# REVISION HISTORY

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INTRODUCTION

AvePoint Citizen Services provides a portal that lets Residents or Visitors share information about problems in their communities, such as pot holes, downed trees, urban decay, or pest control, with their local government.

Below is information about the portals, roles in these portals, and the responsibilities of roles in AvePoint Citizen Services:

- **The Citizen Portal** allows **Residents and Visitors** to: create, subscribe, and track service requests; share information via social apps, complete and submit feedback surveys either anonymously or by registering and signing in.

- **The Field Portal** is used by **Service Owners** and **Field Engineers** to interact with service requests.
  - **Services Owners** can use the Field Portal to, view, assign, and review service requests assigned to their department, as well as, add IoT devices.
  - **Field Engineers** can use the Field Portal to view, accept, reject, and update the progress of service requests assigned to them, as well as, add street lights into the system.

- **The CRM Portal** is used by **Government Workers** to create or edit service request types and edit FAQs.

- **The Internal Portal** is used by the **Global Admins, Admins, Managers, and Dispatchers** to manage service requests and the Citizen Services system.
  - **Global Admins** can use the Internal Portal to change the branding and logo; configure the system; manage users, groups, and feedback; view reports; configure the Cortana personal assistant; and monitor streetlights.
  - **Admins** can use the Internal Portal to change the branding and logo, configure the system, manage feedback, view reports, configure the Cortana personal assistant, and monitor streetlights.
  - **Managers** can use the Internal Portal to manage feedback, view reports, configure the Cortana personal assistant, and monitor streetlights.
  - **Dispatchers** can use the Internal Portal to manage service requests.
The AvePoint Citizen Services on AppSource provides the following licenses.

- **The Trial** license provides: access to the portals, the workflows, and the analytics dashboard. The user who starts the trial will receive an e-mail that includes the following information:
  - The URLs of the three portals and CRM.
  - The credentials needed to sign in to CRM.

  *Note:* The URLs of the three portals and the username used to sign into CRM are also listed in the **HOME** page of the Internal Portal. The information can be found at any time by clicking **ABOUT** in the left pane of the Internal Portal, Field Portal, and Citizen Portal to navigate to the **About** page.

- **The Basic** license provides: access to the portals, the workflows, and the citizen mobile client.

- **The Pro** license provides: access to the portals, the workflows, the citizen mobile client, the analytics dashboard, and the field mobile client.

- **The Pro Plus** license provides: access to the portals, the workflows, the citizen mobile client, the analytics dashboard, the field mobile client, the IoT and AML adapters, accelerator services (IoT setup, AML, the predictive dashboard, and system integration).

  *Note:* For the Basic, Pro, and Pro Plus licenses, only the users of Internal Portal can view the portal URLs by clicking **ABOUT** in the left pane of the Internal Portal.

### About Azure Active Directory

To use AvePoint Citizen Services, you must use the Azure Active Directory to manage the identities of Internal Portal and Field Portal users. Citizen Services will automatically connect your Azure Active Directory with a Citizen Services instance when an account starts a trial. After the Azure Active Directory is connected with a Citizen Services instance, you can manage users and groups for the Internal Portal, as well as Service Owner and Field Engineer groups. The accounts that are added in the Service Owner groups or Field Engineer groups can sign into the Field Portal respectively.
OVERVIEW OF THE REQUEST PROCESS

The following is the basic workflow of AvePoint Citizen Services request process:

1. Residents or visitors can submit service requests in the following ways:
   - Create and submit service requests in the Citizen Portal. Residents or visitors can track their requests, view all of the requests, and subscribe to certain service requests. For details on creating service requests, refer to Creating a Service Request.
   - You can also provide your service request details to a Dispatcher in person or by phone. They will then create the service request in the Internal Portal on your behalf. The service requests that are created in the Internal Portal can also be displayed in the Citizen Portal.

