

MICROSOFT LABS

APRIL 13, 2018

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...

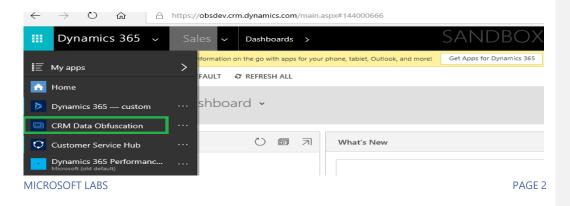


Verify Solution Installation

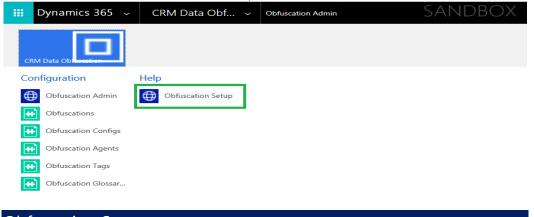
Once install the solution from AppSource. Go to Settings | Solutions and Check for the solution.



Look for CRM Data Obfuscation on the left navigation as shown in below picture.



Click on CRM Data Obfuscation \rightarrow Obfuscation Setup



Obfuscation Setup

Dynamics 365 Azure setup

Go to Obfuscation | Obfuscation Setup | Dynamics 365 Azure setup

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 <u>here</u> Once the application is installed, it will show up as a Start menu item.
- 2. Launch Dynamics 365 Azure Setup app as shown below and enter the required details and save results



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

Name:	Test12443	Register
Key Vault Application Id:	ef112cd5-7969-4057-adf5-2cd4fb122276	
Secret Key:	hZZWF8asiQeiKsYtjU4FloZ4/nojf6y3iRjXku	
Object ld:	ac7f9d94-962c-44b5-924a-dab6b31fc028	
Native Application Id:	735661ff-7e40-4032-a57b-8ebc57925998	
Successfully Registered A further	pp, Please note the Appld, Object Id and Sec	ret Key which will be require

3. Go to Azure Portal -> open the newly created WebApp -> Click Settings

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

4. Click Reply URLs

Settings	×
𝒫 Filter settings	
GENERAL	
Properties	>
📃 Reply URLs	>
🔐 Owners	>
API ACCESS	
💑 Required permissions	>
💡 Keys	>

5. Add the CRM Base URL and click "Save"

Reply URLs	×
Save X Discard	
https://ocepoc.crm.dynamics.com/*	

6. Click Required Permissions (in 2nd step, under "API ACCESS" section) - > click +Add button

a. Select an API | Microsoft Azure Data Catalog | Click on Select. InSelect permissions tick the only available DELEGATED PERMISSIONS and click on Select and then Done.
b. Follow the above same step to add Permissions to Azure Key Vault API

c. Follow the same instructions given in above step a., to add Permissions to Windows Azure

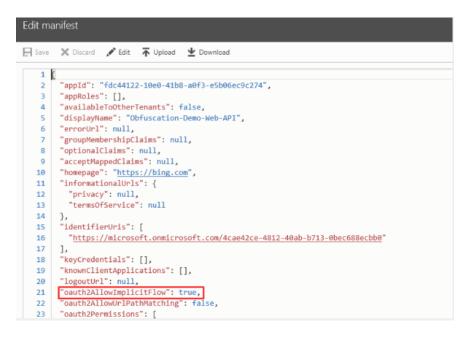
Active Directory API. But select only Sing In and read user profile Permission as shown in below screen.

Required permissions		×	Enable Access Windows Asser Active Delectory	
Add 🗢 Grant Permissions		<u> </u>	E line Delete	
0.011	1		Manage apps that this app creates or owns	O Yes
AN	APPLICATION PLANE_	DELEGATED PERMIS	Read and write all applications	O Yes
Windows Azure Active Directory	0	1	Read and write-domains	O Yes
Aicrosoft Azure Data Catalog	0	1		
zure Key Vault	0	т	DELEGATED PERMISSIONS	REQUIRES ADMIN
			Access the directory as the signed-in user	O No
			Read directory data	O Ves
			Read and write directory data	O Ves
			Read and write all groups	O Yes
			Read all groups	O Yes
			Read all users' full profiles	O Yes
			Read all users' basic profiles	O No
			Sign in and read user profile	O No
			Read hidden memberships	O Yes

7. Click "Settings" -> Click Manifest

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

8. Change the "oauth2AllowImplicitFlow" to true and Save.



Template Deployment Go to Obfuscation | Obfuscation Setup | Template Deployment

- 1. Once you have successfully registered the applications in Azure Active Directory (AAD), open Azure Portal using the Azure Resource Manager Template as shown in Figure B.
- 2. Click <u>here</u> to launch the template and fill all the details that are asked. Please refer user guide for more clarification.

High Important******: Always select West US Location to deploy Azure Resources. Complete the form and deploy to Azure, then navigate to Azure Portal Resource Group. Make a note of all azure resource's names provided in the template.

