

# QLM v12+ Azure Integration

You can host the QLM License Server on a Windows Azure portal. The procedure outlined in this section will show you how to build a QLM Azure deployment package, how to create the database on the Azure Portal and finally how to connect the QLM Management Console to the Azure-hosted QLM License Server.

## 1. Database Creation

To create the QLM database on the Azure portal:

- Go to the Windows Azure Portal.
- Select **SQL Databases**.
- Click on the **Add**.
- Set the database name to: **qlm**
- Pick the Subscription, and Resource Group server of your choice.
- Set the **Select Source** field to "Blank database"
- Set the **Select Source** field to Blank database

- Select an existing Server or create a New Server
- Select whether you want to use a SQL Elastic pool
- Select a Pricing tier
- Use the default Collation
- Click **Create**

The screenshot shows the 'SQL Database' creation wizard. The form is titled 'SQL Database' and contains the following fields and options:

- \* Database name:** Input field containing 'qlm' with a green checkmark.
- \* Subscription:** Dropdown menu showing 'Microsoft Partner Network'.
- \* Resource group:** Radio buttons for 'Create new' (selected) and 'Use existing'. Below is an input field containing 'qlm' with a green checkmark.
- \* Select source:** Dropdown menu showing 'Blank database'.
- \* Server:** Section with a right-pointing chevron and the text 'Configure required settings'.
- Want to use SQL elastic pool?:** Radio buttons for 'Yes' and 'Not now' (selected).
- \* Pricing tier:** Section with a lock icon and the text 'Configure required settings'.
- \* Collation:** Input field containing 'SQL\_Latin1\_General\_CP1\_CI\_AS'.

At the bottom of the form, there is a checkbox for 'Pin to dashboard' and a blue 'Create' button next to the text 'Automation options'.

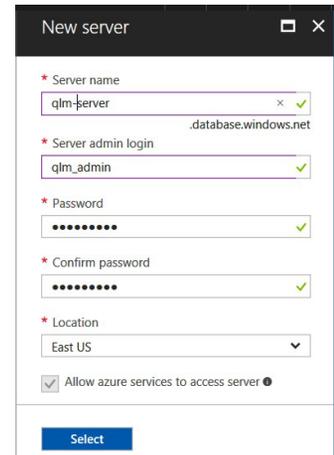
## 2. Server settings

If you selected to create a new SQL database server on the previous step, you need to configure a user account on the SQL Server.

- In the Server name field, enter a name of your choice. Example: qlm-server
- In the Server admin login field, enter a name of your choice. Example: qlm\_admin
- In the password and confirm password fields, enter a new password.

IMPORTANT: Use a password that contains a combination of lower case, upper case, digits and special characters.

- Select a Location
- Click Select



## Network connectivity

- Set the connectivity method to **Public endpoint**.

## Configure the firewall

- Select the database in the Azure Portal
- Click Set server firewall
- Set the "Minimum TLS Version" to 1.0. This is required as the default OLEDB drivers that are available on Azure App Services do not currently support TLS 1.2 and there does not seem to be a way to update these drivers.
- Set the **Allow Azure services and resources to access this server** property to **Yes**.
- Set the **Add current IP address** property to **Yes**.

## Configure the database

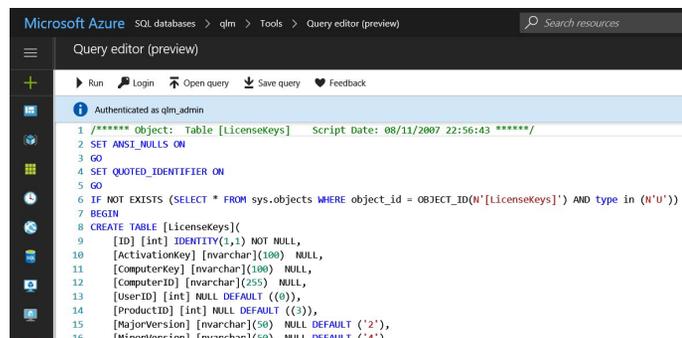
Now that the database is created, we need to create the tables and stored procedures. Follow the steps below:

- Click on the QLM database in the list
- Click Tools
- Click Query Editor
- Click login and enter your credentials Click
- Open Query and select: %Public%\Documents\Quick License