2. Dispatchers can create or assign service requests to Service Owner groups in the Internal Portal. An e-mail is sent to the Service Owner groups. Dispatchers can also define whether or not the service request needs a Dispatcher’s review prior to informing the requester. For details, refer to Creating a Request.

3. Service Owner assigns service requests to Field Engineers and define whether or not the service request needs Service Owner’s review. The Field Engineers assigned with the request will receive e-mail notification.

4. Field Engineers can accept or reject a service request from the Field Portal. If the service request is rejected, the status of the service request in CRM will be changed back to Assigned to Department. A Service Owner will then assign the service request to another Field Engineer. For details of processing the service requests, refer to Processing the Service Requests.

5. After the Field Engineer completes the service, the Field Engineer must update the status to Completed. The Completed service request will be processed in the following situations:
   - If the service request does not need Service Owner’s and Dispatcher’s review, the service request will be closed.
   - If the service request requires the Service Owner’s review only, Service Owner may approve the service request to close it, or disapprove the service request and then reassign it to a Field Engineer.
   - If the service request requires the Dispatcher’s review only, Dispatcher may approve the service request or reject the service request back to the Service Owner.
   - If the service request requires both Service Owner’s review and Dispatcher’s review, the service request will be closed only when both of the Dispatcher and the Service Owner approve it.

6. After the request is closed, e-mail notifications will be sent to the requester and anyone who has subscribed to the service request. For details on updating the status of Completed service requests, refer to Reviewing the Service Requests.
GETTING STARTED

Refer to the sections below for important information on getting started with AvePoint Citizen Services.

Configuring Internal Portal Settings

To set up AvePoint Citizen Services, the following settings in the Internal Portal must be configured:

- To enforce that the locations of service requests submitted are within a specific geographical boundary, configure the Locale Settings.

  Complete the following sets to configure the Locale Settings:

  i. Navigate to SITE SETTINGS.
  ii. Click Configure next to the Locale Settings field.
  iii. Select the Location tab.
  iv. In the CITY BOUNDARY section, select the way to define the city boundary from the Boundary Based On drop-down list and define the city boundary.
  v. Click Map Boundary to show the city boundary on the Bing map.
  vi. Click Save to save the configurations.

- To set which logos are shown in Citizen Services, complete the following steps:

  i. Select SITE SETTINGS.
  ii. Click Configure next to the Portal Logo field.
  iii. Click Change to upload images.
  iv. Click Save to save the configurations.

- To manage the Internal Portal, Users and Groups, refer to Managing Users of the Internal Portal and Managing Groups in the Internal Portal.

Configuring CRM Settings

To sign into the CRM Portal, use the CRM account information provided in the e-mail sent to you after you registered for a free trial of Citizen Services.

To set up Citizen Services, the following CRM settings need configuring:

- To avoid having the system save the configurations in CRM forms automatically, configure the Select the default save option for forms field.

  To configure the field, follow the steps below:
i. Open the Main Menu, and navigate to the Settings > Administration > System Settings page.

ii. In the Select the default save option for forms field, select No.

iii. Click OK to save the configuration and close the page.

• To locate the position by using the map, enable the Bing map.

To enable the Bing map, follow the steps below:

   i. Open the Main Menu, and navigate to the Settings > Administration > System Settings page.

   ii. In the Enable Bing Maps field, select Yes.

   iii. Click OK to save the configuration and close the page.

• To avoid loading failures, set the value of the Use legacy form rendering field to Yes.

To configure the field, follow the steps below:

   i. Open the Main Menu, and navigate to the Settings > Administration > System Settings page.

   ii. In the Use legacy form rendering field, select Yes.

   iii. Click OK to save the configuration and close the page.
To allow system to send notification e-mails, configure the **Select whether other users can send email for you** field.