Bynamics 365 v Obfuscation v ob	fuscation Setup	SANDBOX	م	9	+	Y	٥	X 🌔
You need to assign security roles to new users Click to see a list of users where the security roles to new users a list of users where the security roles are used to assign security roles to new users.	o need Microsoft Dynamics 365 Security Roles. Assign Roles						2	×
NEW ACTIVITY * + NEW RECORD * Import Data								
	CRM Obfuscation Set	up						
Dynamics 365 Azure setup	AzureResourceManager Template Dep	ployment						
Template Deployment	in Figure B.	stered the applications in Azure Active Directory (AAD), open Azure Portal using t e and fill all the details that are asked. Please refer user quide for more clarificatio		Resourc	e Mani	ager Ten	nplate as s	shown
Changes to Web App	Custom deployment	e and fill all the details that are asked. Please feler user guide for more clarificauc						
Grant Permissions	Display from a custom template							
Change Manifest settings	Customized template	Edit template Edit parameters Learn more						
Storage SAS Token	BASICS							
Add CORS	* Subscription	MSFT - Customer Relationship Management - D1 V						
Add Tables	* Resource group	Create new Use exiting Create a resource group						
AzureFunctionURL	* Location	West US 🗸						
KeyVault Changes	SETTINGS							
	* CDM Rave HDL 6							

Filling Custom Deployment Template:

Launch the custom deployment template and fill the details:

* Subscription	MSFT - CUSTOMER RELATIONSHIP MANAGEMENT - D3	~
* Resource group	• Create new Use existing	
	Create a resource group	
* Location	Central US	~
SETTINGS		
* CRM Base URL	https://ocepoc.crm.dynamics.com	~
* CRM Username	*******	~

* CRM Username ① * CRM Password ① * Web API Client Id ①		~

Data Catalog Client Id Data Catalog Name Data Catalog Secret Data Catalog Secret Data Catalog Tenant Id Stakeholder Object Ids Stakeholder Upns (eb Site Name)	ObfuscationWebApp		
	ObfuscationWebApp		
Data Catalog Name 0 Data Catalog Secret 0 Data Catalog Tenant Id 0 Stakeholder Object Ids 0 Stakeholder Upns 0 Veb Site Name 0	ObfuscationWebApp		
Data Catalog Secret 0 Data Catalog Tenant Id 0 Stakeholder Object Ids 0 Stakeholder Upns 0 Veb Site Name 0	ObfuscationWebApp		
Data Catalog Tenant Id 0 Stakeholder Object Ids 0 Stakeholder Upns 0 (eb Site Name 0	ObfuscationWebApp		
Stakeholder Object lds 0	ObfuscationWebApp		
Stakeholder Upns 🖲	ObfuscationWebApp		
eb Site Name	ObfuscationWebApp		
	ObfuscationWebApp		
ey Vault Name 0			
	obskeyvault		
torage Account Name 0	obfuscationstorageacc		
	Standard_LRS	~	
	ObfuscationFunctionApp		
Function App Name 🛛	ObfuscationFunctionApp		
Hosting Plan Name 0	ObfuscationAppServicePlan		
Sku Name 0	S3		\sim
Sku Capacity 0	1		
	34 71 11		
CRMAPI Version 0	v8.2		\sim
By clicking "Purchase," I (a) agr bill my current payment metho frequency as my Azure subscrip	d for the fees associated the offering(s), ation, until I discontinue use of the offeri	ed with the offering; (b) authorize Microsoft to charg including applicable taxes, with the same billing g(s); and (c) agree that, if the deployment involves details of such deployment with the publisher of tha	3rd
I agree to the terms and cor Pin to dashboard	nditions stated above		

Azure Resource Manager Template Properties

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

- Resource Group: Please note the following option choices... o 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 APIVersion: Select the correct value from the dropdown list.

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

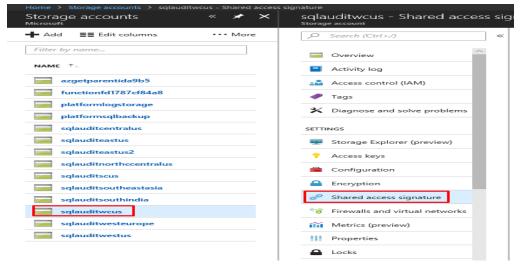
Once the deployment Completed Below are the Azure components

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🔊 Overview	Subscription (change) MSFT - CUSTOMER RELATIONSH Tags (change)	Subscription ID 66d1bf86-261e-4624-af80-9	Deployment c37a 1 Succeeded		
Activity log	Click here to add tags				
Access control (IAM)			*		
🖉 Tags	Filter by name	All types	✓ All loc	rations 🗸	No grouping~
ETTINGS	5 items Show hidden type	es O	TYPE 14	LOCATION 1	
🕰 Quickstart	ObfuscationAppSer	vicePlan	App Service plan	West US	
Resource costs	ObfuscationFunctio		App Service	West US	••
Deployments	obfuscationstorage	acc	Storage account	West US	
Policies	ObfuscationWebAp	p	App Service	West US	
Properties	🗌 🕐 obskeyvault		Key vault	West US	
Locks					
Automation script					

Generate SAS Token

Go to Azure Portal -> Choose the corresponding Storage Account (created using above ARM template) -> click "Shared Access Signature"



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- 1. Choose the following "Allowed Services" "Blob", "Table"
- 2. Choose the following "Allowed Resource Types" "Service', "Container" and "Object"
- 3. Choose the appropriate Start and End Date Time, try to give start date one day prior to current date and end date as later than an year.
- 4. Click "Generate SAS and connection string"
- 5. Copy the "SAS Token" and add as Secret "StorageSASToken" in "KeyVault" (Reference)

