



DYNAMICS 365 DATA TAGGING & OBFUSCATION

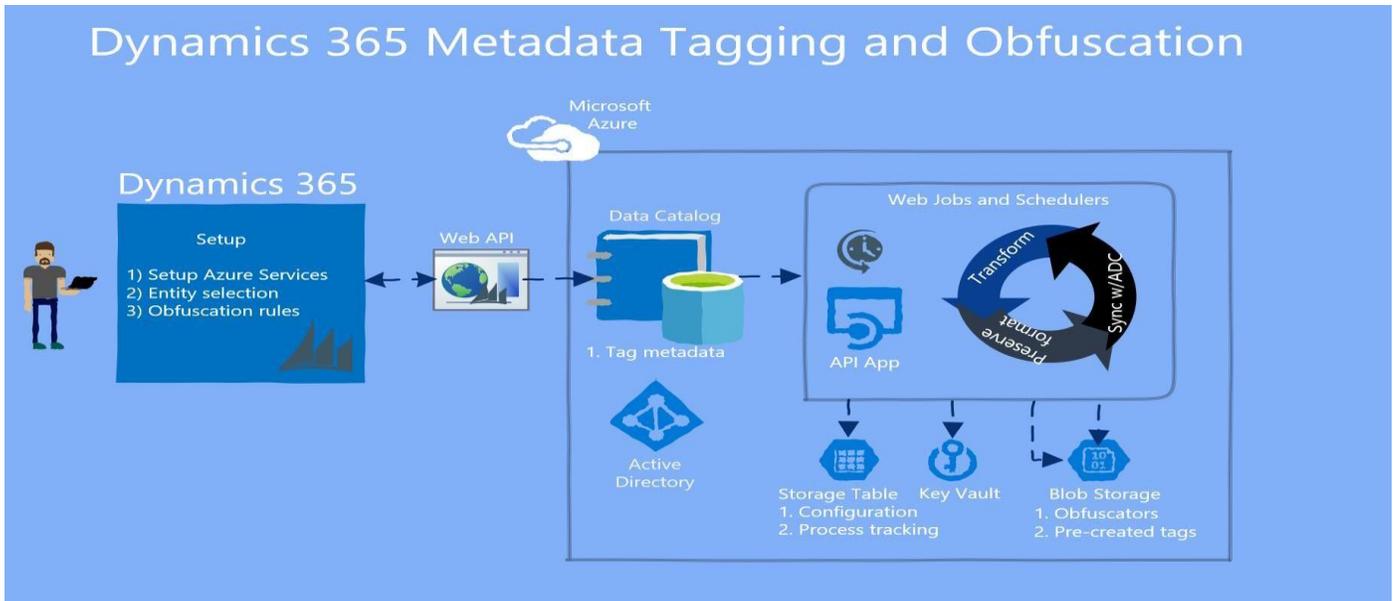
A tool to add entity into CRM, obfuscate the entity and sync Glossary with Azure table storage and give them a weightage.

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Introduction

Microsoft Dynamics 365 provides several tools for managing data. This tool is for data obfuscation, It look for all available entities in CRM and Obfuscate entity fields based on tagging at Azure Data Catalog and weightage configured in CRM...



Verify Solution Installation

Once install the solution from AppSource. Go to **Settings | Solutions** and Check for the solution.

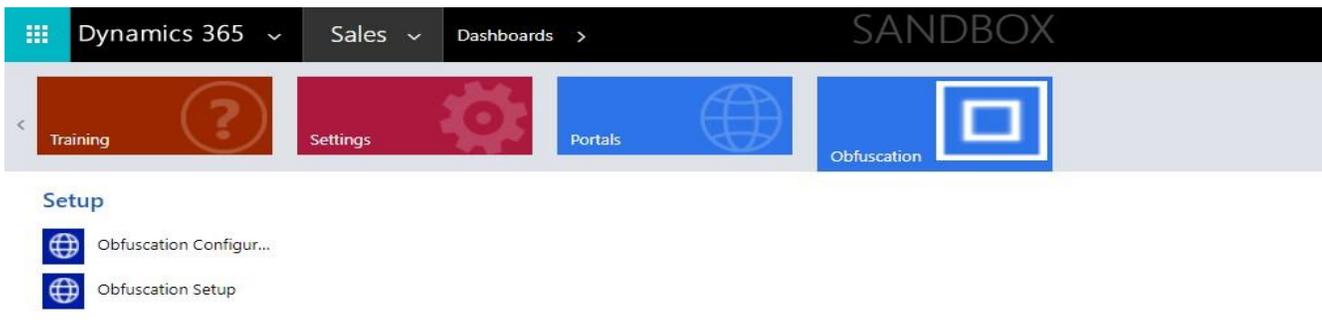
All Solutions ▾

More Actions ▾

Name	Display Name	Version	Installed On ▾	Package Type	Publisher
CRMDDataObfuscation	CRM Data Obfuscation	1.0.0.0	4/2/2018	Managed	Microsoft Dynamics

Go to Data Obfuscation Site Map Menu Check for Sub menu option

- Obfuscation Configuration
- Obfuscation Setup



Obfuscation Set-up

Dynamics 365 Azure setup

Go to **Obfuscation** | **Obfuscation Setup** | **Dynamics 365 Azure setup**

CRM Obfuscation Setup

Dynamics 365 Azure setup

Template Deployment

Changes to Web App

Grant Permissions

Change Manifest settings

Storage SAS Token

Add CORS

Add Tables

AzureFunctionURL

KeyVault Changes

If you have already registered the applications in Azure Active Directory, you can skip this step.

1. Download and install the Windows Store Application **Dynamics 365 Azure Setup** from [here](#) Once the application is installed, it will show up as a Start menu item.
2. Launch Dynamics 365 Azure Setup app and enter the required details as shown below in Figure A.

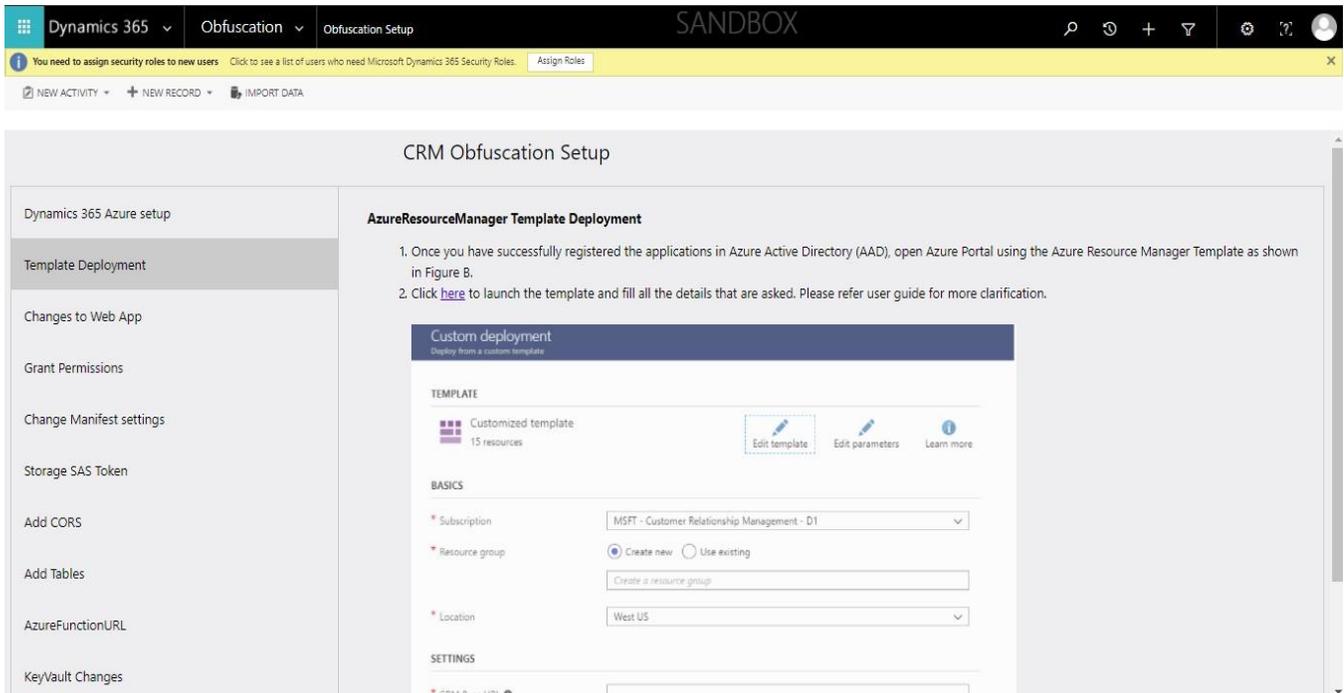
Figure A: Registering new application.

After Register the application, below is the snap shot for Keys



Template Deployment

Go to **Sales|Obfuscation|Obfuscation Setup |Template Deployment**



Filling Custom Deployment Template:

Launch the custom deployment template and fill the details:

BASICS

* Subscription

* Resource group Create new Use existing

* Location

SETTINGS

* CRM Base URL ✓

* CRM Username ✓

* CRM Password ✓

* Web API Client Id

* Web API Secret

* Web API Object Id ⓘ	<input type="text"/>
* Native Client Id ⓘ	<input type="text"/>
* Data Catalog Client Id ⓘ	<input type="text"/>
* Data Catalog Name ⓘ	<input type="text"/>
* Data Catalog Secret ⓘ	<input type="text"/>
* Data Catalog Tenant Id ⓘ	<input type="text"/>
* Stakeholder Object Ids ⓘ	<input type="text"/>
* Stakeholder Uprns ⓘ	<input type="text"/>
Web Site Name ⓘ	<input type="text" value="ObfuscationWebApp"/>
Key Vault Name ⓘ	<input type="text" value="obskeyvault"/>
Storage Account Name ⓘ	<input type="text" value="obfuscationstorageacc"/>
Storage Account Type ⓘ	<input type="text" value="Standard_LRS"/>

Function App Name ⓘ	<input type="text" value="ObfuscationFunctionApp"/>
Hosting Plan Name ⓘ	<input type="text" value="ObfuscationAppServicePlan"/>
SKU Name ⓘ	<input type="text" value="S3"/>
SKU Capacity ⓘ	<input type="text" value="1"/>
CRM API Version ⓘ	<input type="text" value="v8.2"/>

TERMS AND CONDITIONS

[Azure Marketplace Terms](#) | [Azure Marketplace](#)

By clicking "Purchase," I (a) agree to the applicable legal terms associated with the offering; (b) authorize Microsoft to charge or bill my current payment method for the fees associated the offering(s), including applicable taxes, with the same billing frequency as my Azure subscription, until I discontinue use of the offering(s); and (c) agree that, if the deployment involves 3rd party offerings, Microsoft may share my contact information and other details of such deployment with the publisher of that offering.