- 
- 
- Manager\DeployToAzure\Db\qlm.createtables.sql

Click on Run to execute the query

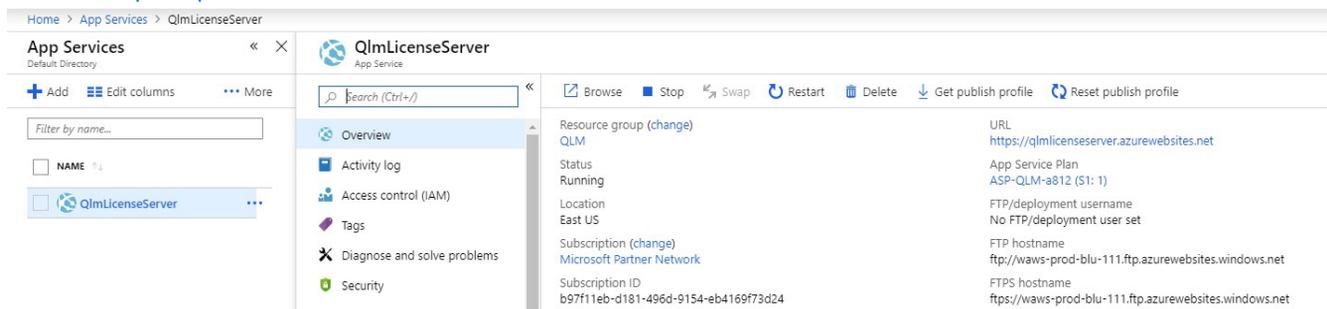
Repeat these two steps for the following sql script file: aspnet.sql



```
Microsoft Azure SQL databases > qlm > Tools > Query editor (preview)
Query editor (preview)
Authenticated as qlm_admin
1 /***** Object: Table [LicenseKeys] Script Date: 08/11/2007 22:56:43 *****/
2 SET ANSI_NULLS ON
3 GO
4 SET QUOTED_IDENTIFIER ON
5 GO
6 IF NOT EXISTS (SELECT * FROM sys.objects WHERE object_id = OBJECT_ID(N'[LicenseKeys]') AND type in (N'U'))
7 BEGIN
8 CREATE TABLE [LicenseKeys](
9 [ID] [int] IDENTITY(1,1) NOT NULL,
10 [ActivationKey] [nvarchar](100) NULL,
11 [ComputerKey] [nvarchar](100) NULL,
12 [ComputerID] [nvarchar](255) NULL,
13 [UserID] [int] NULL DEFAULT ((0)),
14 [ProductID] [int] NULL DEFAULT ((3)),
15 [MajorVersion] [nvarchar](50) NULL DEFAULT ('2'),
16 [MinorVersion] [nvarchar](50) NULL DEFAULT ('4')
```

## Create the QmLicense Server App Service

- Click App Services in the Azure Portal
- Click "Create app service"
- Select "Web App"
- Click Create
- Set the App Name to: QmLicenseServer (or any name of your choice)
- Select your subscription
- Select a Resource Group or create a new one
- Set the Publish property to: Code
- Set the Runtime Stack to: ASP.NET V4.8
- Set the OS to: Windows
- Set a Region of your choice
- Select the App Service plan
- Click Create
- Click App Services to view the newly created App Service
- Locate and note the URL to access the App Service in Azure. The URL will look like: <https://qmlicenserver.azurewebsites.net>



## Create the QmCustomerSite App Service

- Click App Services in the Azure Portal
- Click "Create app service"
- Select "Web App"
- Click Create
- Select your subscription and resource group
- Set the App Name to: QmCustomerSite
- Set the Publish property to: Code
- Set the Runtime Stack to: ASP.NET V4.8
- Set the OS to: Windows
- Set a Region of your choice
- Select the App Service plan
- Click Create
- Click App Services to view the newly created App Service

## Create the QImPortal App Service

- Click App Services in the Azure Portal
- Click "Create app service"
- Select "Web App"
- Click Create
- Select your subscription and resource group
- Set the App Name to: QImPortal
- Set the Publish property to: Code
- Set the Runtime Stack to: ASP.NET V4.8
- Set the OS to: Windows
- Select the App Service plan
- Click Create
- Click App Services to view the newly created App Service

## Create the QImCustomerPortal API Service

- Click App Services in the Azure Portal
- Click "Create app service"
- Select "Web App"
- Click Create
- Select your subscription and resource group
- Set the App Name to: qIm-portal-api
- Set the Publish property to: Code
- Set the Runtime Stack to: ASP.NET V4.8
- Set the OS to: Windows
- Select the App Service plan
- Click Create
- Click App Services to view the newly created App Service
- Locate and note the URL to access the App Service in Azure. The URL will look like:  
<https://qImportal=api.azurewebsites.net>