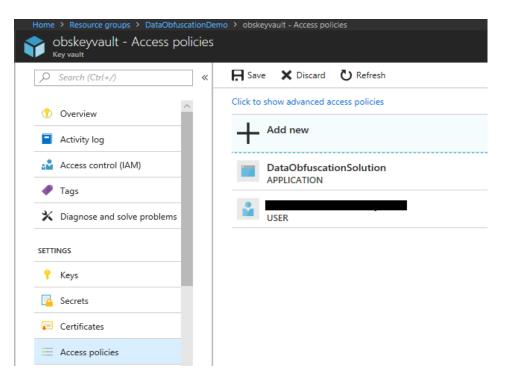
A shared access signature (SAS) is a URI that grants restricted access rights to Azure Storage resources. You can provide a shared access signature t By distributing a shared access signature URI to these clients, you grant them access to a resource for a specified period of time.	o clients who should not be trusted with your storage account key but whom you wish to deleg.
An account-level SAS can delegate access to multiple storage services (i.e. blob, file, queue, table). Note that stored access policies are currently not	supported for an account-level SAS.
Learn more	
Allowed services Allowed resource types Allowed resource types	
Service Container Object	
Allowed permissions ()	
V Read V Write V Delete V List V Add V Create V Update Decess	
Start and expiry date/time	
2018-03-25	12:00:00 AM
2019-01-01	12:00:00 AM
(UTC-07:00) Current Timezone	
Allowed IP addresses for example, 168,1.5.65 or 168,1.5.65-168,1.5.70	
Allowed protocols Allowed protocols HTTPS only HTTPS and HTTP	
Signing key 0 key1 ~	
Generate SAS and connection string	
Connection string DefaultEndpointsProtocol=https;AccountName=sqlauditwcus;AccountKey=t6nxb/+n9c8hp5lHBr3Qo2S7P+J/KXMfzrP90JJZICw4S45SE/666rqS67vi	801/no8mqaxZ7QXdcULIA0G8xLQ==;EndpointSuffix=core.windows.net
SAS token 🕈	
?sv=2017-07-29&ss=bt&srt=sco&sp=rwdlacu&se=2019-01-01T08:00.00Z&st=2018-03-25T07:00:00Z&spr=https&sig=PTXh5xqduPmgzWOzKbN	IsiQTD3zfJ8dVoiWfWFXu6rLY%3D

Adding Secrets values to Key Vault

- 1. Go to Azure Portal -> Choose corresponding Key Vault -> Choose "Access Policies" then click "+Add New"
- Click on Add -> Select Principal -> Select the User (who performs all these operations) -> Click on Select
- 3. Select all Secret Permissions and click on OK button

Home > Resource groups > DataObfuscationDemo > ot	Add access policies > Add access policy Add access policy Add a new access policy
	Configure from template (optional)
	* Select principal >
	Key permissions 0 selected
	Secret permissions 8 selected
	Secret Management Operations Image: Constraint of the second s
	 Recover Backup Restore Privileged Secret Operations
	V Purge OK

4. save Access Policies



5. Choose the Secret "StorageSASToken" and click "New Version" and paste the SAS Token value in the "Value" textbox and click "Create" button.

Home > Key vaults > ObfuscationKeyVault - Secrets > StorageSASToken > Create a secret	
StorageSASToken ×	Create a secret
New Version 🖸 Refresh 🗴 Delete	Upload options
VERSION STATUS ACTIVATION DATE EXPIRATION DATE	Manual V Name StorageSASToken
CURRENT VERSION	* Value
d0cd1d99cd5749 🗸 Enabled	
	Content type (optional)
	Set activation date? 0
	Set expiration date? •
	Enabled? Yes No
	Pin to dashboard
	Create

Obfuscation Configuration in CRM

Add Application User in CRM Org

- 1. Login to CRM Org with a user who has system admin role
- 2. Click on <u>Settings</u> > <u>Security</u> as shown in below image.

III Dynamics 365 🗸	Sales ~ Dashboards	5 >	SANDBOX		V + C V
Sales	Insights	Service	Marketing	Settings	FantasySalesTeam
Business	Customization	System			Insights
Business Manageme	Customizations	administration	Activity Feeds Confi	Intelligence Configu	User Settings
Templates	Solutions	🗖 🚓 Data Management	Activity Feeds Rules	Organization Insights	Org Settings
Product Catalog	Microsoft AppSource	System Jobs	Security		
2 Unified Service Desk	←■ Plug-In Trace Log	Document Manage	Office 365 Groups		
Service Management		Auditing	Data Export		
		Email Configuration	Dynamics 365 App f		

3. Click on Users as shown in below image

🔢 Dy	namics 365 🗸	Settings 🗸	Security	SA	NDB(XC	Q	3	+	∇
1 You nee	d to assign security roles to n	ew users Click to see a li	st of users who need Microsoft Dyn	amics 365 Security Roles.	Assign Roles					
Security	/									
Which fea	ture would you like to	work with?								
9	Users Add new users. Edit imormati assigned to users.	ion about users and deactiv	ate user records. Manage the teams	s, roles, and licenses		Teams Add new teams and new members to existing team	ns. Modify	/ the team	descriptio	n and delete
	Security Roles Create new security roles. Ma	mage and delete existing se	curity roles for your organization.			Business Units Add new business units. Edit and deactivate existing	g busines	is units. Ch	ange the p	parent busine
20	Field Security Profiles Manage user and team perm		rite information in secured fields.			Hierarchy Security Configure hierarchy security, including enabling hie deep the hierarchy goes, and specify the entities to				g the model.
	Positions Add new Position. Modify the	e Position description.				Access Team Templates Add new team templates. Modify the team template	te descrip	ition.		

