



*Thinking
In RulesSM*

InRule Help

Catalog Cloud Service Installation

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InRule for Microsoft Azure Catalog Cloud Service Installation Help

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1 Installation Overview

Installation Overview:

This document uses the "new" [Azure portal](#) to guide you through the installation of the InRule *for Microsoft Azure* irCatalog Cloud Service and database. The service can be installed via the legacy portal, with minor adjustments.

The following steps must be taken to install the InRule *for Microsoft Azure* irCatalog Cloud Service:

1. [Update the Azure package config file](#) with your SSL Certificate's thumbprint. The InRule *for Microsoft Azure* cloud services utilize SSL and require a valid certificate.
2. Create a new or configure an existing **classic** [Azure storage account](#)
3. Create a new or configure an existing [Azure SQL Server and empty SQL Database](#)
4. [Create a new Azure Cloud service](#) and upload the irCatalog cloud service package & config file (updated with the SSL thumbprint) and SSL Certificate
5. [Create the irCatalog database](#) in your empty Azure SQL Database
6. [Upload your InRule License file](#) into your Azure storage Blob service container
7. [Update the cloud service settings](#) to point to your database and the Azure storage account blob service container with your license file

2 Update Config file with SSL Cert Thumbprint

- Locate the Catalog Service cscfg configuration file from the InRule installation directory (e.g. C:\Program Files (x86)\InRule\InRuleforMicrosoftAzure\irCatalogService)
- Open the file in a text editor such as Visual Studio or Notepad++
- Locate the "Certificate" element with the name "InRuleCatalogService" and replace the thumbprint attribute with the thumbprint of the certificate you will be using
- **NOTE:** All characters must be in uppercase and spaces are not permitted. Sometimes this copy and paste activity results in hidden characters getting placed in the file. Using your text editor, ensure there are no hidden characters between the " and the first character in the thumbprint before saving. Reference [this article](#) for tips on ensuring no hidden characters get copied.

```

-----
-->
<ServiceConfiguration serviceName="InRule.Catalog.Service.CloudService" xmlns="http://schemas.microsoft.com/ServiceHosting/2008/10/ServiceConfiguration" >
  <Role name="InRule.Catalog.Service.WebRole">
    <Instances count="1" />
    <ConfigurationSettings>
      <Setting name="ConnectionString" value="" />
      <Setting name="CommandBatchSize" value="" />
      <Setting name="CommandBatchBytes" value="" />
      <Setting name="MaxItemsInObjectGraph" value="" />
      <Setting name="LockAcquisitionTimeoutInSeconds" value="" />
      <Setting name="CommandTimeout" value="" />
      <Setting name="EnableRepositoryServiceAggrStats" value="" />
      <Setting name="LicenseFileContainerName" value="" />
      <Setting name="LicenseFileLocationConnectionString" value="" />
      <Setting name="Microsoft.WindowsAzure.Plugins.Diagnostics.ConnectionString" value="UseDevelopmentStorage=true" />
      <Setting name="InRuleLogLevel" value="" />
    </ConfigurationSettings>
    <Certificates>
      <Certificate name="InRuleCatalogService" thumbprint="84E64DB3F59B2F188601CBC7EB34ECA02747B46E" thumbprintAlgorithm="sha1" />
    </Certificates>
  </Role>
</ServiceConfiguration>

```

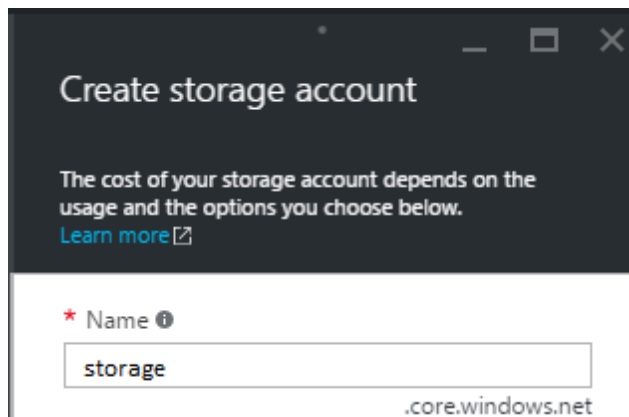
3 Setup Azure Storage Account

To use the InRule for Microsoft Azure cloud service packages, you must have a **classic** Azure storage account configured.

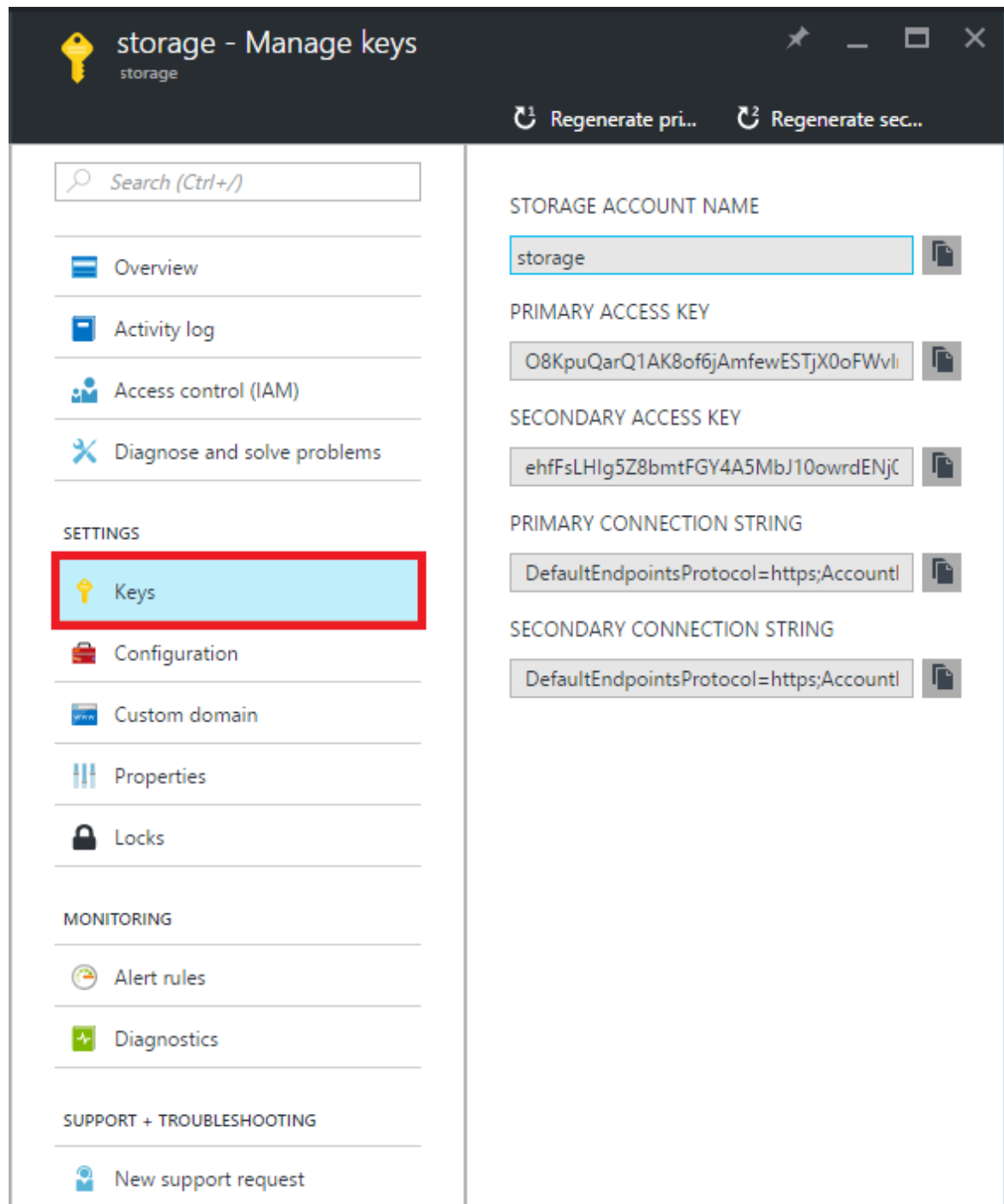
If you do not already have one, create a new storage account in Azure.

NOTE: The same storage account may be used for both of the InRule for Microsoft Azure cloud services.

- Navigate to "Storage accounts (classic)", click "Add" and populate all required fields



- You will need to reference this storage account in subsequent steps for installing and configuring your cloud service.
 - You will need to select this storage account when [uploading the cloud service package](#).
 - You will need to add a Blob service container to this storage account and [upload your InRule License File](#).
 - The "Keys" section of the storage account will provide information that is needed in the [configuration file](#) "LicenseFileLocationConnectionString" setting and for the **\$storage_key** variable in the [Diagnostics](#) PowerShell script.





4 Create Azure SQL Server and Database


The catalog database must be installed in an empty Azure SQL (v12) database. If you don't already have one, create a new Azure SQL server and database.

