Microsoft IT

Dynamics CRM

IMS APP Deployment Guide



MICROSOFT LABS

DYNAMICS 365 MODERN IMMIGRATION MANAGEMENT SYSTEM

The solution provides end-to-end scenario to manage and track immigration cases for their employees.

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1.Summary

1.1 Overview

Microsoft AppSource is our new destination to enable business users to explore and use line-of-business SaaS apps from Microsoft and our partners. Users can also discover add-ins for Microsoft business apps, like Dynamics 365, Power BI, Office and more. Through AppSource, ISVs (app publishers) and other partners can reach a broad range of customers right where the users are either through the AppSource portal or within the context of the Microsoft services they're already using.

Existing customers who already have installed IMS application and trying to upgrade should skip this document and directly follow the Forms Configuration Guide available in the appsource.

New Customers who are installing IMS application for the first time need to follow the IMS deployment Guide first and then follow the Forms Configuration Guide later.

1.2 Document Overview

This document describes the components of Immigration Management System (referred as "IMS" in the document) App and its related information including the prerequisites to be made available in the system before proceeding with the IMS App Solution installation and steps to download and import the solution.

This is a living document that will be used to support the CRM application and its associated portal. There are two deployment guides which describe the complete process of deployment of IMS applications:

- IMS Deployment Guide
- Forms Configuration Guide

2. Prerequisites

As a part of prerequisites to install the IMS App, the below solutions must be installed or imported into the user's CRM organization. The user must login with Office 365 Administrator account to install the below apps.

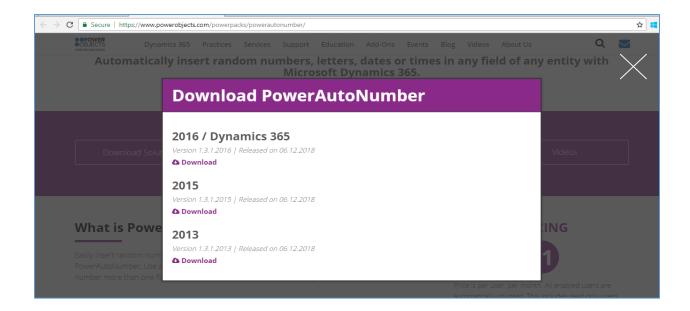
- Power Auto Number
- Data Export service
- Email Lab Alerts
- Voice of Customer
- CRM Hub Installation
- Portal Installation and Configuration(Custom Portal)

2.1 Power Auto Number

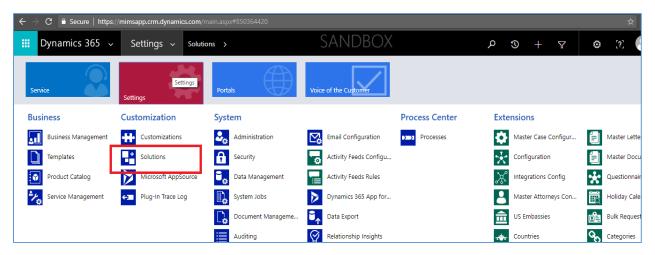
Power Auto Number is an app that enables automatic insertion of random numbers, letters, dates or times in any field of any entity in CRM. The app enables the use of combination of numbers, letters and dates in the CRM fields and provide the ability to number more than one field in each entity. Random numbers are guaranteed to be unique. Power Auto Number is used in this application to create an unique identifier in Foreign national entity.

The power Auto number solution can be downloaded from the below web site.

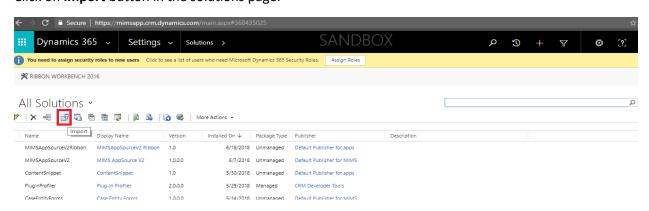
https://www.powerobjects.com/powerpacks/powerautonumber



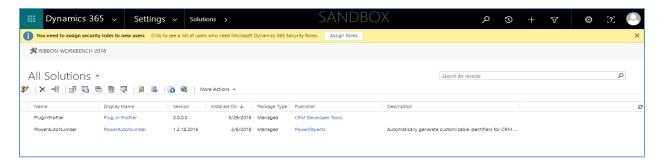
Import the same into the CRM system by navigating to **Settings - > Solutions.**



Click on **Import** button in the solutions page.



After importing the Power auto number, the same is available in the below imported list.

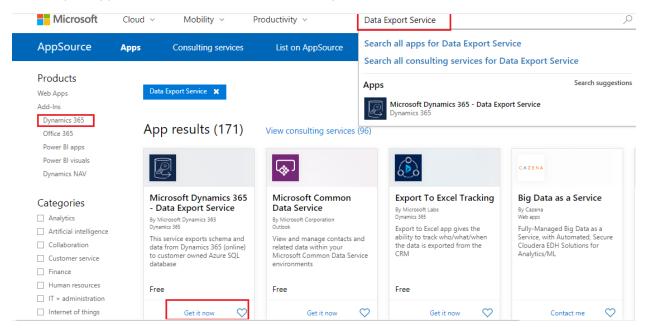


2.2 Data Export Service

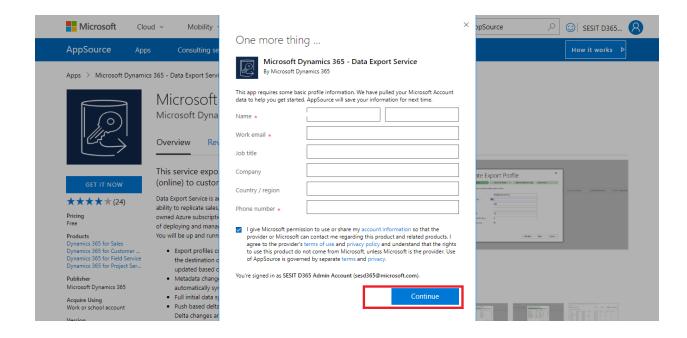
Data Export Service is an add-on service for Dynamics 365 (online) that provides the ability to replicate sales, service and marketing data to a SQL store in a customer-owned Azure subscription. It simplifies the technical and administrative complexity of deploying and managing a data export solution managing schema and data.

Navigate to the below **URL**, go to "Dynamics 365" Add-Ins and search with the name of "**Data Export Service**" as shown below

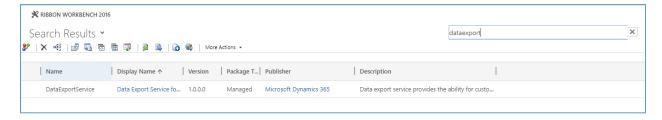
URL: https://appsource.microsoft.com/en-us/marketplace



The system will request the connection details like user name, organization name and other details as shown below. Enter the appropriate details and click on **Continue**.



The solution is imported into the system and the same is available in the Imported list as shown below.

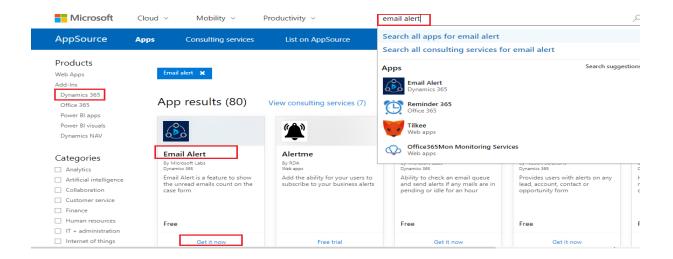


2.3 Email Lab Alerts

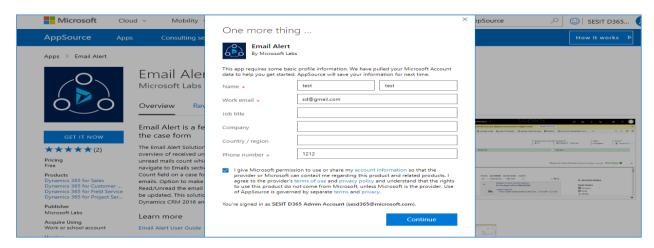
The Email Alert Solution is an add-on feature to dynamics 365 CRM which provides an overview of received and unread CRM emails on a Case. This is used in this application as it enables users to get the unread mails count which were received on a case.

Navigate to the below **URL**, go to "Dynamics 365" Add-Ins and search with the name of "**Email Alert**" as shown below

URL: https://appsource.microsoft.com/en-us/marketplace



The system will request the connection details like user name, organization name and other details as shown below. Enter the appropriate details and click on **Continue**.



The solution is imported into the system and the same is available in the Imported list as shown below.



2.4 Voice of Customer (VOC)

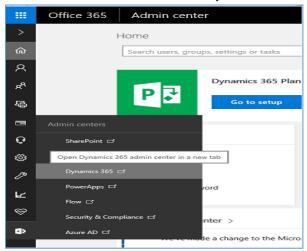
Voice of the Customer is a new Dynamics CRM 2016 feature that was created to capture feedback regarding the product or service provided by the CRM. Voice of the Customer, enables setting up of surveys, survey distribution to contacts via workflows, and capture responses. These captured data can be utilized for generating reports and making appropriate changes to the product/service.

User can take advantage of the feature by installing Voice of the Customer solution. The Solution is available globally for Microsoft Dynamics CRM Online subscriptions.

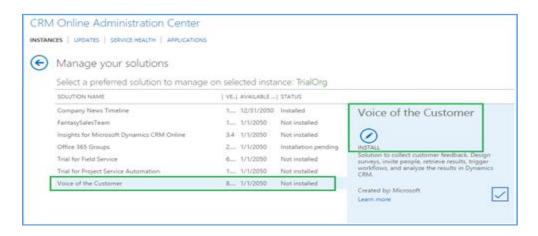
1. Access the link, https://portal.office.com/ and click on the 'Admin' tile. User must be logged into the Office 365 Administrator account.



2. Click on **Admin Center** and select **Dynamics 365**.



- 3. Select the instance (organization) for which you want to install **Voice of Cutomer** and click on the **Edit** button, next to Solutions.
- 4. Select the Voice of the Customer and click on Install.



Note: When a solution is installed in CRM, the CRM Online site goes into maintenance mode and will be offline for a short period of time. It is advisable to install the solution in outside office hours.

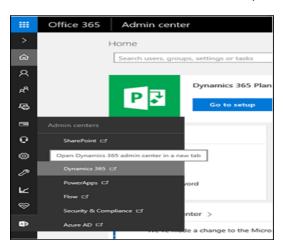
2.5 CRM Hub Installation

To enable UCI client and related features, end user need to install CRM Hub Installation.

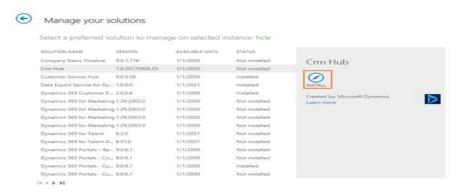
1. Go to https://portal.office.com/ and click on the 'Admin' tile. User must be logged into the Office 365 Administrator account.



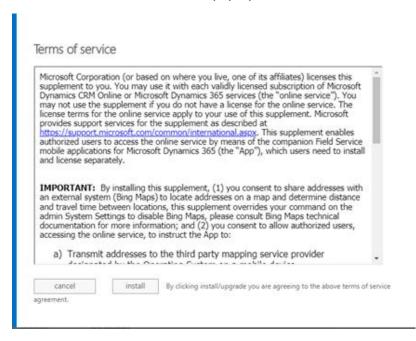
2. Click on 'Admin Center' and select 'Dynamics 365'.



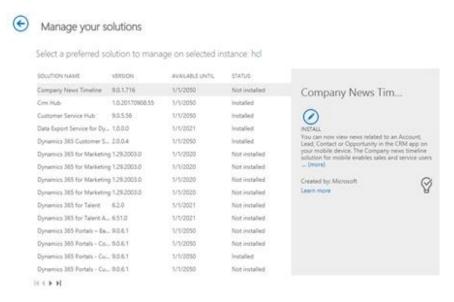
- 3. Select the instance (organization) for which you want to install 'CRM Hub' and click on the 'Edit' button, next to Solutions.
- 4. Select 'Crm Hub' from the list and click on the 'Install' button.



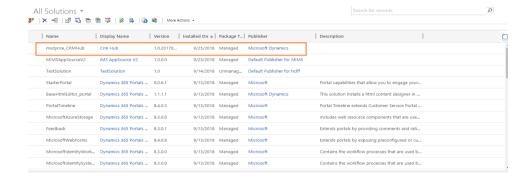
5. Click on 'Install' button in the pop-up.



6. The Status changes to 'Installed'.



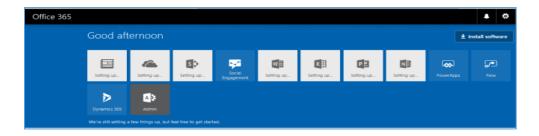
7. Navigate to Dynamics 365 CRM Organization to verify and validate if the Managed solution for the "Crm Hub" is installed with the above steps.



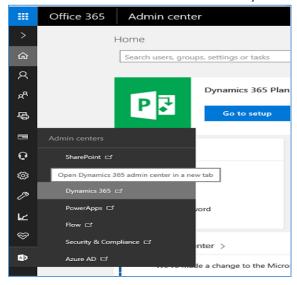
2.6 Portal Installation and Configuration

A portal is an independent running application that exposes specific CRM data and functionality to the respective users. It can be leveraged to model business processes that aren't easily modeled inside CRM or to provide a higher level of integration between your CRM and your clients. Users can range from full CRM users to external clients with minimal rights and access. Below is the step by step process to install and configure the portal:

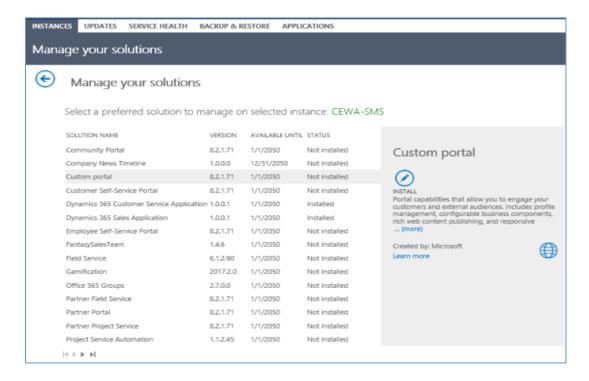
1. Go to https://portal.office.com/ and click on the 'Admin' tile. User must be logged into the Office 365 Administrator account.