4. Select Application Users from the dropdown as shown in below image

	D	ynamics 365 🗸	Settings ~	Securi	ity	SA	ANDBOX			ρ	3	+ `	V
() Y	ou ne	eed to assign security roles to ne	wusers Click to see a li	st of user	s who need Microso	ft Dynamics 365 Security Roles.	Assign Roles						
+	NEW	Ar promote to admin	🖘 EMAIL A LINK	•	RUN REPORT 🔻	EXCEL TEMPLATES 👻	C EXPORT TO EXCEL	 IMPORT 	DATA 🛛 👻	IL CHART PA	NE -	ா VIEW	
	-口	Enabled Users ¥								Search for r	ecords		
		System Views		^									
		@Me			Site	Business Unit	Title	Main Phone	Territor	/			
	Г	Administrative Access Use Application Users	rs			CommercialSale	s						
		Associated Record Team	Members	- 1		CommercialSale	5						
		By Me Disabled Users				CommercialSale	s						
		Disabled users consuming	licenses			CommercialSale	s						
		Enabled Users				CommercialSale	s						
		Enbld Users				maudamaEE							

5. Click on + **New** as shown in below image



6. Select **Application User View** from the View Selector (if it is not already selected) as shown in below image.

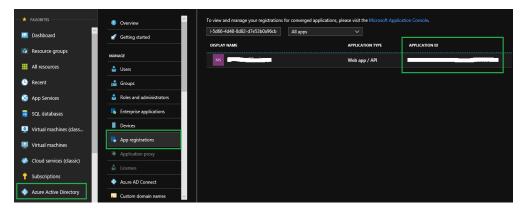
III Dynamics 365 ~ Settings ~ Sec	curity New User	SANDBOX	ρ	3	+	∇
You need to assign security roles to new users Click to see a list of u	users who need Microsoft Dynamics 365 Security Roles.	Assign Roles				
🕞 SAVE 😭 SAVE & CLOSE 🔄 FORM EDITOR						
USER : APPLICATION USER * User Application User User form - Business • The information provides in this form is viewable by the entire	e organization.					
✓ Summary						
Account Information						
User Name * 😣						
*Application ID						
Application ID URI						
*Azure AD Object ID						

7. Provide details as mentioned below and Save the details

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- **Application ID**: Azure Active Directory Web Application ID (Application ID generated for AAD Web App, refer below screen shot).
- Full Name: Any valid full name. For ex: First Name: Obfuscation & Last Name: Admin
 - Primary Email: Any valid email. For ex: <u>dummy@dummy.com</u>
 *Above email address will not be using in obfuscation process to send any emails.

Note: User Name, Application ID URI & Azure AD Object ID will get created when user is saved.



 Select the newly created Application User. Click on Manage Roles and grant System Admin role.s

🗰 Dyna	imics 365 🗸	Settings ~ s	ecurity	SA	ANDBOX		; م	+ 0	∇
1 You need to	assign security roles to ne	w users Click to see a list o	f users who need Microsoft Dynam	nics 365 Security Roles.	Assign Roles				
+ NEW 💉	EDIT 💐 APPROVE EN	IAIL 🛛 🖉 🗙 REJECT EMAIL	Å _↑ PROMOTE TO ADMIN	MANAGE ROLES	CHANGE BUSINESS UNIT	LANGE POSITION	👶 CHANGE I	MANAGER	
-⇔ Ap	plication User	·s ¥					Search for re	cords	
	Full Name 🛧		Application I Azu	ire AD Obj Applica	tion I				
	Obfuscation Admin		739c9608-5d dfb	e0fb0-863 https://	micro				
	Test Admin User		c8b05f51-793 bee	421fb-ab https://	micro				

Obfuscation Agents to CRM Org

CRM Org -> CRM Data Obfuscation (available in left navigation view)

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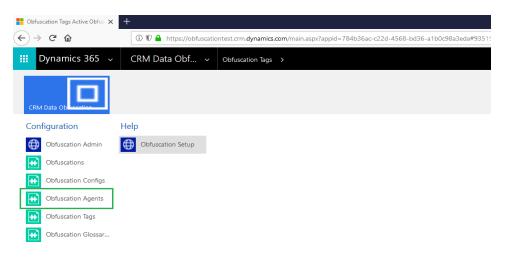
Commented [PKK1]: Add Azure screen shot representing web app ID extraction. Commented [CG(L2R1]: Done

Commented [PKK3]: Put appropriate screen shot

Commented [CG(L4R3]: Done

	Dynamics 365 🗸	Sales ~ Dashboards >	ρ ϑ + ∇
E	My apps	vert to a paid subscription FAULT € REFRESH ALL	Buy Now
	Home		
	Dynamics 365 — custom	shboard 🗸	
	Sales Hub Sales	0 🗊 🛪	What's New
	Customer Service		
¢	Customer Service Hub		
₽	Project Resource Hub		All posts Auto posts User posts Assistant
	Project Service Automation		All records •
	Field Service Field Resource Hub		Item defective Case: Closed by Gowtham Challa for Account Fabrikam, Inc.
	CRM Data Obfuscation		On Item defective's wall 8/8/2018 6:24 AM

Select obfuscation Agents entity as shown in below image.



Agents are available in <u>location</u>, Download all available agents and Upload them using IMPORT DATA option as shown below.

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Note: these agents are sample agents which comes by default with the solution. Refer section (**Add New Obfuscation Agent**) to add new obfuscation agent and configuring into the system.