I agree to the terms and conditions stated above

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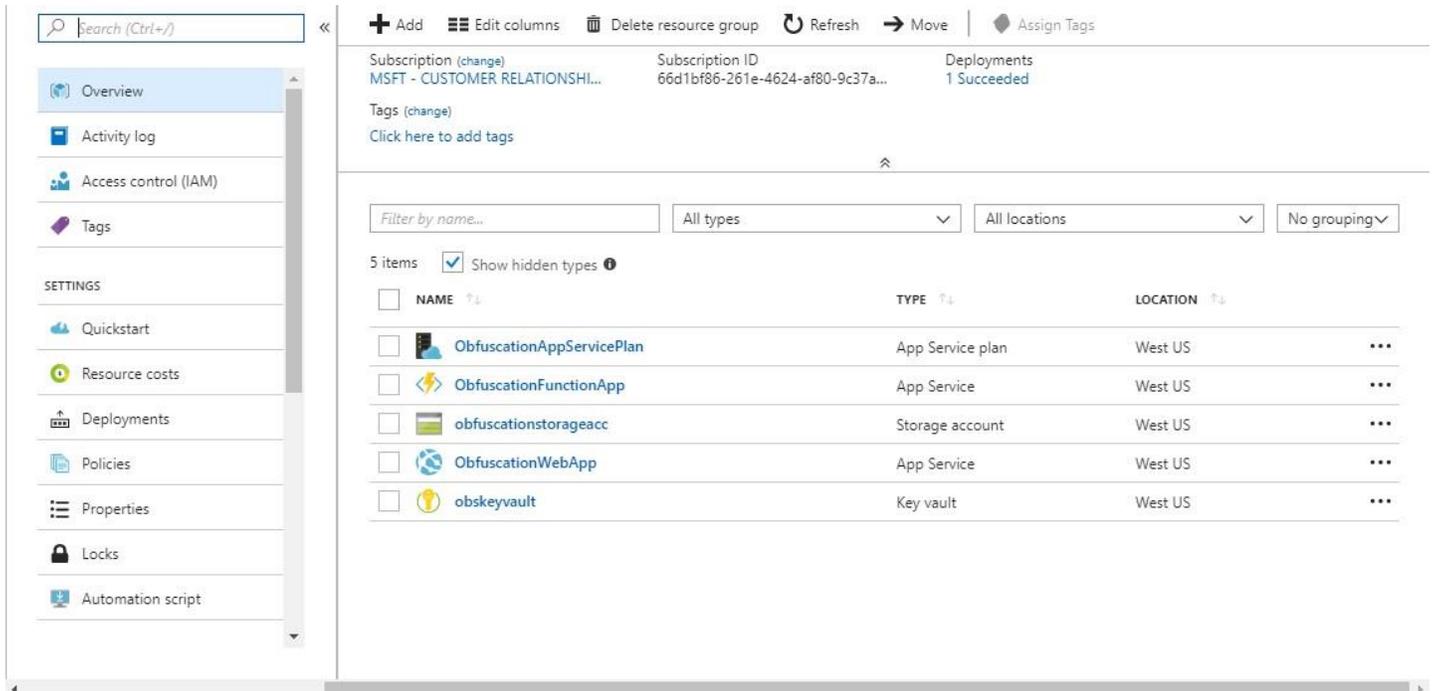
Azure Resource Manager Template Properties

- **Subscription:** Select the correct subscription from the dropdown list.

- **Resource Group:** Please note the following option choices...
 - **First Time setup:** Be sure to select **Create new** option and add a unique resource group name. **Important:** Save the resource group name for future references.
 - **for any upgrades:** Select the **Use existing** option to use the existing resource group name.
- **Location:** Select the correct location from the dropdown list.
- **CRM Base URL:** CRM instance URL
- **CRM Username:** Use the CRM logged in user name (email address) with Admin privileges.
- **CRM Password:** Implied.
- **Web API Client Id:** Paste the existing Key Vault Application Id
- **Web API Secret Id:** Paste the existing Secret Id
- **Web API Object Id:** Paste the existing Object Id
- **Native Client Id:** Paste the existing Native Application Client Id
- **Data Catalog Client Id:** Get the Data Client Id from Azure Data catalog
- **Data Catalog Name:** Get from Azure data catalog
- **Data Catalog Secret:** Get from Azure data catalog
- **Data Catalog Tenant Id:** Get from Azure data catalog
- **Stake Holder Object Id:** Get from Azure data catalog
- **Stake Holder Upns:** Get from Azure data catalog
- **Web Site Name:** Any unique website name with contiguous characters.
- **Key Vault Name:** Any unique KV name. **Important:** Please use contiguous lowercase letters only.
- **Database Account Name:** Alphanumeric Cosmos account name.
- **Storage Account Name:** Alphanumeric storage account name.
- **Storage account Type:** Select the correct value from the dropdown list.
- **Function App Name:**
- **Hosting Plan Name:** Use only unique contiguous lowercase characters.
- **SKU Name:** Select the correct value from the dropdown list.
- **SKU Capacity:** Suggest using the Default value of 1.
- **CRM Web API Version:** Select the correct value from the dropdown list.
-

Agree the **Terms and Conditions** and click on the **Purchase** button.

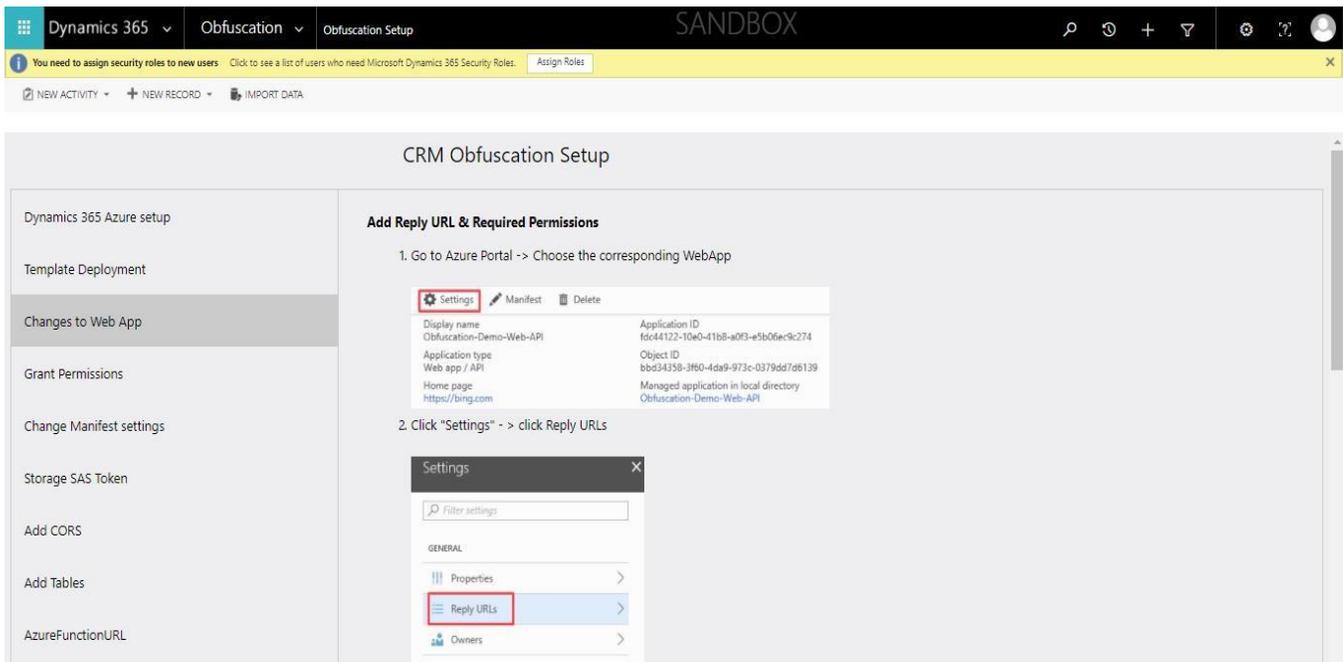
Once the deployment Completed Below are the Azure components



After Deployment Pls. follow below manual steps to complete the Deployment

Changes to Web App

Go to **Sales|Obfuscation|Obfuscation Setup |Changes to Web App** and change the necessary settings to Web App.



Grant Permissions

Go to **Sales|Obfuscation|Obfuscation Setup |Grant Permissions** and check the necessary setting for granting permission.

The screenshot shows the Dynamics 365 CRM Obfuscation Setup interface. The left sidebar contains a navigation menu with items like 'Dynamics 365 Azure setup', 'Template Deployment', 'Changes to Web App', 'Grant Permissions', 'Change Manifest settings', 'Storage SAS Token', 'Add CORS', 'Add Tables', 'AzureFunctionURL', and 'KeyVault Changes'. The main content area is titled 'CRM Obfuscation Setup' and contains the following instructions:

1. Go to Azure Portal -> Choose NativeApp -> Click Settings -> Required Permissions

Below the instructions, there are two screenshots from the Azure Portal. The first screenshot shows the 'Settings' page for 'Obfuscation-Demo-Web-API' with the 'Required permissions' link highlighted in red. The second screenshot shows the 'Required permissions' dialog box with the 'Grant Permissions' button highlighted in red.

Change Manifest Settings

Go to **Sales|Obfuscation|Obfuscation Setup |Check Manifest Settings** and check the necessary manifest settings.

The screenshot shows the Dynamics 365 CRM Obfuscation Setup interface. The left sidebar is the same as in the previous screenshot. The main content area is titled 'CRM Obfuscation Setup' and contains the following instructions:

Please refer User Guide for more information on how to reach WebApp and Native Apps on Azure.

1. Go to Azure Portal -> Choose the WebApp -> Click Manifest

Below the instructions, there is a screenshot of the 'Manifest' page for 'Obfuscation-Demo-Web-API' with the 'Manifest' button highlighted in red. The page displays the following details:

Display name	Obfuscation-Demo-Web-API	Application ID	fdc44122-10e0-41b8-a0f3-e5b06ec9c274
Application type	Web app / API	Object ID	bbd34358-3f60-4da9-973c-0379dd7d6139
Home page	https://bing.com	Managed application in local directory	Obfuscation-Demo-Web-API

2. Change the "oauth2AllowImplicitFlow" to true

Below the instructions, there is a screenshot of the 'Edit manifest' dialog box. The 'Save' button is highlighted in red. The manifest JSON code is shown as follows:

```
1 {
2   "appId": "fdc44122-10e0-41b8-a0f3-e5b06ec9c274",
3   "appRoles": [],
4   "availableToOtherTenants": false,
5   "displayName": "Obfuscation-Demo-Web-API",
6   "errorUrl": null,
```

Storage SAS Token

Go to **Sales|Obfuscation|Obfuscation Setup |Storage SAS Token** and generate the SAS token of Azure storage.