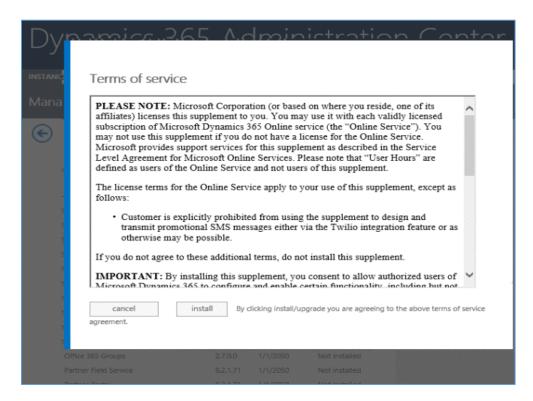
2. Click on 'Admin Center' and select 'Dynamics 365'.



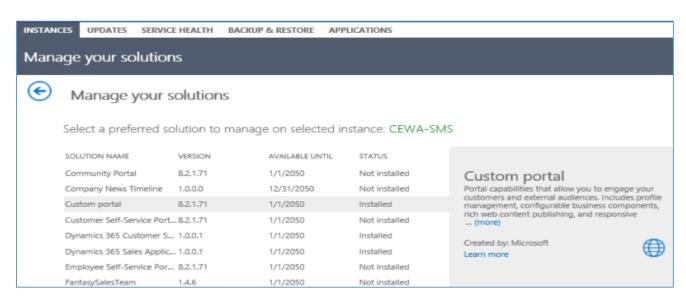
- 3. Select the instance (organization) for which you want to install 'Custom Portal' and click on the 'Edit' button, next to Solutions.
- 4. Select 'Custom Portal' from the list and click on the 'Install' button.



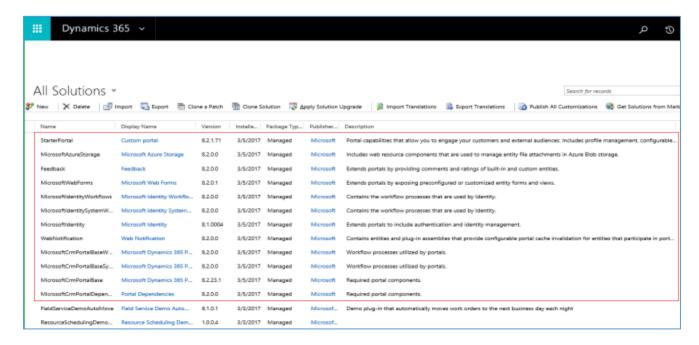
5. Click on 'Install' button in the pop-up.



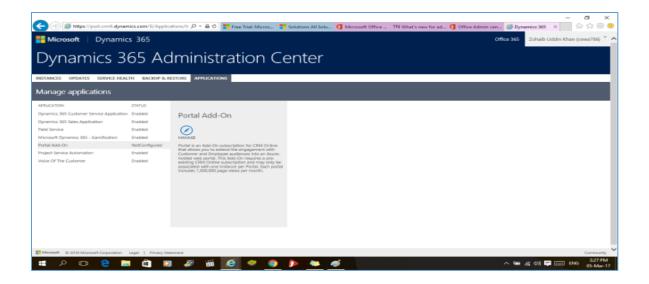
6. The Status changes to 'Installed'.



7. Navigate to Dynamics 365 CRM Organization to verify and validate all the Managed solution for the Custom portal installed with the above steps.

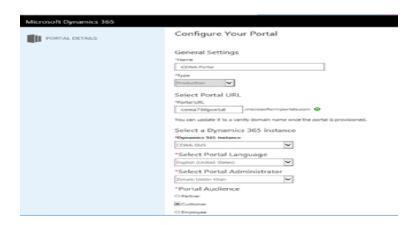


8. Access the website https://portal.office.com, select 'Admin Center' and 'Dynamics 365' and click on 'Application' tab.

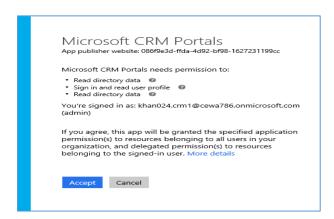


9. On the 'Configure your Portal', enter the necessary information. Enter the below details:

a. Name, URL for the portalb. Portal Audience: Customerc. Portal Binding: Custom



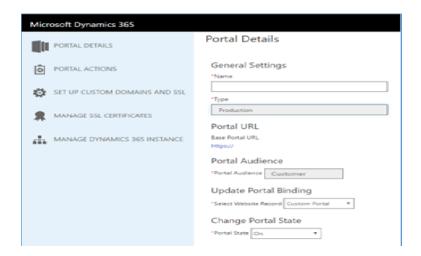
10. Click on 'Accept' in the Permissions pop up for Dynamics 365 Portal.



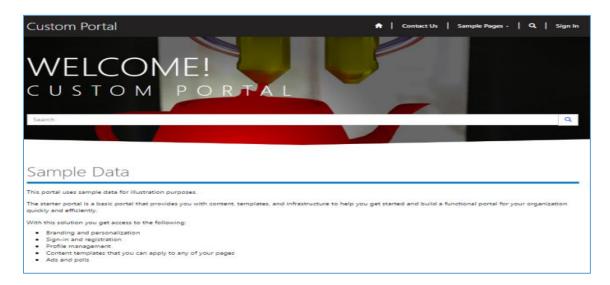
11. Navigate to 'Portal Details'. As appearing in the below message, it might take time to configure the portal, check back in some time and the 'Custom Portal' will be ready for use.



12. Once the portal set up is complete the page wil display the below set of options.

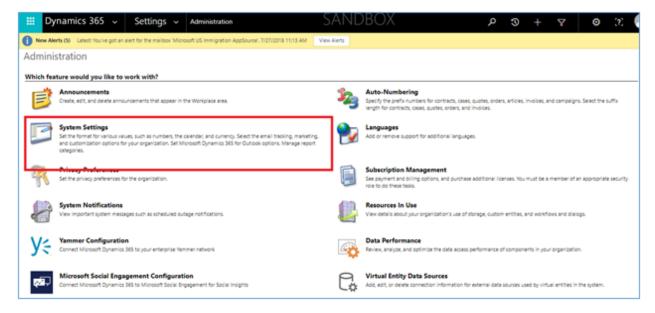


13. Click on the 'Base Portal URL', a new window will open and the Dynamics 365 Custom Portal is ready for Branding.

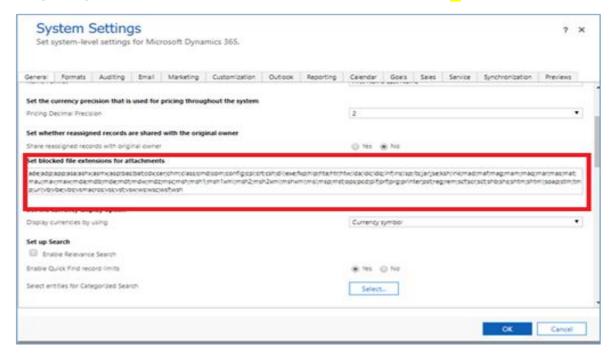


2.7 System Settings

As a part of deployment process, the following changes are required in the general tab of system setting. To access system settings, navigate to Setting - > Administration - > System Settings:



Navigate to general tab - > Set blocked extensions for attachments. Remove JS from the extensions.



2.10 Azure Setup

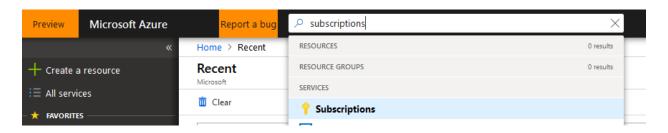
Use the below link to get more information about the azure subscription

https://azure.microsoft.com/en-in/features/azure-portal/

- Login to azure portal using https://portal.azure.com
- Sign-In to portal using service admin/co-admin role

How to get the Subscription Id?

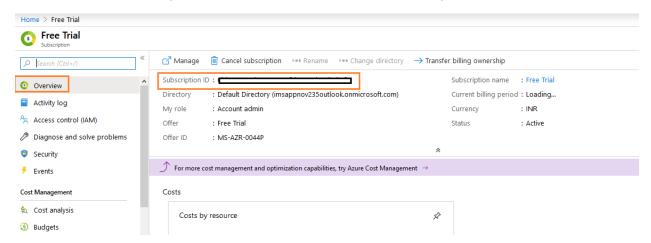
Search for Subscriptions like showing below .



Select the required subscription from the list below



On click of the subscription, in the overview we can find the subscription id



How To find the Resource Group?

- Click on Subscription name and select ResourceGroups from left navigation links.
- If there are no resourcegroup, a new resourcegroup will be created while doing azure deployment.

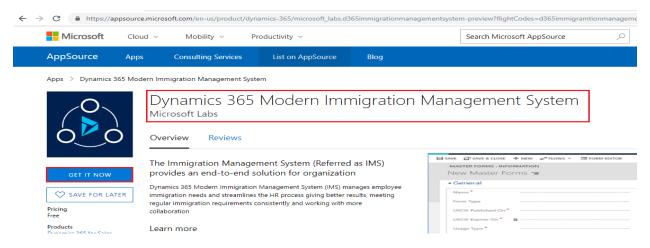
3. Install IMS App Package

Alert: This solution import may impact any of the existing CRM functionalities already there in the system. It is advised to do this on New/Vanilla instance of CRM.

 Go through the below link and click on "GET IT NOW" as shown below https://appsource.microsoft.com/en-us/product/dynamics-365/microsoft_labs.d365immigrationmanagementsystem?tab=Overview

Or

Open Microsoft appsource and search for "Dynamics 365 Modern Immigration Management System".

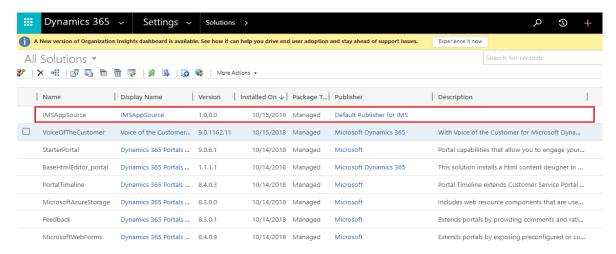


On Click on "GET IT NOW" shows below image

One more thing ...



Select the check box to agree the Microsoft terms and privacy policy, Also validate the organization
username on which crm you are going to install the IMS App and Click on Continue will install the
IMS App in your CRM as shown below.



- Solution import will take time from 60 90 minutes. Check if the below two solutions are installed:
 - IMSAPPSOURCE
 - IMSFORMSSOLUTION
 - If only IMSAPPSOURCE solution is installed, Re-install the IMS App Package from the AppSource from the same link mentioned above.
 - Once both the solutions are imported and available in solutions, Run the data excecutable
 available in GITHUB. Only New customers who are installing the IMS application for the first
 time need to run this data excecutable. Customers who are upgrading the solution, should
 not run this.

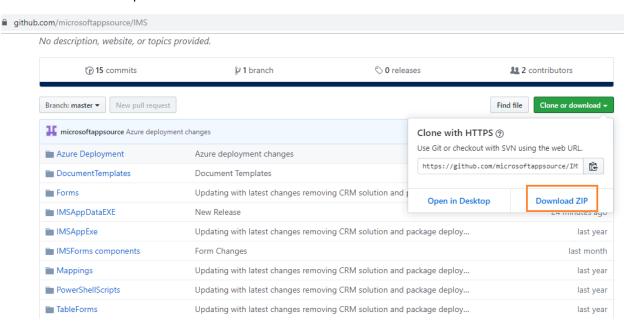
Note: If existing customers, who already have installed the data run this data excecutable application, all the data will be Reset.

3.1. Download IMS-Master Components from Git-Hub

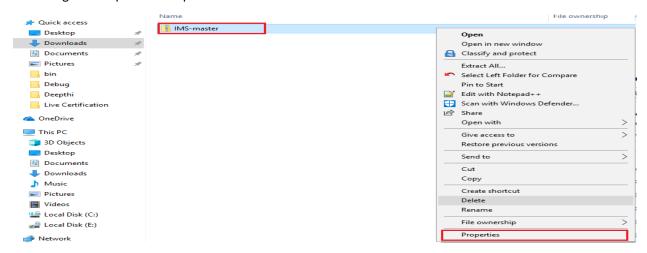
Go through the below link

https://github.com/microsoftappsource/IMS

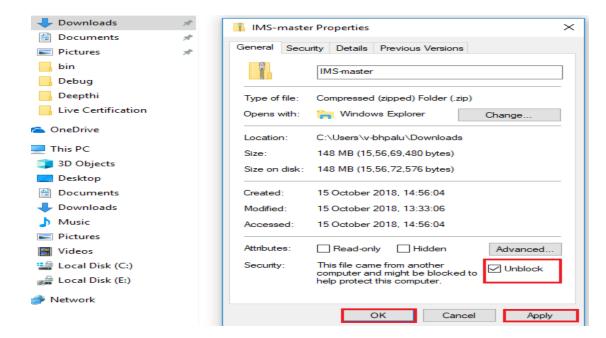
Download the components as shown below



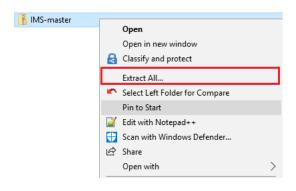
- Unblock the zip file which you downloaded from github as shown below
- Navigate to Zip File -> Properties



Click on Properties and check the unblock checkbox and click on "Ok" as shown below

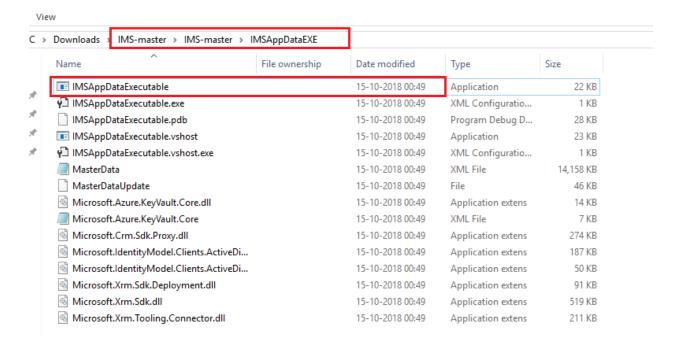


• Extract the folder which contains all the IMS App Components



 Run the data executable console application i.e. IMSAppDataExecutable folder provided in the GitHub (https://github.com/microsoftappsource/IMS/tree/master/IMSAppDataEXE), which will do the data import upsert operation.

Navigate to Downloaded "IMS-master" Folder -> IMSAppDataExe



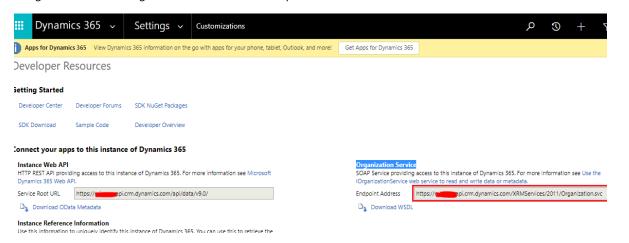
 Open the "IMSAppDataExecutable" Application shown in above image will run the application as shown below.