🗰 Dynamics 365 🗸 CRM Data Obf 🗸 Obfuscation Agents >	
Don't Lose Access to Dynamics 365. Convert to a paid subscription Buy Now	
🕂 NEW 🍵 DELETE 💷 🖘 EMAIL A LINK 🖙 🖉 FLOW 👻 🕑 RUN REPORT 👻 🗱 EXCEL TEMPLATES 👻 🏨 EXPORT TO EXCEL 💷	MPORT DATA - CHART PANE - ···
⇔ Active Obfuscation Agents •	Import Data C₂ Download Template for I ^c ^d
Agent Name ↑ Blob Name Modified On Created On	
There are no Obfuscation Agents to show in this view. To get started, create one	or more Obfuscation Agents.
i Don't Lose Access to Dynamics 365. Convert to a paid subscription Buy Now	
🕇 NEW 💼 DELETE 🔻 🖘 EMAIL A LINK 🔻 🚽 GLOW Y 🕑 RUN REPORT Y 📓 EXCEL TEMPLATES Y 🔍 EXPORT TO EXCEL	
↔ Active Obfuscation Agents *	
□ Agent Name ↑ Blob Name Modified On Created On	
BirthDate BirthDateObf 8/13/2018 1:4 8/13/2018 1:47 PM	
Email EmailObfusca 8/13/2018 1:4 8/13/2018 1:47 PM	
FirstName FirstNameOb 8/13/2018 1:4 8/13/2018 1:47 PM	
Gender GenderObfus 8/13/2018 1:4 8/13/2018 1:47 PM	
Guid GuidObfuscat 8/13/2018 1:4 8/13/2018 1:47 PM	
Int IntObfuscator 8/13/2018 1:4 8/13/2018 1:47 PM	
LastNameObf 8/13/2018 1:4 8/13/2018 1:47 PM	
RecentDateTime RecentDateTi 8/13/2018 1:4 8/13/2018 1:47 PM	
TitlePrefix TitlePrefixObf 8/13/2018 1:4 8/13/2018 1:47 PM	

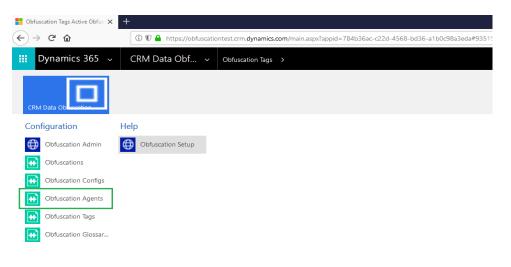
Add New Obfuscation Agent

CRM Org -> CRM Data Obfuscation (available in left navigation view)

Commented [PKK5]: Put appropriate screen shot
Commented [CG(L6R5]: Done

	Dynamics 365 🔍	Sales 🗸 I	Dashboards >		ρ	3	+	Y
E	My apps	>	d subscription	Buy Now				
	Home		REFRESH ALL					
۵	Dynamics 365 — custom	shboard	↓ v					
U	Sales Hub							
۳	Sales		0 🗊	What's New				
Å	Customer Service							
	Customer Service Hub							
	Project Resource Hub			All posts Auto posts User posts Assistant				
	Project Service Automation			All records *				
	Field Service			Item defective Case: Closed by Gowtham Challa for Account Fabrikam, Inc				
	Field Resource Hub			Case: Closed by Gowtham Challa for Account Fabrikam, Inc On Item defective's wall 8/8/2018 6:24 AM				

Select obfuscation Agents entity as shown in below image.



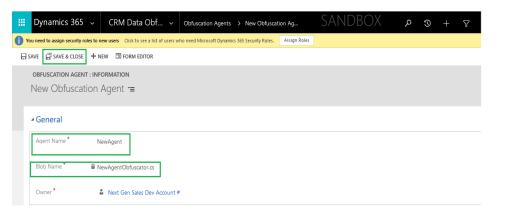
Click on Obfuscation Agents to see all available agents as shown in below image.

i Don't Lo:	se Access to Dynamics 365. Convert to a paid subs	cription Buy Now	
+ NEW	💼 DELETE 👻 🖘 EMAIL A LINK 👻 🚽 PLOW	👻 🕑 RUN REPORT 👻 🖾 EXCEL TEMPLATES 👻 🍕 EXPORT TO EXCEL 🖾 👼 IMPORT DATA	▼ CHART PANE ▼ ····
-⇔ A	ctive Obfuscation Agents •]
	Agent Name \uparrow	Blob Name Modified On Created On	
	BirthDate	BirthDateObf 8/13/2018 1:4 8/13/2018 1:47 PM	
	Email	EmailObfusca 8/13/2018 1:4 8/13/2018 1:47 PM	
	FirstName	FirstNameOb 8/13/2018 1:4 8/13/2018 1:47 PM	
	Gender	GenderObfus 8/13/2018 1:4 8/13/2018 1:47 PM	
	Guid	GuidObfuscat 8/13/2018 1:4 8/13/2018 1:47 PM	
	Int	IntObfuscator 8/13/2018 1:4 8/13/2018 1:47 PM	
	LastName	LastNameObf 8/13/2018 1:4 8/13/2018 1:47 PM	
	RecentDateTime	RecentDateTi 8/13/2018 1:4 8/13/2018 1:47 PM	
	TitlePrefix	TitlePrefixObf 8/13/2018 1:4 8/13/2018 1:47 PM	

Click on +New button as shown in below image to add new agents

Don't Lose Access to Dynamics 365. Convert to a paid sub	scription Buy Now
+ NEW	V 👻 🕞 RUN REPORT 👻 🗓 EXCEL TEMPLATES 👻 🔍 EXPORT TO EXCEL 🔍 🔒 IMPORT DATA 💷 📊 CHART PANE 👻 🚥
← Active Obfuscation Agents *	
□ Agent Name ↑	Blob Name Modified On Created On
BirthDate	BirthDateObf 8/13/2018 1:4 8/13/2018 1:47 PM
Email	EmailObfusca 8/13/2018 1:4 8/13/2018 1:47 PM
FirstName	FirstNameOb 8/13/2018 1:4 8/13/2018 1:47 PM
Gender	GenderObfus 8/13/2018 1:4 8/13/2018 1:47 PM
Guid	GuidObfuscat 8/13/2018 1:4 8/13/2018 1:47 PM
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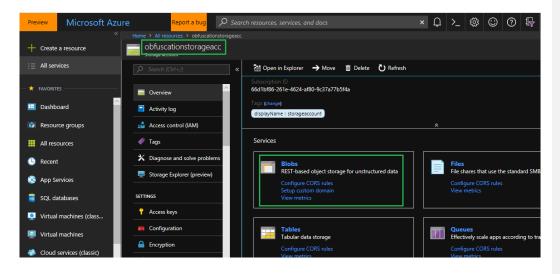
Provide Agent name and click on SAVE & CLOSE button as shown in below image. Note: Blob Name will be auto generated.