- ## SQL servers

InRule Presales


Add


Columns


Refresh

- SQL Server (logical server only)

* Server name

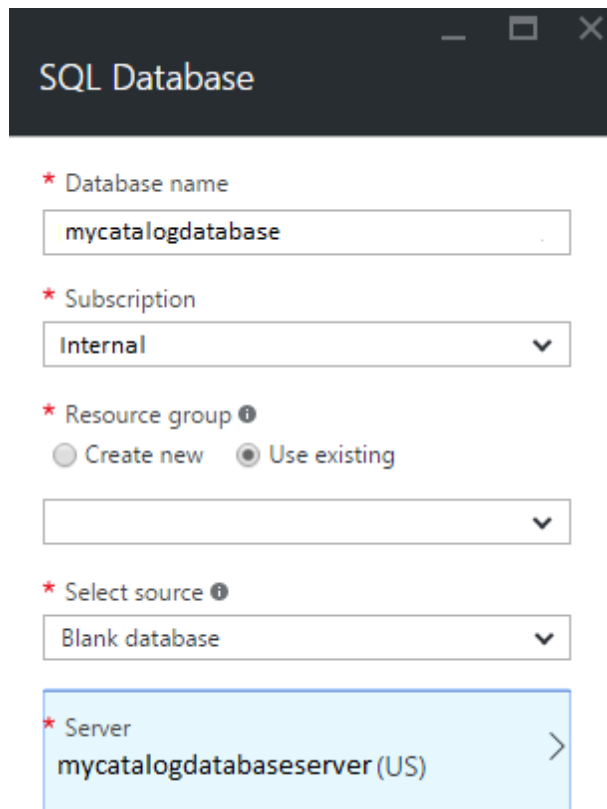
.database.windows.net

* Server admin login

* Password

-

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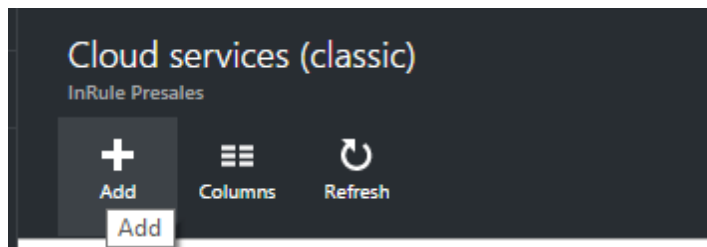


The screenshot shows the 'SQL Database' configuration window. It contains the following fields and options:

- Database name:** mycatalogdatabase
- Subscription:** Internal (dropdown menu)
- Resource group:** ☐ Create new ☒ Use existing (dropdown menu)
- Select source:** Blank database (dropdown menu)
- Server:** mycatalogdatabaseserver (US) (dropdown menu with a right arrow)

5 Service Installation

- Create a new Cloud service by going to "Cloud services (classic)" and clicking "Add"



- Configure the cloud service
 - Create a unique DNS name. **NOTE:** This will be the URL used to access the catalog
 - Select your subscription
 - Select or create a resource group
 - Select a location

Cloud service (classic)

* DNS name

our-inrule-catalog ✓

.cloudapp.net

* Subscription

Internal ▼

* Resource group ⓘ

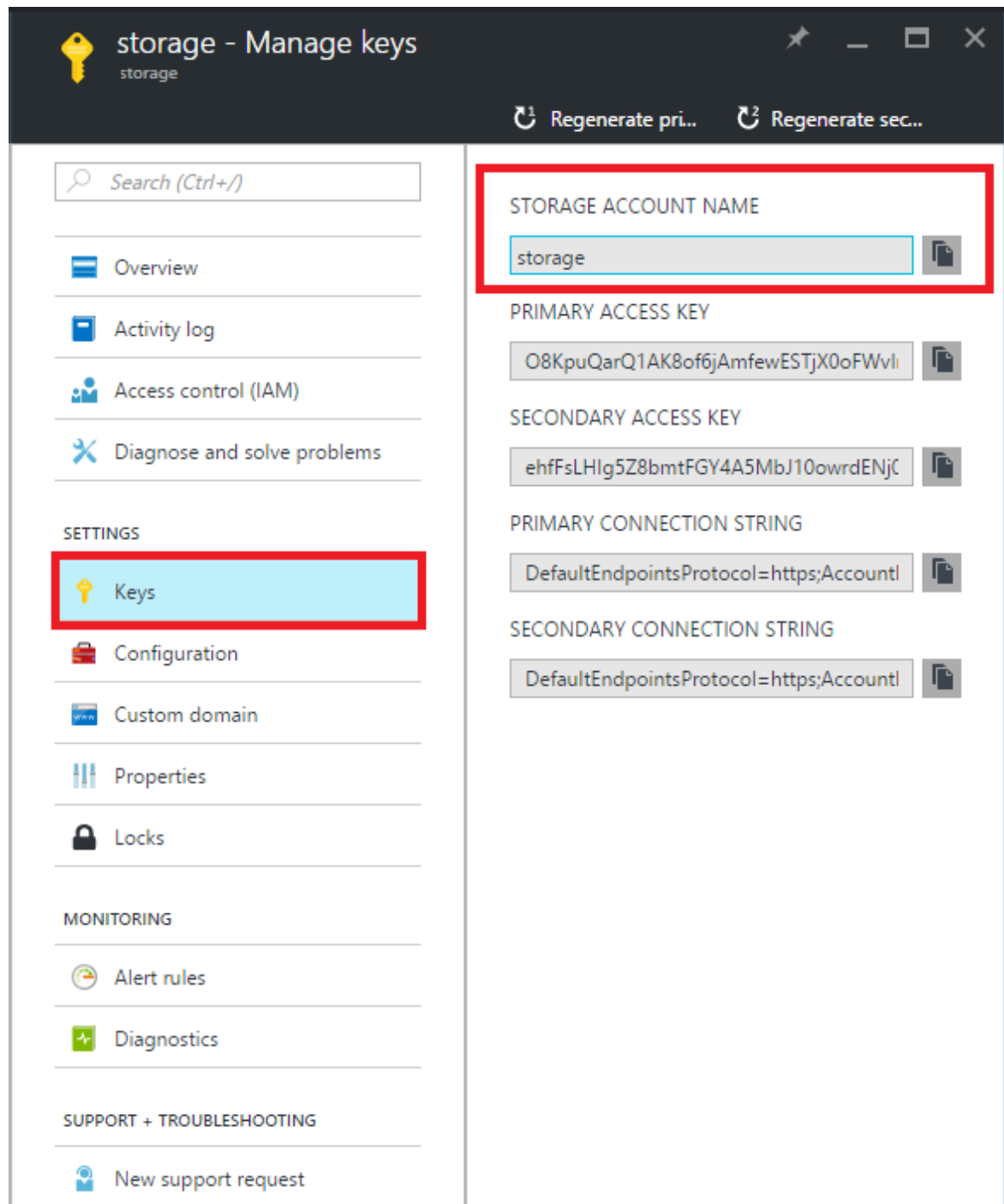
☒ Create new ☐ Use existing

InRule

* Location

North Central US ▼

- Click "Package" to upload the cloud service package and config files
 - Select the associated Microsoft Azure classic [storage account](#)

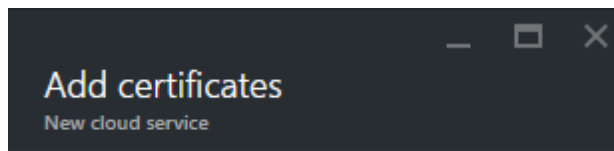


- Create a Deployment label
- Select the cspkg Package file and cscfg Configuration file from the InRule installation directory (e.g. C:\Program Files (x86)\InRule\InRuleforMicrosoftAzure\irCatalogService)
 - **NOTE:** Before you upload the package files, ensure that you've [updated the configuration file with the thumbprint](#) from your SSL Certification
- Choose the environment
- Check the "Deploy even if one or more roles contain a single instance" checkbox, as the

service contains a single instance

- Check the "Start deployment" option
- Click "OK" to return to the cloud service creation section

- Click "Certificates" to upload your SSL certificate
 - Select the SSL certificate .pfx file
 - Enter the associated password
 - Click "Attach certificate" to upload the file and attach it to the cloud service
 - Click "OK"



- The cloud service is now ready to be deployed. Click "Create" to begin deployment. (Deployment may take several minutes).

A screenshot of the "Cloud service (classic)" configuration page. It features several required fields marked with a red asterisk: "DNS name" with the value "our-inrule-catalog" and a green checkmark, "Subscription" with a dropdown menu showing "Internal", "Resource group" with radio buttons for "Create new" (selected) and "Use existing", and "Location" with a dropdown menu showing "North Central US". Below these are expandable sections for "Package" (showing "InRule.Catalog.Service.CloudServi...") and "Certificates" (showing "Added certificates"). At the bottom, a blue "Create" button is highlighted with a red rectangular border.

- **NOTE:** If you receive a deployment error like this "The create deployment operation failed for the domain 'our-inrule-service' in the deployment slot 'production' with the name '<deployment

label>>': 'The specified configuration settings for Settings are invalid. Verify that the service configuration file is a valid XML file, and that role instance counts are specified as positive integers.'", that may indicate that you have hidden characters in the thumbprint setting within the configuration file. Please review the [SSL Cert topic](#) for information about ensuring these characters are removed.

6 Database Creation

Now that the service is installed and configured to connect to the empty SQL database, you need to create the InRule Catalog database.

- In a browser, go to the database installation page at <https://<yourcatalogcloudserviceurl>/CreateDatabase.aspx>
- Enter the following information:
 - **Server name:** This is the fully qualified [Azure SQL Database server](#) in which to install the database. (e.g. myazuredbserver.database.windows.net)
 - **Admin username:** The administrator username for the database *server* specified in the previous step
 - **Admin password:** The administrator password for the user above
 - **Database name:** The name of the empty database to populate
- Click the "Create database" button. After a few moments, the existing empty database will be populated. Copy the Connection string to your clipboard, as it will be needed for the "ConnectionString" setting during [service configuration](#).

NOTE: The "Create connection string" button can be used to create a connection string without creating a database.