The screenshot shows the Dynamics 365 CRM interface. The top navigation bar includes 'Dynamics 365', 'Obfuscation', and 'Obfuscation Setup'. A yellow banner at the top states: 'You need to assign security roles to new users. Click to see a list of users who need Microsoft Dynamics 365 Security Roles. Assign Roles'. Below this, there are buttons for 'NEW ACTIVITY', 'NEW RECORD', and 'IMPORT DATA'. The main content area is titled 'CRM Obfuscation Setup' and contains a sidebar with navigation options: 'Dynamics 365 Azure setup', 'Template Deployment', 'Changes to Web App', 'Grant Permissions', 'Change Manifest settings', 'Storage SAS Token' (highlighted), 'Add CORS', 'Add Tables', 'AzureFunctionURL', and 'KeyVault Changes'. The main panel is titled 'Generate SAS Token' and contains the instruction: '1. Go to Azure Portal -> Choose the corresponding Storage Account -> click "Shared Access Signature"'. An embedded screenshot shows the Azure Portal 'Storage accounts' page for 'sqlauditwvus - Shared access signature'. The left pane lists storage accounts, with 'sqlauditwvus' selected. The right pane shows the 'Shared access signature' settings for this account, including 'Overview', 'Activity log', 'Access control (IAM)', 'Tags', 'Diagnose and solve problems', 'SETTINGS', 'Storage Explorer (preview)', 'Access keys', 'Configuration', and 'Encryption'.

Add CORS

Go to **Sales|Obfuscation|Obfuscation Setup |Add CORS** to create CORS rules.

The screenshot shows the Dynamics 365 CRM interface. The top navigation bar includes 'Dynamics 365', 'Obfuscation', and 'Obfuscation Setup'. A yellow banner at the top states: 'You need to assign security roles to new users. Click to see a list of users who need Microsoft Dynamics 365 Security Roles. Assign Roles'. Below this, there are buttons for 'NEW ACTIVITY', 'NEW RECORD', and 'IMPORT DATA'. The main content area is titled 'CRM Obfuscation Setup' and contains a sidebar with navigation options: 'Dynamics 365 Azure setup', 'Template Deployment', 'Changes to Web App', 'Grant Permissions', 'Change Manifest settings', 'Storage SAS Token', 'Add CORS' (highlighted), 'Add Tables', 'AzureFunctionURL', and 'KeyVault Changes'. The main panel is titled 'Add CORS' and contains the instruction: '1. Go to Azure Portal -> Choose the corresponding Storage Account -> click "CORS" in BLOB SERVICE section'. An embedded screenshot shows the Azure Portal 'Storage accounts' page for 'obfuscationstorageacc'. The left pane lists storage accounts, with 'obfuscationstorageacc' selected. The right pane shows the 'BLOB SERVICE' settings for this account, with 'CORS' highlighted. Other options in the BLOB SERVICE section include 'Browse blobs', 'Custom domain', 'Soft delete', 'Azure CDN', 'Add Azure Search', and 'Usage'. The 'FILE SERVICE' section includes 'Browse files' and 'CORS'.

Add Tables

Go to **Sales|Obfuscation|Obfuscation Setup |Add Tables** and create tables.

The screenshot shows the Dynamics 365 CRM Obfuscation Setup interface. The left sidebar contains a navigation menu with the following items: Dynamics 365 Azure setup, Template Deployment, Changes to Web App, Grant Permissions, Change Manifest settings, Storage SAS Token, Add CORS, **Add Tables** (highlighted), AzureFunctionURL, and KeyVault Changes. The main content area displays the following instructions:

1. Go to Azure Portal -> Choose the corresponding Storage Account -> click **"Tables Service"**

The screenshot includes a screenshot of the Azure Portal interface. In the 'Storage accounts' view, the 'obfuscationstorageacc' account is selected. The 'Services' section on the right shows the 'Tables' service highlighted with a red box. Below the instructions, the following tables are listed:

- . ObfuscationAgent
- . ObfuscationTag

AzureFunctionURL

Go to **Sales|Obfuscation|Obfuscation Setup |AzureFunctionURL** to create and save the azure function URL.

The screenshot shows the Dynamics 365 CRM Obfuscation Setup interface. The left sidebar contains a navigation menu with the following items: Dynamics 365 Azure setup, Template Deployment, Changes to Web App, Grant Permissions, Change Manifest settings, Storage SAS Token, Add CORS, Add Tables, **AzureFunctionURL** (highlighted), and KeyVault Changes. The main content area displays the following instructions:

1. Go to Resource Group -> Click on Corresponding Function App

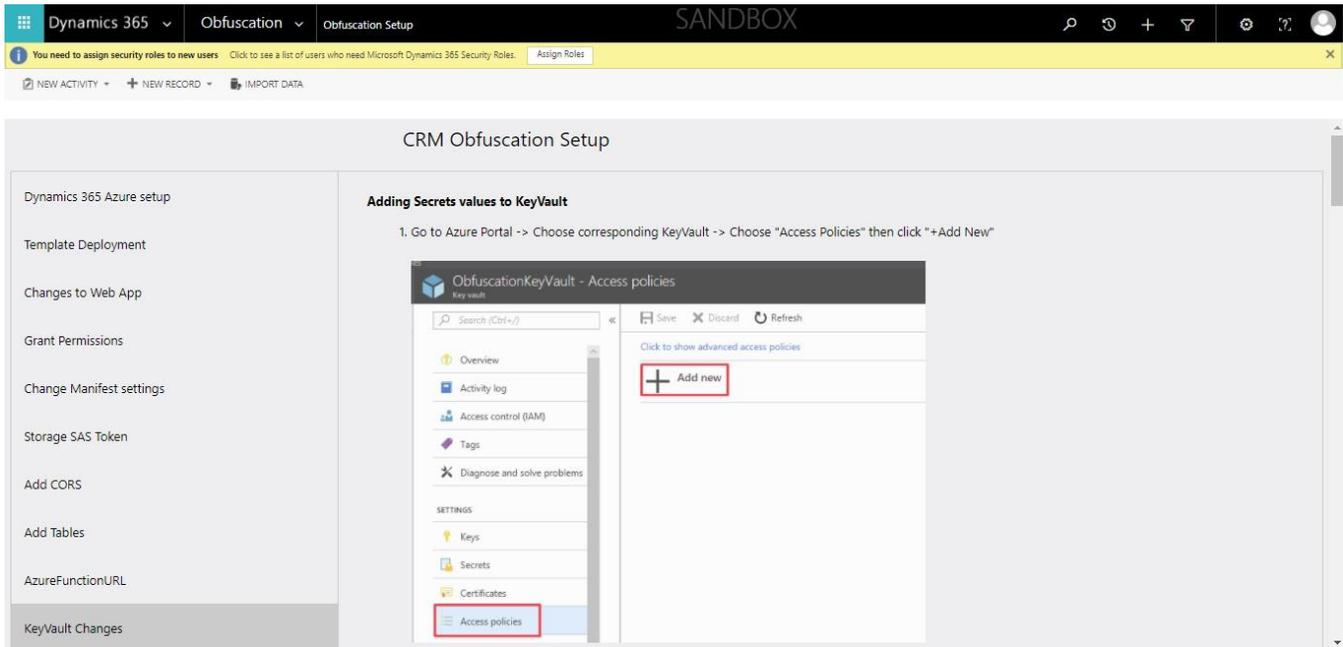
The screenshot includes a screenshot of the Azure Portal interface. In the 'Resource groups' view, the 'ObfuscationTesting' resource group is selected. The 'Services' section on the right shows the 'ObfuscationFunctionApp' service highlighted with a red box. Below the instructions, the following steps are listed:

2. Click on **GetKeyVaultSecrets** -> Click on **Get function URL** -> Click on **Copy** and Save the URL

The screenshot includes a screenshot of the 'ObfuscationFunctionApp - GetKeyVaultSecrets' page. The 'Get function URL' button is highlighted with a red box.

Key Vault Manual Steps

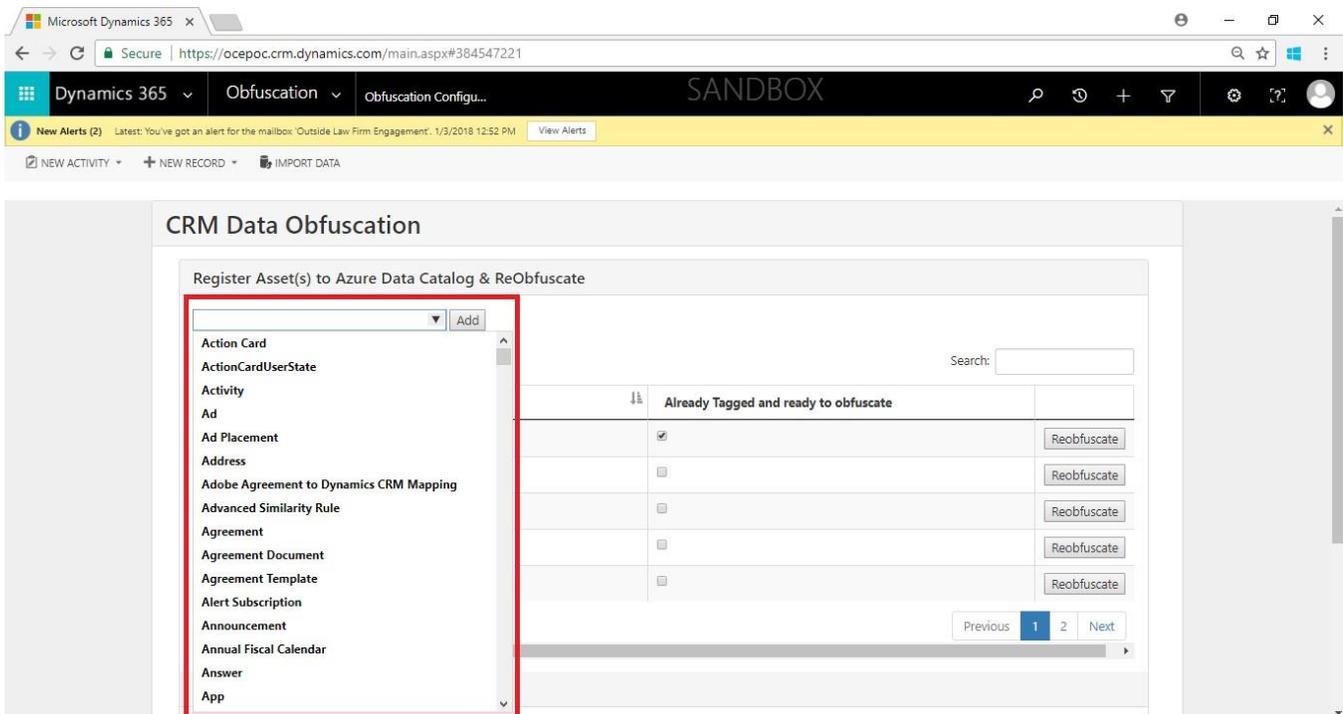
Go to **Sales|Obfuscation|Obfuscation Setup |Key Vault Manual Steps** and add secrets under key vault.



