

qm.x BY  Grant Thornton

Azure Marketplace Installation Guide

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Prerequisites

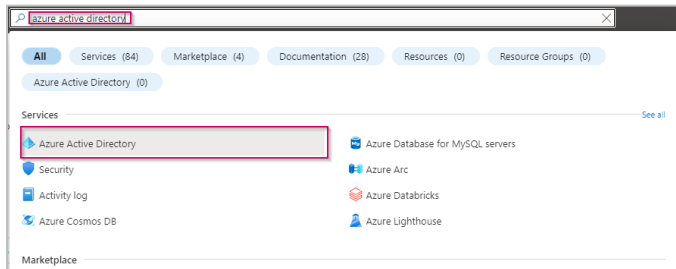
To complete the installation of qm.x into your Azure Subscription, you must have the following:

- An Azure Subscription
- Rights in Azure AD for creating Application Registrations
- Owner rights in the subscription where qm.x will be installed for the creation of a resource group and corresponding resources
- Configured logging and analytics
 - Additional information can be found here:
<https://learn.microsoft.com/en-us/azure/app-service/troubleshoot-diagnostic-logs>
<https://learn.microsoft.com/en-us/azure/app-service/monitor-app-service>

Azure AD App Registration

Before you begin the application installation from the Marketplace, you must create an app registration for integration with Azure AD for authentication of users.

1. Open <https://portal.azure.com> and type in the search box **Azure Active Directory** and select it to pull up the Azure Active Directory blade.

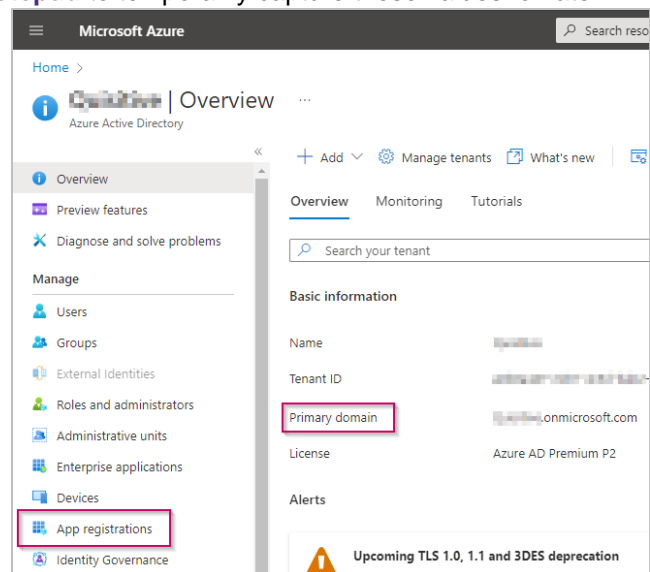


Over the next several steps, we will be configuring the application registration and capturing the following inputs used later during the qm.x application installation process:

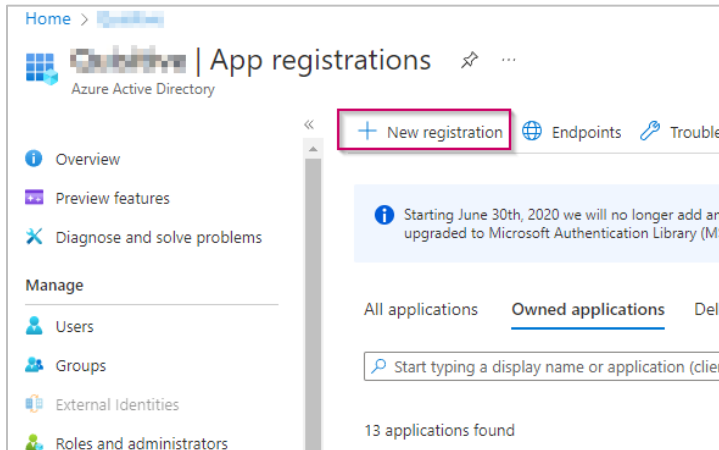
- **Tenant ID**
- **Azure AD Domain**
- **Client ID**
- **Client Secret**

It is recommended that you open an instance of **Notepad** to temporarily capture these values for later use.

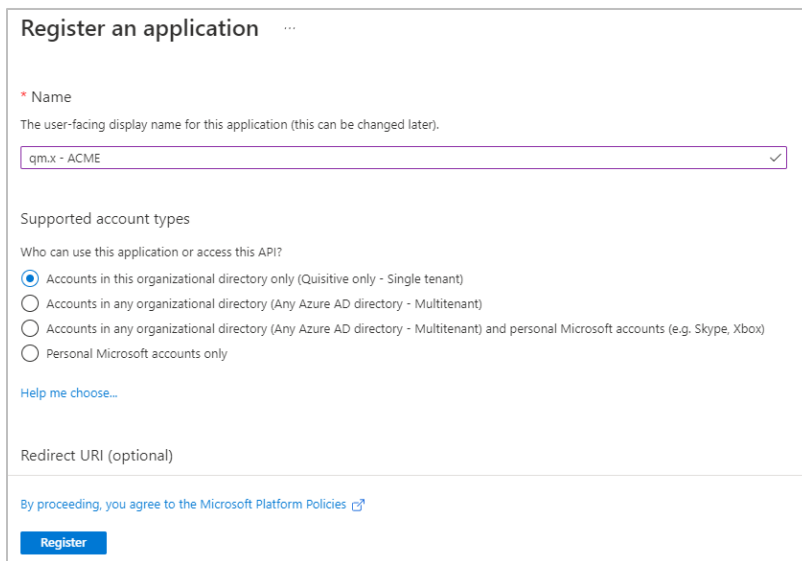
2. The first value to capture is available on the initial screen: Azure AD Domain. **Copy** the value labeled **Primary domain**, which should end in **".onmicrosoft.com"**, and **paste** that value into **Notepad**.
3. Next, select **App Registrations** from the left-hand menu:



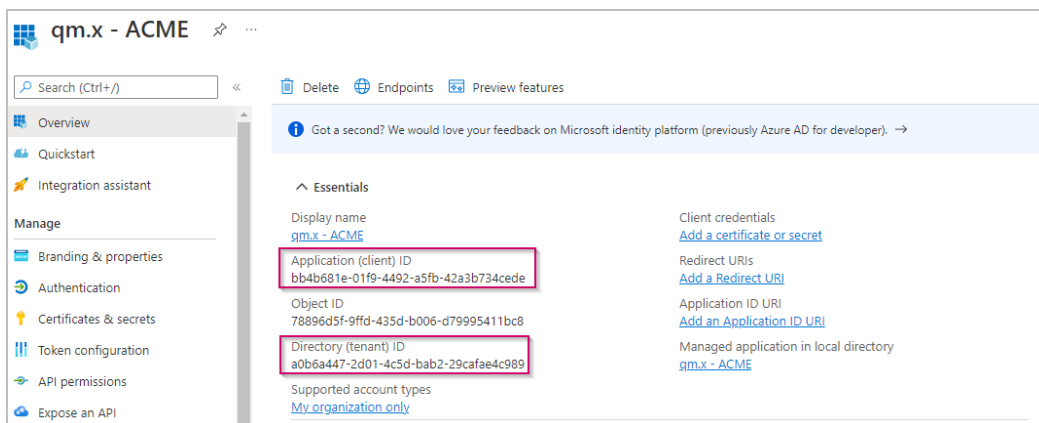
- Click the toolbar item to create a **New Registration**.



- Enter a descriptive name for the qm.x installation. Leave all other values in their default state, and then click **Register**.



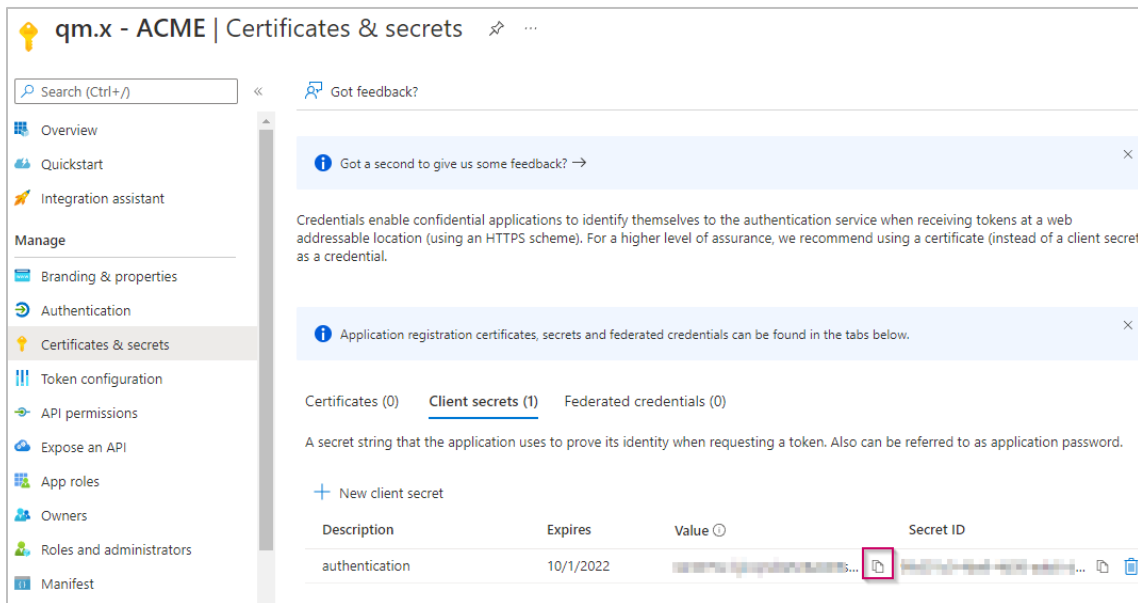
- The next two values that need saving are available on the next screen (client ID and tenant ID). Take a moment to **copy** these values into **Notepad**. You may want to label them, so they don't get mixed up.