Create Catalog Database

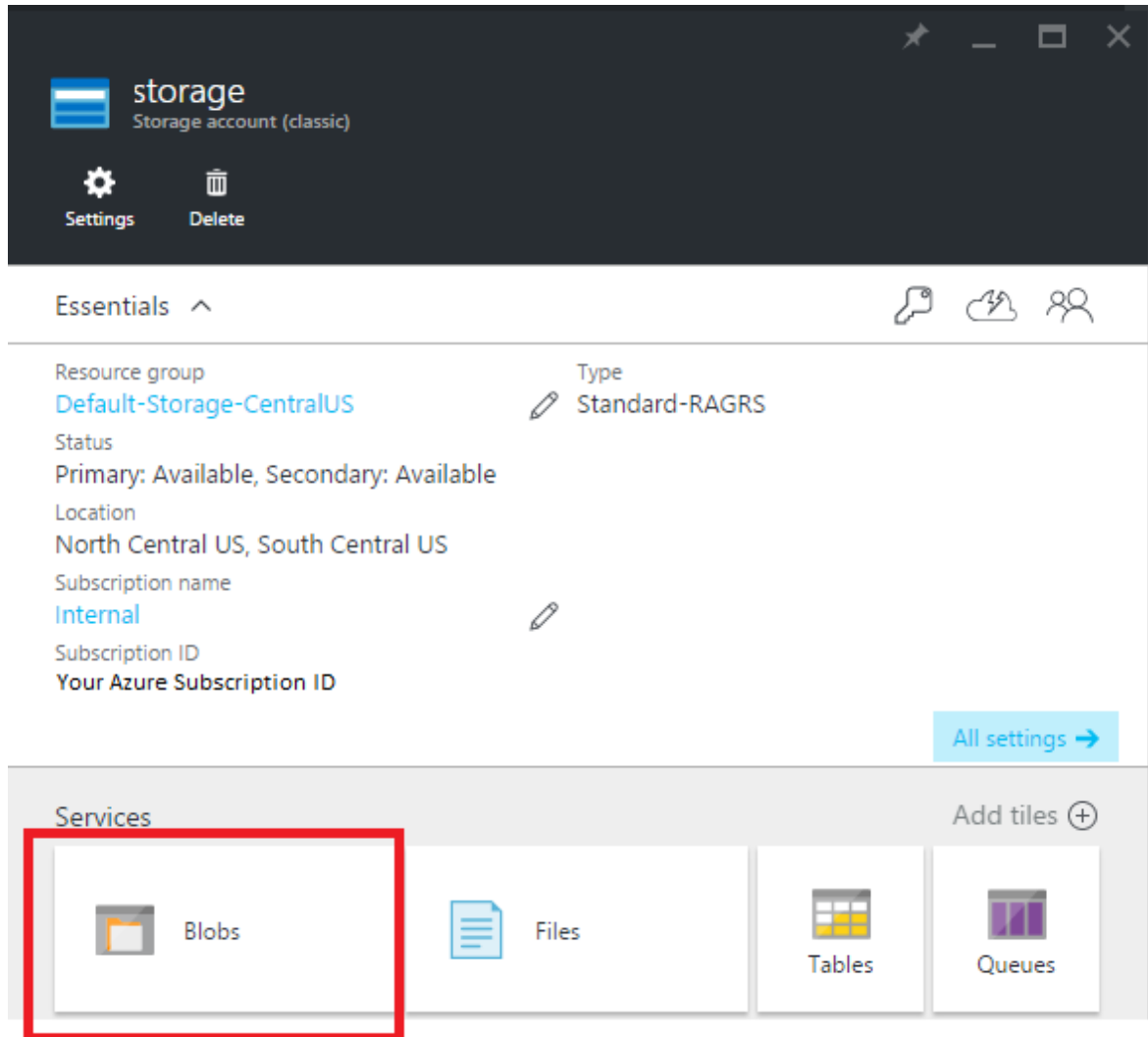
7 Installing the InRule License File

With the service installed and database created, the service must be configured to point to a valid

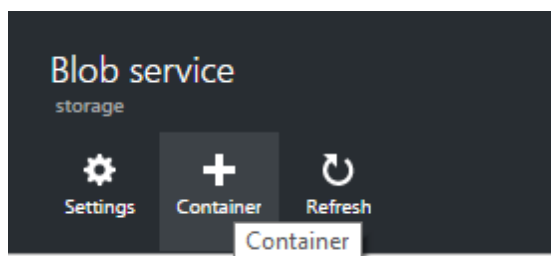
InRule license file.

NOTE: If you have not received your InRule license file, contact InRule Support or your Account Representative. InRule will provide you with the InRuleLicense.xml file for upload into Microsoft Azure.

- Navigate to your existing [Azure storage account](#) or create a new one
- Under the Services section, click the "Blobs" button



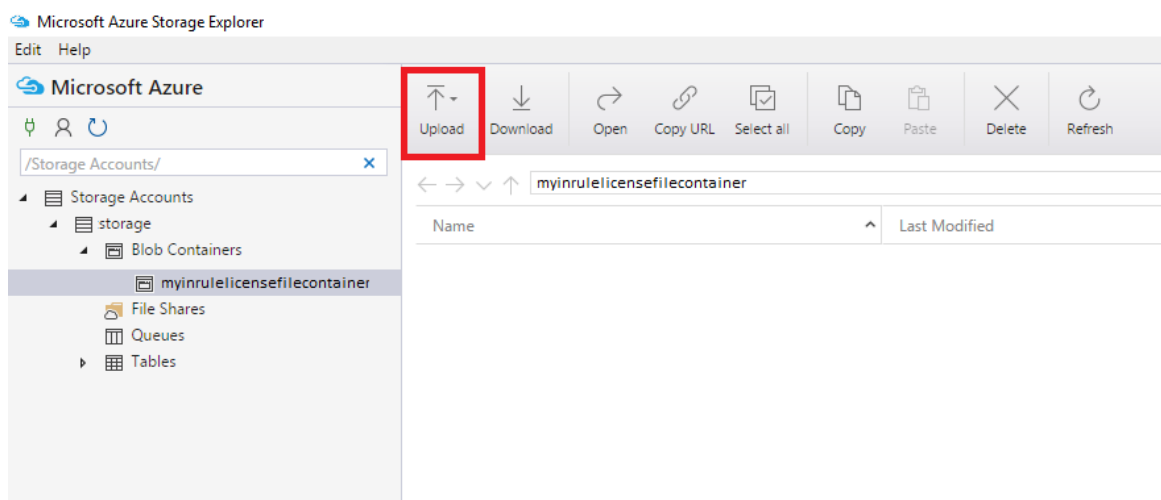
- Click the "+ Container" button to add a container

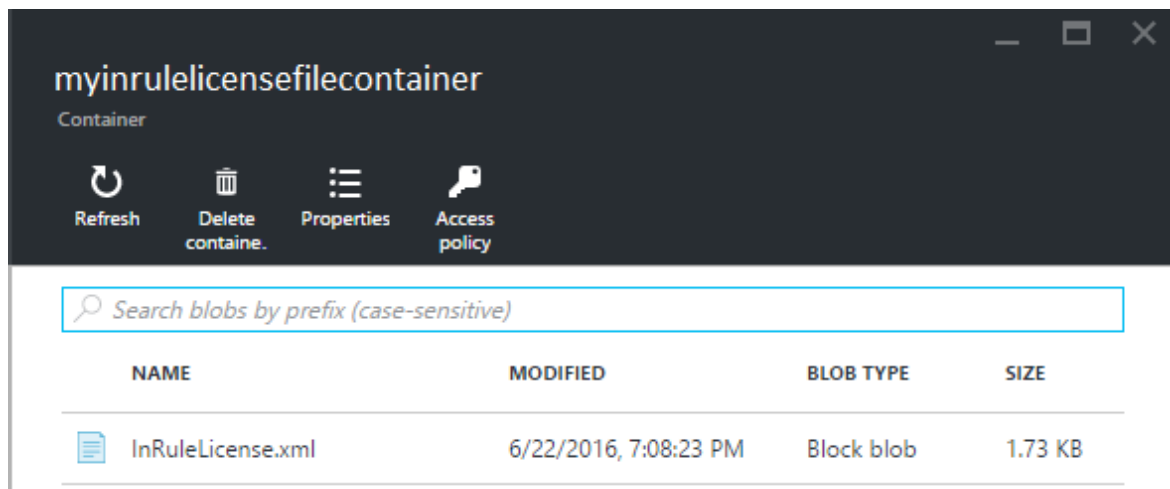


- Enter a container name and select the "Access type" as "Private". **NOTE:** This container name will need to be input into the [cloud service configuration](#) "LicenseFileContainerName" setting later. If you've already updated the configuration information and are uploading a new license file, please stop and restart the cloud service to ensure the new license file is used.
 - **NOTE:** The same container and license file may be used for both of the InRule *for Microsoft Azure* cloud services.
- Then click the "Create" button

A screenshot of the 'New container' dialog box in the Azure portal. The title is 'New container' and it says 'Blob service (storage)'. There are two main fields: 'Name' with a red asterisk, containing the text 'myinrulelicensefilecontainer', and 'Access type' with an information icon, set to 'Private' in a dropdown menu.

- Now, you'll need to use a tool (e.g. <http://storageexplorer.com/>) outside of the Azure portal to upload the InRuleLicense.xml file into that Blob service container. Once you've completed that process successfully, you should be able to refresh your container in Azure and see the file.