Note: Obfuscation Agents need to be added to Azure blob Refer section (**Upload New Agents to Azure Blob**) before adding an agent detail here.

Upload New Agents to Azure Blob

Go to Azure Portal -> Choose the corresponding Storage Account (created using above ARM template) - > click blobs, as shown in below images.



Click on Container obfuscation.

+ Create a resource	obfuscationstorageacc - Blob)S		
i≡ All services				
- 🛧 FAVORITES	- Overview	Storage account: bbfuscationstorageacc		
🛄 Dashboard	Activity log			
📦 Resource groups	Access control (IAM)	NAME	LAST MODIFIED	PUBLIC ACCES
All resources	🖉 Tags	9911	5/14/2018 9:56:53 AM	Private
	X Diagnose and solve problems	9fd0	5/14/2018 10:22:13 AM	Private
l Recent		ab96	5/8/2018 2:37:16 PM	Private
🔇 App Services	Storage Explorer (preview)	azure-jobs-host-archive	5/2/2018 3:33:12 PM	Private
👼 SQL databases	SETTINGS	azure-jobs-host-output	4/11/2018 3:31:17 PM	Private
🕺 Virtual machines (class	Access keys	azure-webjobs-dashboard	5/2/2018 3:33:11 PM	Private
Virtual machines	Configuration	azure-webjobs-hosts	4/11/2018 3:31:02 PM	Private
Cloud services (classic)	Encryption	6127	5/8/2018 1:42:39 PM	Private
Subscriptions	Shared access signature	obfuscation	8/9/2018 10:49:21 AM	Blob
Azure Active Directory	Firewalls and virtual networks	test	5/21/2018 12:00:25 AM	Private

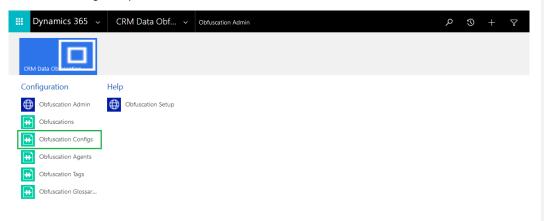
Use Upload button to upload new Agents.

	*	Home > All resources > obfuscationstorageacc	Blobs > obfuscation		
+	Create a resource	obfuscation _{Container}			
∷≡	All services		\top Upload 💍 Refresh 💼 Delete 🦇 Acquire lease 🐗		ots 🗗 Create
-*	FAVORITES	Overview	Location: obfuscation		
	Dashboard	📸 Access Control (IAM)			
	Resource groups	SETTINGS	NAME	MODIFIED	BLOB TYPE
	All resources	Access policy	all-last.txt	8/9/2018 10:49:21 AM	Block blob
3	Recent	Properties	BirthDateObfuscator.cs	8/9/2018 10:49:21 AM	Block blob
٢	App Services	Metadata	EmailObfuscator.cs	8/9/2018 10:49:22 AM	Block blob
2	SQL databases	Seditor (preview)	female-first.txt	8/9/2018 10:49:22 AM	Block blob
2	Virtual machines (class		FirstNameObfuscator.cs	8/9/2018 10:49:22 AM	Block blob
	Virtual machines		GenderObfuscator.csGlossary/Item.csv	8/9/2018 10:49:22 AM	Block blob
@	Cloud services (classic)		GuidObfuscator.cs	8/9/2018 10:49:22 AM	Block blob
			CURCODUSCIONS	6/9/2018 10:49:22 AM	BIOCK DIOD

CRM Initial Sync and Data Sync CRM Initial Sync:

This should run only once after ARM Template deployment. MICROSOFT LABS

CRM Initial Sync option is available in CRM Org -> CRM Data Obfuscation (available in left navigation) -> Obfuscation Configs entity.



Click on Config in Active Obfuscation Configs

	1 Data Obf v Obfuscation C	onfigs > SA	NDBOX	P + C Q
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⇔ Active Obfuscation C	onfigs ×			
□ Name ↑	Sync CRM Da Last	CRM Data Sync Run Date Run Initi	al Se Last Initial Setup Run Date	Modified On Created On
Config	Yes	8/11/2018 9:17 AM No	8/11/2018 9:07 AN	A 8/13/2018 11: 8/11/2018 8:55 /

Select Run Initial Setup Check box. This is one-time activity, this will be Un-Checked by Web job after successful run. Initial sync takes care of below listed activities,

- Upload initial set of Obfuscator agents and setup files to Azure blob
- Set Storage CORS
- Sync Glossary terms to Azure Data Catalog
- Create Config entity & Obfuscation Agent table

Commented [PKK7]: Add all the activities we are doing in initial sync for user understanding.

Commented [CG(L8R7]: Done

OBFUSCATION CONFIG	INFORMATION	
Config =		
-		
Key Vault Secret	ML38iVg4hziK7oW/bg0	QL6isxuQ5EvyJq/RH4GbUWpIc=
Key Vault App Name		
Name *	Config	
Nume	Connig	
Owner*	Obfuscation Admir	
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Run Initial Setup		Last Initial Setup Run 🔒 8/11/2018 9:07 AM
		Date
Sync CRM Data		Last CRM Data Sync 📓 8/11/2018 9:17 AM
-,		Run Date

CRM Data Sync:

This should run every time when data need to be synched. This will be taken care by Web job. User need to schedule the Sync Job. If user want to run on-demand, follow below steps.