Enter the Organization Service URL, UserName and PassWord of CRM

Organization URL

Navigate to CRM -> Settings -> Customizations -> Developer Resources



Creating the records In CRM as shown below and closes the application once the records are created in CRM

ENBarat\MIMS AppSource\Package\IMSAppDataExecutable\IMSAppDataExecutable\im\IMSAppDataExecutable\im\IMSAppDataExecutable\im\IMSAppDataExecutable\im\ImsappDataExecutable\imsappDa

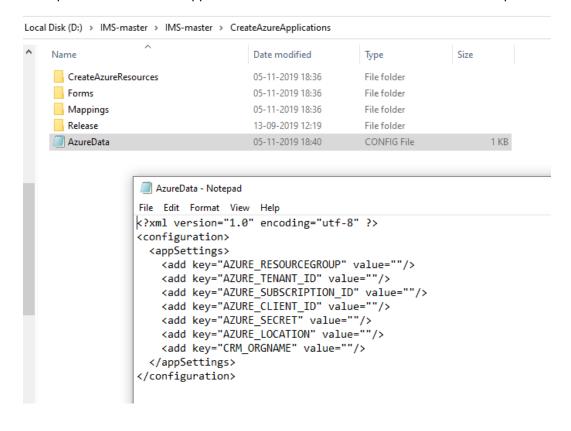
Below are the entities for which data will be installed. Check in CRM if records are created for the below entities.

- 1. Queue
- 2. Business Process Flows
- 3. Business Process Flow Stages
- 4. Web Form
- 5. Web Form Step
- 6. Case Type
- 7. Questionnaire Configuration
- 8. Country
- 9. Email Template Staging
- 10. Master Forms
- 11. Master Case Configuration
- 12. Configuration Steps for Questionnarie
- 13. Business Unit
- 14. Category
- 15. Master Documents
- 16. Master Letters
- 17. Master Steps
- 18. Case Steps Config
- 19. Case Tabs Config
- 20. Configuration
- 21. Integrations Config
- 22. Master Attorney Configuration
- 23. US Embassy
- 24. Task Categories

- 25. Tags
- 26. Entity Form
- 27. Entity List
- 28. Web Template
- 29. Page Template
- 30. Web Page
- 31. Web File
- 32. Note
- 33. Site Marker
- 34. Site Setting
- 35. Content Snippet
- 36. Web Role
- 37. Entity Permission
- 38. Web Form Metadata
- 39. Entity Form Metadata
- 40. Team
- 41. Documents Config
- 42. Stage Queue Mapping

4. Download IMS App Azure Components

- Navigate to IMS-master→ Azure Deployment→ Create Azure Applications
- Open the "CreateAzureApplications" and find the "AzureData.xml" File and Open as shown below.



Enter the ResourceGroup, SubscriptionId and Organization UniqueName.

• The steps to get the Subscription Id are mentioned in 2.10 Azure Setup.

4.1 Create Azure Applications

a. AZURE RESOURCEGROUP

If you have any specific resourcegroup in which you want to create the azure applications, give the resource group name in the AzureData file or **else leave it blank**. If you leave the resource group as blank, a new resource group named "**IMSAppResourceGroup**" will be created.

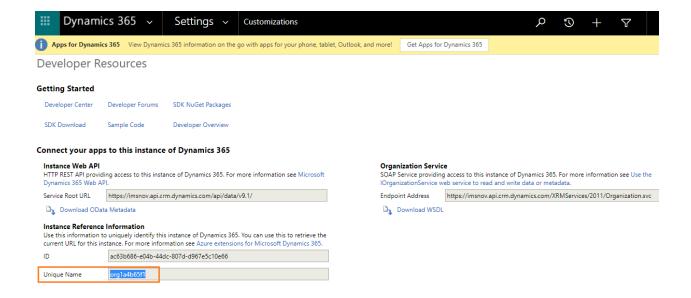
We need to fill the rest of the parameters in this file.

b. AZURE LOCATION

Provide the location in which you want the azure resources to get created. E.g. "eastus", "westus"

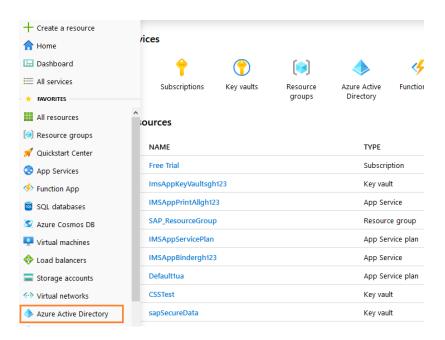
c. CRM ORGNAME

In CRM, navigate to Settings - > Customizations -> Developer resources as shown below and copy down the Unique name.

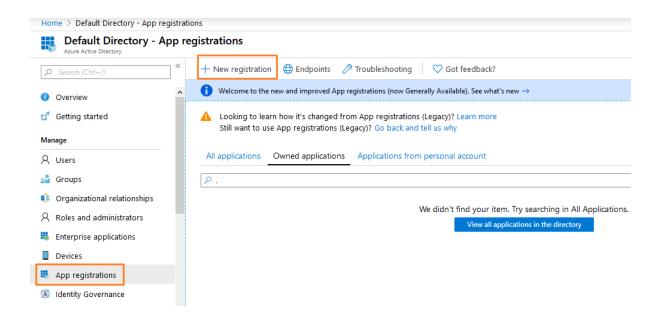


d. AZURE_TENANT_ID and AZURE_CLIENT_ID

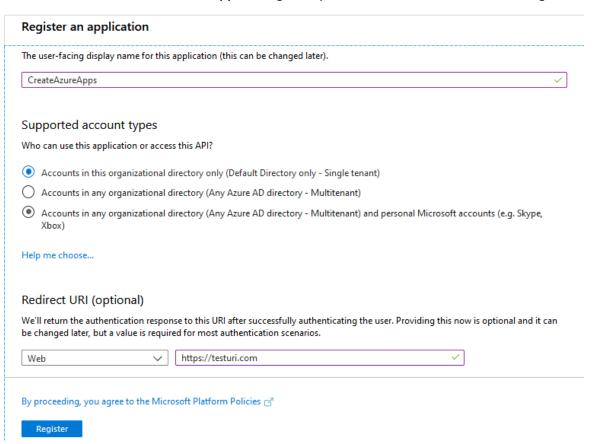
To fill the remaining values, we need to create an App registration in azure active directory. Navigate to azure portal and click on azure active directory as shown below:



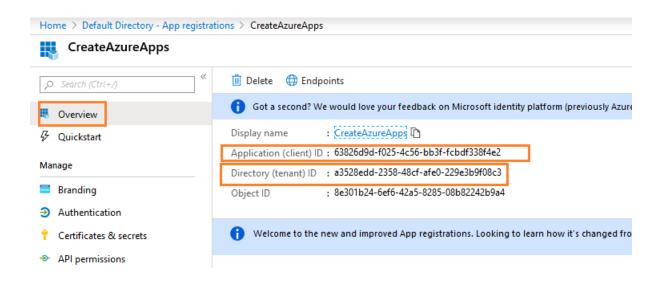
Open App Registrations and click on "New registration".



Provide the name as "CreateAzureApps" and give any test URL in RedirectURI. Click on Register.

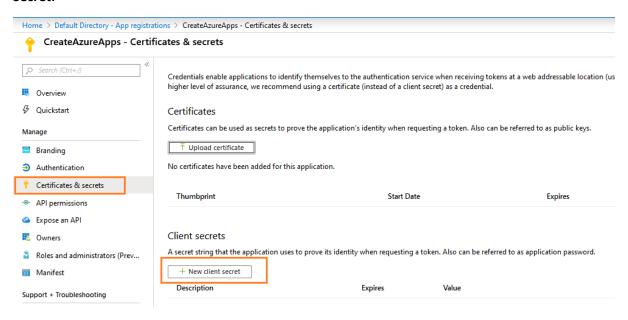


A new App registration will be created with the given name as shown below. Navigate to "**Overview**" where you can find Client ID and Tenant ID. Provide these IDs in the AzureData file.



e. AZURE_SECRET

For the Client secret parameter, Open **Certificates &secrets** for the app registration. Click on **New client Secret.**



Give a name for the client secret and select as expires Never. Add this secret.

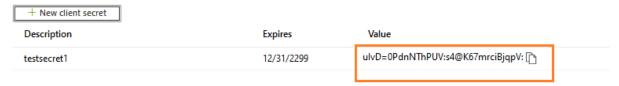
Add a client secret

Description	
testsecret1	
Expires In 1 year In 2 years Never	
Add Cancel	
(light secrets	

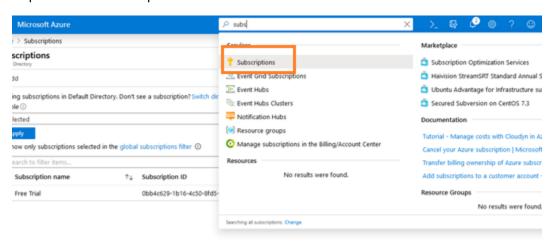
Copy the Value for the secret and give it in the client secret parameter.

Client secrets

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

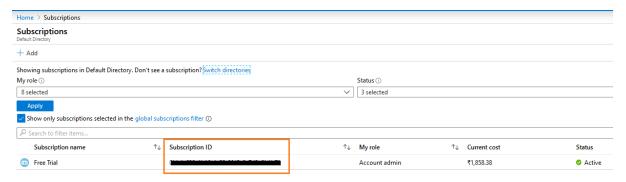


Search for "subscriptions" in the azure portal. It will open up the list of active subscriptions. Select the required active subscription.



f. AZURE_SUBSCRIPTION_ID

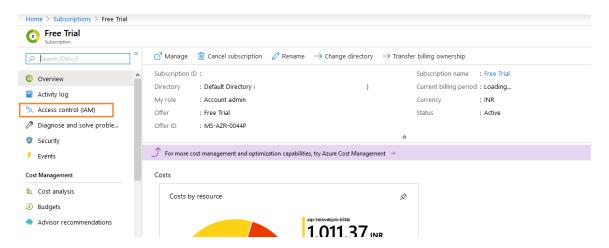
Copy the subscription ID and fill it in the PreInformationData file.



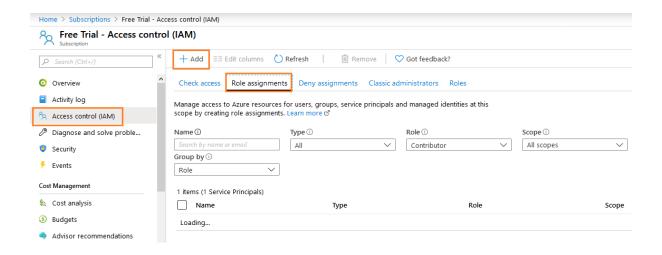
After filling all the data in the AzureData file, we need to do some configurations in azure portal.

Navigate to Subscriptions and open the active subscription record in the azure and open "Access control (IAM)" as shown below.

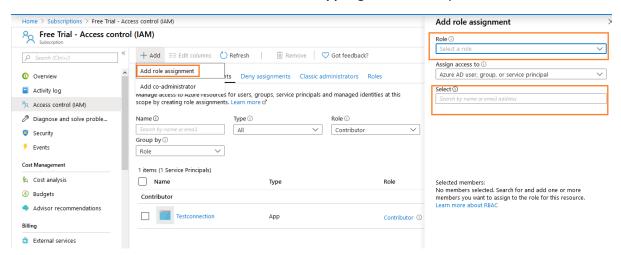
g. Assigning Permissions For The App Registrations To Create Azure Resources



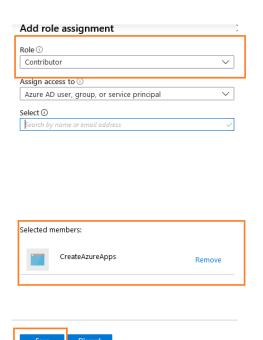
Open Role assignments and click on "+Add" to create a new role assignment.



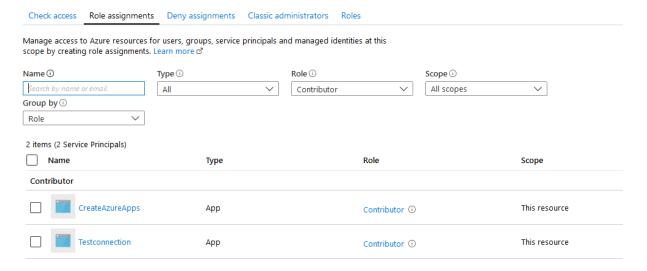
Give "Contributor" role and in select box select the app registration that you have created.



Give the details as shown below and save the record.

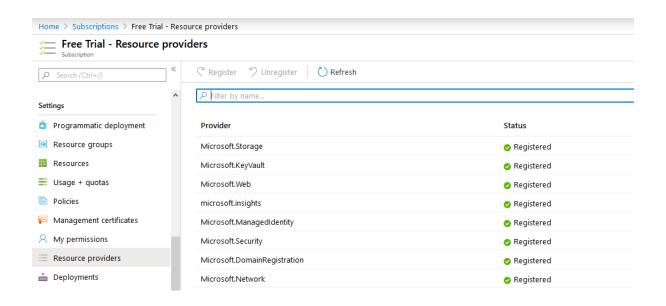


Now the azure app registration will be added to role assignments with contributor role.

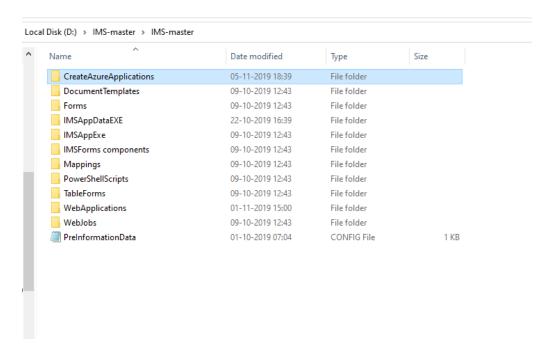


Navigate to Resource Providers in the subscription record as shown below. Check if the below resource providers are registered. If they are not registered, select that provider and click on register button.

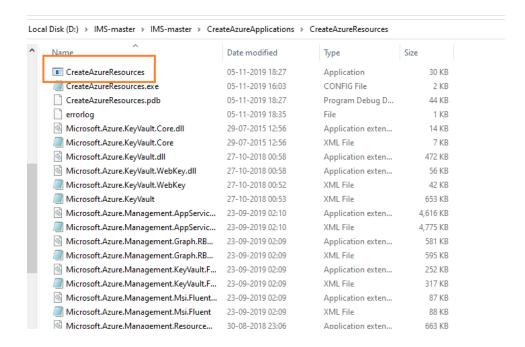
- 1) Microsoft.Storage
- 2) Microsoft.KeyVault
- 3) Microsoft.Web
- 4) microsoft.insights



After all these configurations are done, you can run the exe to create azure applications. Open CreateAzureApplications in the IMS-master folder downloaded from GitHub.