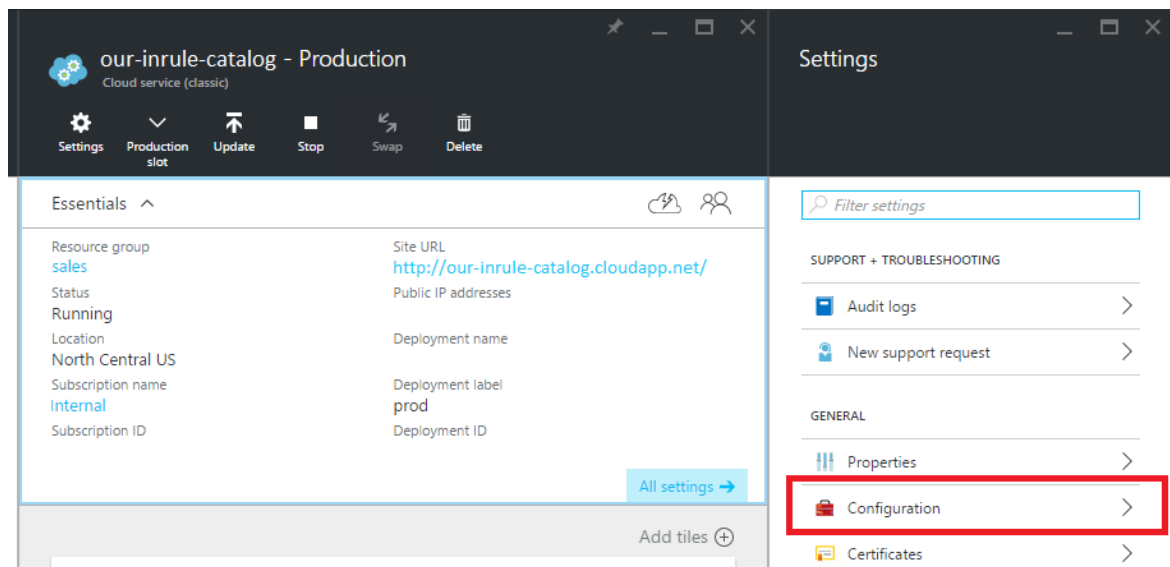




8 Service Configuration

Now we're ready to configure the service! This includes pointing the service to the database, pointing the service to the license file in blob storage and configuring other settings related to the service.

- Navigate to the Configuration section of the cloud service



- For the "ConnectionString" setting, paste the [connection string](#) to your catalog database

Create Catalog Database

Server name
mycatalogdatabaseserver.database.windows.net

Admin username
admin

Admin password

Database name
mycatalogdatabase

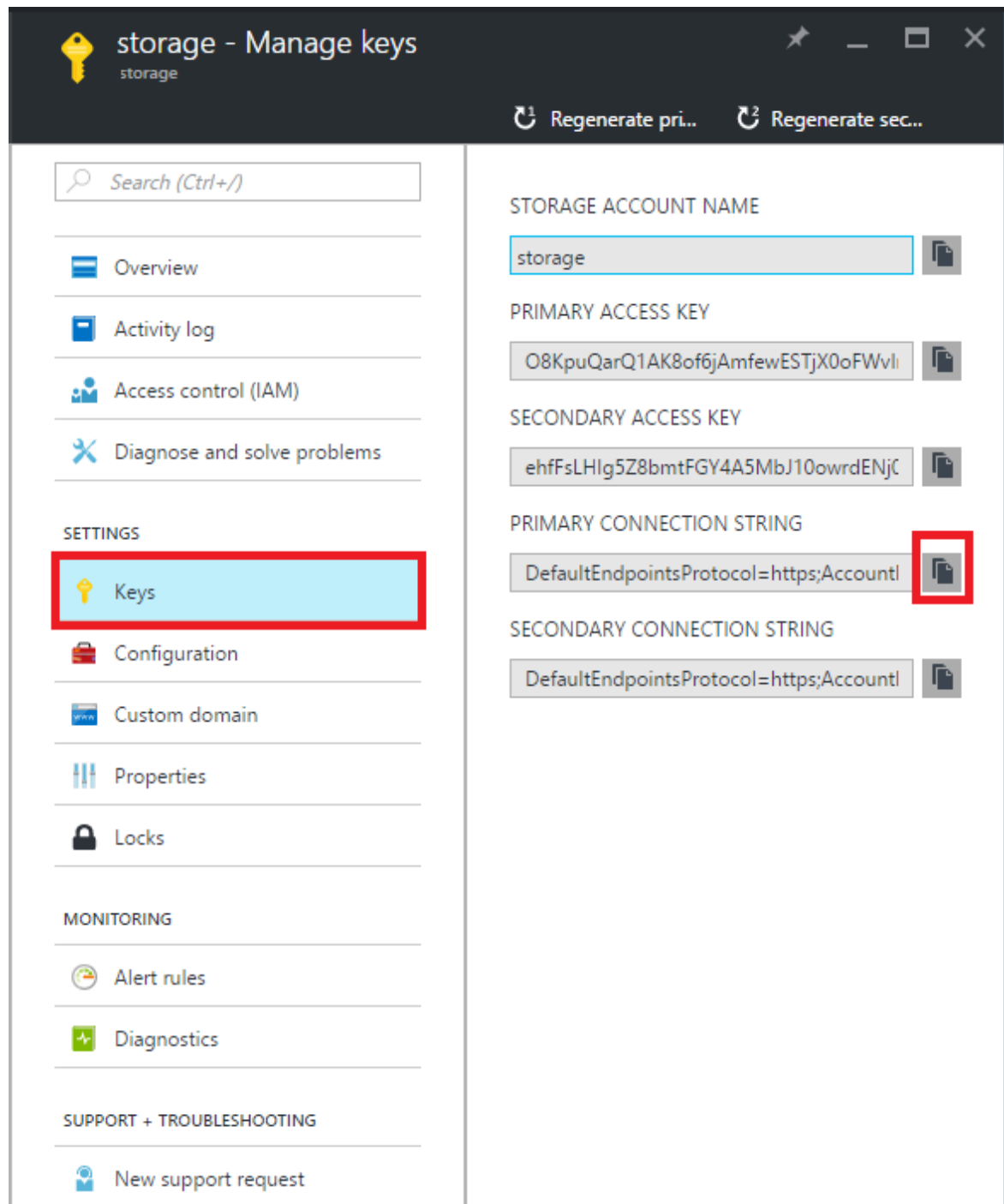
Connection string
Server=mycatalogdatabaseserver.database.windows.net;Database=mycatalogdatabase;User Id=admin;Password=password;

Create database Create connection string

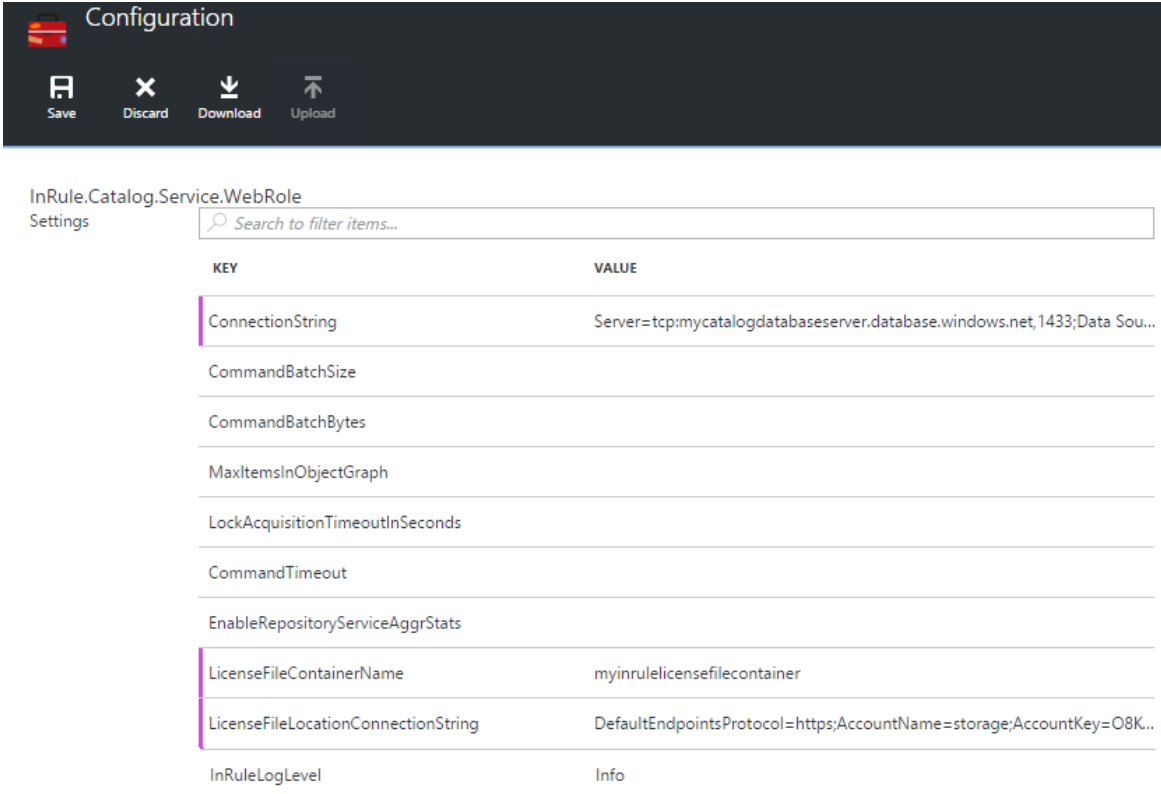
- The "CommandBatchSize", "CommandBatchBytes", "MaxItemsInObjectGraph", "LockAcquisitionTimeoutInSeconds", "CommandTimeout" and "EnableRepositoryServiceAggrStats" settings are all optional and are explained in detail in the irSDK Help file under the Application Integration with InRule > Configuration Files > InRule Catalog Service Config File Settings topic
- Enter the "LicenseFileContainerName" and "LicenseFileLocationConnectionString" information you obtained when configuring your [storage account](#) and setting up your [Blob service container](#) for your InRule License File. If you do not have these settings configured properly to point to the InRule License file uploaded into Blob storage, the catalog service will not work.
 - "LicenseFileContainerName" setting

NAME	MODIFIED	BLOB TYPE	SIZE
InRuleLicense.xml	6/22/2016, 7:08:23 PM	Block blob	1.73 KB

- "LicenseFileLocationConnectionString" setting



- See the [Enabling Diagnostics](#) section for more information about the "InRuleLogLevel" setting
- Click "Save"



The screenshot shows the 'Configuration' window for 'InRule.Catalog.Service.WebRole'. It includes a toolbar with 'Save', 'Discard', 'Download', and 'Upload' buttons. Below the toolbar is a search bar labeled 'Search to filter items...'. A table lists various configuration keys and their values.