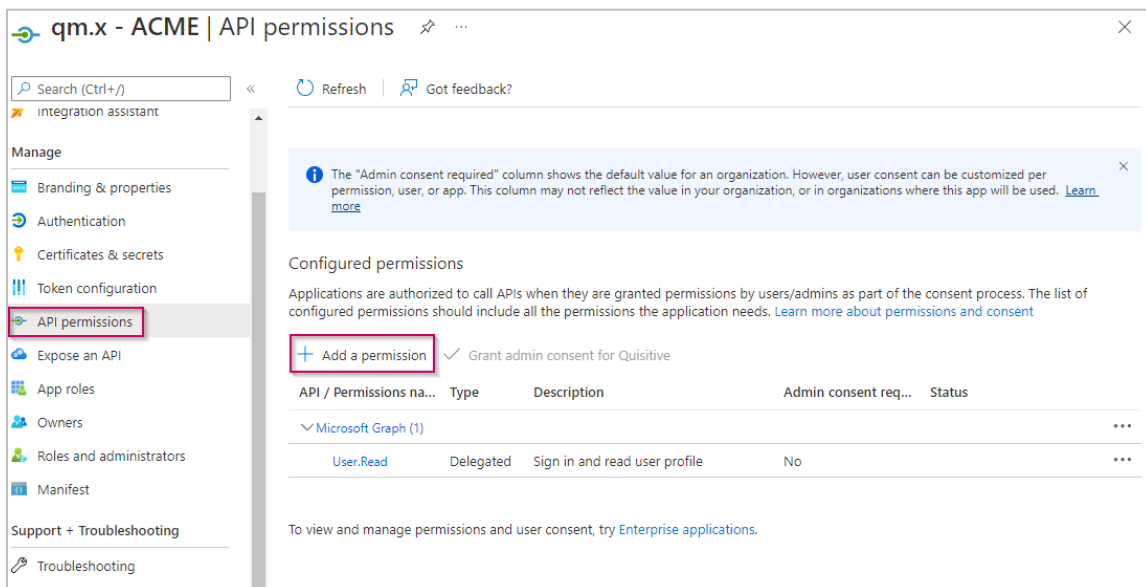
The remaining steps configure the qm.x application with the required permissions and settings. Once the qm.x application is installed, we will come back to this app registration and update a setting required for redirecting logins back to the installed application.

7. Select **“Certificates & Secrets”** from the left-hand menu, and then click **New Client Secret**.
8. Enter a Description, such as *“authentication”*, and set an expiration date according to your company’s policies.
NOTE: Expired client secrets must eventually be updated in the Key Vault resource deployed by the application.
9. After creating the secret, use the **copy icon** to **copy** the Client Secret **Value** and **paste** into **Notepad**
IMPORTANT: The secret value will not be shown again after leaving this screen.

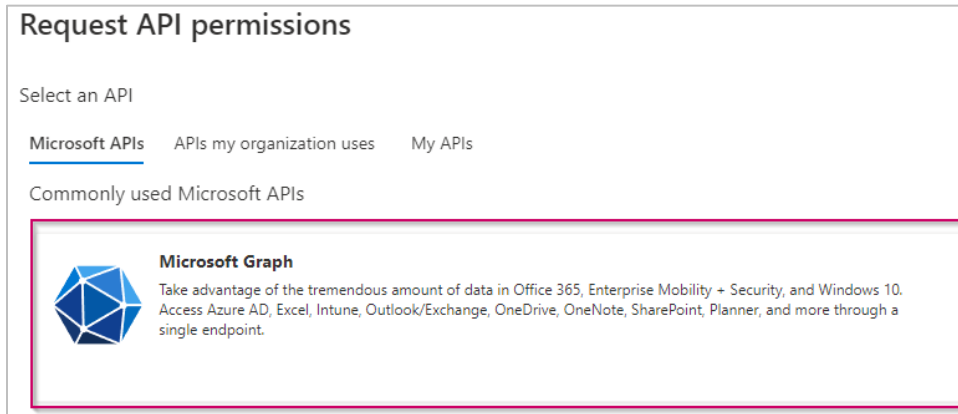
This is the final value to capture, but there are still a few more steps to complete the app registration process.



10. qm.x requires an additional delegated permission to allow the application to look up users on behalf of the signed in user. The next step is to add the required permission by selecting the **API Permissions** menu item on the left, and then select **Add a permission**.