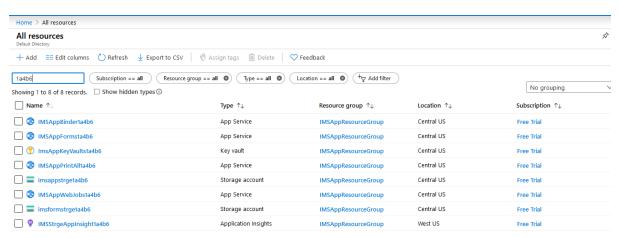


Run the CreateAzureResources exe in the CreateAzureResources folder.



On successful completion of the console application, below resources will be created in the azure.

Note: If any of the below resources is not created, follow trouble shooting steps to create those resources.



4.2 Azure Resources List

Below applications will be created in azure. Check if all the below resources are created properly.

Note: If your organization name is "org123456789" then <xxxxx> will <12345>

App Service plan

1) IMSAppServicePlan

This is the Appservice Plan for all the azure components.

Web Applications:

"IMSAppPrintAll<xxxxx>"

This is used to download multiple extension document files and convert them to single pdf.

3) "IMSAppBinder<xxxxx>"

This is used to download selected files and convert them into single pdf in user defined sequence.

4) "IMSAppForms<xxxxx>"

This is used to Populate data into forms from CRM and portal.

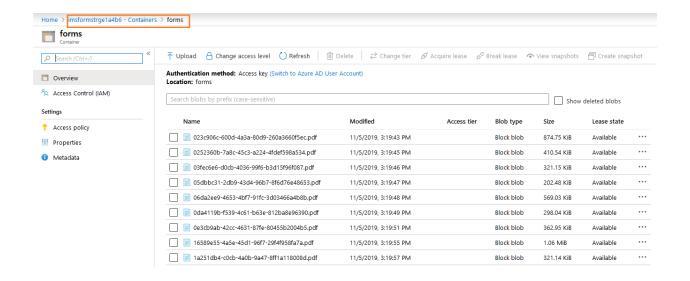
5) "IMSAppWebJob<xxxxx>"

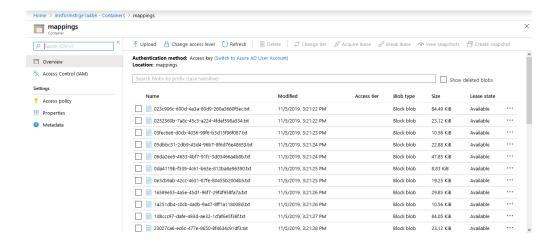
This app is placeholder for all the web jobs required to update data back in CRM.

Storage Accounts

6) "imsformstrg<xxxxx>"

This holds all the forms and mappings on the blobs and maintain forms, form versions and form version history under tables.





7) "imsappstorageacc<xxxxx>"

All the attachments saved in CRM documents are stored here.

KeyVault

8) "ImsAppKeyVaults<xxxxx>"

All the username passwords and sensitive information related to the organization will be stored here.

App Insight

9) "ImsAppInsight<xxxxx>"

It will maintain all the logs related to AppService storage account.

Note: Follow troubleshooting steps in case of any of the above applications failed during deployment.

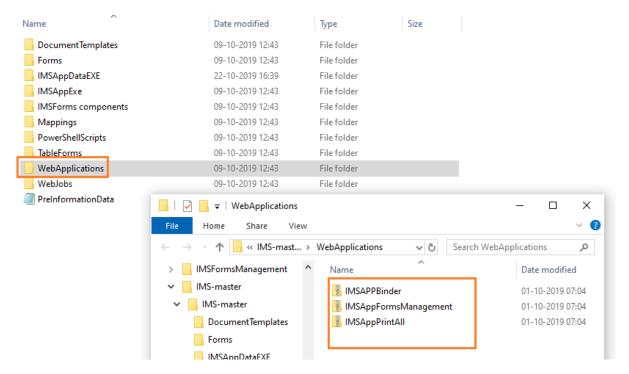
4.3 Publish Azure Resources

We have to Publish our code into the azure resources created through the exe. We need to publish three web applications and six web jobs.

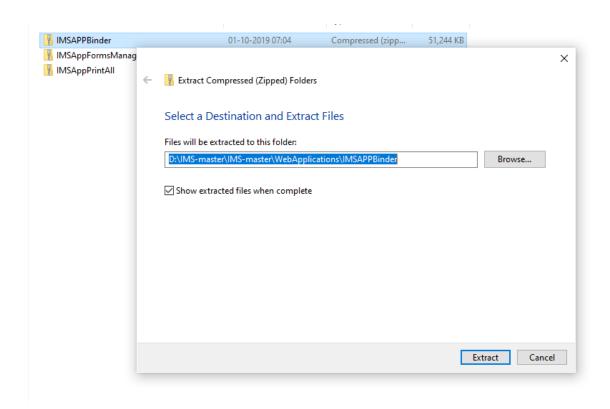
4.3.1 Web Applications

We are using FTP deployment method to Publish azure web applications:

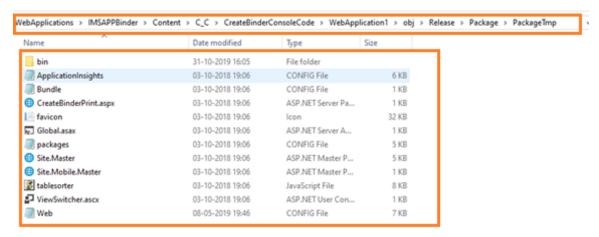
1. Navigate to web applications folder in the IMS master folder downloaded from Github. It has three folders in it which are the web applications that need to be published.



2. Un-zip/extract the three folders one by one. Each folder has many subfolders in it. Navigate to the directory which contains the bin folder.

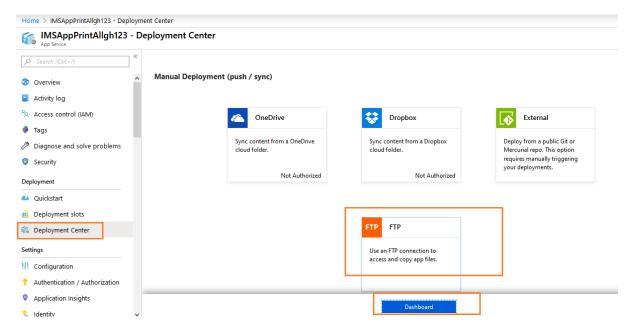


3. "PackageTmp" directory contains the bin folder as shown in below screenshot. All the files in the "PackageTmp" folder need to be copied in the "wwwroot" folder of the appservice. To access the "wwwroot" folder of the appservice, follow section 2.

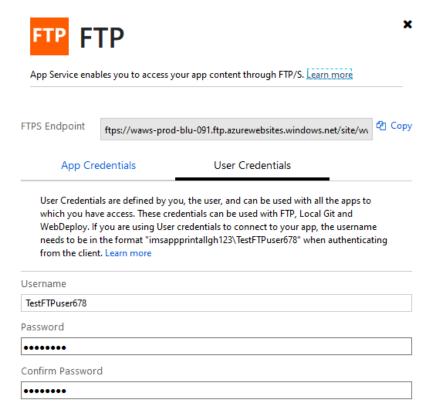


Create FTP deployment Credentials

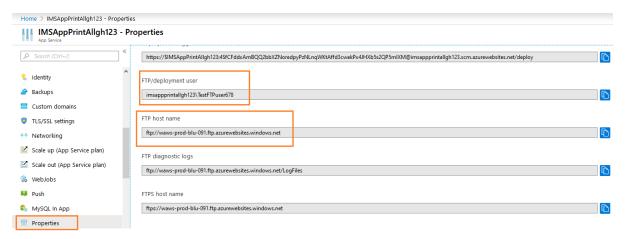
1. In azure Portal, open the Printall application i.e. IMSAppPrintAll<xxxxx>. Navigate to deployment center as shown in below screenshot. Select FTP and click on "Dashboard".



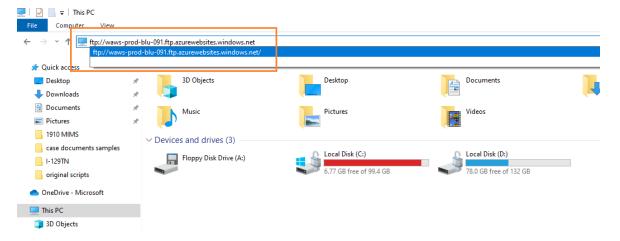
2. It opens a popup containing app credentials and user credential. Go to User credentials and create a password and save the credentials.



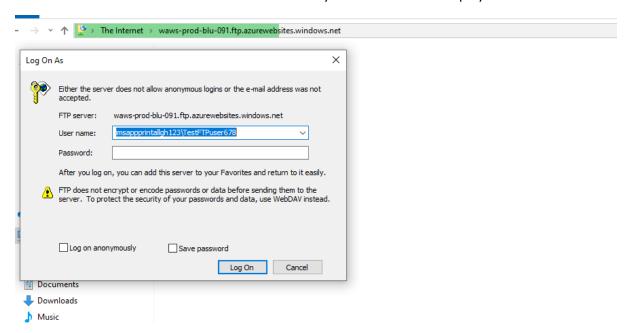
3. Navigate to properties in the app service as shown below. Copy down the FTP deployment user and FTP host name.



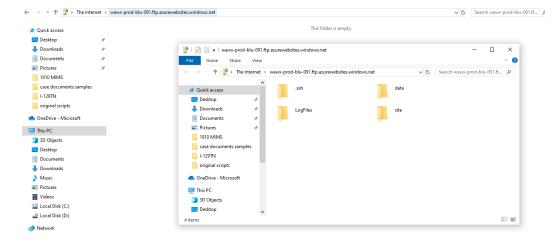
4. Open **File explorer** in your local machine and copy the FTP host name there.



5. Enter the FTP username and Password that you have created in deployment center.

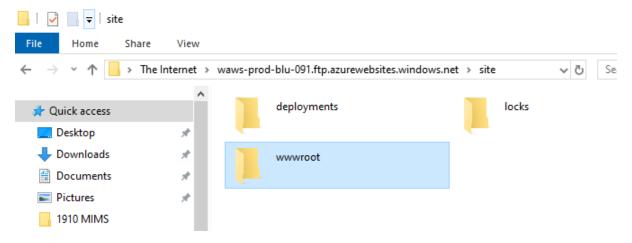


6. After clicking on Logon it will open up some folders as shown below. Navigate to Site folder:

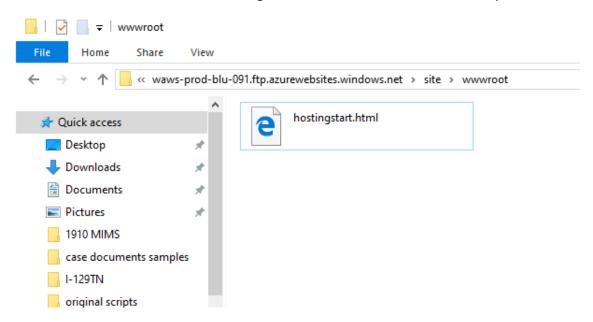


7. Navigation order:

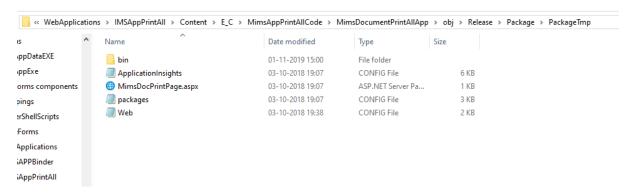
Site → wwwroot



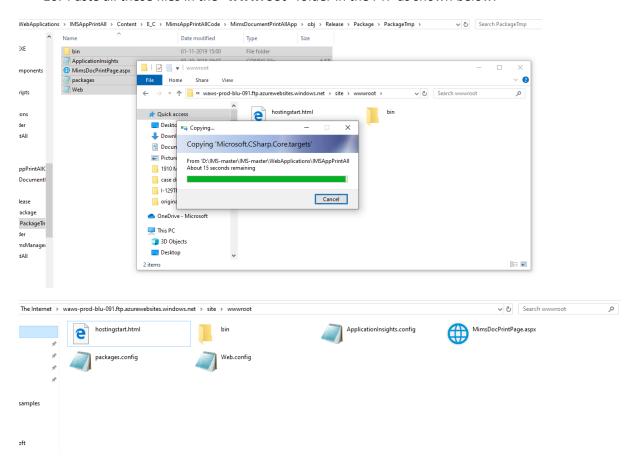
8. There will be a file called "hostingstart.html" in the wwwroot folder. Keep the file as it is.



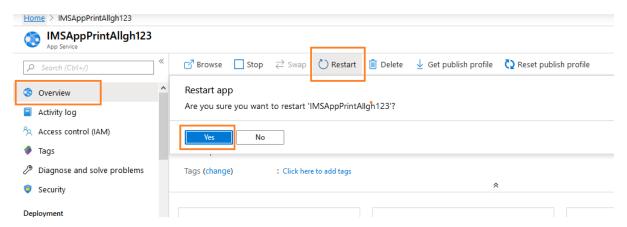
9. Open another file explorer and navigate to the extracted **IMSAppPrintAll web application** files. Navigate to the directory containing bin folder and copy all the files including the bin folder.



10. Paste all these files in the "wwwroot" folder in the FTP as shown below.



11. Now go to the app service in the azure portal and click on overview. Click restart button as shown in below screenshot.

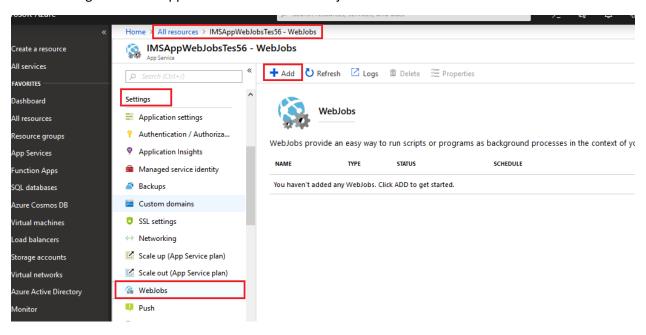


12. Now IMSAppPrintall application has been successfully published.

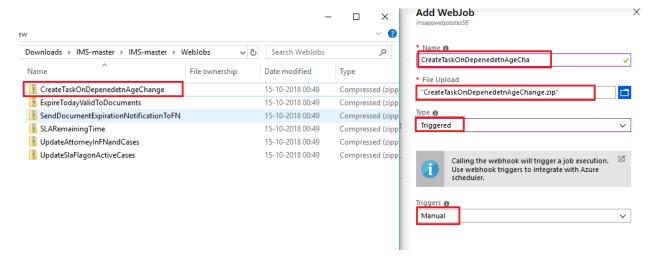
Note: Follow the above FTP deployment procedure for IMSAppBinder and IMSAppForms.