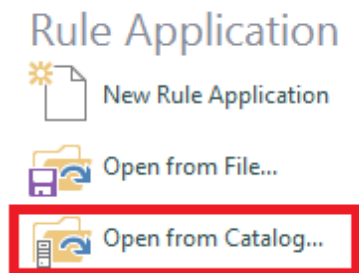
KEY	VALUE
ConnectionString	Server=tcp:mycatalogdatabaseserver.database.windows.net,1433;Data Sou...
CommandBatchSize	
CommandBatchBytes	
MaxItemsInObjectGraph	
LockAcquisitionTimeoutInSeconds	
CommandTimeout	
EnableRepositoryServiceAggrStats	
LicenseFileContainerName	myinrulelicensefilecontainer
LicenseFileLocationConnectionString	DefaultEndpointsProtocol=https;AccountName=storage;AccountKey=O8K...
InRuleLogLevel	Info

- **NOTE:** If there is a setting that you wish to update that is not available in the cloud service configuration, please contact InRule. Do NOT attempt to edit the config file directly on the underlying virtual machine.

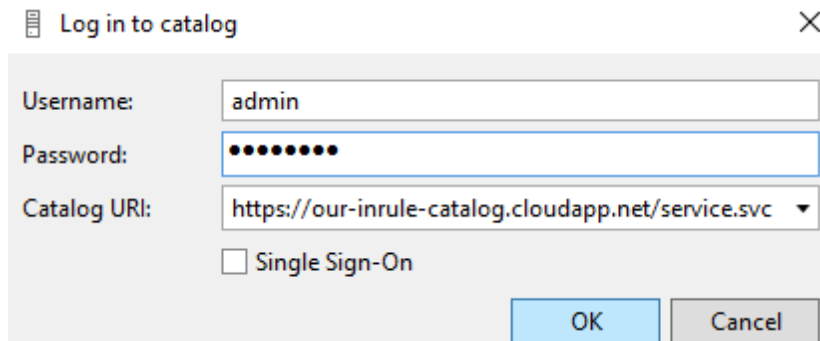
9 Testing the Connection

The catalog service will be available at <https://<yourserviceurl>/service.svc>. The easiest way to test the configuration is to log into the catalog via irAuthor using the default admin user.

- Open irAuthor and select "Open from Catalog"

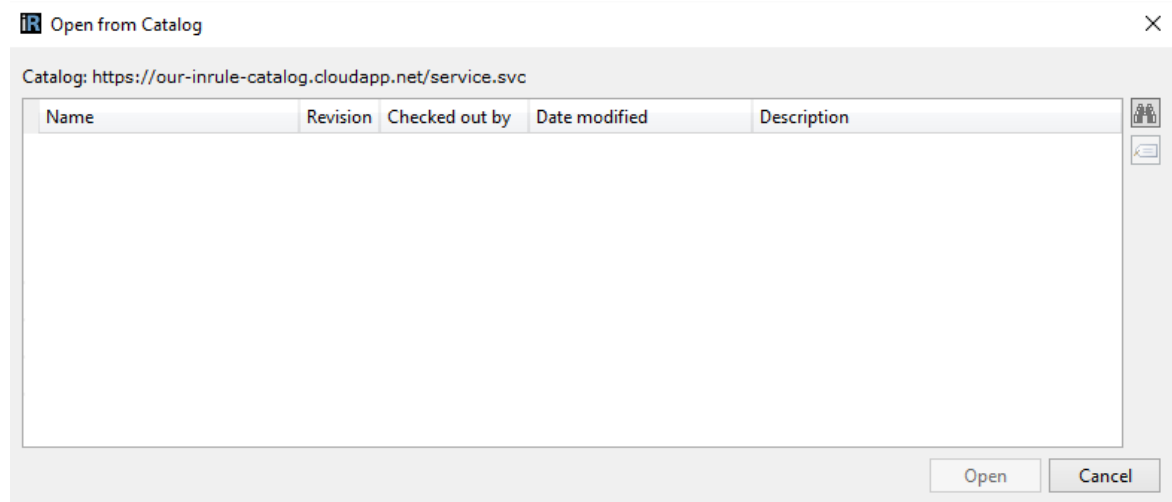


- Enter the default admin Username and Password and the URI for the configured catalog service



A dialog box titled "Log in to catalog" with a close button (X) in the top right corner. It contains three input fields: "Username:" with the text "admin", "Password:" with masked characters (dots), and "Catalog URI:" with a dropdown menu showing "https://our-inrule-catalog.cloudapp.net/service.svc". Below the URI field is a checkbox labeled "Single Sign-On" which is unchecked. At the bottom right are "OK" and "Cancel" buttons.

- If you don't see any errors and you obtain the following "Open from Catalog" dialog, you have connected successfully.



A dialog box titled "Open from Catalog" with a close button (X) in the top right corner. It shows the "Catalog:" URL as "https://our-inrule-catalog.cloudapp.net/service.svc". Below this is a table with the following headers: "Name", "Revision", "Checked out by", "Date modified", and "Description". The table body is empty. To the right of the table are icons for "Add" (plus sign) and "Remove" (minus sign). At the bottom right are "Open" and "Cancel" buttons.

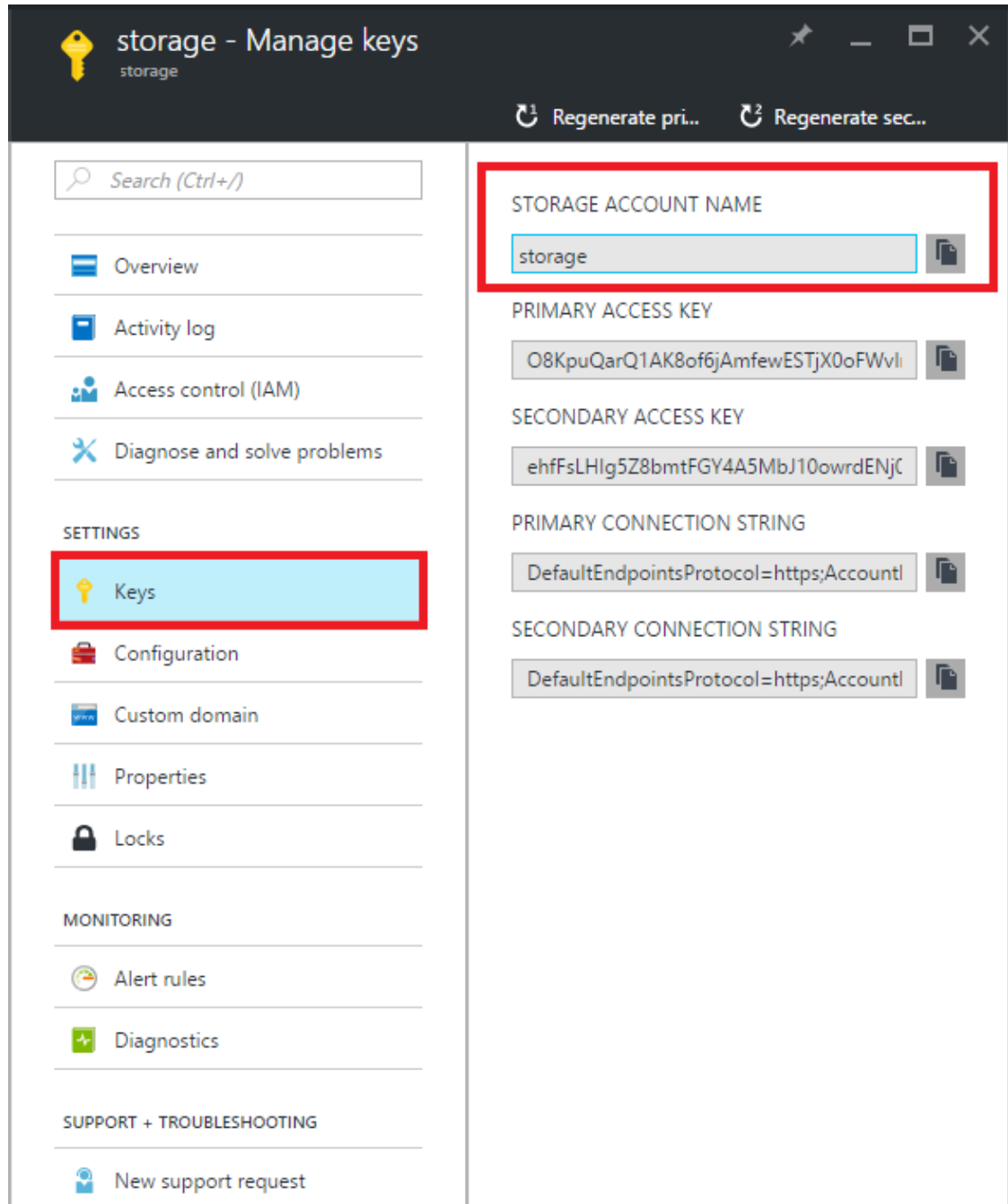
10 Enabling Diagnostics

The diagnostics PowerShell script will update both your irServer Rule Execution Service and your irCatalog Service. **NOTE:** You must have **both** services installed before proceeding.