## Create the QImCustomerPortal APP Service

- Click App Services in the Azure Portal
- Click "Create app service"
- Select "Web App"
- Click Create
- Select your subscription and resource group
- Set the App Name to: qIm-portal-app
- Set the Publish property to: Code
- Set the Runtime Stack to: ASP.NET V4.7
- Set the OS to: Windows
- Select the App Service plan
- Click Create
- Click App Services to view the newly created App Service

- Locate and note the URL to access the App Service in Azure. The URL will look like:  
<https://qImportal=api.azurewebsites.net>

## Deploy packages to your App Services

Now that all App Services have been created, you need to create and deploy the QLM Azure packages to your App Services.

### Create the App Packages

- Launch the QLM Management Console (v12+)
- Go to the Manage Keys tab
- Click Sites
- Click Add to add a new site
- Specify a site name
- In the Primary site field, enter the URL to the License Server: For example: <https://qImlicenseserver.azurewebsites.net/qImservice.aspx>
- Set the Database Engine to SQL Server
- Go to the Encryption Keys tab, then click New for CommunicationEncryptionKey and AdminEncryptionKey
- If you want to configure the QLM Customer Portal to support 3rd party authentication, go to the Authentication tab and set the Client ID of each provider as described in the Authentication Configuration section of this [article](#).
- Go to the Deployment tab (formerly Database Connection tab) and enter all the fields on this tab
  - Server Hostname or IP: to get this value, select your database in Azure, and click on the Overview tab.
    - Click Show database connection strings
    - In the ADO.NET tab, copy the value of the Server entry. The value typically looks like:  
`tcp:qlmserver.database.windows.net,1433`
  - Database Name: qlm or any other name you have entered earlier in the process when you created the database
  - User Name: name of the sql admin user you specified earlier in the process  
User Password: password of the sql admin user you specified earlier in the process
  - Set the URL to the QLM Customer Portal API (as per the App Service created earlier)
  - Set the URL to the QLM Customer Portal App (as per the App Service created earlier)
- Click "Create Azure Package"
- 4 zip files will be created. You will upload these zip files to your server in the next step.

Toolbar with icons for: Add, Rename, Delete, Copy, Test All

N... Edit Test

License Servers: Soraco Azure  Show enabled servers only

- General
- Files and Folders
- Encryption Keys
- Database Connection
- License Keys
- Advanced
- Server Properties