4.3.2 Web Jobs

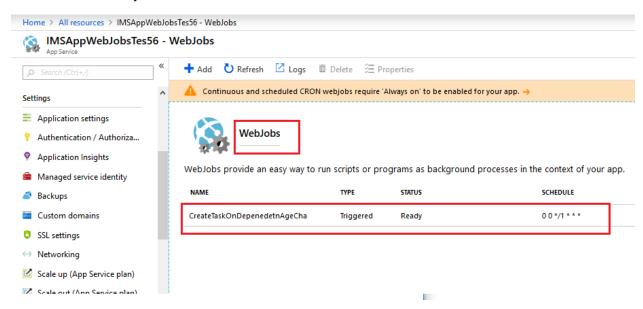
Navigate to "IMSAppWebJobs<xxxxx>" -> Webjobs as shown below:



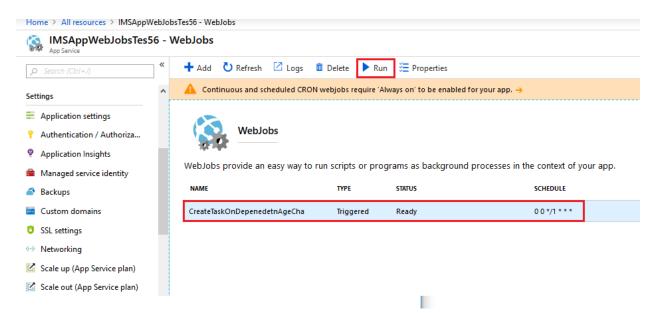
- Create the below web jobs and upload the folders as shown below.
- All the web jobs exist in "WebJobs" Folder from GitHub
 (https://github.com/microsoftappsource/IMS/tree/master/WebJobs). They need to be uploaded while creating web jobs.
- 1. CreateTaskOnDepenedentAgeChang



- ON File Upload -> upload the webjob file..
- Created the webjob as shown below.



• Select the WebJob and Click on Run Button to execute the WebJob.



Repeat the steps for all the below webjobs in the "WebJobs" Folder

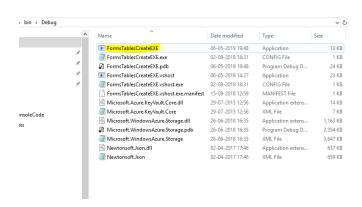
- 2. ExpireTodayValidToDocuments
- 3. SendDocExpirationNotification
- 4. SLARemainingTime
- 5. UpdateAttorneyInFNandCases
- 6. UpdateSlaFlagonActiveCases



4.4 Azure Tables Creation

1) Azure tables need to be created which contain the forms versions and version histories. Navigate to FormsTablesCreateEXE to create azure tables.

Navigate to IMS-master → Azure Deployment → Create Azure Tables



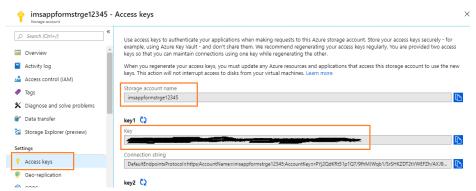
2) Run the FormsTablesCreateEXE and a console screen is displayed as shown below:

```
C:\Users\v-lanall\Desktop\bin\Debug\FormsTablesCreateEXE.exe

Please enter the storage Key :
storage account key
Please enter the storage Name :
azurestorageaccountname
```

Storage Key: Open imsformstrge<xxxxx> in the azure and Navigate to access keys as shown below. Copy "Key1" value for storage key.

Storage Name: Open imsformstrge<xxxxx> in the azure and Navigate to access keys as shown below. Copy "storage account name" value for storage key.

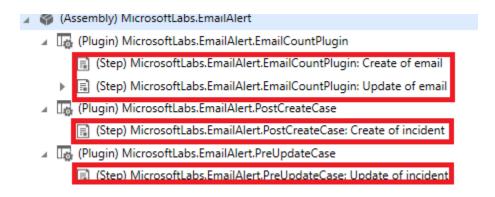


3) Enter the values and click on Enter. Console should run without any error or exception.

Azure deployment is completed successfully. Complete the post deployment configurations mentioned in the IMS deployment Guide.

5.Post Deployment Configuration

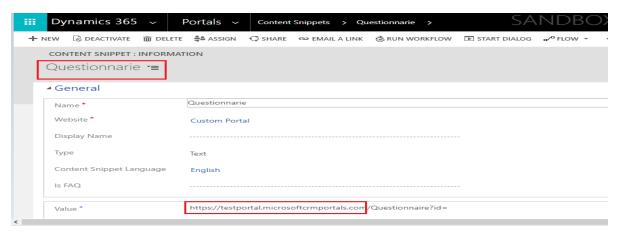
Below Plugin steps "Run in user's context" should change to Admins User (Person who is having system admin role) using plugin registration tool



5.1 CRM Configurations

Adding portal URL in content snippet entity in Questionnaire record as shown below

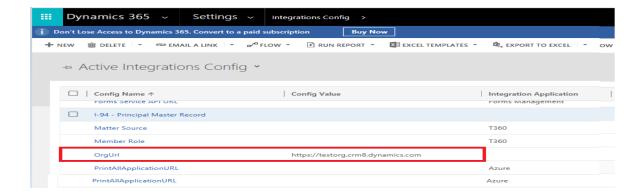
- Navigate to CRM -> Portals -> Content Snippets
- Open "Questionnarie" record and update the value field as shown below



- Change the URL with your organization configured CRM portal as given below
 - "CRM Portal URL"/Questionnaire?id=
 - **Example**: <a href="https://<your portal">https://<your portal>.microsoftcrmportals.com/Questionnaire?id=

Update "Integration Config"

- Navigate to CRM -> Settings -> IntegrationsConfig
- Open "OrgUrl" record and update the Config Value field with organization URL as shown below



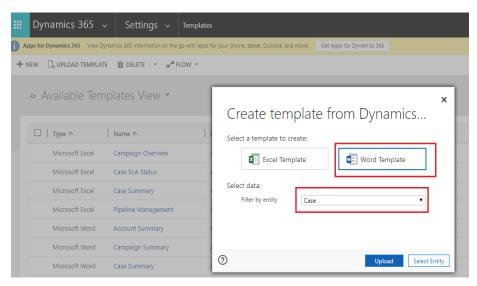
Queue and MailBox Configuration

 Configure below queue and mailbox for all the communication through IMS CRM instance, update the Incoming mail with your organization email.



QR Code Update for Binder

- Create Word Template in CRM as shown below
- Navigate to CRM -> Settings -> Templates -> Document Templates

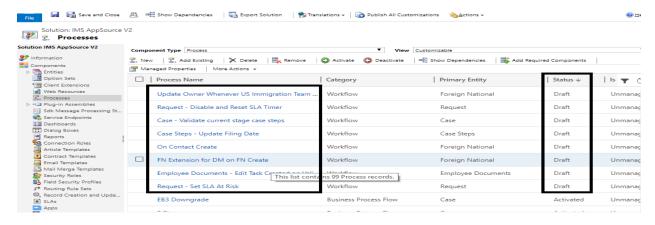


 Download the QRCODE Document from the GITHUB (https://github.com/microsoftappsource/IMS/tree/master/DocumentTemplates) and Upload the document.

Workflow Activation:

Go to CRM settings \rightarrow solutions \rightarrow open "IMSAppSourceV2" \rightarrow select "processes" under components as shown in below screen.

Note all draft processes and now go to settings \rightarrow processes and activate them.



Activation of Workflows:

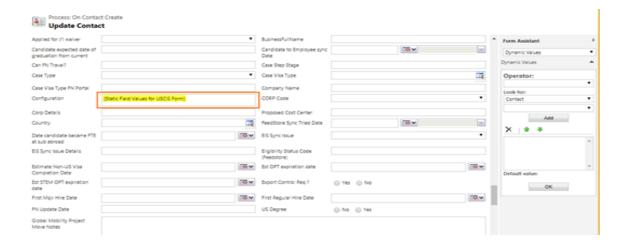
Please follow the below steps to activate the draft workflows.

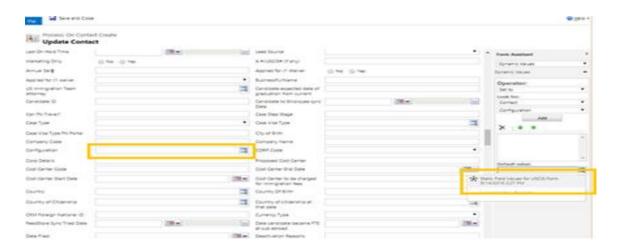
1. On Contact Create:

1a. Click set Properties in the step which is showing error.

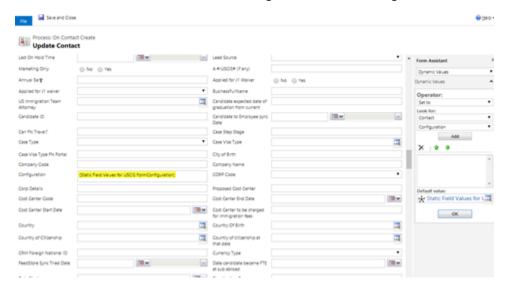


1b. Remove the value in the configuration field and add the value again.

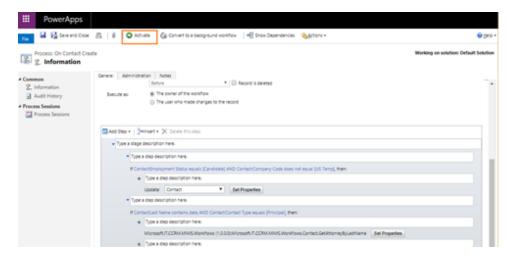




1c. Save and close the window after adding the value into configuration field.



1d. Activate the workflow.

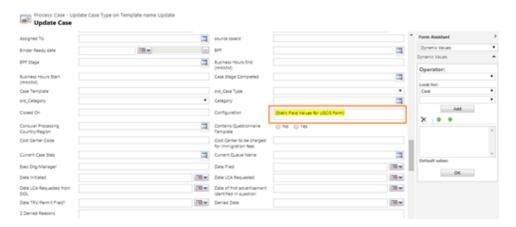


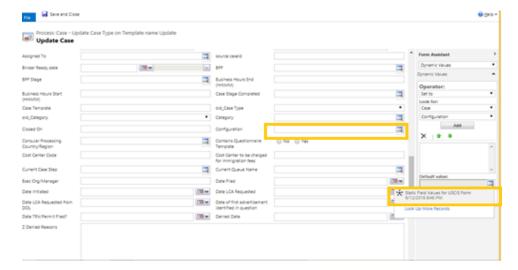
2. Case - Update Case Type on Template name Update

2a. Click set Properties in the step which is showing error.

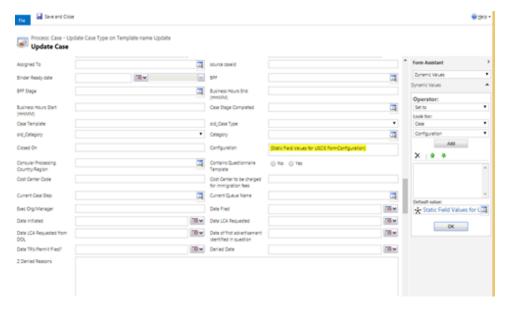


2b. Remove the value in the configuration field and add the value again.

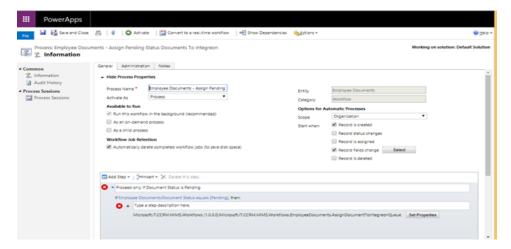




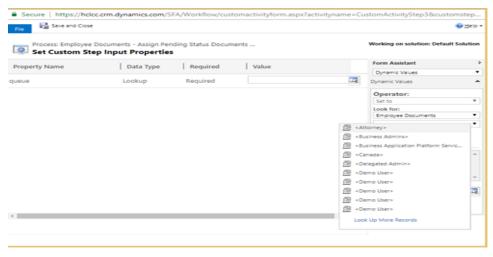
2c. Save and close the window after adding the value into configuration field.

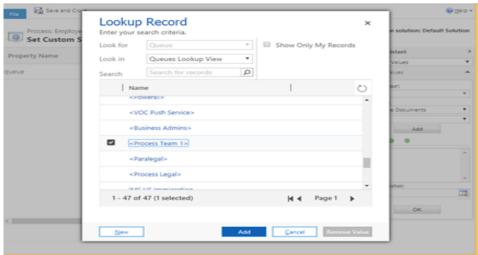


- 2d. Activate the workflow.
- 1. Employee Documents Assign Pending Status Documents To Integreon:
- 3a. Click set Properties in the step which is showing error.

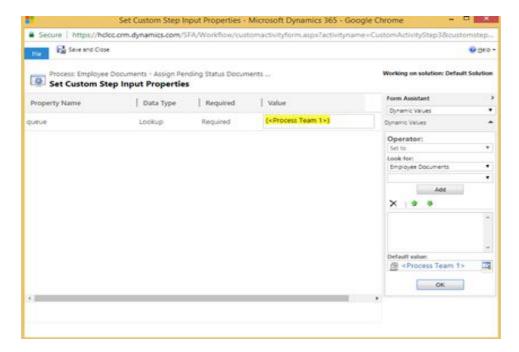


3b. Set the Value of the queue field to Process Team 1.

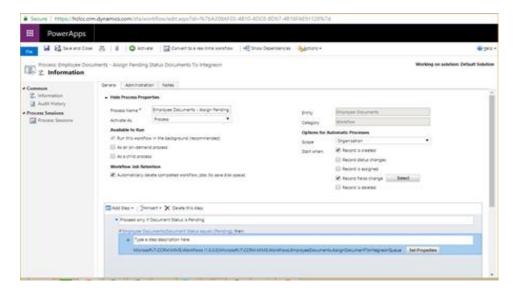




3c. Save and close the window, now the step should not show any error.

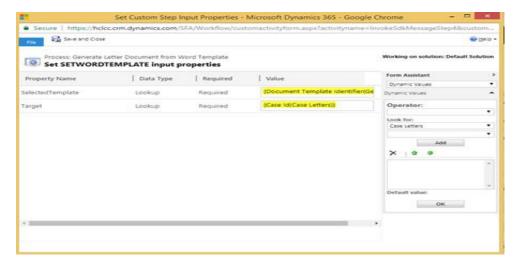


3d. Activate the workflow.

