possible impact to the web site.

## 1.2.4 How to Change the Number of Instances in an Environment

If you find that you need to add or reduce Windows Azure resources for your solution you may adjust the number of instances in your 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. The status dialog box for that location appears.
2. In **Sitecore Azure**, in the **Web Roles** group, click **Add/Remove**. A text field appears containing the number of instances that currently exist at this location.
3. Enter the number of instances to configure at this location, and then click **Change**.

### Note

We recommend 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 refresh the files.

## 1.2.5 How to Delete a Failed Task

If you received an error when trying to execute a task in the Sitecore Azure application you can delete the failed task and attempt to execute it again when you have corrected the issue. To delete a failed task:

1. In **Sitecore Azure**, click the icon that represents the location. A dialog box appears indicating the status of the current task for that location.
2. In the dialog box, click **Delete failed task**.

## 1.2.6 How to Suspend or Start the Instances in an Environment

You can temporarily suspend and then restart instances in your environment as necessary. Instances that are suspended still incur charges as specified in your agreement with Microsoft. 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. A dialog box appears indicating the status of the current task for that location.
2. In **Sitecore Azure**, in the **Operations** group, click **Suspend**.

To start the instances in an environment:

1. In **Sitecore Azure**, click the icon that represents the location. A dialog box appears indicating the status of the current task for that location.
2. In **Sitecore Azure**, in the **Operations** group, click **Start**.

## 1.2.7 How to Remove Instances from an Environment

You can permanently remove an instance from your Environment by deleting them. Once the instance is deleted you will no longer incur charges from Microsoft for that instance. To remove all instances from an environment:

1. In **Sitecore Azure**, click the icon that represents the location. A dialog box appears indicating the status of the current task for that location.
2. In **Sitecore Azure**, in the **Operations** group, click **Suspend**.
3. When the **Suspended** status appears, in the **Operations** group, click **Delete**.

## 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.

- The **Environment** field in the **Environment** section of the `/Sitecore/System/Settings/Azure` item contains XML that identifies the Windows Azure subscription. This is the content from the Sitecore Azure `Environment File.xml` file that you uploaded before using the Sitecore Azure user interface.
- The **NumberOfInstances** field in the **Instances** section of each child of the `/Sitecore/System/Settings/Azure/Locations/location` item using the `System/Azure/Location` data template defines the number of web roles in each deployed location.
- The children of each location definition item specify database connection strings for that location. The children of the `/Sitecore/System/Settings/Azure/Queue` item represent queued operations.

When you create a content delivery environment, Sitecore Azure copies include files from the `/App_Config/Include` for Azure Webroles directory to the `/App_Config/Include` directory as described in the section *How Does Sitecore Azure Assemble a Solution to Deploy?*

### 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 `WebRole` subdirectory of the directory specified by the `dataFolder` variable in the `web.config` file.
- Sitecore Azure copies the contents of the `/App_Config/Include` for Azure Webroles subdirectory in the document root of the CM environment to the `/App_Config/Include` subdirectory in the `WebRole` subdirectory.
- Sitecore Azure removes the `/sitecore` subdirectory from the `WebRole` subdirectory.

- Sitecore Azure creates the `/App_Config/Include/Sitecore.Azure.Deployment.config` file in the `WebRole` subdirectory.
- Sitecore Azure updates the `dataFolder` variable in the `web.config` file in the `WebRole` subdirectory to `/App_Data/Sitecore Data Folder`.
- Sitecore Azure updates the `configSource` attribute of the `/configuration/connectionStrings` element in the `web.config` file in the `WebRole` subdirectory to `App_Config\AzureConnectionStrings.config`, and creates that file.
- Sitecore Azure modifies the `web.config` file in the `WebRole` subdirectory to configure or eliminate databases, indexes, archives, agents, sites, watchers, and other features.

**Note**

In a Sitecore Azure CD environment, the database name `web` specifies the copy of the `Web` database deployed to SQL Azure.

### 1.3.4 How Do I Use My Own Domain Name?

To use your own domain name, you can configure DNS, or you can use a GeoDNS service. You can forward your domain name to the virtual IP address of a Sitecore Azure content delivery environment, or you can forward individual subdomains such as `www`.