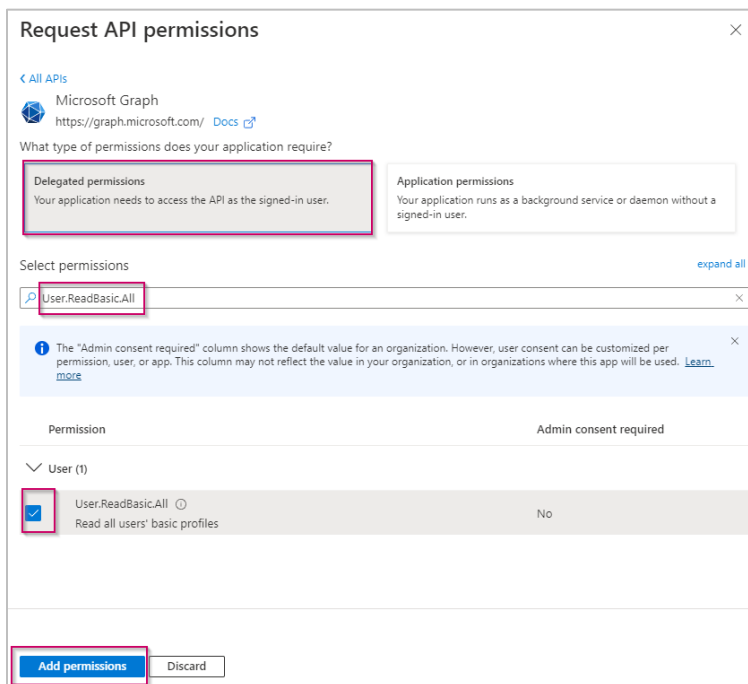


11. Select the **Microsoft Graph** option.

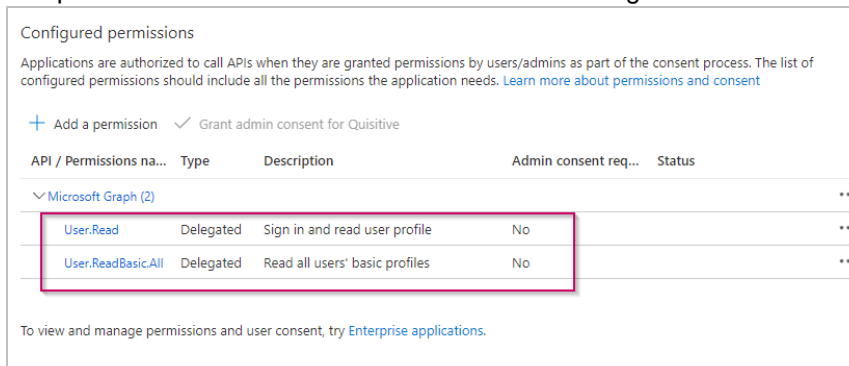


12. Select **Delegated Permissions**, then type **"User.ReadBasic.All"** in the search box.

13. Expand and select the check box for the permission, and then click the **Add permissions** button.



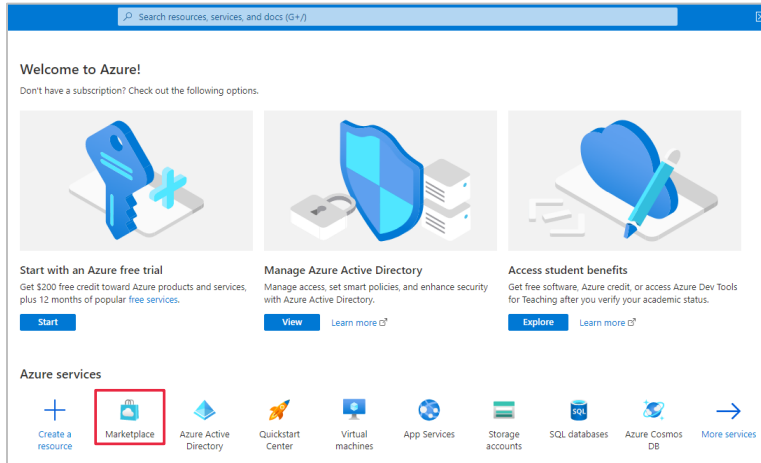
14. The permission screen should now show the following.



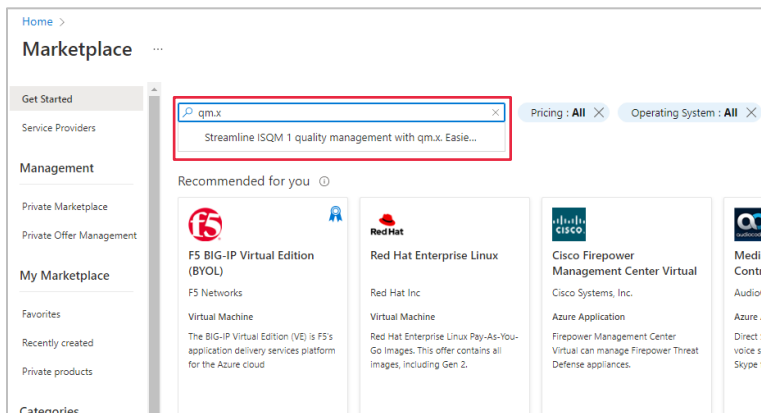
15. At this point, we are now ready to proceed with the installation of qm.x. Keep this browser tab open as you will revisit after the application installation has completed.

Marketplace Install

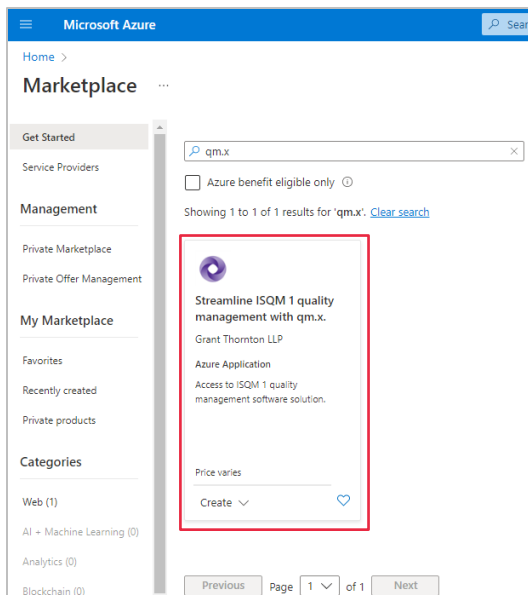
1. Open <https://portal.azure.com> in a new browser tab.
2. Under Azure Services, select the **Marketplace** option.



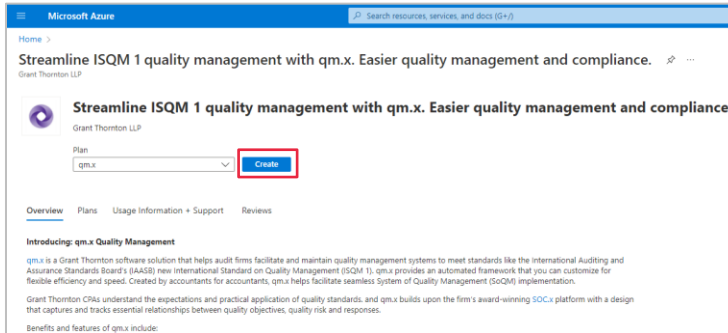
3. In the search box, search the Marketplace for **qm.x**.