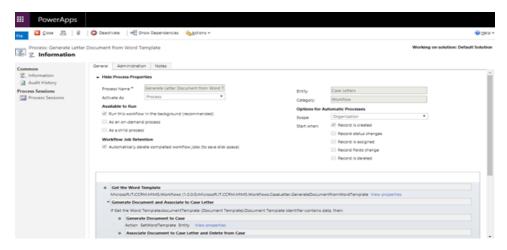


2. Generate Letter Document from Word Template

4a. Click set Properties in the step which is showing error. Save and close the window.

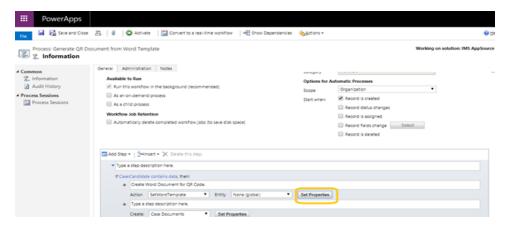


4b. Activate the Workflow

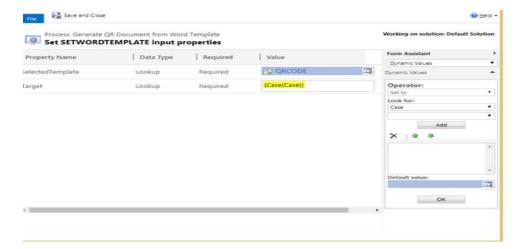


3. Generate QR Document from Word Template

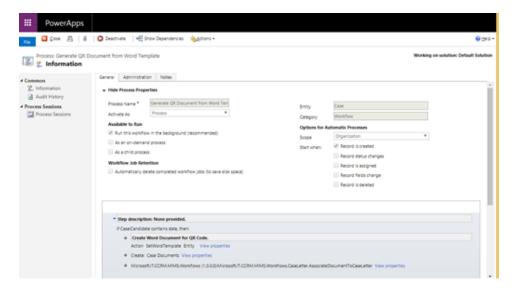
5a. Click set Properties in the step which is showing error.



5b. Check if the selected template is QRCODE, If it is not filled fill it with QR code.

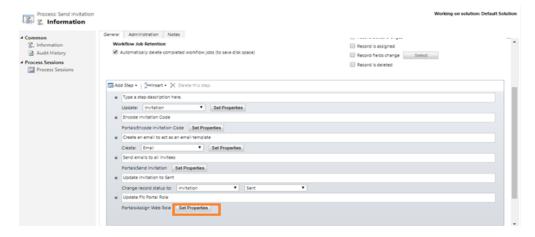


- 5c. Save and close the window.
- 5d. Activate the workflow

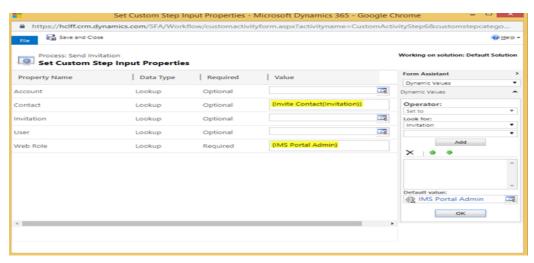


6) Send Invitation

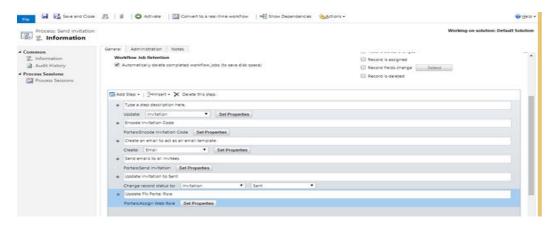
6a. Open "Set properties" of Update FN Portal role step.



6b. Check if the web role field is filled. If not, set the field to "IMS Portal Admin". Save and close the form.

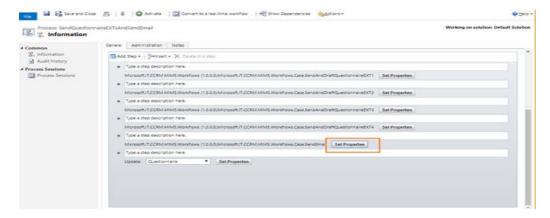


6c. Activate the workflow.

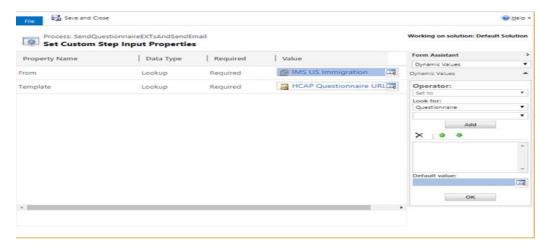


7. SendQuestionnaireEXTsAndSendEmail

7a. Open Set Properties of send email step.

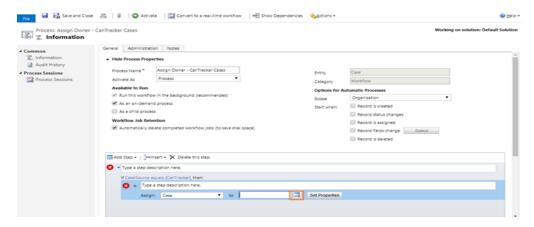


7b. Check if the From field is filled. If not, fill the field with "IMS US Immigration". Save and close the form.

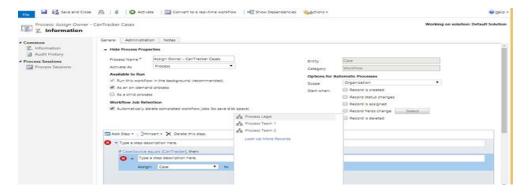


8. Assign Owner - CanTracker Cases

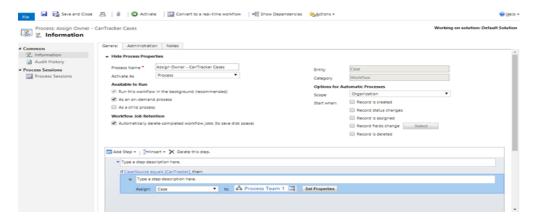
8a. Click on the lookup button as shown in the below screenshot.



8b. Fill the field with "Process Team1".



8c. Activate the workflow.



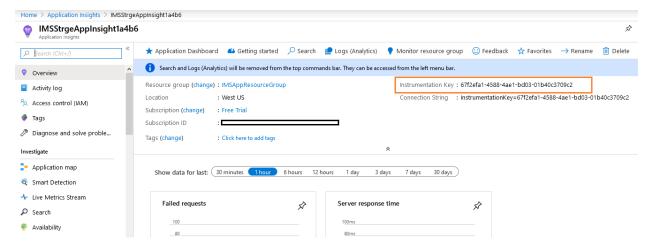
Documents Storage:

- Navigate to CRM -> Settings -> Extensions -> Integration Config
- Update the below config name values

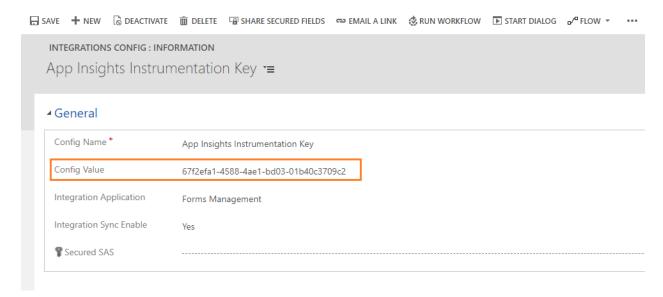
NOTE: Azure component names appear on document are same but on azure portal component names will end with your CRM Organization Unique Name (for ex:your CRM org name:org12345678, on the Azure portal component names end with ComponentName12345 like: IMSAppPrintAll12345)

1. App Insights Instrumentation Key

- Navigate to Azure
- Open the Resource "IMSAppStorageAppInsight<xxxxx>" as shown below

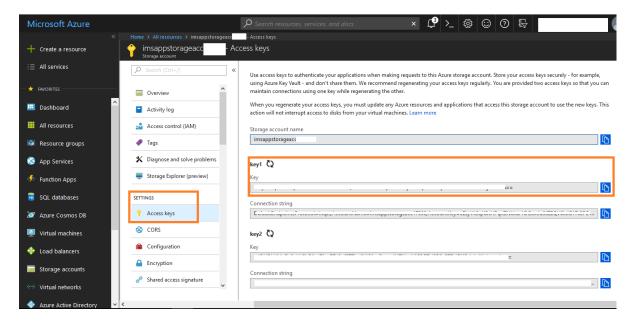


 Copy the Instrumentation Key and update the Config Value in App Insights Instrumentation Key as shown below.

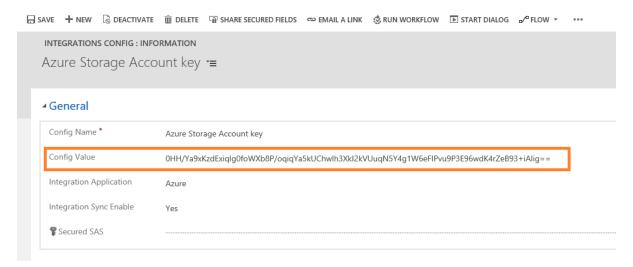


2. Azure Storage Account key

- Navigate to Azure.
- Open the Resource "imsappstorageacc<xxxxx>" as shown below.
- Go to Access Keys under Settings, Copy key1 val

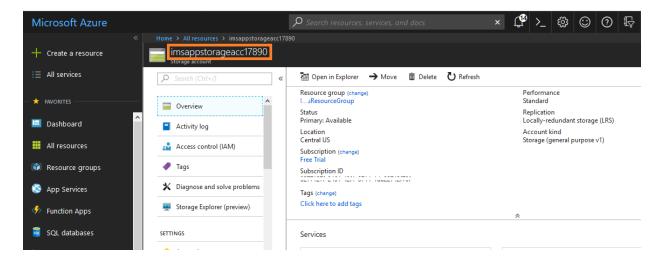


 Navigate to Settings -> Integrations Config Entity and Update the Key Value in Azure Storage Account key Record "config value" field as shown below.

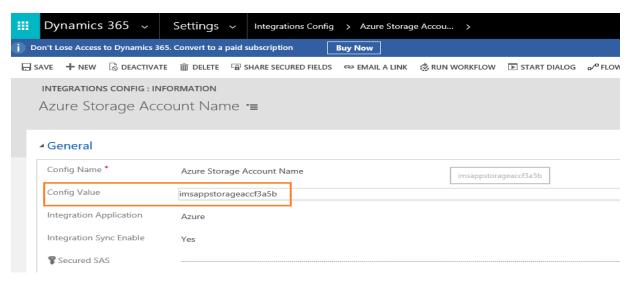


3. Azure Storage Account Name

- Navigate to Azure
- Open the Resource "imsappstorageacc<xxxxx>" as shown below
- Copy the storage account name as shown in below screenshot

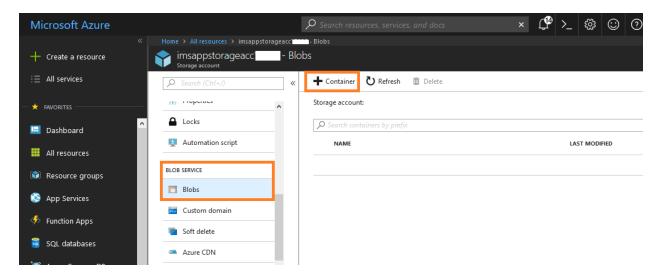


 Navigate to Settings -> Integrations Config Entity and Update the Account Name Value in Azure Storage Account Name Record "config value" field as shown below

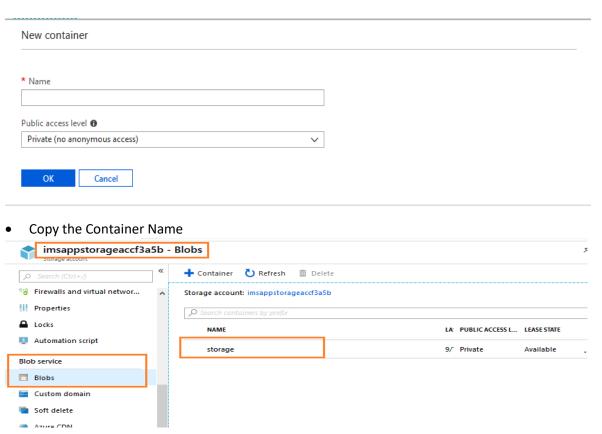


4. Azure Storage Container

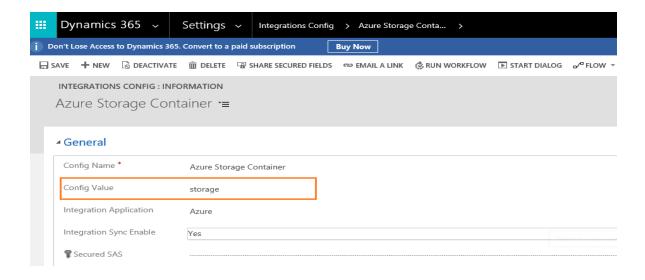
- Navigate to Azure
- Open the Resource "imsappstorageacc<xxxxx>" as shown below
- Go To Blobs in Blob Service and create the container as below



Provide name[user defined] and click on ok. name [user define] update on azure storage container "config value" on CRM



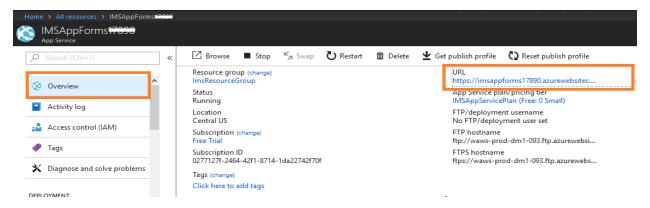
- Navigate to CRM -> settings -> Integrations Entity
- Update Azure Storage Container Record "config value" field as shown below



5. Forms Service API URL:

- Navigate to Azure
- Open the Resource "imsappforms<xxxxx>" as shown below
- On overview select the URL as shown in below screenshot, paste it on Forms Service API URL records "config value" field
- After URL, add /api/v1/forms/ for Config Value

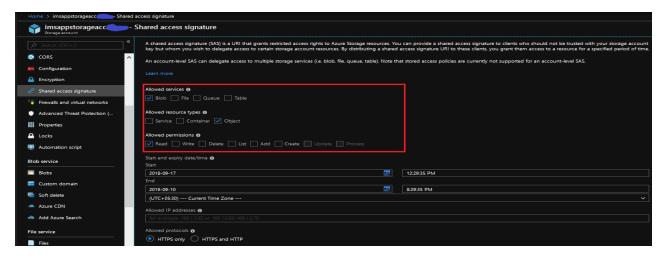
ex: https://imsappforms82f09.azurewebsites.net/api/v1/forms/



6) Secured SAS Token

Navigate to imsappstorage<xxxxx> resource and go to shared access signature under settings tab.