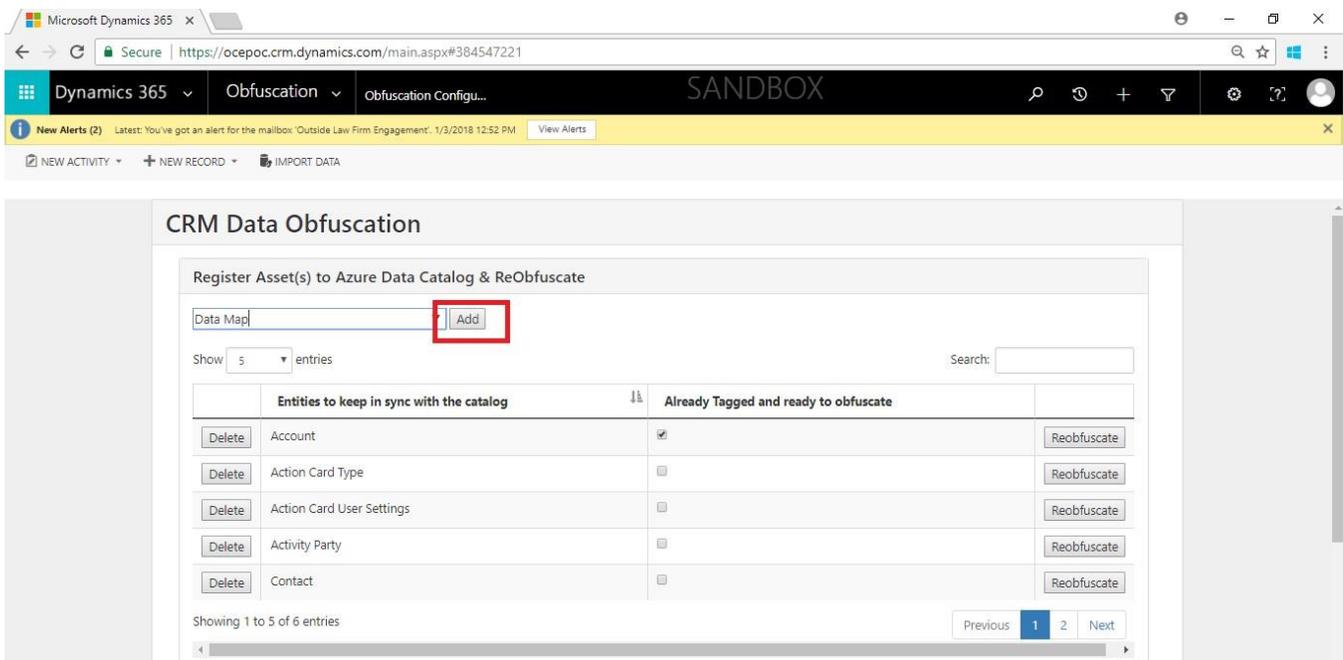
Obfuscation Configuration in CRM

Adding Entity for Obfuscation

1. Go to Obfuscation Configuration page and click on the drop down under register Asset(s) to Azure Data Catalog & ReObfuscate. All available entity will appear in the drop down.



2. Click on Entity name which you want to register and Click on Add Button.



3. Selected Entity gets added into the grid. Entity can be deleted or Reobfuscate.

Delete: Deletes the entity from the list

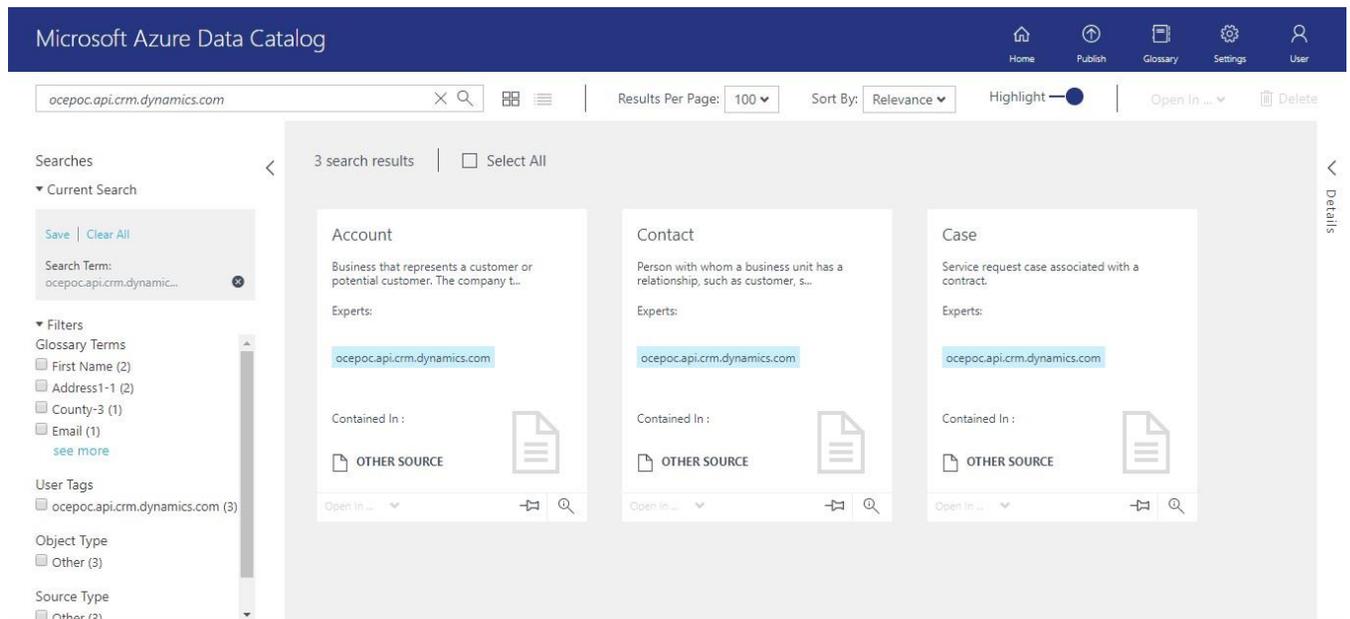
Reobfuscate: Clicking on this button will Re-Obfuscate the previously Obfuscated entities.

4. Navigate to Azure data catalog to add tags to the Selected entity. Enter the org name in the format of **'org.api.crm.dynamics.com'** to find out the listed entities in Azure Catalog. Pls. note that this entity related information must be pushed by the sync job. **By default, Web Job Sync**

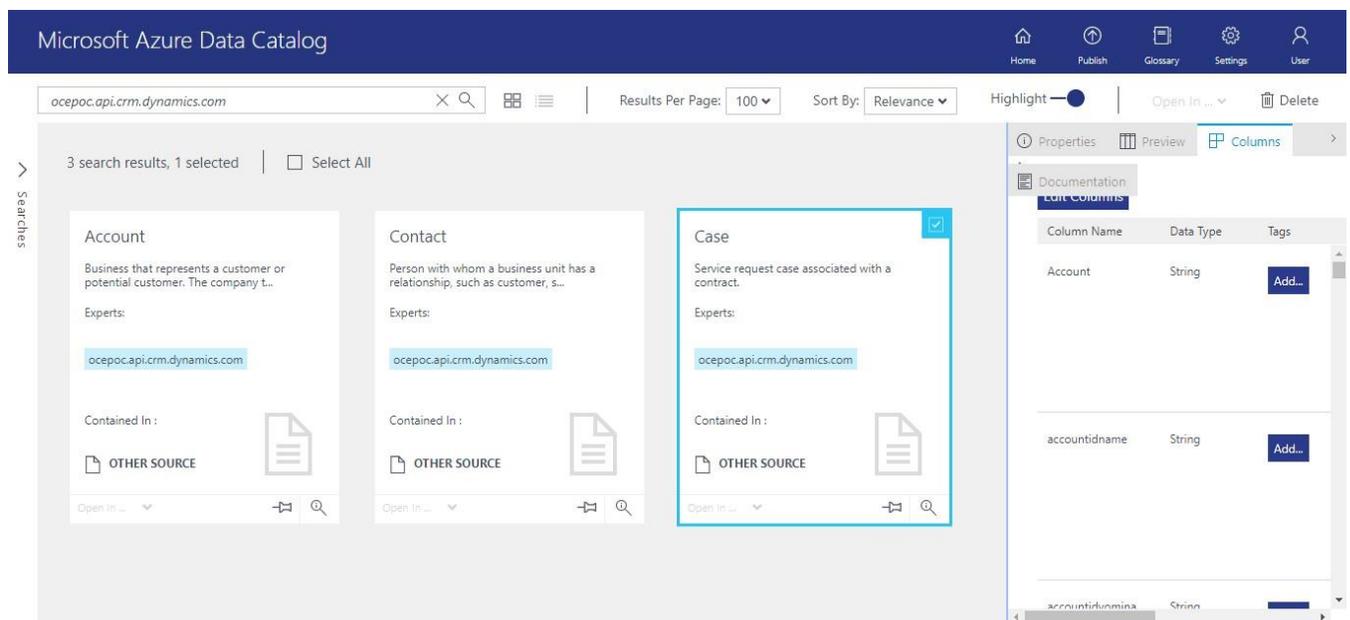
data between Azure Data Catalog and CRM will run on first minute in every hour and web job Obfuscation starts every 30th minute of every hour.