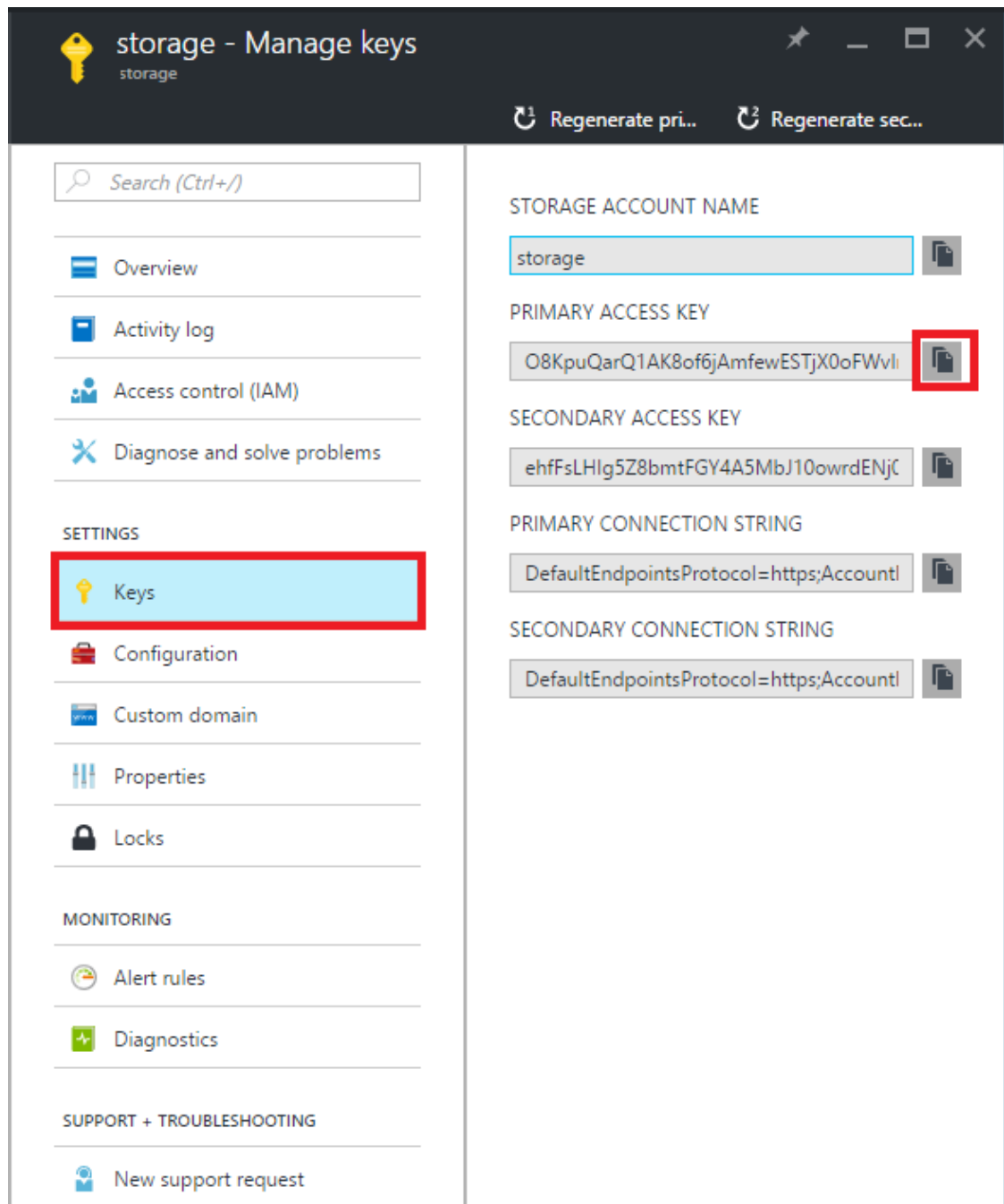
NOTE: This PowerShell script requires the Azure PowerShell cmdlets to be installed. If you do not already have that installed, you can do so [here](#).

- Navigate to the [Configuration](#) section for the cloud service.
- In the Settings section find the setting named "InRuleLogLevel".
 - Set the value to one of the following: "Warn", "Info", "Debug" and click "Save".
 - **NOTE:** Any time the log level is changed, the cloud service will need to be stopped and re-started. This allows the underlying virtual machines to obtain the updated settings from the cloud service configuration.
- On your local machine, navigate to your InRule install directory (e.g. C:\Program Files (x86)\InRule).

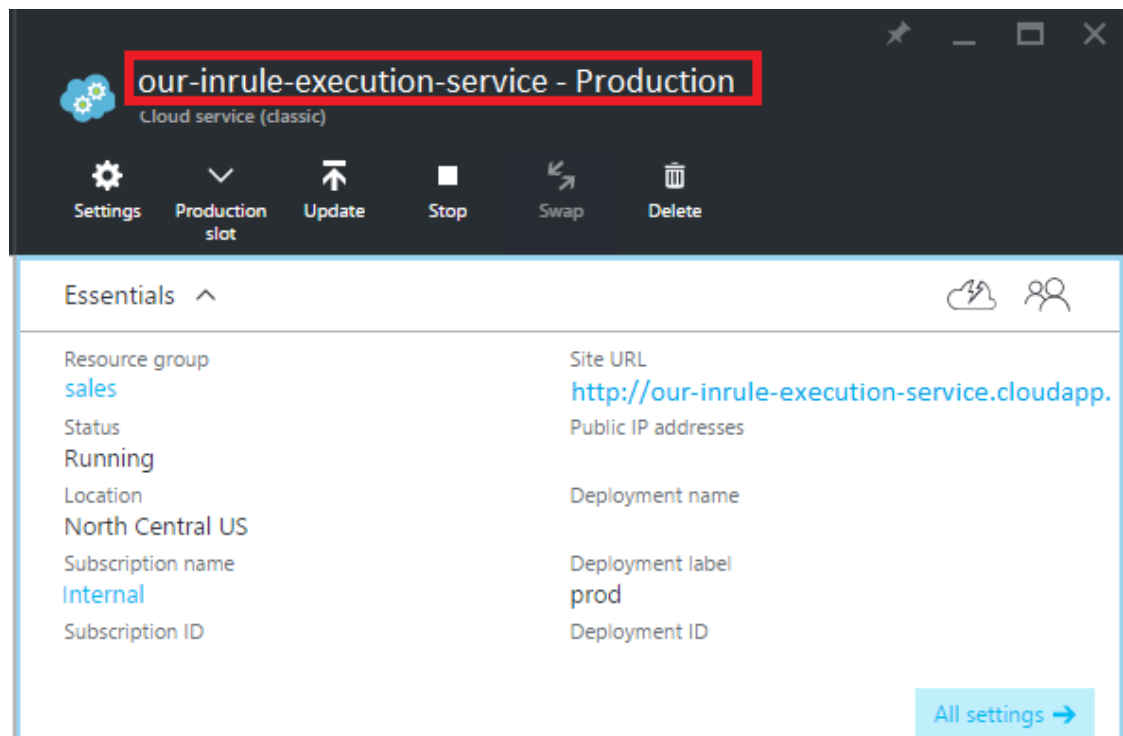
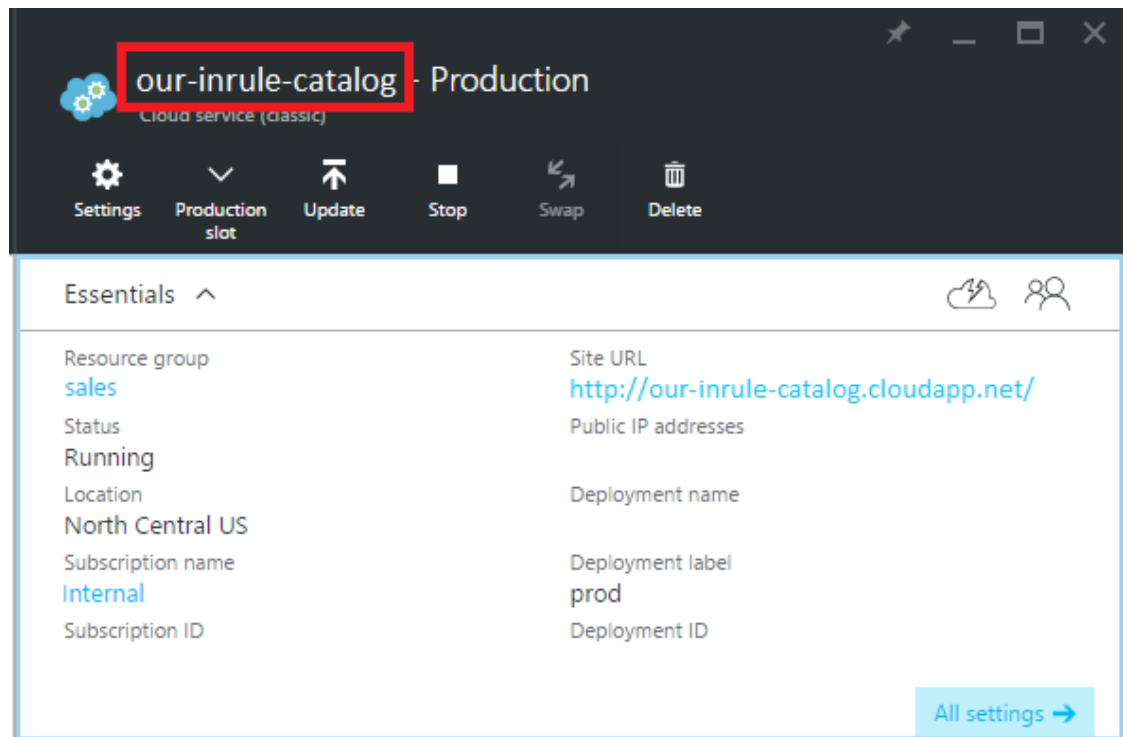
- Inside the install directory navigate to "InRuleforMicrosoftAzure\Diagnostics".
- Inside of the EnableDiagnostics.ps1 file, verify that the `$enable_diagnostics` variable is set to `$true`.
- Set the `$storage_name` variable to the name of the Microsoft Azure storage account you want to use to store the collected log files.



- **NOTE:** This can be the same storage account used when uploading the package and the same to store the InRule license file.
- Set the `$storage_key` to the Primary Access Key for the named storage account.