4. Click the **qm.x** product



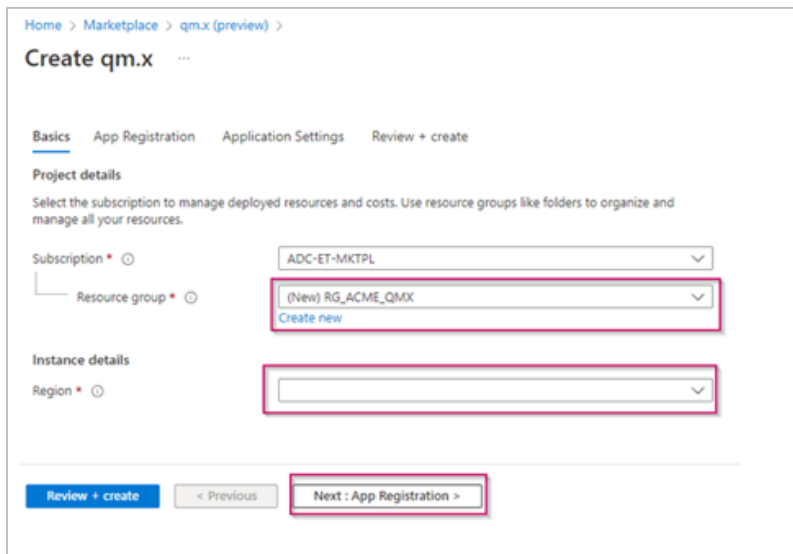
- Click **Create** to begin the installation process.



The installation is separated into three parts, with the first being the resource group, the second being the details required for qm.x to authenticate against your Azure AD tenant (an App Registration), and the third being the names for provisioned resources.

- Select to create a new **Resource Group** and select your organization's appropriate **Region** from the drop down for deployment.

NOTE: An existing resource group can be used, although a new one is recommended. It is also recommended that the resource group region be chosen to reflect the correct geographical location at the time of installation. Moving regions after resource group creation is not supported by the qm.x Support team. If this becomes required, please refer to the Microsoft Learn link for more information: [Move resources to another region with Azure Resource Mover | Microsoft Learn](#)



9. Enter your resource names and settings, and then click **Next: Review + create** to continue.

Home > Marketplace > qm.x (preview) >

Create qm.x

Database

Sql Server Name *

Database Name *

Administrator Login *

Administrator Login Password *

Confirm password *

Monitoring

Log Analytics Workspace Name *

App Insights Name *

Storage

Storage Account Name *

[Review + create](#) [< Previous](#) [Next: Review + create >](#)

10. The values you provided will be validated and you will be asked to provide contact information before installation. When ready, select **Create** to begin the installation.

Home > Marketplace > qm.x (preview) >

Create qm.x

Validation Passed

Basics App Registration Application Settings Review + create

PRODUCT DETAILS

qm.x
by Grant Thornton LLP
[Terms of use](#) | [Privacy policy](#)

TERMS

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

Name

Preferred e-mail address *

[Create](#) [< Previous](#) [Next](#) [Download a template for automation](#)

11. The installation may take several minutes to complete. **IMPORTANT:** Do not attempt to navigate to any of the resources until the deployment is complete. Doing so may cause the deployment to fail.)

Once installed, you should see a screen similar to the following.

Home >

grantthorntonllp1588703404475.qm_x-preview-20220404174419 | Overview

Deployment

Search (Ctrl+F) Delete Cancel Redeploy Refresh

Overview **Inputs** Outputs Template

We'd love your feedback! →

✓ Your deployment is complete

Deployment name: grantthorntonllp1588703404475.qm_x-prev... Start time: 4/4/2022, 6:02:20 PM
Subscription: [redacted] Correlation ID: f77916ee-a15a-4de2-92b4...

Resource group: RG_ACME_QMX

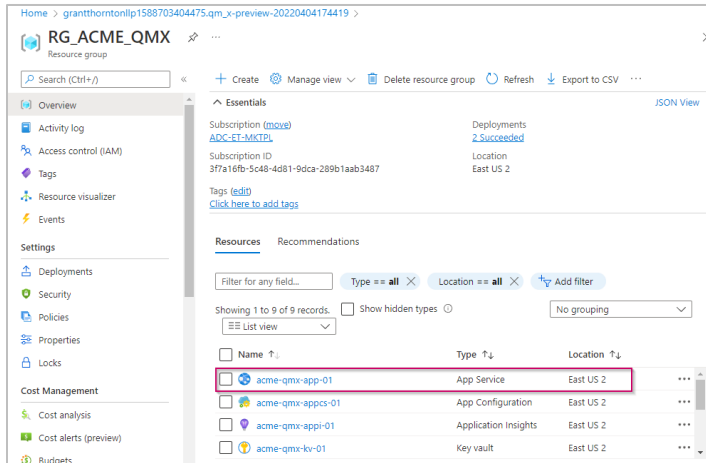
Deployment details (Download)

Next steps

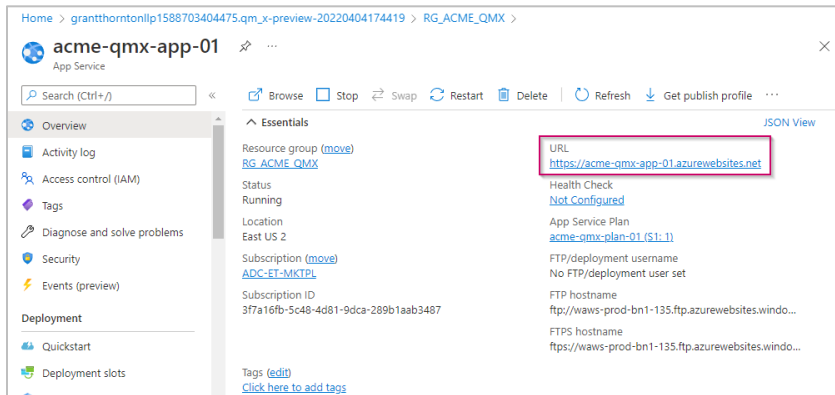
[Go to resource group](#)