This is configurable in Resource groups | Select the Resource Group | Select App Service | Select App Settings | Change Sync Schedule or Obfuscation schedule (chronic expression)

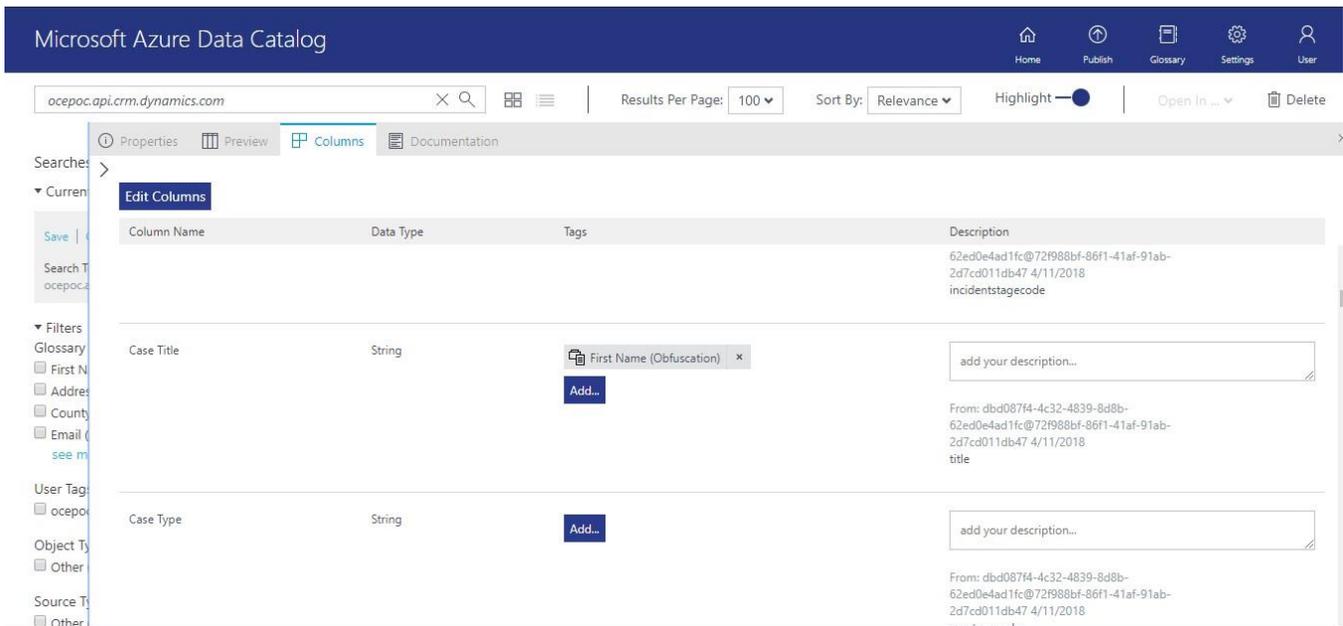
Click on the displayed entity to add the tags



Select the entity and click on right side top 'Columns'

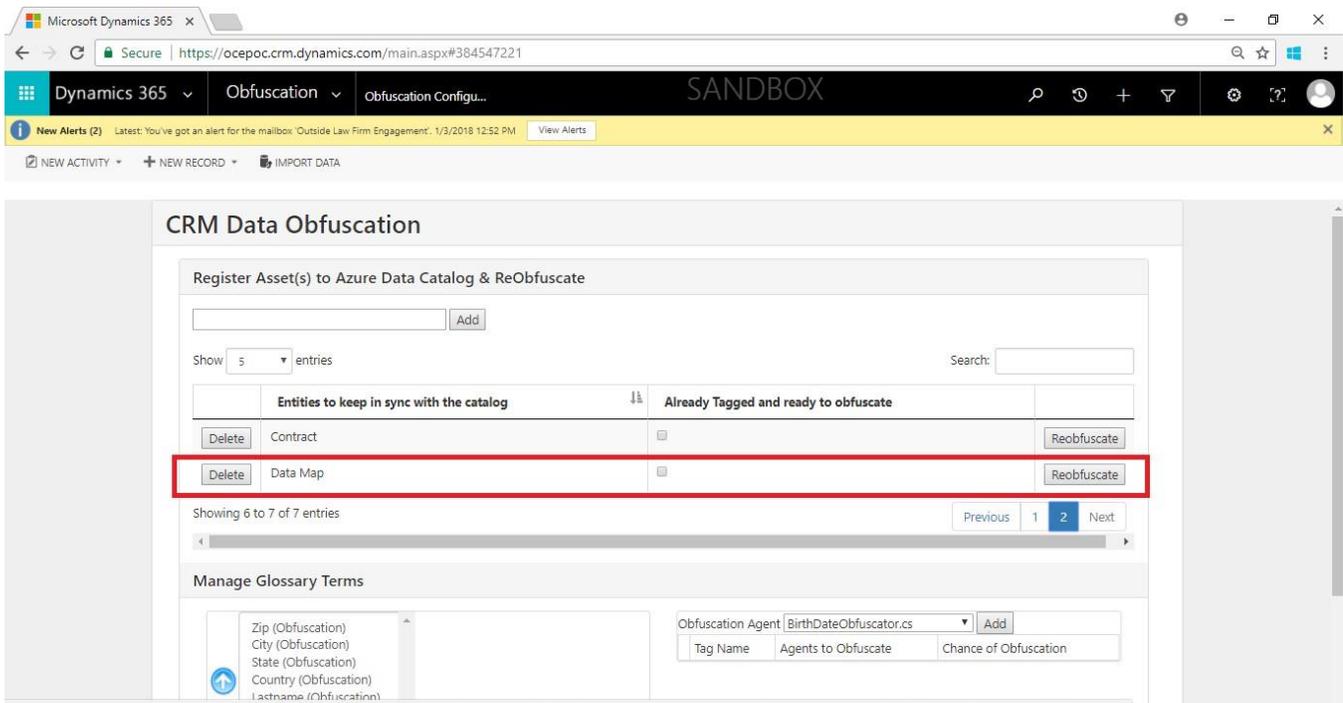


Add the catalog. In the below example We have added First Name Tag to Case Title column of Case entity.

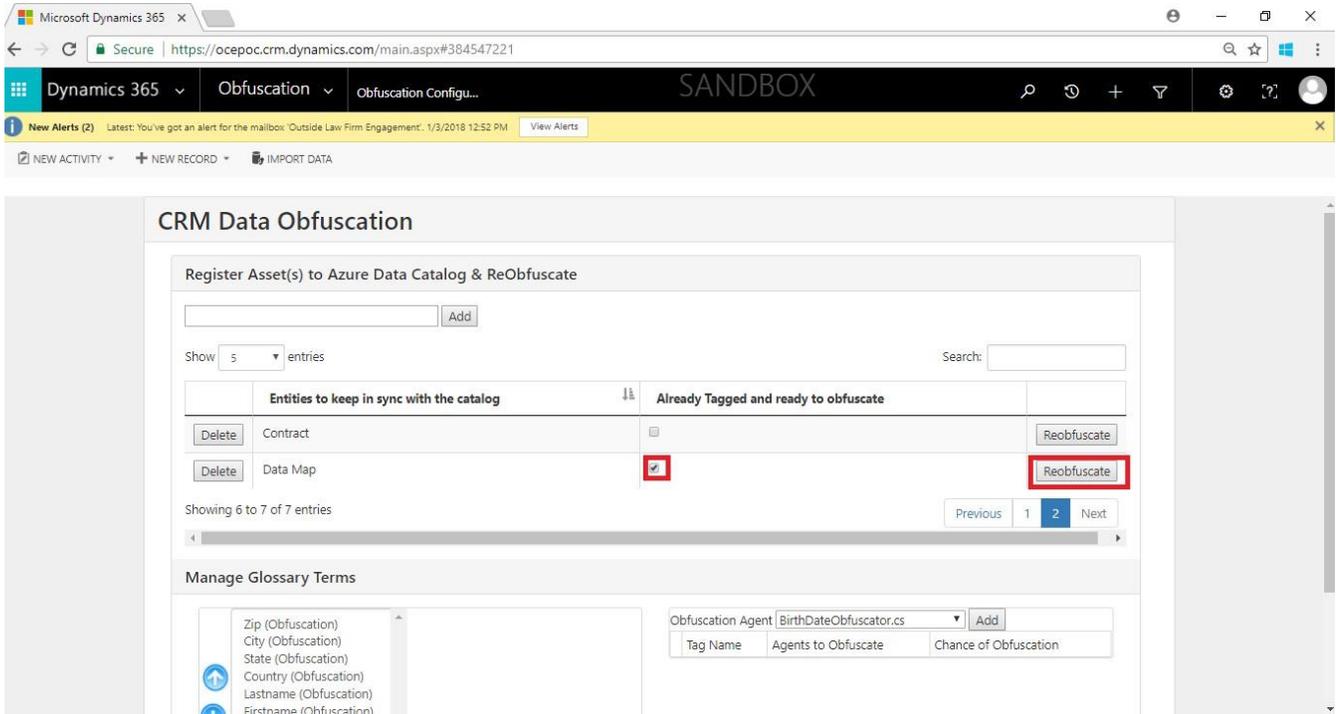


Now Switch back to CRM to select the tag in Manage Glossary Terms.

Agent.Cs : These are the actual agents written in C# to use obfuscation on the selected obfuscator column.