To configure the field, follow the steps below:

i. Sign into CRM with an account that has the system administrator permission.

ii. Click the settings (⚙️) button on the upper-right corner and select **Option** to go to the **Set Personal Options** page.

iii. Click the **Email** tab.

iv. In the **Select whether other users can send email for you** field, select the **Allow other Microsoft Dynamics CRM users to send email on your behalf** check box.

v. Click **OK** to save the configuration and close the page.
• To link to the Help for Citizen Services, configure the **Set custom Help URL** field.

![System Settings](image)

**Figure 1: The Set custom Help URL field.**

To configure the **Set custom Help URL** field, follow the steps below:

i. Open the **Main Menu**, and navigate to the **Settings > Administration > System Settings** page.

ii. In the **Use custom Help for customizable entities** field, select Yes.

iii. In the **Global custom Help URL** field, enter the URL of AvePoint Citizen Services Help.

iv. Click **OK** to save the configuration and close the page.
• To audit the usage of AvePoint Citizen Services, it is recommended to configure the **Auditing Settings** field.

Figure 2: The Auditing Settings field.

To configure the **Auditing Settings** field, follow the steps below:

1. Open the Main Menu, and navigate to the **Settings > Administration > System Settings** page.
2. Click the **Auditing** tab.
3. In the **Auditing Settings** field, select the **Start Auditing** and **Audit user access** checkboxes.
4. Click **OK** to save the configuration and close the page.
To save the logs of AvePoint Citizen Services, configure the **Plug-in and custom workflow activity tracing** field.

![System Settings](image)

Figure 3: The Plug-in and custom workflow activity tracing field.

To configure the **Plug-in and custom workflow activity tracing** field, follow the steps below:

i. Open the Main Menu, and navigate to the Settings > Administration > System Settings page.

ii. Click the Customization tab.

iii. In the **Plug-in and custom workflow activity tracing** field, select Exception from the Enable logging to plug-in trace log drop-down list.

iv. Click OK to save the configuration and close the page.

Granting the Dispatcher Role to a Government Worker in CRM

Dispatchers in CRM may perform the following actions:
• Managing Service Request Types
• FAQ Management
• Review Citizen Services settings. For more information refer to Appendix B - Reviewing AvePoint Citizen Services Settings
• Review Service Request ID Definitions and Service types. For more information see Appendix C - Reviewing Service Request ID Definitions and Service Request Types
• View Roles and Role Groups. For more information see Appendix D - Viewing the Roles and Role Groups
• Create and assign a service request. For more information see Appendix E - Creating and Assigning a Service Request

Complete the following steps to grant the Dispatcher role to a Government Worker:

2. Click Users to go to the Enabled Users page.
3. Select a user and click MANAGE ROLES. The Manage User Roles window appears.
4. Select the Dispatcher role and click OK.
CITIZEN PORTAL - RESIDENTS OR VISITORS

The Citizen Portal is where Residents and Visitors submit requests to their local government. Residents or Visitors can sign into the Citizen Portal anonymously or register an account. For details on registering a new account, refer to Registering an Account. Residents or Visitors can also sign into the Citizen Portal with their Microsoft, Google, Facebook, or Twitter accounts.

Residents or Visitors can submit requests anonymously or as a signed in user.

- A signed in user can take the following actions:
  - Creating a Service Request
  - Tracking Your Requests
  - Viewing the Service Requests
  - Submitting Feedback
  - Social Sharing
  - Completing a Survey
- An anonymous user can perform the following actions:
  - Creating a Service Request
  - Viewing the Service Requests
  - Submitting Feedback
  - Social Sharing

*Note: Residents or Visitors cannot track anonymously submitted service requests in the Track My Requests page; however, those requests can still be found by searching for the Request ID or viewing the View All Requests list. Anonymous Residents or Visitors can also select the Notify me by e-mail when request is closed checkbox to receive the notifications about the service requests when they are complete.
Registering an Account

To register an account, follow the steps below:

1. To register an account, click **REGISTER** in the left pane of the Citizen Portal to go to the **REGISTER** page, and fill in the registration form.