CRM Data Sync option is available in CRM Org -> CRM Data Obfuscation (available in left navigation) -> Obfuscation Configs entity.

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÷	Obfuscation Glossar.									
Click	on Config in	Act	ive Obfuscation Co	onfigs						
	Dynamics 365		CRM Data Obf 🗸	Obfuscation Configs >	SANDE	30X	م	3	+	∇

Dynamics 303 V	CRIVI Data ODI V Obtusca	tion Configs >	JANDOA			+ Y
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Config	Yes	8/11/2018 9:17 AN	4 N-	0/11/2010 0:07 414	0/10/2010 11.	0/11/2010 0-55
Coning	Tes	8/11/2018 9:17 AM	1 100	8/11/2018 9:07 AM	8/13/2018 11:	8/11/2018 8:55 /

Select Sync CRM Data Check box. Sync job will run based on schedules.

OBFUSCATION CONFIG Config ™≡	: INFORMATION	
Key Vault Secret	ML38iVg4hziK7oW/bg	QL6ibxuQSEvylq/RH4GbUWpIc=
Key Vault App Name		
Name *	Config	
Owner *	Obfuscation Admin	n
Obfuscation Sync Setti	ings	
Run Initial Setup	V	Last Initial Setup Run 🔒 8/11/2018: 9:07 AM Date
Sync CRM Data		Last CRM Data Sync 🛛 🔒 8/11/2018 9:17 AM Run Date

Note: Sync CRM Data Check box will be selected when user make any changes to CRM Data Obfuscation page.

Commented [PKK9]: Its not config page rather any changes made to tags configuration in admin UI

Commented [CG(L10R9]: Done

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.

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Ad Placement Address		8	Reobfuscate			
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Agreement Agreement Document			Reobfuscate			
Agreement Template			Reobfuscate			
Alert Subscription						
Announcement Annual Fiscal Calendar			Previous 1 2 Next			
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Click on Entity name w	-	to register and Click on a	Add Button.	θ	_ Q	_
App Click on Entity name w stort Dynamics 365 x 3 Secure https://ocepo.crm.dynamics.com	n/main.aspx#384547221	to register and Click on A	Add Button.	θ		☆
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Delete: Deletes the entity from the list

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

MICROSOFT LABS

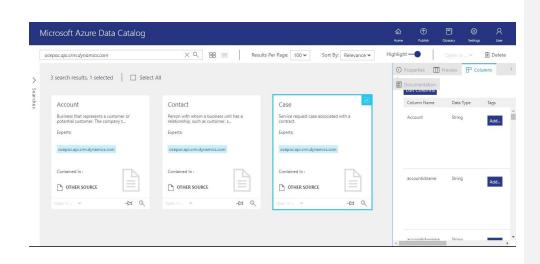
4. Navigate to Azure data catalog to add tags to the Selected entity. Enter the org name in the format of 'org.api.crm.dynamics.com' to find out the listed entities in Azure Catalog. Pls. note that this entity related information must be pushed by the sync job. By default, Web Job Sync data between Azure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

Microsoft Azure Data Catalog × ♀ ⊞ ■ Results Per Page: 100 ♥ Sort By: Relevance ♥ Highlight ━● ocepoc.api.crm.dynamics.com 3 search results Select All Searches < 1 ▼ Current Search Save | Clear All Contact Account Case Search Term: ocepoc.api.crr est case associated with a Person with whom a business unit has a relationship, such as customer, s... Service r contract epresents a customer o omer. The company t.. 0 Experts: Experts: Experts: Filters
 Glossary Terms
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Other (3)

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.

Microsoft Azure Data Cata	alog			60 Home) Publish	Glossary	Settings	R User
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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.

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

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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.

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	Firstname (Obfuscation)		Delete	State	USState	0	< >			

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.

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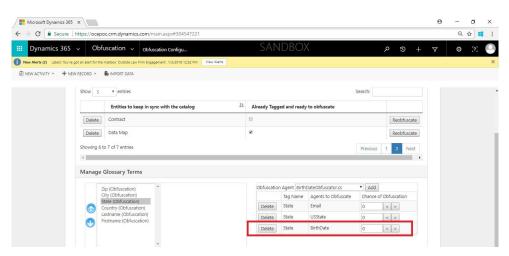
- Adding a new Glossary Obfuscation Agent
 - 1. Select any Glossary Term.

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	Delete Data Map	×				Reobfuscate	•		
	Showing 6 to 7 of 7 entries				Previous	1 2 Next			
	4						•		
	Manage Glossary Terms								
	Zip (Obfuscation)	Obfuscatio	n Agent Birth	DateObfuscator.cs	▼ Add				
	City (Obfuscation) State (Obfuscation)		Tag Name	Agents to Obfuscate		f Obfuscation			
	Country (Obfuscation) Lastname (Obfuscation)	Delete	State	Email	0	< >			
	Firstname (Obfuscation)	Delete	State	USState	0	< >			

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.

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\leftrightarrow \rightarrow C \blacksquare Secure https://oce	epoc.crm.dynamics.com/main.aspx#384547221									e	. ☆ :	• :
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New Alerts (2) Latest: You've got an alert for	the mailbox 'Outside Law Firm Engagement', 1/3/2018 12:52 PM View Alerts											×
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Show	5 v entries		E	SirthDateObfuscator.cs SmailObfuscator.cs SirstNameObfuscator.cs	cł							
	Entities to keep in sync with the catalog $$\downarrow \ensuremath{\mathbb{I}}$$	Already Tag		SenderObfuscator.cs SuidObfuscator.cs								
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Showing	6 to 7 of 7 entries		6	JSAddress1Obfuscator.cs JSAddress2Obfuscator.cs		ious	1 2	Next				
4			(JSAddress3Obfuscator.cs JSCityObfuscator.cs		003		THEM				
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				JSZipCodeObfuscator.cs								
	Zip (Obfuscation) City (Obfuscation)	Obfuscatio		hirthDateObfuscator.cs	- U	dd	Obfuscat	ion				
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•	Firstname (Obfuscation)											
	· ·											

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.