License Server Settings

Primary Site:  Test *i*

Disaster Recovery Site:  Test *i*

Active Site:  Primary Site  Disaster Recovery Site *i*

Database Engine:  Upgrade DB Schema *i*

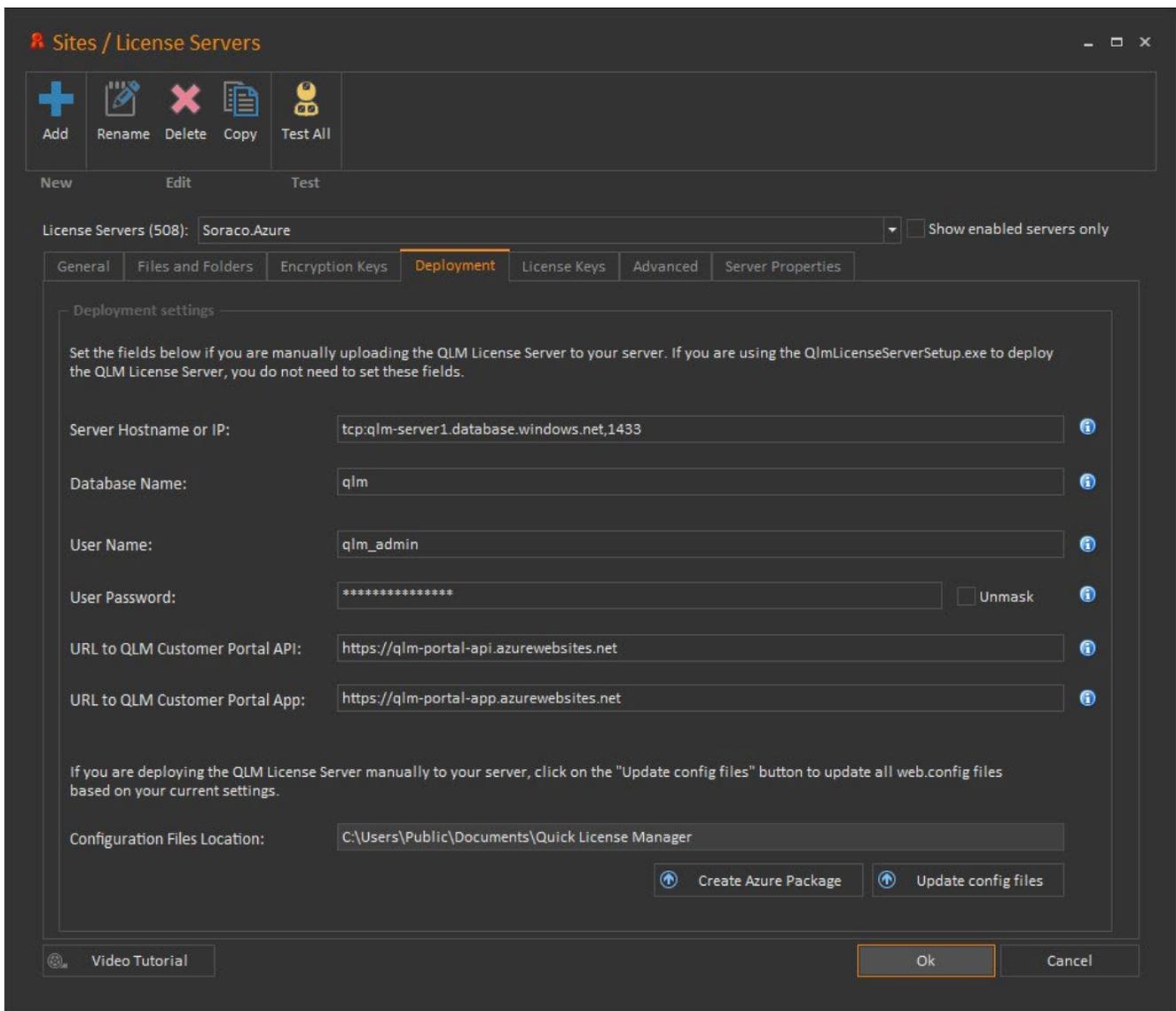
Enabled:  *i*

Products

QLM stores the products definition in a local file called products.<License Server Name>.xml. The product definition needs to be published to the License Server every time it is modified on your client system.

Upload your products to the License Server:   Upload Searches *i*

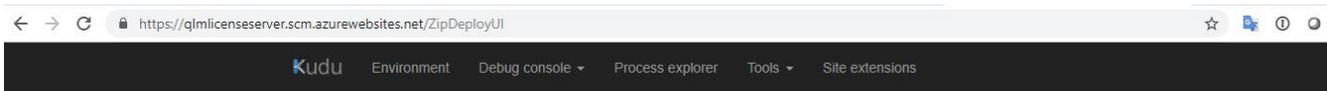
Download your products from the License Server:   Download Searches *i*



## Deploy the QLM License Server Package

- Go to the Azure Portal and click the QLM License Server App Service.
- In the right-hand panel, locate the Development Tools section and click Advanced Tools
- Click Go
- Click Debug Console / CMD
- Click **site** then **wwwroot** to go to the **wwwroot** folder
- Locate the QlmLicenseServer.zip file in %Public%\Quick License Manager\DeployToAzure
- Drag QlmLicenseServer.zip onto the grid where files are listed and drop it on the right-hand side of the grid where it says **Drag here to upload and unzip**.
- Once the deployment is completed, you can access the QLM License Server at the following URL: <https://qlmlicenser.azurewebsites.net/qlmservice.asmx>
- In the QLM Sites editor, go to the General tab
- Set the Primary Site value to: <https://qlmlicenser.azurewebsites.net/qlmservice.asmx>
- Click the Test button to verify the connection to the server.
- If this is a new installation of the server, click "Upload your products to the License Server".

t s s a e sta at o o t e se e , c c Up oad you p oducts to t e ce se Se e .