2. Click **Register** to save the configurations and register a new account.

After the account is registered, system will sign in your account automatically and open the home page of the Citizen Portal.

If you want to change your photo, display name, phone number, or password, follow the steps below:

1. Click the down arrow button next to the account in the lower-left corner of the Citizen Portal.
2. Click **My Account** to go to the **My ACCOUNT** page. On this page, you can perform the following actions:
   - To update a photo, click **Update Photo** and locate the photo.
   - To modify the name and contact number of the account, click the **Edit** button.
   - To change the password, follow the steps below:
     1. Click **Change Password**.
     2. Enter the current password and the new password respectively.
     3. Click **Save** to save the configurations.
Resetting your Password

If you forget your password, follow the steps below to reset your password:

1. Go to the SIGN IN page.
2. Click **Forgot your password?** to go to the Find Your Account page.
3. Enter the e-mail address that you used in your account registration, and click **Send Email**.
4. Find the e-mail with the subject **Citizen Services Retrieve Password**.
5. Click the link provided by the e-mail to go to the **Reset Your Password** page.
6. Enter the e-mail address and a new password.
7. Click **Submit** to reset the password.

Creating a Service Request

A service request can be created via one of following methods:

- You can submit service requests through the Citizen Portal.
- You can also provide the service request details to a Dispatcher in person or by phone. They will then create the service request in the portal on your behalf.

To submit a service request, follow the steps below:

1. Go to either **HOME** or **REQUEST SERVICE** page within the Citizen Portal. Residents or Visitors can choose from the listed service requests.
2. Select a service request type, a page with additional information will appear. Click **Continue** to go to the next page of the service request.

*Note: If you cannot find a suitable service type, select the **General Service Request**.

3. The service request form will appear with fields for providing request details. Fill in the fields.
4. If you want to receive a notification e-mail when the service request is closed, enter an e-mail address, and select the **Notify me by email when request is closed** checkbox.
5. Click **Submit** to submit the service request.

Viewing All of the Requests and Subscribing

To view all of the services requests, follow the steps below:

1. Go to the **VIEW ALL REQUESTS** page. All of the service requests are displayed in a list view. You can also click **Map View** to view all of the service requests on a map.
2. You can find a specific service request in one of the following ways:
- Enter the request ID, location, or description of the service request in the search box on the top of this page. Click the **Search** button to search the service request.
- Filter the service requests by selecting the **Request Type**, **Time Range**, and **Status**.

3. Click the request ID of a service request to view the details of the request.

4. If you are a signed in user, you can also click the subscribe button to subscribe the service request. This service request will be added to the **Requests I'm Watching** tab to help you track this request. If you do not want to subscribe the service request any more, you can click the subscribe button again.

## Tracking Your Requests

To track the submitted service requests, follow the steps below:

1. Go to the **TRACK MY REQUESTS** page. All of the service requests that you have submitted are listed in the **Requests I Submitted** tab.

2. Enter the request ID, location, or description of the service request in the search box on the top of this page. Click the **Search** button to search the submitted service requests. You can also filter the service requests by status.

3. Select the **Requests I'm Watching** tab to search and review service requests to which you have subscribed.

## Submitting Feedback

A feedback icon is floating in the pages of Citizen Portal. You can click the floating icon to open the **Feedback** window and complete the following steps to submit a feedback.

1. Enter the content of the feedback in the **Enter your feedback** text box.

2. Upload an image for reference. You can upload three images at most.

3. Click **Submit** to submit a feedback.

## Social Sharing

From within the Citizen Portal you can share specific pages to a number of social sites, including Facebook, Twitter, and LinkedIn. By sharing specific service requests or the Citizen Services site in general, you can alert your community of potential issues, which are being addressed by your local government.