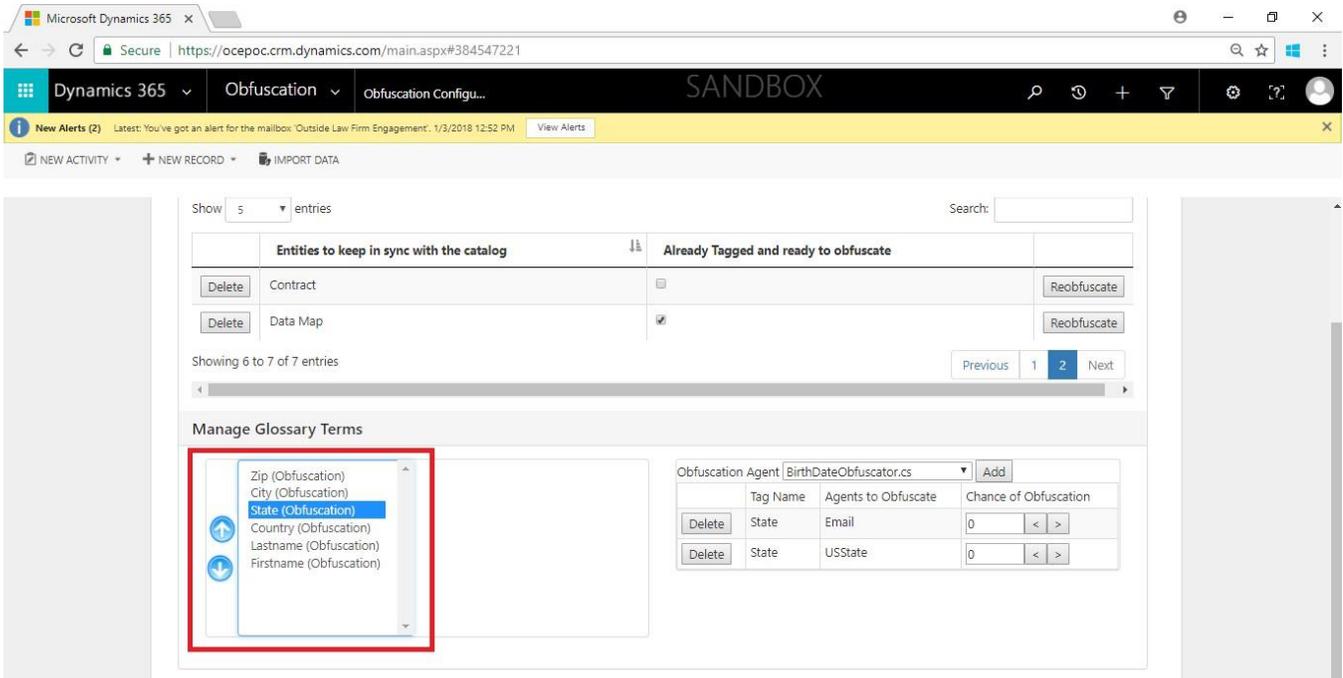


5. For ReOfuscation, checked Already Tagged and ready to obfuscate check box and Click on ReObfuscate button.

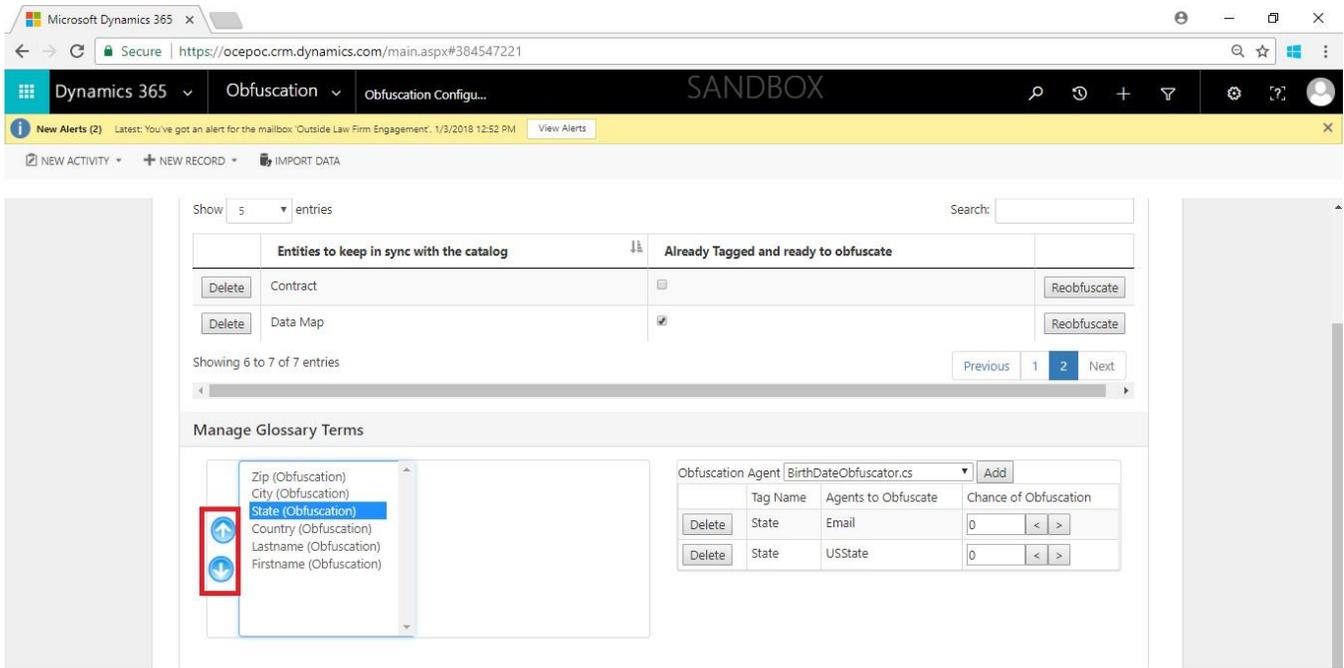


Glossary Term Execution Order

1. Glossary term combo box appearing under Manage Glossary Term can be set with a sequence number by moving it up or down on a specific position.

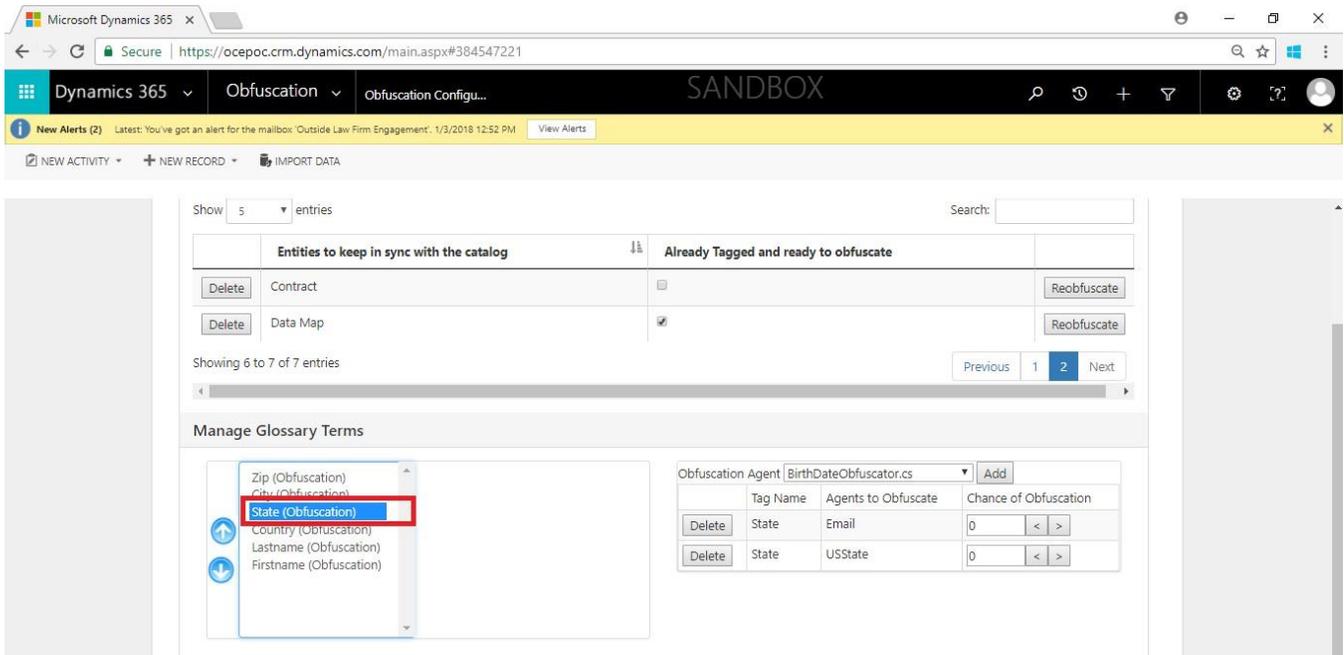


2. Clicking on Move Up or Move down will move up or down the glossary and set the execution order as per the sequence number of combo box.