/wwwroot + | 5 items

	Name	Modified	Size
	bin	7/18/2019, 8:49:47 AM	
	Db	7/18/2019, 8:49:47 AM	
	QlmPaypallpn.aspx	7/18/2019, 2:48:30 AM	1 KB
	QlmService.aspx	7/18/2019, 2:48:46 AM	1 KB
	web.config	7/18/2019, 8:49:48 AM	33 KB



Deployment Id : 5a389bf634504ff7881970b0bf26aa15

- 2019-07-18T12:49:42.2667074Z : Created via a push deployment
  - 2019-07-18T12:49:42.5253866Z : Updating submodules.
  - 2019-07-18T12:49:42.6034867Z : Preparing deployment for commit id '5a389bf634'.
  - 2019-07-18T12:49:42.8534723Z : Generating deployment script.
  - 2019-07-18T12:49:44.1100531Z : Running deployment command...
  - 2019-07-18T12:49:48.1440112Z : Running post deployment command(s)...
  - 2019-07-18T12:49:48.2689492Z : Deployment successful.

## Deploy the QlmCustomerSite App Service

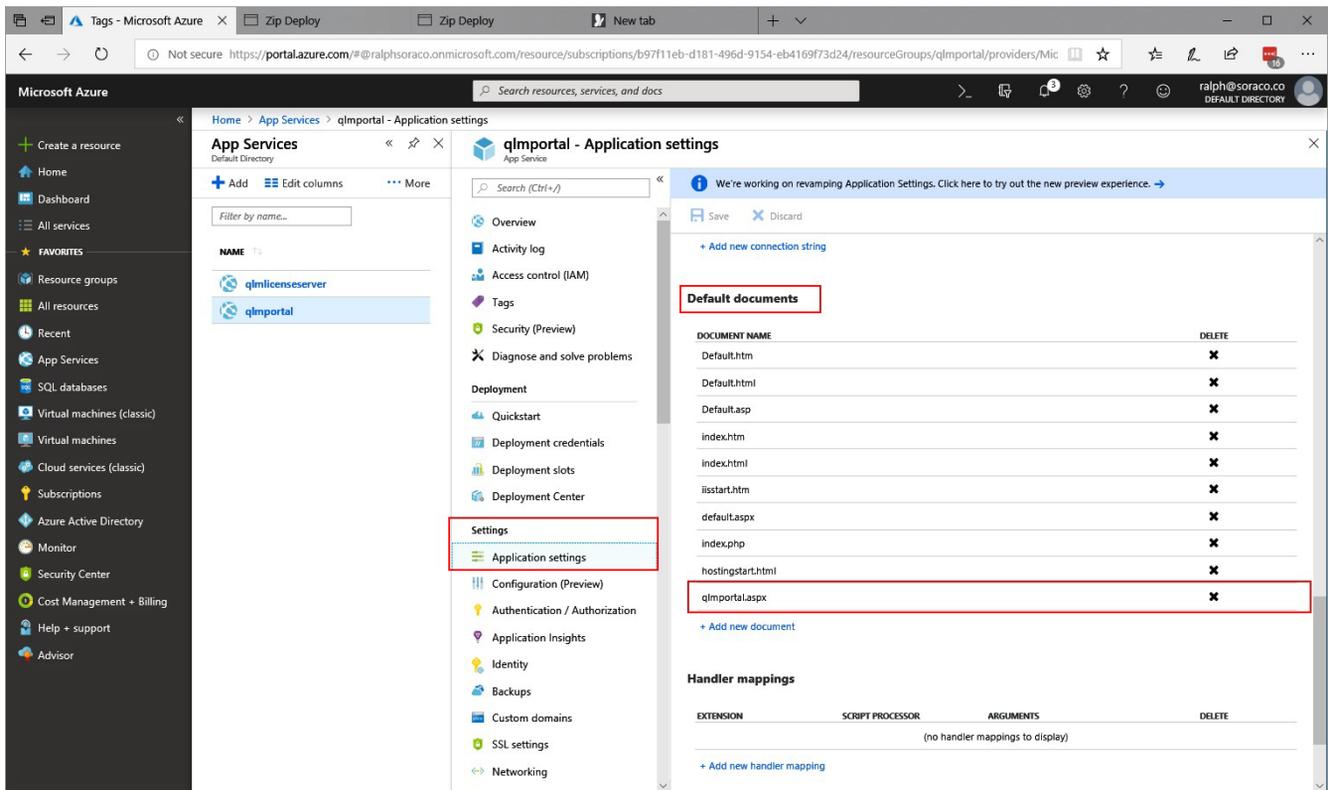
- Go to the Azure Portal and click the QLM Customer Site App Service.
- In the right-hand panel, locate the Development Tools section and click Advanced Tools
- Click Go
- Click Debug Console / CMD
- Click **site** then **wwwroot** to go to the **wwwroot** folder
- Locate the QlmCustomerSite.zip file in %Public%\Quick License Manager\DeployToAzure
- Drag QlmCustomerSite.zip onto the grid where files are listed and drop it on the right-hand side of the grid where it says **Drag here to upload and unzip**.
- Once the deployment is completed, you can access the QLM License Server at the following URL:<https://qlmcustomersite.azurewebsites.net>