To share links, click the icon of Twitter, Facebook, LinkedIn, or the **Sharing** button to sign into the social network app.
Completing a Survey

After a service request is completed, the system will send a survey to the signed in requesters who select the **Notify me by e-mail when request is closed** checkbox. The requesters who received survey can complete the survey to provide more detailed feedback about the service request.
FIELD PORTAL-SERVICE OWNERS OR FIELD ENGINEERS

The Field Portal is where Service Owners assign service request to Field Engineers, and Field Engineers can view and process assigned service requests. Sign into the Field Portal using the organization account provided to the AvePoint Citizen Services customer.

*Note: To sign into the Field Portal your account must exist in the Internal Portal with Service Owner role or Field Engineer role.

There are two roles in the Field Portal:

- **Service Owner** can perform the following actions in the Field Portal:
  - Assigning the Service Requests
  - Viewing the Service Requests

- **Field Engineer** can perform the following actions in the Field Portal:
  - Processing the Service Requests

*Note: An account can both be a Service Owner and a Field Engineer simultaneously.

Assigning the Service Requests

Service Owners can assign the service requests that are assigned to their department to Field Engineers for processing. After assigning a service request, the service request will be displayed on the **OWNED BY ME** page.

To assign a service request, complete the following steps:

1. Go to the **DEPARTMENT REQUESTS** page. The service requests assigned to the Service Owner group are listed in this page.
2. To find a specific request, enter the request ID, location, or description of a service request in the search box, and click the **Search** button. Service Owner can also select **Request Type** and **Status** to filter requests.
3. Click the request ID to view the details of the service request. Service Owners can click **Assign To Engineer** to assign the service request to a Field Engineer and define whether or not the service request must be reviewed by Service Owner after Field Engineer completed the request.

Viewing the Service Requests

Service Owners can view the service requests that they have assigned to Field Engineers in the **OWNED BY ME** page.

To view a request, complete the following steps:
1. Go to the **OWNED BY ME** page.

2. To find a specific request, enter the request ID, location, or description of a service request in the search box, and click the **Search** button. Service Owner can also select **Request Type** and **Status** to filter requests.

3. Click the request ID to view the details of the service request.

### Processing the Service Requests

To process service requests, follow the steps below:

1. Go to the **ASSIGNED TO ME** page. The service requests assigned to Field Engineers are listed in this page.

2. Select a request. To find a specific request, enter the request ID, location, or description of a service request in the search box, and click the **Search** button. Field Engineers can also select **Request Type** and **Status** to filter requests.

3. Click the request ID to view the details of the service request.

4. Field Engineers can perform the following actions:
   - Click **Start** to accept the service request, and the status of the service request is changed to **In Progress**.
   - Click **Reject** to change the status of the service request to **Assigned to Department**. A Service Request Owner will then assign the service request to another Field Engineer.
   - Click **Suspend** to change the status of the service request to **On Hold**. Field Engineers can click **Resume** to resume the **On Hold** service requests; or click **Reject** to reject the **On Hold** service requests.
   - Click **Complete** to finish the service request, and the status of the service request will be changed to **Completed**, **Pending Department Approval**, or **Pending Dispatcher Approval**. In the **Complete** page, Field Engineer can select the completed date of the service request.

   Field Engineers can add a comment in the **Start** or **Reject** pages or on the **Comment** tab in the bottom of the detailed information page before the service request is closed.

### Reviewing the Service Requests

After a request that requires a Service Owner’s review is complete, an e-mail is sent to the Service Owner. The Service Owner can complete the following steps to review a request:

1. Go to the **OWNED BY ME** page.

2. Select a **Pending Department Approval** request. To find a specific request, enter the request ID, location, or description of a service request in the search box, and click the **Search** button. Service Owner can also select **Request Type** and **Status** to filter requests.
3. Click the request ID to review the service request. The Service Owner can perform the following actions:

- If there is no question about the request, click Approve to approve the request;
- If there are questions about the request, click Disapprove to go to the Disapprove Request page to select assign the request to a Field Engineer immediately or assign the request to a Field Engineer later.
CRM - GOVERNMENT WORKER

While the majority of configurations take place within the Internal Portal, there are a small number of tasks that must be performed within Dynamics CRM:

- Managing Service Request Types
- FAQ Management

The following are additional tasks that may be performed in Dynamics CRM.