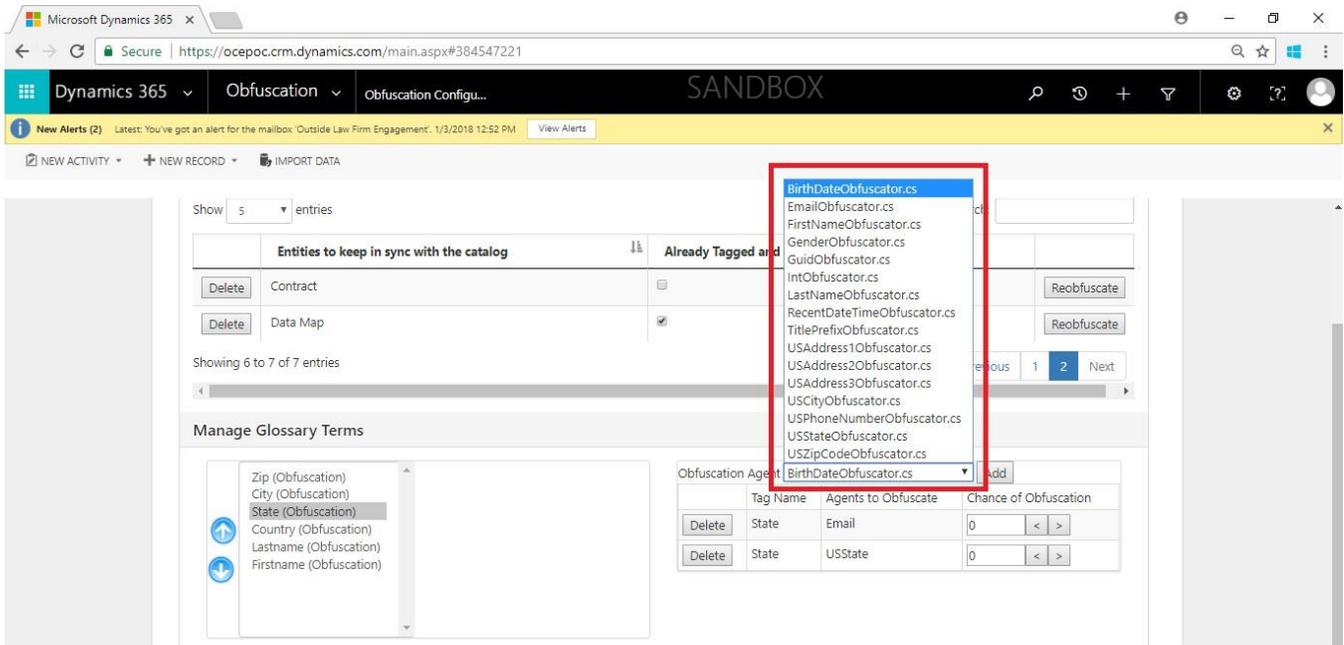


Adding a new Glossary – Obfuscation Agent

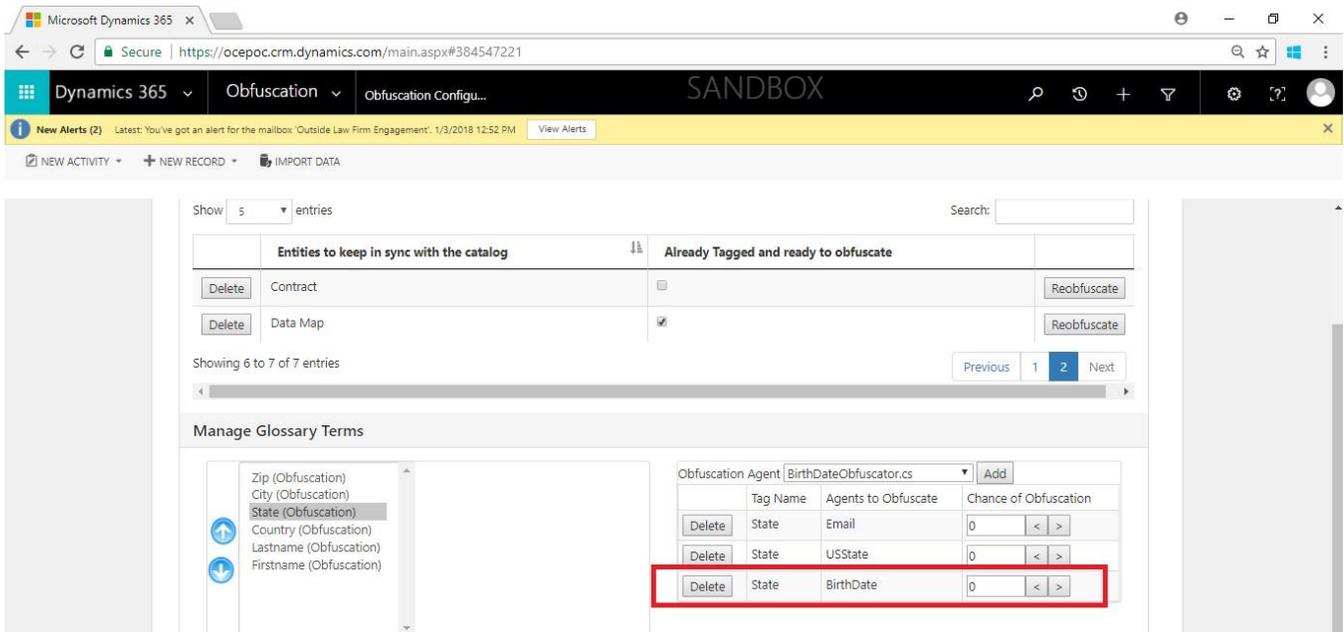
1. Select any Glossary Term.



2. Select any Obfuscation Agent that is not exist in the grid below to Agent drop down. If you try to add the combination which is already exist, it will not allow you to add the same.

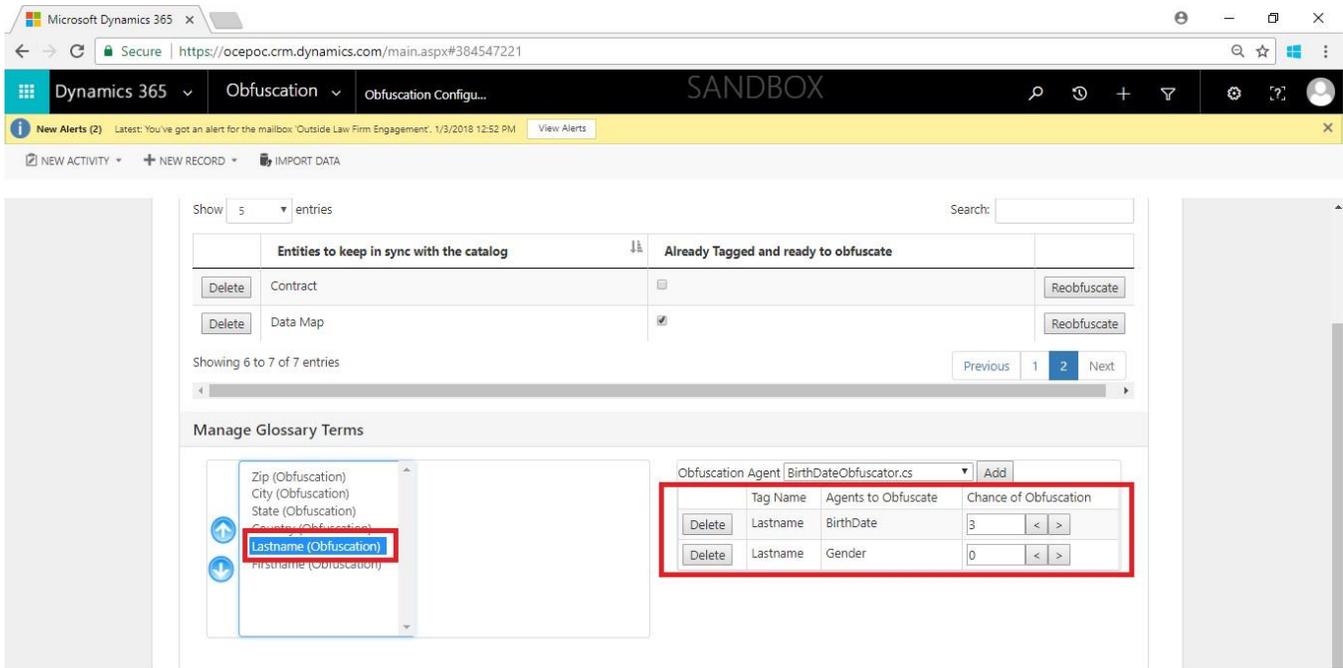


3. Click on the Add button. It will add a new row in the grid with weight as 0.



Edit a Glossary term – Obfuscation Agent combination

1. Select Glossary term and the grid will start showing all Obfuscation Agent with their respective weight.



- You can update the weight by increase/decrease it or directly entering into weight textbox. The same can be deleted by clicking on Delete button. This means: User have a choice to increase or decrease the obfuscation of the selected column values in the entity. If 100 selected, the agent will obfuscate all the values in the selected columns.

Least Permissions required to access Obfuscation area

This section describes providing minimal security settings permissions required for users to access **Dynamics 365 Data Tagging & Obfuscation**.

Users should be having **Read Permissions** (Least Permissions) on **ObPrivilege** entity to access Dynamics 365 Data Tagging & Obfuscation area in Sitemap. The steps to provide the minimal security settings needed on the custom entity are:

- Login to CRM and go to **Settings | Security Roles | Select A Role**
- Go to **"Custom Entities"** tab, **ObPrivilege** Entity, and provide Read Permissions.

Security Role: Salesperson

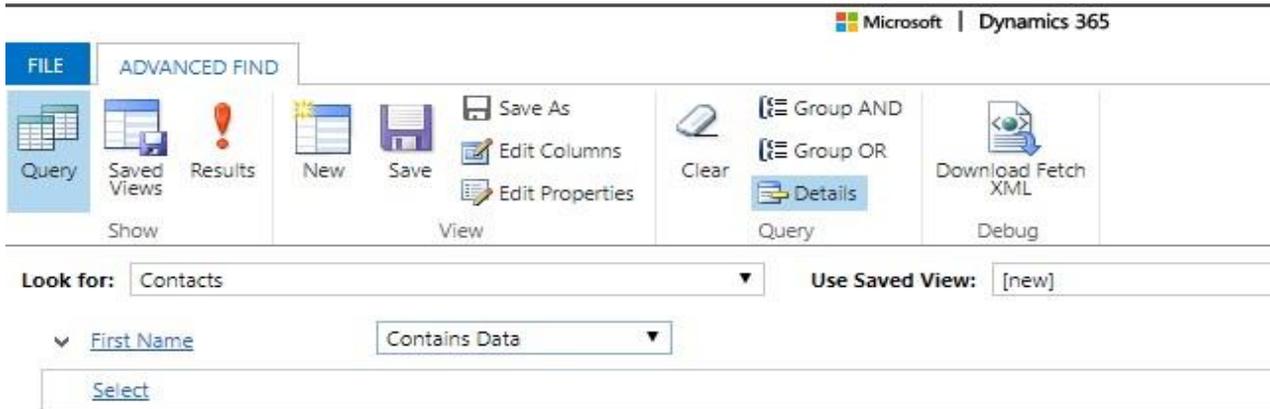
Details	Core Records	Marketing	Sales	Service	Business Management	Service Management	Customization	Missing Entities	Business Process Flows	Custom Entities
ObPrivilege						<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Page						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Page Alert						<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End User Experience

In this section will obfuscate the Contact entity - First Name.

Below are the steps:

1. Through Advance Find Query, select the Contact entity – First Name values. This can be used to compare after Obfuscation.



Microsoft | Dynamics 365

FILE ADVANCED FIND

Query Saved Views Results New Save Save As Edit Columns Edit Properties Clear Group AND Group OR Details Download Fetch XML Debug

Show View Query Debug

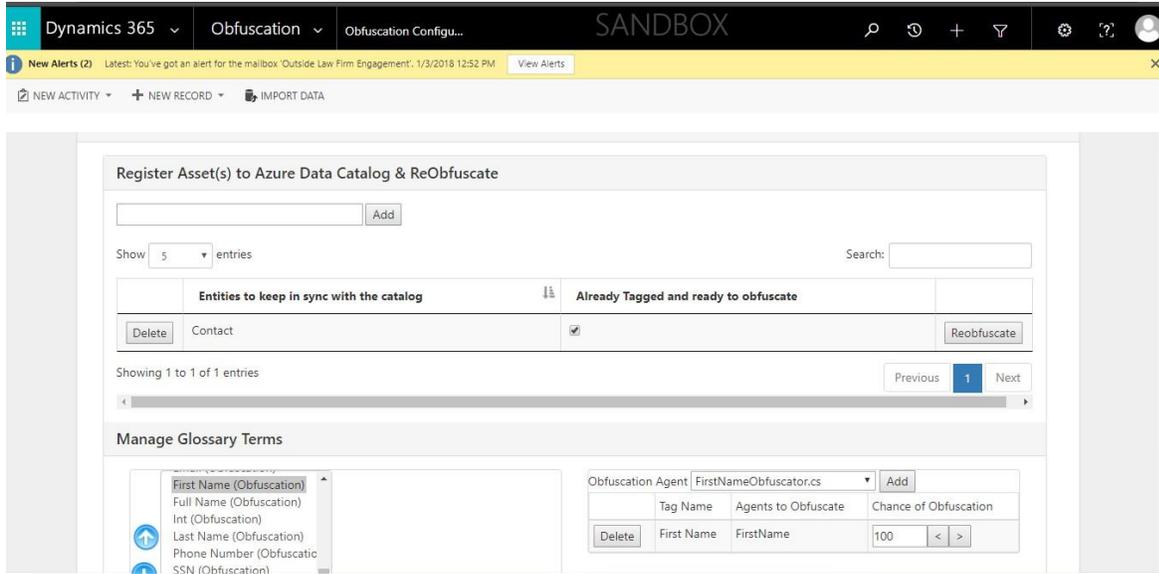
Look for: Contacts Use Saved View: [new]