## Deploy the QlmPortal App Service

- Go to the Azure Portal and click the QLM Customer Site App Service.
- In the right-hand panel, locate the Development Tools section and click Advanced Tools
- Click Go
- Click Debug Console / CMD
- Click **site** then **wwwroot** to go to the **wwwroot** folder
- Locate the QlmPortal.zip file in %Public%\Quick License Manager\DeployToAzure
- Drag QlmPortal.zip onto the grid where files are listed and drop it on the right-hand side of the grid where it says **Drag here to upload and unzip**.
- Once the deployment is completed, you can access the QLM Portal at the following URL: <https://qlmportal.azurewebsites.net/qlmportal.aspx>

Is it recommended to set the Default Document of the QLM Portal to QlmPortal.aspx as follows:

- In the Azure QLM Portal panel, locate the Settings section and click Application Settings
- Locate the Default Documents section
- Click Add new document
- Enter QlmPortal.aspx
- Click Save



## Deploy the QlmCustomerPortal API Service

- Go to the Azure Portal and click the QlmCustomerPortalAPI App Service.
- In the right-hand panel, locate the Development Tools section and click Advanced Tools
- Click Go
- Click Debug Console / CMD
- Click **site** then **wwwroot** to go to the **wwwroot** folder
- Locate the QlmCustomerPortalApi.zip file in %Public%\Quick License Manager\DeployToAzure
- Drag QlmCustomerPortalApi.zip onto the grid where files are listed and drop it on the right-hand side of the grid where it says **Drag here to upload and unzip**.
- Once the deployment is completed, you can access the QLM Portal API at the following URL:  
<https://qlmportal-api.azurewebsites.net>

## Deploy the QlmCustomerPortalApp Service

- Go to the Azure Portal and click the QlmCustomerPortalApp App Service.
- In the right-hand panel, locate the Development Tools section and click Advanced Tools
- Click Go
- Click Debug Console / CMD
- Click **site** then **wwwroot** to go to the **wwwroot** folder
- Locate the QlmCustomerPortalApp.zip file in %Public%\Quick License Manager\DeployToAzure
- Drag QlmCustomerPortalApp.zip onto the grid where files are listed and drop it on the right-hand side of the grid where it says **Drag here to upload and unzip.**
- Drag and Drop QlmCustomerPortalApp.zip in the browser explorer area.
- Once the deployment is completed, you can access the QLM Portal API at the following URL:  
<https://qlmportal-app.azurewebsites.net>

Is it recommended to set the Default Document of the QLM Customer Portal App to index.html as follows:

- In the Azure QLM Customer Portal App panel, locate the Settings section and click Application Settings
- Locate the Default Documents section
- Click Add new document
- Enter index.html
- Click Save

## Upgrading your QLM License Server to a newer version

To upgrade your QLM License Server to a new version, install the latest version of the QLM Management Console on your workstation and repeat the steps starting from the "Deploy packages to your App Services" section of this article.

**Important:** Before upgrading the QLM Portal, you must delete all the files in the QLM Portal's bin folder on Azure.

## Troubleshooting

1. If you get a connection error as shown below, try changing the SQL Administrator password to a more complex password that contains lower case, upper case, digits and special characters. Example:  
Coraso2313!2313!

Results	
	Description
✔	License Server SPM-QlmLicenseServer (Azure) has failed some or all tests.
✔	Successfully connected to License Server at 2021-09-22T20:59:26Z UTC. QLM Version: 15.0.21245.1
✘	Failed to validate connection to database. connectionString: Provider=sqloledb;Data Source=tcp:spm-qlm.database.windows.net,
✘	Failed to validate connection to database. connectionString: Provider=sqloledb;Data Source=tcp:spm-qlm.database.windows.net,
✘	Error al conectarse a la base de datos. Esto suele deberse a un error en la cadena de conexión, como las credenciales incorrectas
✘	Failed to validate the communicationEncryptionKey. Error validating request: Object reference not set to an instance of an object..