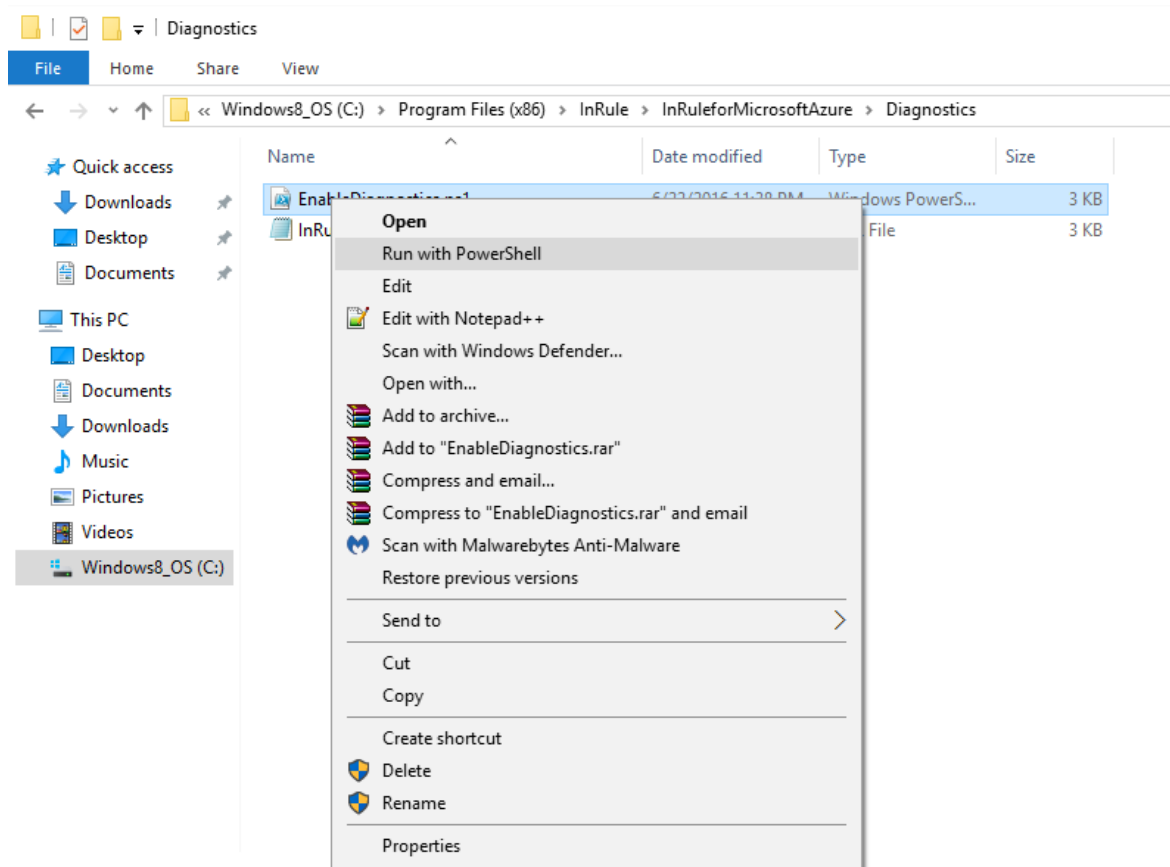
- Set the `$subscription_id` to the id for the Microsoft Azure subscription that contains the irServer Rule Execution Service and the irCatalog Service Cloud Services
- Set the `$runtime_service_name` and `$catalog_service_name` to the name of the irServer Rule Execution Service and the irCatalog Service Cloud Services



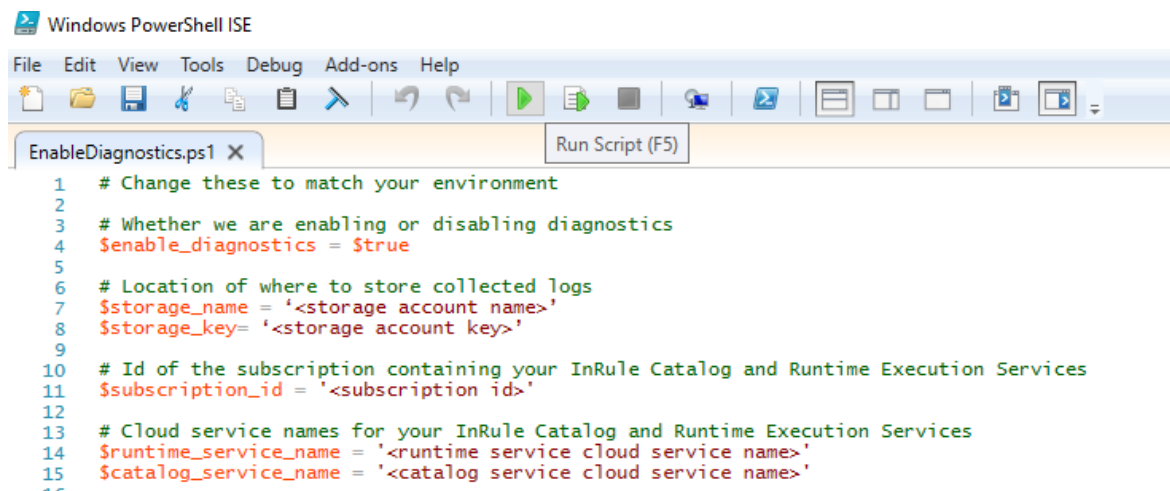
- Run the PowerShell script.
 - **NOTE:** If you do not have the correct PowerShell execution policy set, you'll receive an error that you cannot run the script. To change the execution policy, you must run PowerShell as

administrator.

- o To do so, right click on the file and select "Run with PowerShell"



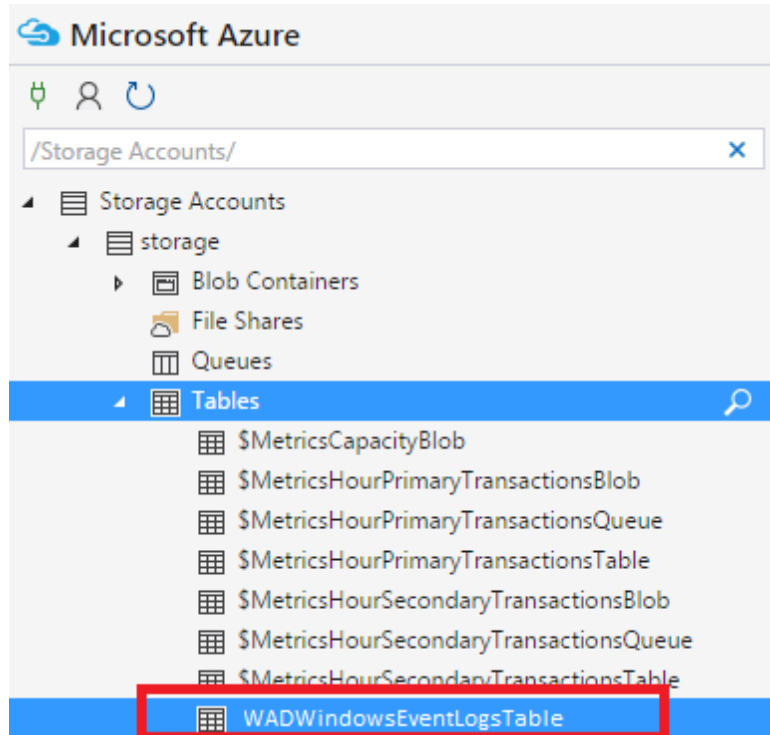
- o Or, you can select "Edit" to open the Windows PowerShell ISE (Integrated Scripting Environment) and then select the "Run Script (F5)" option from the menu.



- To disable diagnostics, change the `$enable_diagnostics` variable to `$false` and run the script.
- **NOTE:** Once you run the script to enable or disable diagnostics, the cloud service must be stopped

and re-started for the change to take effect.

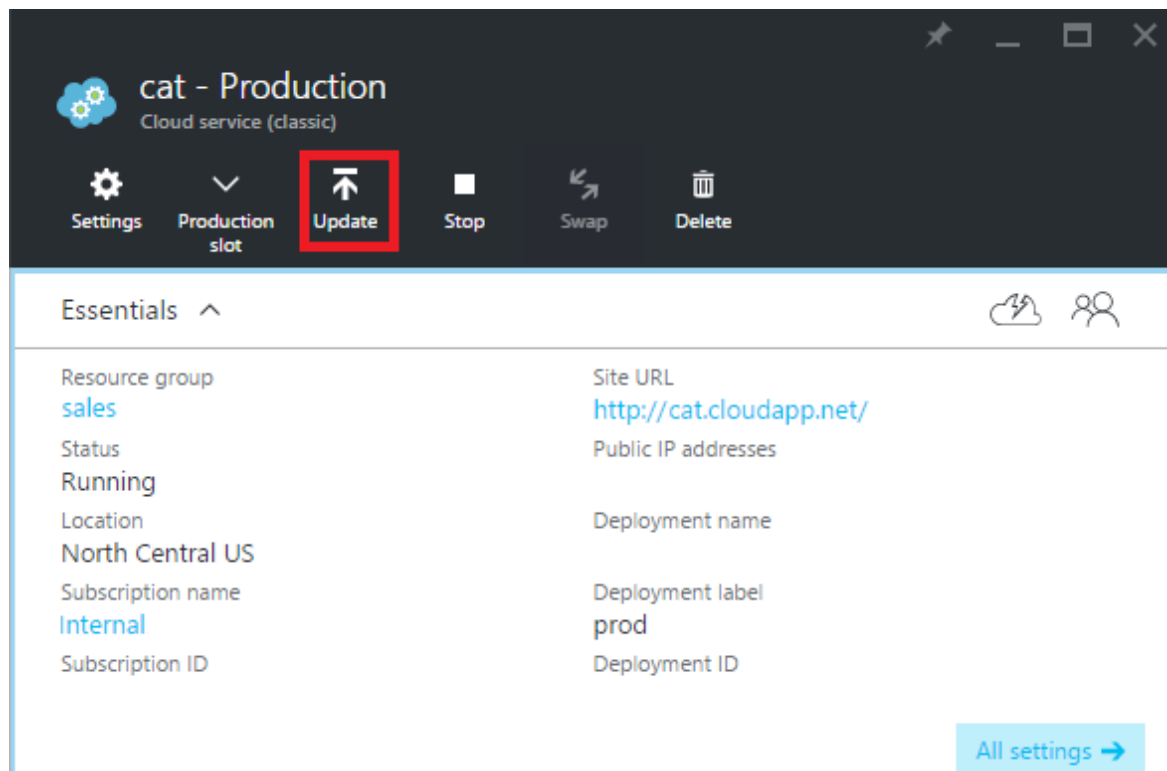
- Once the diagnostics is enabled and running, you can find the aggregated InRule event log detail in your Azure storage account under Tables > "WADWindowsEventLogsTable".