First Name Contains Data

Select

✓	First Name	Full Name ↑
	Adelaida	Adelaida Easterling
✓	Alden	Alden Kingsberry
	Alden	Alden Lindstedt
	Aleen	Aleen Jest
	Alejandrina	Alejandrina Marchio
	Alfonso	Alfonso Mullahey
	Alfonzo	Alfonzo Denzine
	Ali	Ali Forsell
	Ali	Ali Millerd
	Alphonso	Alphonso Schramek
	Amanda	Amanda Buchner
	Amparo	Amparo Kinkade
	Ana	Ana Villamarin
	Andre	Andre Torra
	Angelique	Angelique Malamud
	Anibal	Anibal Vanstrom

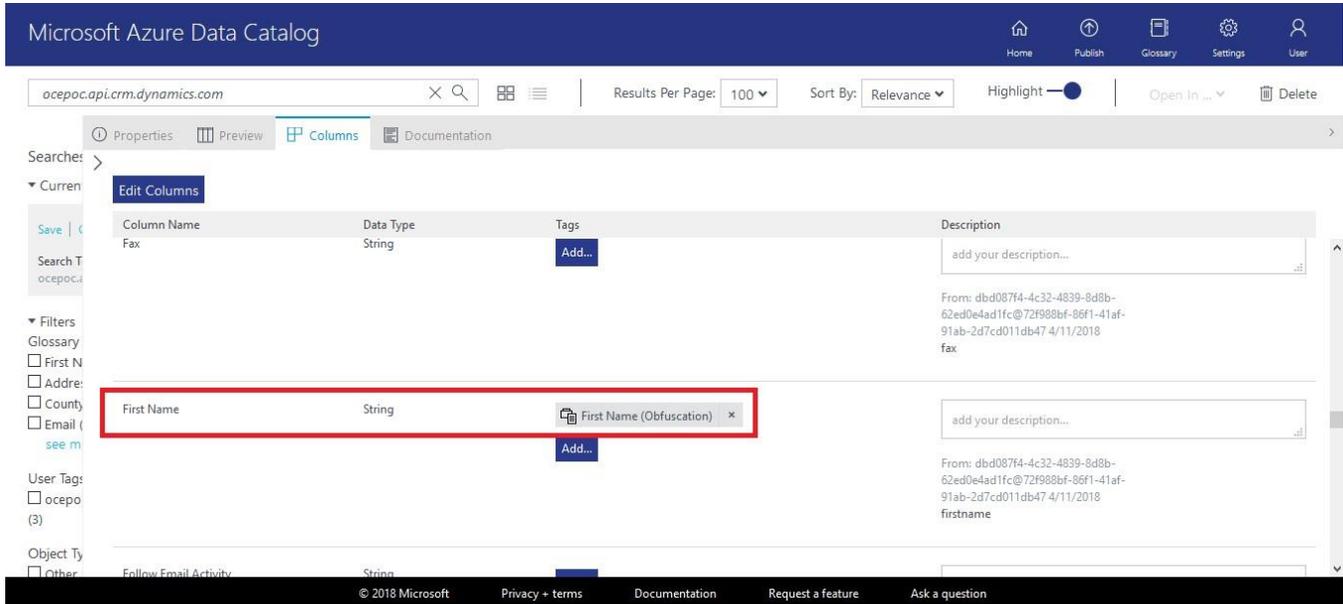
2. Add Contact entity in Obfuscation | Configuration page as shown below



3. Tag Contact entity | First Name field in Azure Data catalog

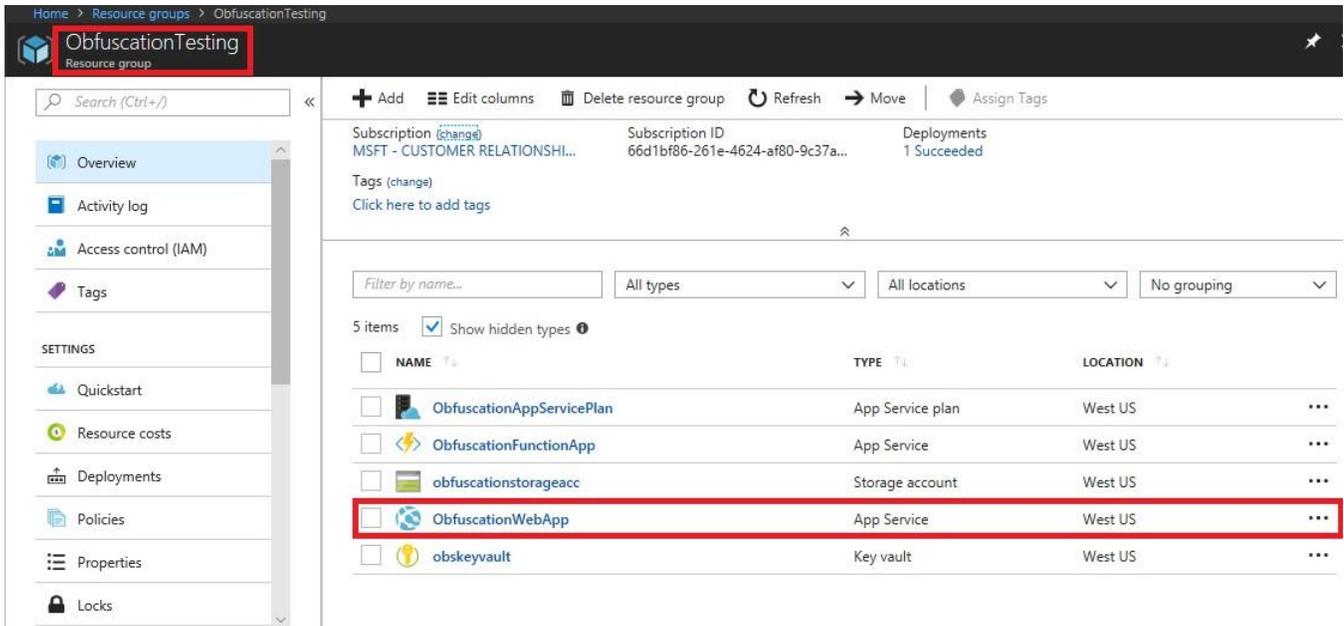
Go to Azure Catalog | Type in Org name | Select the Contact entity | Add the 'First Name(Obfuscation)' to First Name column.

Note: This column tags will be added only when obfuscation web job runs.

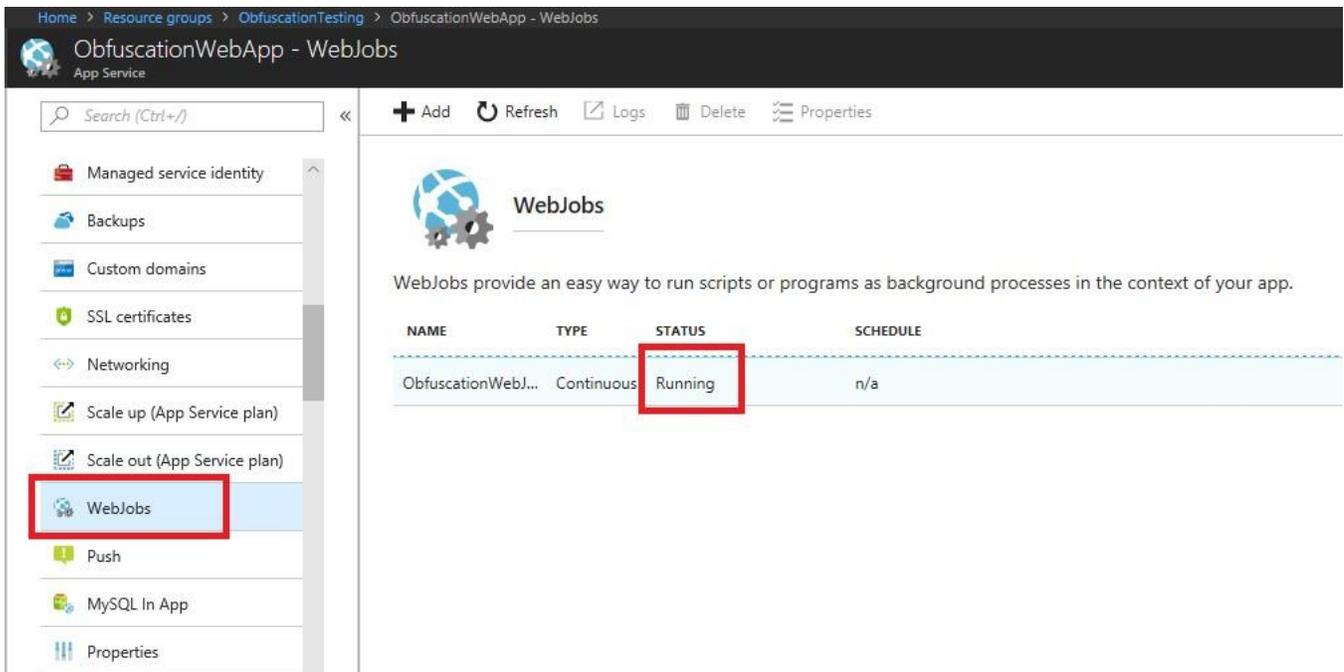


Wait for Obfuscation Web Job to run (Job runs on schedule).

Go to Resource Groups | Select the resource group | Select the Web App



Select Web Job to make sure, Job is running



After running the Web job on its own schedule, below are the results with obfuscated contact entity First Name values

✓	First Name	Full Name ↑
	Abram	Abram Gizewski, Ted M (TEDGI)
	Ada	Ada Botner
	Adalberto	Adalberto Shogren
	Adelia	Adelia Ashburn
	Adriene	Adriene Holman, Heidi L (HEIDIH)
	Afton	Afton Galarza Rosario, Nydia R (NYGALARZ)
	Ai	Ai Boxer
	Aida	Aida Pullano
	Ailene	Ailene Benafield
	Aja	Aja Galligan, John W (JOGALLIG)
	Alan	Alan Haniuk, Kathryn L (KATHAN)
	Alana	Alana Kinkade
	Alejandro	Alejandro Hilliard, Michael R (MIHIL)
	Alessandra	Alessandra Garington
	Ali	Ali Vivo
	Alicia	Alicia Trybala

End of Document