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Show 5 v entries			Search:					
Entities to keep in sync with the catalog	Already Tagged and ready	to obfuscate						
Delete Contract	8			Reobfuscate				
Delete Data Map	8			Reobfuscate				
Showing 6 to 7 of 7 entries			Previous	1 2 Next				
4								
Manage Glossary Terms								
Zip (Obfuscation)	Obfuscation Agent Birth	DateObfuscator.cs	▼ Add					
City (Obfuscation) State (Obfuscation)	Tag Name	Agents to Obfuscate	Chance of	Obfuscation				
Country (Oktorention)	Delete Lastname	BirthDate	3	< >				
Lastname (Obfuscation) Pristname (Obfuscation)	Delete Lastname	Gender	0	< >				
×								

2. 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:

1. Login to CRM and go to Settings | Security Roles | Select A Role

2. Go to "Custom Entities" tab, ObPrivilege Entity, and provide Read Permissions.

Secu	urity	Role:	Sa	lesperson	
------	-------	-------	----	-----------	--

Details	Core Records	Marketing	Sales	Service	Business Management	Service Manag	ement	Customization	Missing Entities	Busine	ss Process Flows	Custom Entities
ObPrivil	ege				0		0	0	0	0	0	0
Page					0	0	0	0	0	0	0	0
Page Al	ert				0	0	0	0	0	0	0	0

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.

			E Micros	oft Dynamics 365
ADVANCED FIN	New Save	2 Clear	[{클 Group AND [{클 Group OR	Download Fetch
Views Show	Edit Properties View		Details Query	XML Debug
ook for: Contacts		0	Use Saved	View: [new]
 First Name 	Contains Data	•		

\checkmark	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

Dynamics 365	 Obfuscation ~ Obfuscation Configu 	SANDBOX	<u>ب</u> م	D +		O [?]
v Alerts (2) Latest: You've gi	at an alert for the mailbox "Outside Law Firm Engagement", 1/3/2018 12:52 PM View Alert					
ew activity + + New	RECORD = 📑 IMPORT DATA					
Register	Asset(s) to Azure Data Catalog & ReObfuscate					
	Add					
Show 5	• entries		Search:			
	Entities to keep in sync with the catalog	Already Tagged and ready to obfuscate				
Delete	Contact	*		Reobfu	uscate	
Showing 1	to 1 of 1 entries		Pre	víous	Next	
				_		
Manage	Glossary Terms					
	First Name (Obfuscation)	Obfuscation Agent FirstNameObfuscator.cs	• Add			
	Full Name (Obfuscation)	Tag Name Agents to Obfusi		l of Obfuscatio	n	
	Int (Obfuscation) Last Name (Obfuscation) Phone Number (Obfuscatio	Delete First Name FirstName	100	< >		

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.

licros	oft Azure Data Cata	alog		Gir Home	Publish	Glossary Set	
ocepoc.a	pi.crm.dynamics.com	X Q	Results Per Page: 100	✓ Sort By: Relevance ✓ Highlight	nt —● 🔡	Open in 🗸	🗓 Delet
arches	Properties Preview Columns	P Columns Documentatio	n				
iave (iearch T ficepoc.i Filters ossary First N	Column Name Fax	Data Type String	Tags Add	Description add your descri From dbd0874-4 62et0-sdd17697 91bb-22c011db fax	c32-4839-8d8b- f988bf-86f1-41af-		ja,
Addre: County Email (see m er Tag: ocepo	First Name	String	역 First Name (Obfuscation) × Add -	add your descri From dbd08744- 62ed0eda11(62) 91ab-2074011db firstname	c32-4839-8d8b- f988bf-86f1-41af-		ji.
ject Ty Other	Follow Email Activity	String					

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

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

Resource group				*
Ø Search (Ctrl+∕) ≪	🕂 Add 📑 Edit columns 💼 Delete resource group 🕻) Refresh 🔿 Move 🏾 🌒 Assign Ta	ags	
(*) Overview	Subscription (change) Subscription ID MSFT - CUSTOMER RELATIONSHI 66d1bf86-261e-4624 Tags (change)	Deployments -af80-9c37a 1 Succeeded		
Activity log	Click here to add tags			
Access control (IAM)		*		
🖉 Tags	Filter by name All types	✓ All locations	V No grouping	g N
ETTINGS	5 items Show hidden types 0	TYPE TL	LOCATION	
📣 Quickstart	ObfuscationAppServicePlan	App Service plan	West US	
Resource costs	Obfuscation Eurocian App	App Service	West US	
Deployments	obfuscationFunctionApp	Storage account	West US	
	ObfuscationWebApp	App Service	West US	
Policies				

Select Web Job to make sure, Job is running

ObfuscationWebApp - We App Service <i>Description</i>	« 🕇 Add 🕐 Refresh 🖸 Logs 面 Delete 汪 Properties
Managed service identity	
Backups	WebJobs
Custom domains	WebJobs provide an easy way to run scripts or programs as background processes in the context of your app.
SSL certificates	NAME TYPE STATUS SCHEDULE
↔ Networking	ObfuscationWeb) Continuous Running n/a
Cale up (App Service plan)	
Scale out (App Service plan)	
🙀 WebJobs	
👎 Push	
🖏 MySQL In App	
Properties	

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

MICROSOFT LABS

1	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 Garlington
	Ali	Ali Viva
	Alicia	Alicia Trybala

End of Document