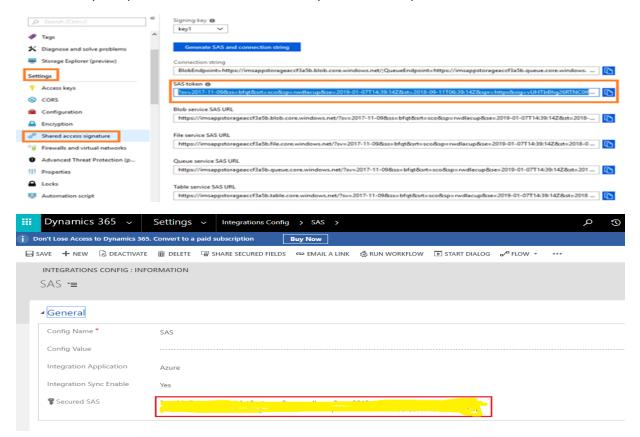
Please ensure that start date and end date fields are filled with valid dates and end date is greater than the current date.



Click on Generate SAS and connection string.

Select the SAS token value as shown in below screenshots, paste it on "**Secured SAS**" field of SAS record in Integrations config in CRM.

If the SAS Key is expired, then Re Generate SAS key in azure and update the above record in crm.

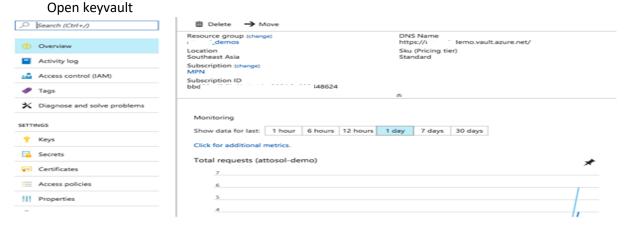


5.2 Azure Configurations

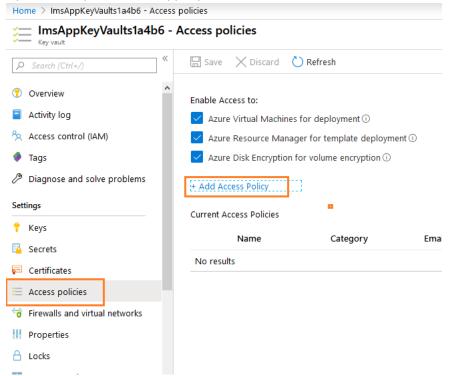
NOTE: Azure component names appear on document are same but on azure portal component names will end with your CRM Organization Unique Name (for ex:your CRM org name:org12345678, on the Azure portal component names end with ComponentName12345 like: IMSAppPrintAll12345)

First step on azure configuration is creating key vaults. Post deployment, on azure portal you can find components named as **ImsAppKeyVaults** following with Unique org id on given azure portal under user provided resource group.

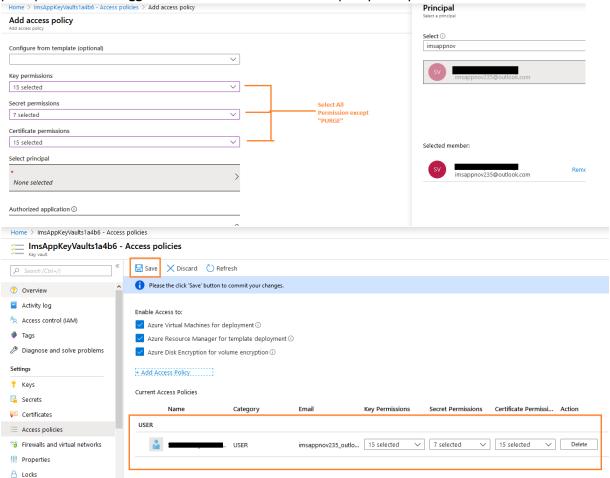
ImsAppKeyVaults:



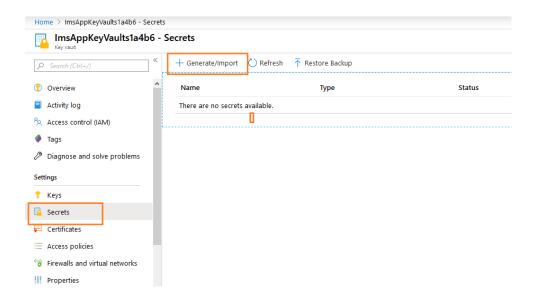
Open access policies in Imsppkeyvaults<xxxxx> and click on "Add Access Policy".



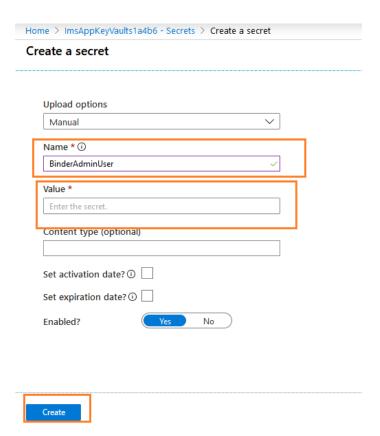
Select all permission except PURGE in key permissions, secret permissions and certificate permissions. In principal select the **logged in azure user**. Add the access policy to key vault.



In the Azure Key Vault settings that you just created you will see a screen similar to the following. Click Secrets in the blade, followed by Generate/Import button on the top right.



Type in your secret details:



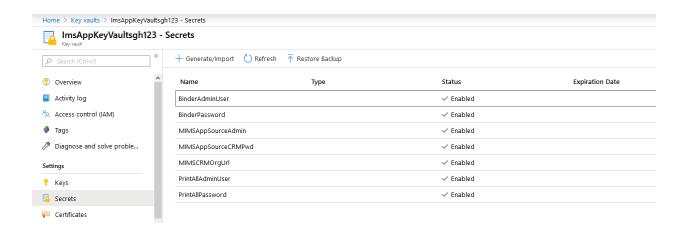
Secret details name should be as follows(yellow highlighted)

- 1. Name : BinderAdminUser Value :[provide binder application Run as username] ex:abc@ee.com
- 2. Name: BinderPassword Value:[provide binder application password]

3. Name : MIMSCRMOrgUrl Value : [Target CRM instance organization url]
On CRM : Settings → Customization → Developer Resource →



- 4. Name: PrintAllAdminUser Value:[provide printall application Run as username] ex:abc@ee.com
- 5. Name: PrintAllPassword Value:[provide printall application password]
- 6. Name: MIMSAppSourceAdmin Value:[provide web job applications Run as username]
- 7. Name: MIMSAppSourceCRMPwd Value:[provide web job applications password]

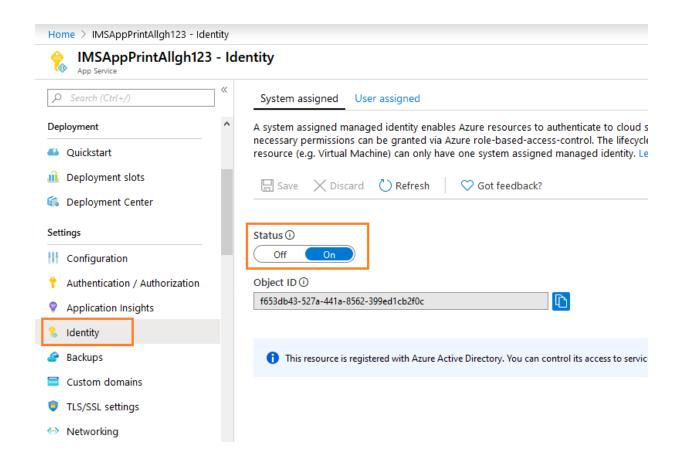


On part on Azure Configuration now we are going to configure for **IMSAppPrintAll** following with Unique org id (web app) and **IMSAppBinder** following with Unique org id (web app). Below steps to create/modify.

Identity

Goto Settings and select Identity.

If is **ON**, don't change anything. If it is **Off**, change it to **On** and save. (After clicking on save it will take some time, wait till it save.)

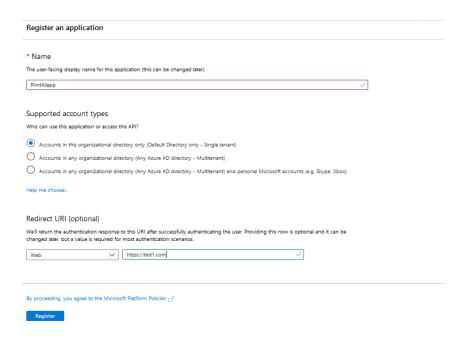


Application Settings

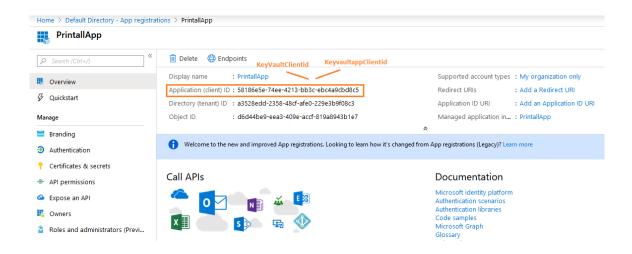
Navigate to **Configuration** and create application settings. For application settings we need to create below parameters:

- 1) KeyVaultAppClientId
- 2) keyvaultclientId
- 3) keyvaultclientsecretId

Azure Portal > Azure Active Directory > App Registrations > New Application Registration

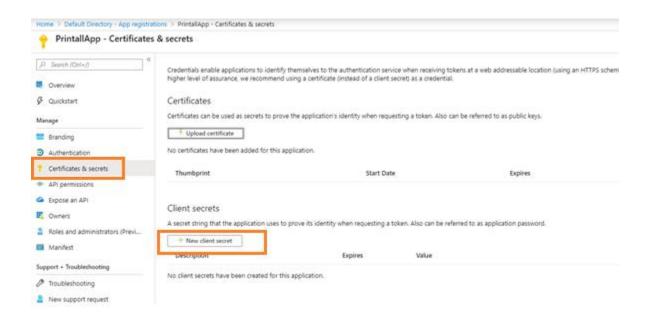


Note down your details. Remember, your client id is same as Application ID.

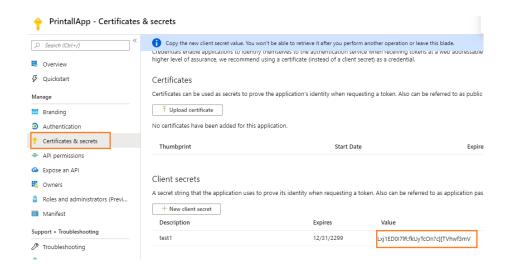


Click on Certificates & secrets in the below image and navigate to Client secrets section as shown below

While Generating the key for any app registration Provide some user defined name in the description and select "**Never** expires" as the duration and save the record. A key will be generated. Take this key as the keyvaultclientsecretId.



Create a new client secret, give some name in description and select the Expires field as "Never".



4) keyvaulturl

Azure portal > ImsAppKeyVaults following with Unique org id > Overview > Take DNS Name

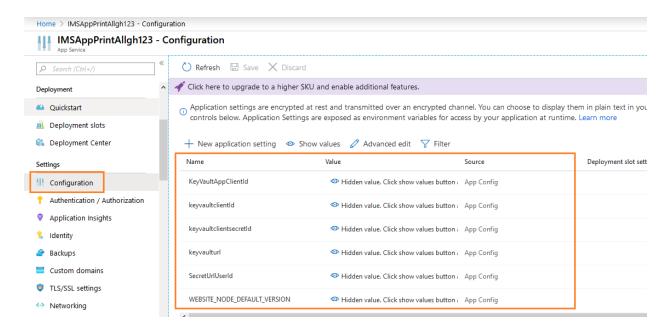
DNS Name

https://imsappkeyvaultsf7 '.vault.azure.net/

5) SecretUrlUserId

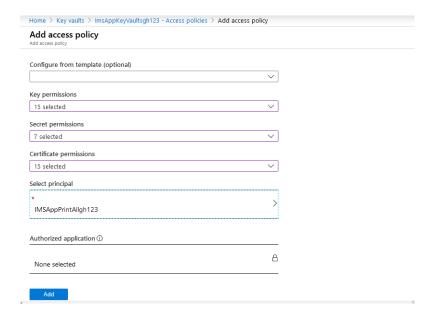
Azure portal > ImsAppKeyVaults following with Unique org id > Overview > Take DNS Name Remove last charecter (/) from url

The above setting configurations are as shown below, after enter the required application settings and save it.

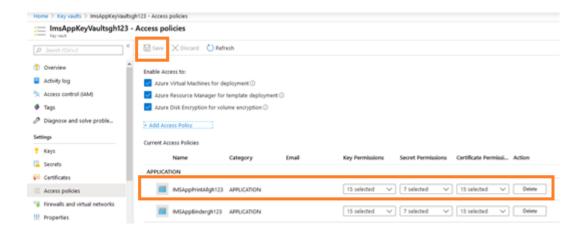


Now Go to Keyvault [ImsAppKeyVaults<xxxxx>]--> access policies --> click on add access policy and provide the application on select principal field

Select the application and provide all **the permissions except purge** and click on **Add.** Now save the access policies.



Finally, you will see the access policy like below



For ImsappBinder<xxxxx> and IMSappWebJobs<xxxxx> AppServices also we need to follow the same procedure

- 1) On and save Identity
- 2) Azure active directory application registration binder/webjob
- 3) application settings adding keyvalut url, application and secret ids.
- 3) Adding application to access policy of keyvault..

CRM Configuration for Printall:

Navigate to Settings → integration Configuration → search for "PrintAllApplicationURL"

For Config Value: Azure portal > IMSAppPrintAll following with Unique org id > Overview > URL

CRM Configuration for Binder:

Settings → integration Configuration → search for "PrintBinderURL"

For Config Value : Azure portal > IMSAppBinder following with Unique org id > Overview > URL + /CreateBinderPrint.aspx?ID=

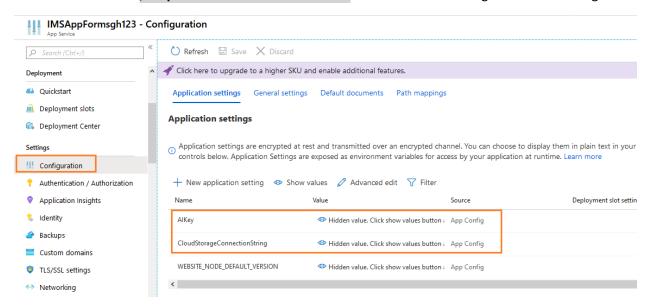
Ex: https://imsappbinder820f9.azurewebsites.net/CreateBinderPrint.aspx?ID=

Form Configurations:

- 1) For Forms App (IMSAppForms) service need to add below items on app settings:
 - a. AIKey: (navigation: IMSAppStorageAppInsight<xxxxx>-- overview Instrumentation key)
 - b. CloudStorageConnectionString: (navigation : imsformstrge<xxxxx> Access keys Connectionstring)

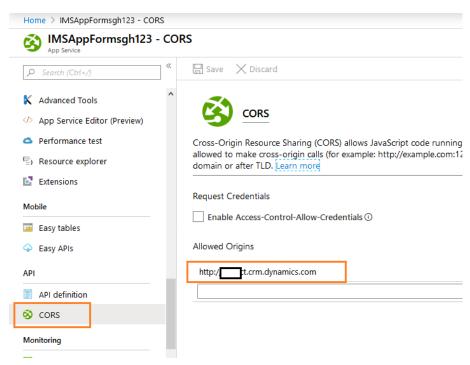
Save the Settings.