App Registration Redirect URL

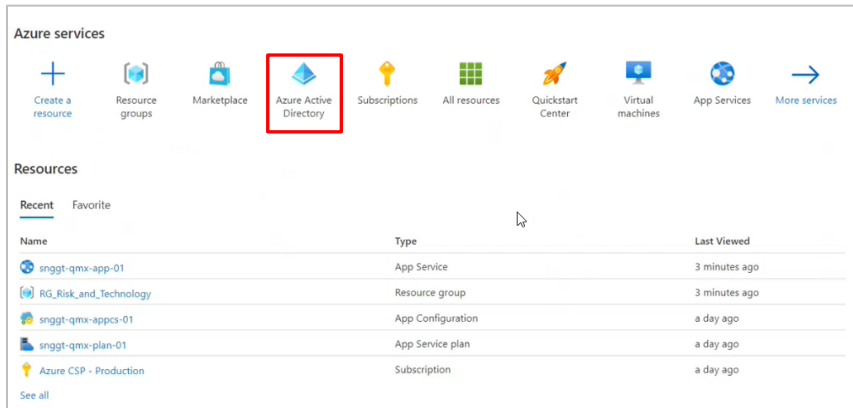
1. Before launching the application, you must first update the app registration created earlier with the redirect URL for the app service. To get the URL for the app service, click the **Go to resource group** button on the deployment screen above, and then click the hyperlinked app service name that was created in the Resources table.



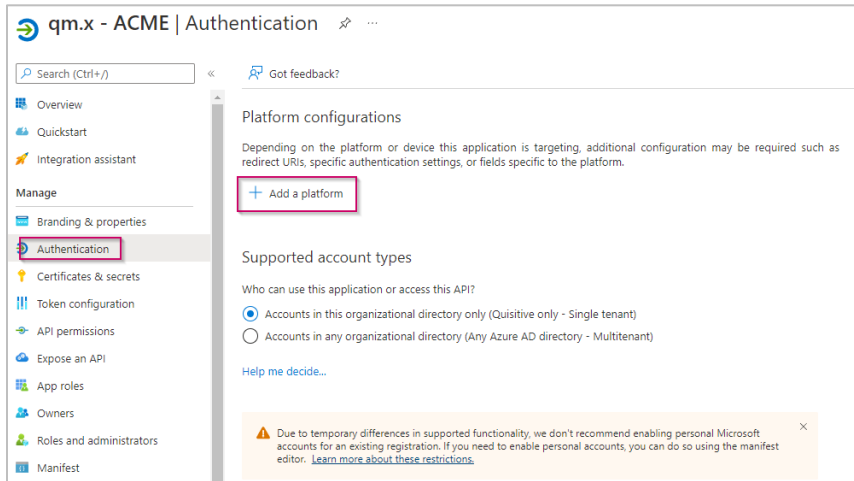
2. **Copy the URL** for the app service to the clipboard using the icon that appears when you hover over the link:



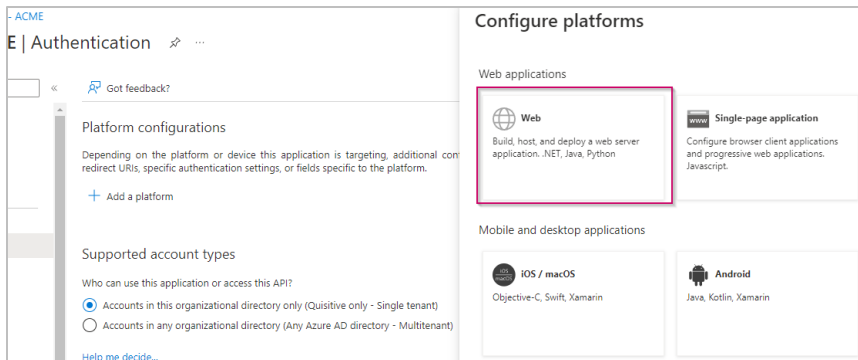
3. Go to Azure Services and click on **Azure Active Directory** in order to go back to the previous app registration.



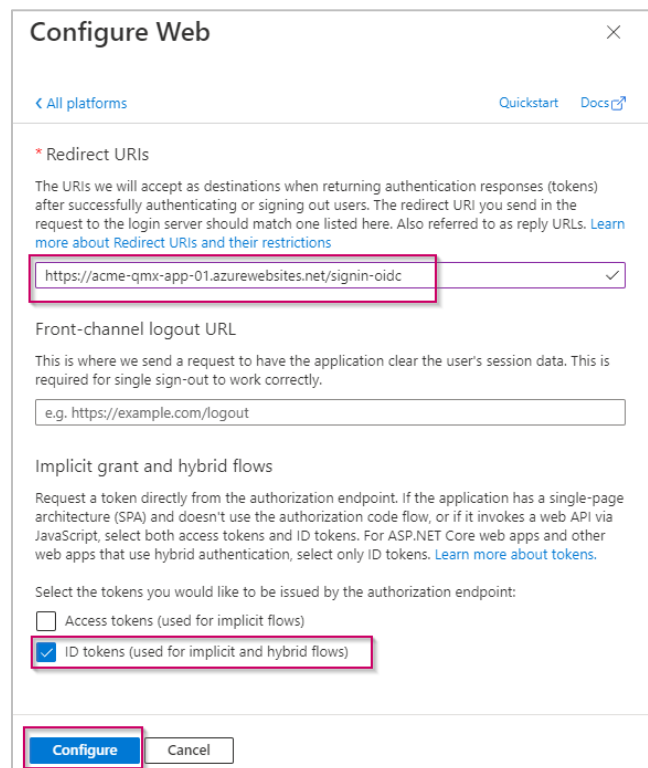
- Back in the open tab/window for your app registration, select the **Authentication** menu item on the left-hand side and then the **Add a platform** link



- Select **Web** under Web applications.