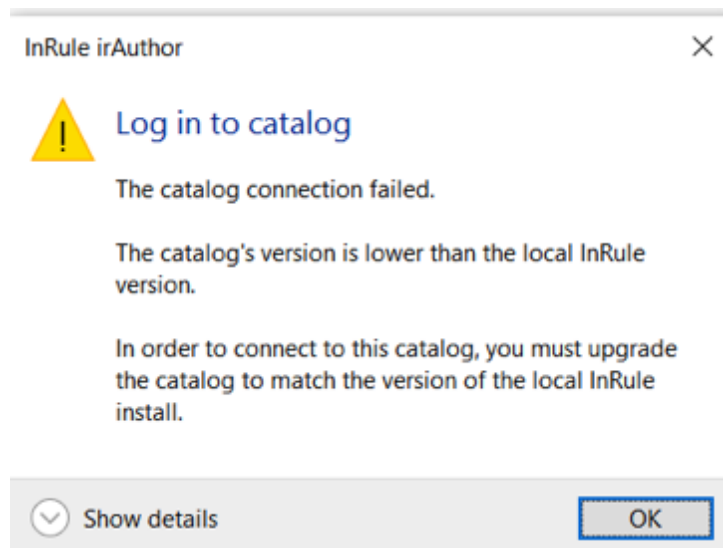
11 Upgrading to a new InRule Version

If you are upgrading to a new version of InRule, you'll need to upgrade your cloud service package to match that version.

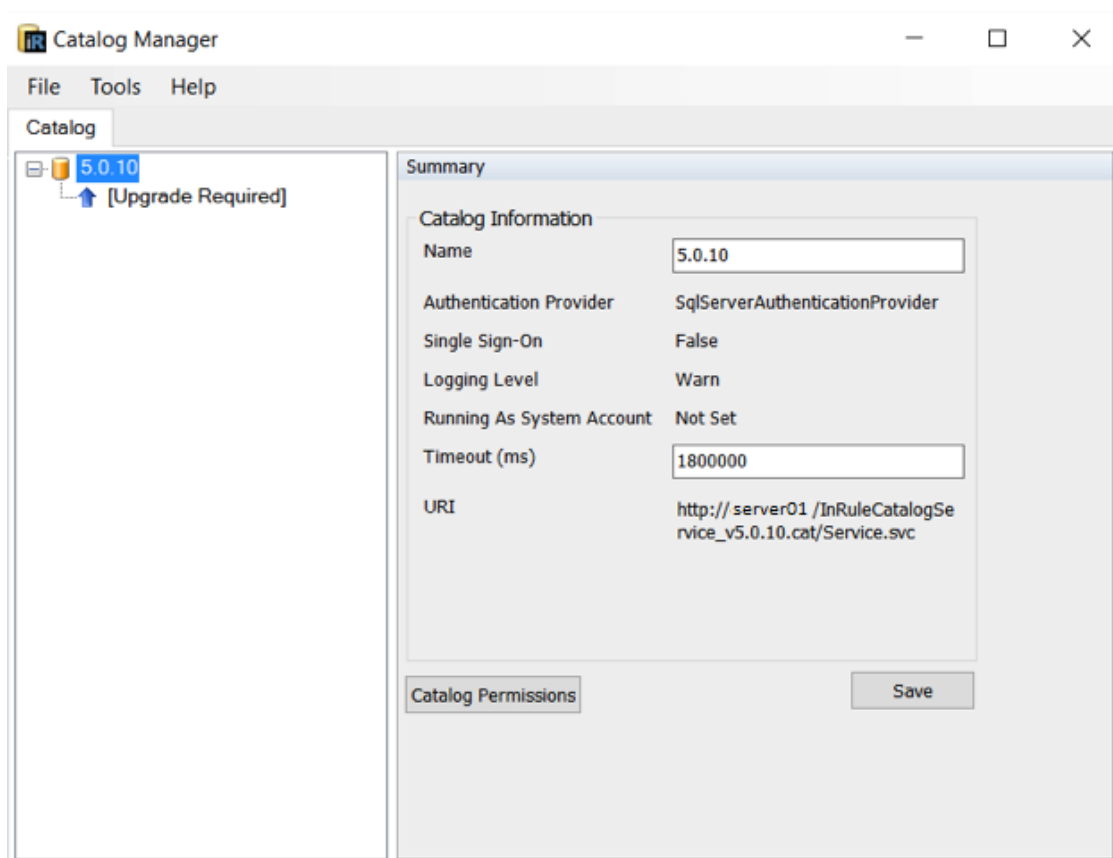
- Get the latest InRule *for Microsoft Azure* irCatalog package from the InRule Installer or the [InRule Support website](#)
- In Microsoft Azure, find the associated Cloud service and click "Update"



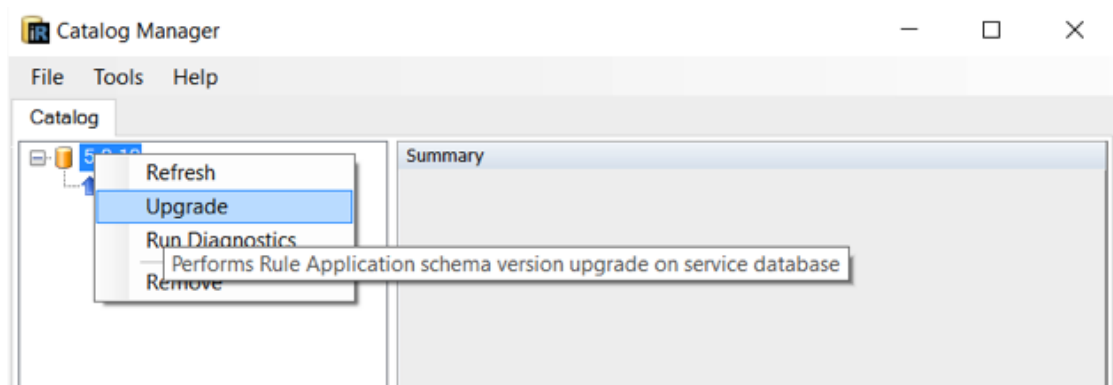
- Upload the updated package and configuration files
- **NOTE:** You will need to [edit the thumbprint of the Configuration file](#) again. In addition, if you don't want all of the settings to revert to the defaults, you'll want to copy off your settings before uploading so you can easily reset them to the previous values.
- When connecting to the irCatalog service, if you receive a message like below, it indicates that you need to upgrade the Rule Applications in your irCatalog database



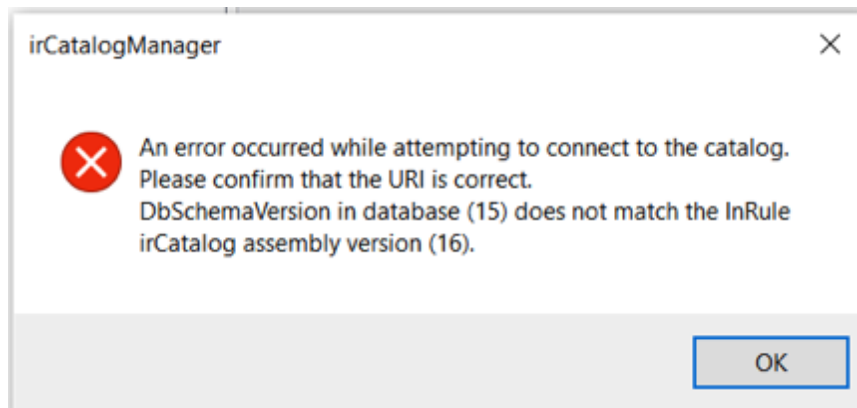
- To do so, connect to your catalog from the irCatalog Manager. You'll see a message that an upgrade is required.



- Right click on the irCatalog service name and select "Upgrade"



- **NOTE:** In rare cases, the new version of InRule may have a different catalog database structure. In this case, you'll receive a message like below.



- When the database itself has changed, you'll have to execute scripts against your catalog database. These scripts are located in your InRule install directory where the irCatalog service is installed. (e.g. "C:\Program Files (x86)\InRule\irServer\RepositoryService\DbBuildScripts\SqlServer\UpgradeScripts")
 - **NOTE:** Since you're using the irCatalog Cloud Service, you won't have this installed on premise. However, you can gain access to these scripts by installing only the irCatalog Service on a machine and selecting to create the database later.
 - **NOTE:** We recommend making a backup of your catalog databases before performing any upgrades



For more information about InRule, please visit <http://www.inrule.com>.

For support please visit <http://support.inrule.com>

If you would like to report an issue or request a feature enhancement, please email support@inrule.com.