Note: Remove text "; EndpointSuffix=core.windows.net" form the CloudStorageConnectionString



Adding Application Settings on App service.

IMP Note: Target CRM instance URL must declare under Forms App (IMSAppForms) →ss CORS



CRM side Form Management related configuration:

Settings → integration Configuration → search for "App Insights Instrumentation Key "

For the "App Insights Instrumentation Key" record we should provide "Config Value"

For Config Value:

Azure portal > IMSAppStorageAppInsight following with Unique org id > Overview > Instrumentation Key

Settings → integration Configuration → search for "Forms Service API URL"

For the "Forms Service API URL" record we should provide "Config Value"

For Config Value:

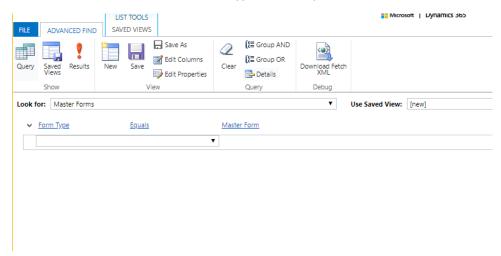
Azure portal > IMSAppForms following with Unique org id > overview > URL

After url add /api/v1/forms/ for Confiig Value

ex: https://imsappforms82f09.azurewebsites.net/api/v1/forms/

Update Master Forms Records:

Get all the Master Forms with "FormType" value Equals to "MasterForm" as shown below



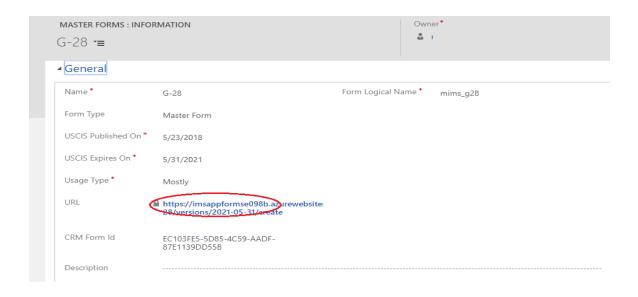
To change the URL, follow below steps

- 1) Take new Master Form and fill all the fields as it is except URL field
- 2) Save the form (Do Not Click "Save and Close" Button)

Follow the step 1 and 2 for all the Master Forms

Now able to see the URL with forms azure application name as below

Example: "G-28" Master Form



6.TroubleShooting Details

Follow below steps if any of the required components were not installed appropriately during deployment. Failures may occur if any of the pre-requisites are not provided, network disconnections, Azure components take more time than anticipated to deploy on cloud or any other unexpected failures. Follow the below steps to resolve them manually if not completed automatically while installation.

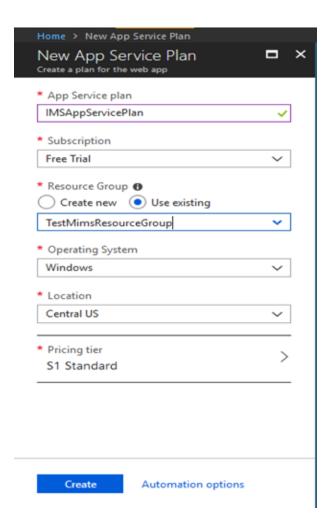
6.1 Azure Applications

6.1.1 Web Service Plan

If IMSAppServicePlan application is not created in azure as shown below



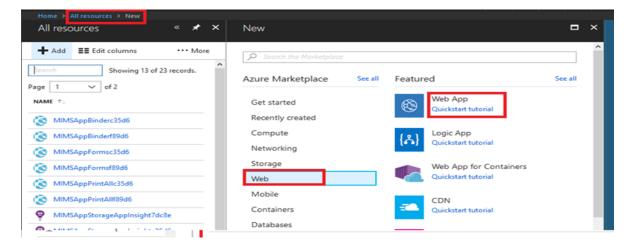
Create the AppService Plan with name of 'IMSAppServicePlan' as shown below



6.1.2 Web Applications

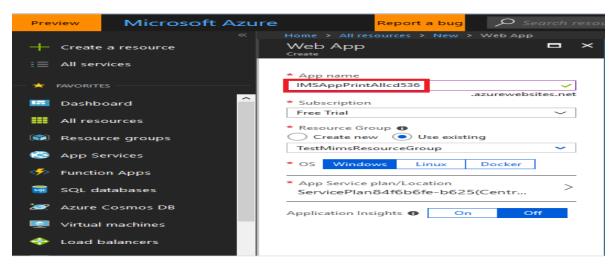
IMSAppPrintAll Application

- If IMSAppPrintAll followed by organization unique name application is not created in azure
- Create Webapp in azure as shown below



 Create "IMSAppPrintAll" followed by five characters of an organization unique name as shown below

Example: "IMSAppPrintAlldc536"



• Run the below PowerShell command as shown below

\$subscriptionId = " #Azure Subscription ID

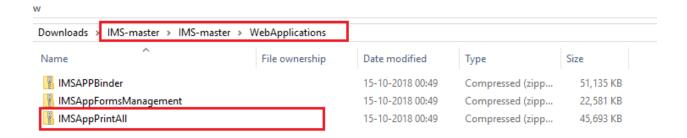
\$resourceGroupName = " #Azure Resource Group Name

\$IMSAppSourcePrintAll_Path = " # Print All Application Path from WebApplications folder downloaded from the GitHub (https://github.com/microsoftappsource/IMS) as shown below image

\$IMSAppPrintAll =" # Print All Application name, Example: 'IMSAppPrintAlldc536'

Add-AzureAccount

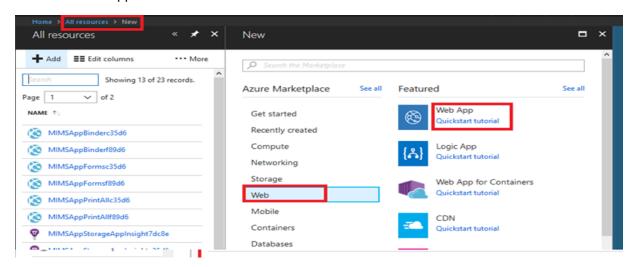
Select-AzureSubscription - SubscriptionId \$subscriptionId



Script has to be executed without getting error in PowerShell

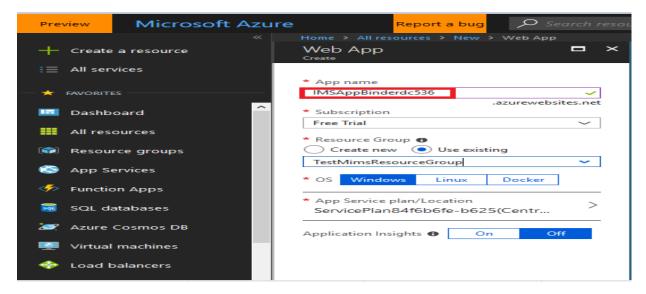
IMSAppBinder Application

- If IMSAppBinder followed by organization unique name application is not created in azure
- Create Webapp in azure as shown below



 Create "IMSAppBinder" followed by five characters of an organization unique name as shown below

Example: "IMSAppBinderdc536"



Run the below PowerShell command as shown below

\$subscriptionId = " #Azure Subscription ID

\$resourceGroupName = " #Azure Resource Group Name

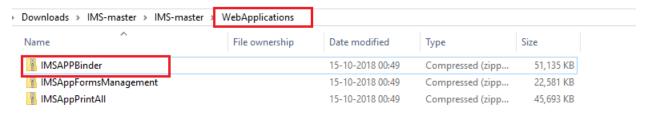
\$IMSAppSourceBinder_Path = " # Binder Application Path from WebApplications folder downloaded from the GitHub (https://github.com/microsoftappsource/IMS) as shown below imag

\$IMSAppBinder =" # Binder Application name, Example: 'IMSAppBinderdc536'

Add-AzureAccount

Select-AzureSubscription -SubscriptionId \$subscriptionId

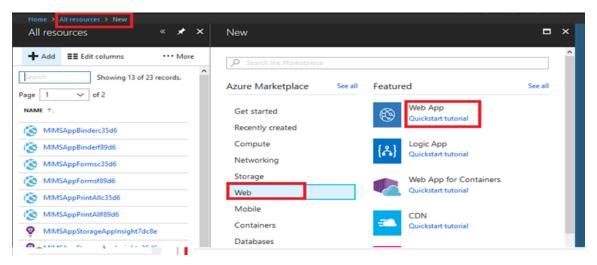
Publish-AzureWebsiteProject -name \$IMSAppBinder -package \$IMSAppSourceBinder_Path



Script has to be executed without getting error in PowerShell

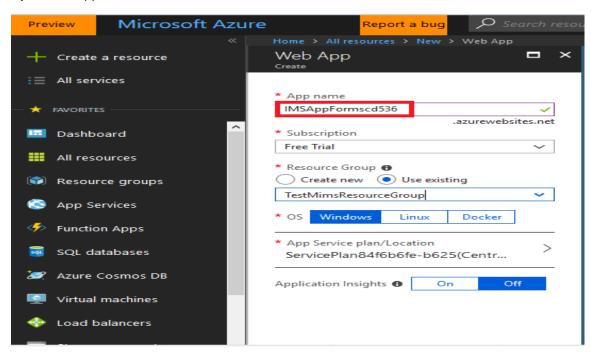
IMSAppForms Application

- If IMSAppForms followed by organization unique name application is not created in azure
- Create Webapp in azure as shown below



• Create "IMSAppForms" followed by five characters of an organization unique name as shown below

Example: "IMSAppFormsdc536"



Run the below PowerShell command as shown below

\$subscriptionId = " #Azure Subscription ID

\$resourceGroupName = " #Azure Resource Group Name

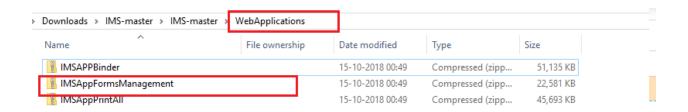
\$IMSAppSourceForms_Path = " #Forms Application Path from WebApplications folder downloaded from the GitHub (https://github.com/microsoftappsource/IMS) as shown below image

\$IMSAppForms =" #Forms Application name, Example: 'IMSAppFormsdc536'

Add-AzureAccount

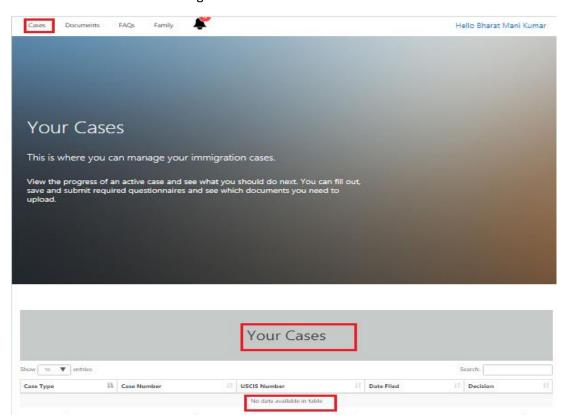
Select-AzureSubscription -SubscriptionId \$subscriptionId

Publish-AzureWebsiteProject -name \$IMSAppForms -package \$IMSAppSourceForms_Path



6.2 FN Portal

1. Not able to see the Foreign National Cases as shown below



Resolution:

Navigate to CRM -> Portals -> Web Roles -> Administrators -> Foreign Nationals

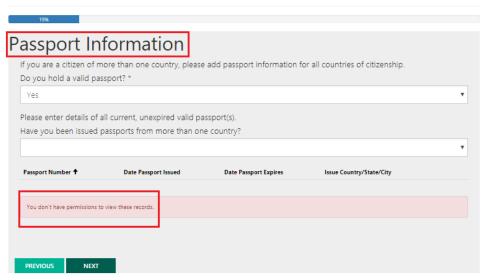
or

- Add the Foreign National to the administrator role
- Navigate to CRM -> Portals -> Web Roles -> Administrators -> Entity Permissions
- Add the "FN Cases" Entity Permission to the administrator role
- Repeat all the above steps for the Documents, FAQ, Family and Tasks when you are not able to see the related entity records

6.3 Questionnaire Portal

1. Not able to create record through portal and getting the permissions issues as shown below

HCap Questionnaire



Resolution:

- Navigate to CRM -> Portals -> Entity Permissions
- Open "Birth & Passport Information" Entity Permission record
- Add the Administrator Web Role to the "Birth & Passport Information" Entity Permission record

7. Uninstalling Immigration AppSource System

- Navigate to CRM -> Settings -> Solutions
- Select the "MicrosoftLabs.IMSFormssolutions" solution and delete the solution
- After deleting the above solution, select the "IMSAppSource" solution and delete the solution

The Solution related entities data will be deleted by the solution.

Note: Portal related records should be deleted by the user manually.

8. Aspose License SetUp

- Aspose license adding to application process:
- Once license purchased we need to add "Aspose.Total.lic" file to the "IMSAppPrintAll" & "IMSAppBinder" application Publish the application.

To download the file:

1) Go to My Orders and Quotes.

This page lists your order history with Aspose. In the end of column of the grid next to each order is a Review link.

2) Click Review for the order you want to download a license for.

The details for that order are displayed.

- 3) At the bottom of the page will be a link titled Download License.
- 4) Click Download License at the bottom of the page.

A dialogue appears to allow you to select where to save the license.

https://purchase.aspose.com/policies/download-license

Once file downloaded unzip "IMSAppPrintAll" & "IMSAppBinder" applications and place the file as shown in below path location.

Name	File ownership	Date modified	Туре	Size
🔒 bin		9/18/2018 7:24 PM	File folder	
√ ApplicationInsights		11/25/2017 6:02 PM	XML Configuratio	6 KB
Aspose.Total.lic		9/18/2018 7:24 PM	VisualStudio.lic.d3	1 KB
⊕ ************************************		9/9/2017 3:16 PM	ASP.NET Server Pa	1 KB
🔁 packages		4/17/2018 1:22 PM	XML Configuratio	3 KB
v □ PrecompiledApp		9/18/2018 3:30 PM	XML Configuratio	1 KB
v ⊡ Web		9/18/2018 3:30 PM	XML Configuratio	2 KB

Product: Aspose. Total for .NET

License file name: Aspose.Total.lic

End of Document