- For **Redirect URIs**, add the following, which is the URL for your app service copied previously and the following path “**/signin-oidc**”.
- In this example, the full URL is <https://acme-qmx-app-01.azurewebsites.net/signin-oidc>.



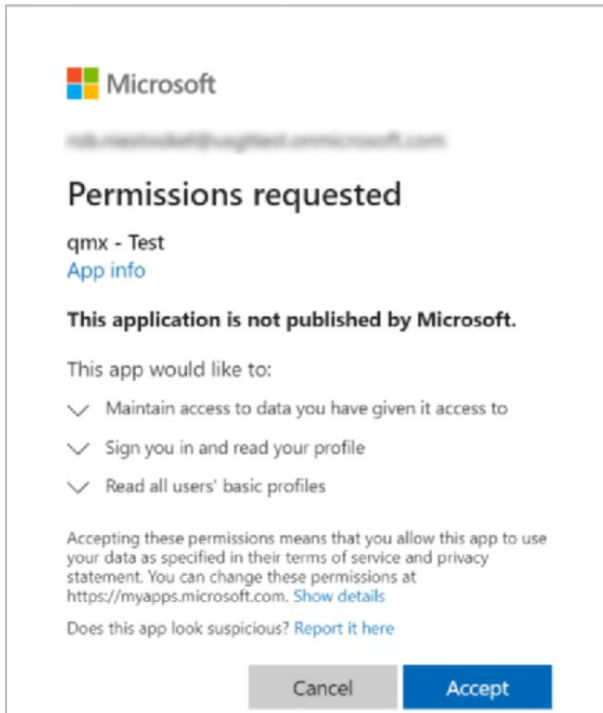
- Next, check the box next to **ID tokens**, then click **Configure**.

Post Installation Configuration

You may now navigate to the qm.x application by clicking the URL, which will be back in the app service settings blade. In this example, it is <https://acme-qmx-app-01.azurewebsites.net>. The initial load of **the application may take several minutes** due to just in time compilation and the initialization of the application database.

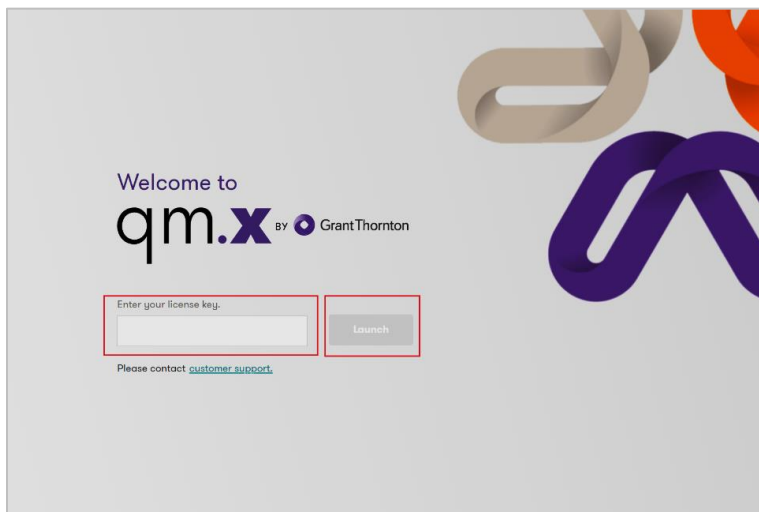
1. When completed, you will be prompted to login using your Active Directory Credentials and to accept the permissions required by the application.

NOTE: If you have Global Administrator privileges in your tenant, you will also see an additional check box on this prompt providing you with the option to accept the permissions on behalf of everyone in your organization. Checking the box is optional and not required.

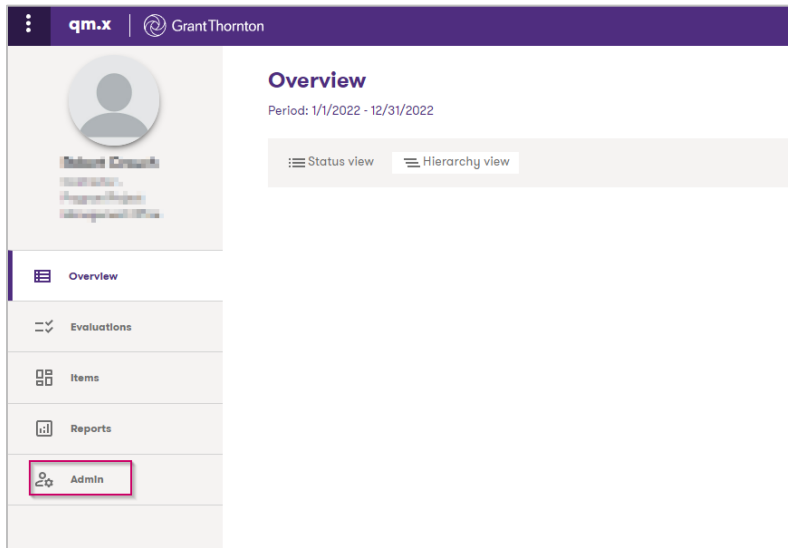


After doing so you should see the following screen for entering your license key.

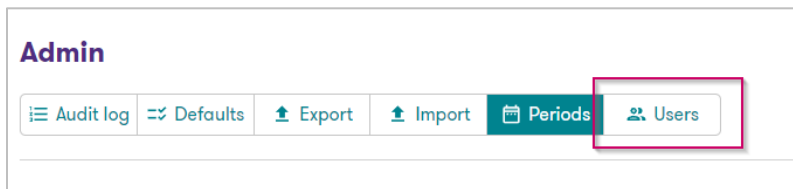
2. Enter your license key and click **Launch** to proceed.



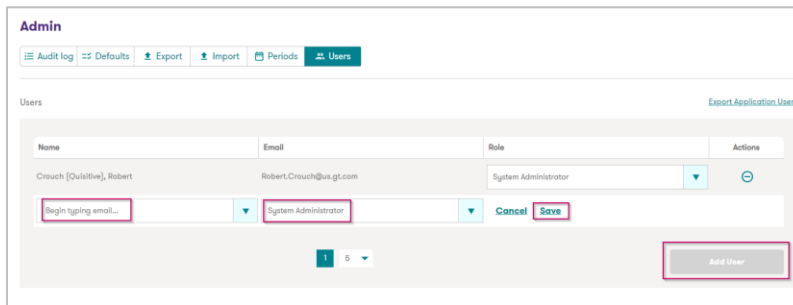
- After entering your license, click the **Admin** link.



- Select **Users**.



- On this screen, add the business users that require the System Administrator role. System Administrators have access to the Admin section, which allows for control over evaluation periods, default data, importing of data, and addition of additional users to the system.



- The qm.x application is now installed and ready to be shared with your business owners.

Troubleshooting / Rollback

If the deployment fails or you need to roll back the deployment for any reason, simply delete the Resource Group you created in step 6 of the **Marketplace Install** section above. This will delete all resources within the resource group.

IMPORTANT: Before deleting, check to see if the Key Vault instance was successfully deployed. If so, you will not be able to use the same name for that resource when attempting another installation. Key Vault has a built-in soft-delete feature that retains deleted vaults for a default retention period of 90 days. You cannot reuse the name of a key vault that has been soft-deleted until the retention period has passed. Therefore, if you elect to reinstall make sure you use a different key vault name or the deployment will fail.

Post-Installation

SMTP Configuration (Optional)

The release of qm.x contains a user-notifications feature that supports both in-application viewing of notifications along with email notifications. The email notification feature is designed to send a periodic “digest” of accumulated notifications for a given user. In order to take advantage of the emailing of notifications, you must configure SMTP submission with your organization’s email server. qm.x does not target or require any specific email platform, only SMTP. The following instructs how to configure qm.x to utilize SMTP for outbound emails. You must configure SMTP submission with your organization’s mail server prior to completing these steps.

NOTE: Due to the many different email platforms that organizations may be using, instructions for configuring SMTP submission with your organization’s email platform is not provided.

Once you have setup and determined that your SMTP submission is working with your mail server (outside of qm.x), follow the steps below to configure qm.x to connect and use it.

Before you begin, the following values will be needed from your SMTP resource configuration in order to proceed:

- SMTP Host Name
- Port
- Username
- Password
- Email address to use as sender

Update key vault secrets

Navigate to your Key Vault service and select the **Secrets** blade.

NOTE: The ability to view and modify Key Vault secrets requires an Access Policy to be in place that grants those permissions. If you get an unauthorized message when you attempt to view the secrets, you will need to add an Access Policy using the steps below:

1. Select **Access policies**
2. + Add Access Policy
3. Select the Key & Secret Management template
4. Select principal (your user account)
5. Click Add
6. Click Save

Once you have successfully added an Access Policy:

1. Select the Secrets blade
2. Select **smtp-username** secret
3. + New version
4. Enter your SMTP connection Username into the value text box
5. Click Create

Repeat the above steps for the **smtp-password** secret.

Update App Configuration Key/Value Settings

Next, navigate to the qm.x **App Configuration** service

Select the **Configuration Explorer** blade under Options

Edit each of the following configuration key values and provide the applicable values for your SMTP configuration:

Application:SMTP:Host	SMTP hostname or IP address
Application:SMTP:Port	SMTP port, typically 587
Application:SMTP:FromAddress	Email address that will be used as the "sender" address

The recurring job should now detect your SMTP configuration and begin to send daily notification digest emails.

Email Frequency

qm.x uses an internal recurring timer job mechanism for connecting to SMTP and sending notification emails. The default configuration is set to execute the email send operation daily at 10:00am UTC time (6:00am EST). You can alter this schedule if desired.

Changing the Recurring Job Frequency

qm.x utilizes two recurring timer jobs to perform periodic operations:

1. Notification email sending
2. Purging aged notifications

The timer jobs use the CRON format to define the recurring execution schedule. You can alter the CRON value by editing the **RecurringJob:NotificationEmailCRON and/or RecurringJob:NotificationPurgeCRON** configuration value.

The default notification email CRON schedule value is:

```
0 10 * * *
```

This value specifies a daily execution at 10:00 am UTC. As an example, to change the schedule to run at 14:00 UTC daily (2:00pm UTC), the value would be:

```
0 14 * * *
```

Details on how CRON works can be found at the following link:

https://en.wikipedia.org/wiki/Cron#CRON_expression

A helpful utility to help you define a desired CRON schedule can be found at the following link:

https://crontab.guru/#0_10_*_*_*

IMPORTANT: In order for your CRON changes to take effect, you need to navigate to your qm.x App Service and Stop/Start the service. You should perform this step outside of normal business hours as it will cause brief downtime of the qm.x application.