- Appendix B - Reviewing AvePoint Citizen Services Settings
- Appendix C - Reviewing Service Request ID Definitions and Service Request Types
- Appendix D - Viewing the Roles and Role Groups
- Appendix E - Creating and Assigning a Service Request

Managing Service Request Types

Government Workers can create customized service request types and manage service request types.

Creating an Entity

To create a custom service request, you must have an entity to store the data for this particular service request type.

Complete the following steps to create an entity:

1. Navigation to Setting > Customizations > Customize the System interface.
2. Click Entities on the left pane. All of the entities are listed in this tab.
4. In the Entity Definition section, configure the following compulsory fields to create a new entity:
   - Display Name – Enter a display name for the entity.
   - Plural Name – Enter a plural name for the entity.
   - Ownership – Select the User or TEAM option from the drop-down list.
   - Name – Enter a name for the entity. This is the Entity Schema Name.
5. In the Areas that display this entity section, select Citizen Services.
6. In the Communication & Collaboration section, select Notes, Activities, and Queues checkboxes.
7. Click the save (✓) button in the upper-left corner to create the new entity.
Adding Required Fields

The customized service request type requires a set of fields in order to process requests properly.

Note that you will have a different prefix for the field name for example, new_, and that is acceptable. The display names for the fields as well as the schema name can be deviated from with no issues. You must enter the specific schema names of these fields in later steps, so please take note of the display and schema names used for your implementation.

For more information about the required fields, see Appendix A - Required Fields.

Adding Custom Fields

You can add any custom fields for this service request type.

Set the requirement level according to what rules you want enforced on the portal. Text entered into the description field will be displayed as instructions on the portal. Use data types like string, int, dates, and multi-line string and set appropriate validation requirements. The portal will render the appropriate UI based on the CRM metadata.

Complete the following steps to add a custom field:

1. In the Entity: [your entity display name] interface, click Fields.
2. Click New above the list header to go to the Field: New for [your entity display name] interface.
3. In the Schema section, configure the following fields:
   - Display Name – The name displayed in the interface of the entity.
   - Field Requirement – This field defines whether this field is required.
   - Name – This field consists of prefix and display name.
   - Searchable – This field defines whether this field is searchable.
   - Auditing – This field defines whether this field can be audited.
4. In the Type section, select a Data Type from the drop-down list. The other fields differ according to the data type.
   To apply an existing option, you can select the Optional Set option, and select Yes in the Use Existing Option Set field. Select an existing option set from the Option Set drop-down list.
5. Click Save and Close to save the configurations and go back to the Entity: [your entity display name] interface.

Customizing CRM Forms

It is highly recommended to use a consistent theme across all service request entities to make it easier for the users of Citizen, Field, and Internal Portals.
Complete the following steps to customize the form:

1. In the **Entity: [your entity display name]** interface, click **Forms**.
2. Click **New**, and select **Main Form** from the drop-down list.
3. Select the pane where to add the field, and the edge of the pane turns blue.
4. Double-click the fields in the **Field Explorer** pane to add the field into the main form.
5. Double-click the field. The **Field Properties** window appears.
6. Configure the properties in this window.
7. Click **Save** to save the configurations.
8. Open the Main Form again. Click **Save As** and name it Web Form. This will be the form that is used on the portal.

Solution: Default Solution

Form:  **General**

![General form](image)

**Figure 5: Creating the CRM form.**

**Customize CRM Views**

Complete the following steps to create a view for your service request type:

1. In the **Entity:** [your entity display name] interface, click **View**.

2. Select the **Active [your entity plural name]**, and click **More Action** above list headers. Select **Edit** from the drop-down list.
3. Click **Add Columns** in the right pane. The **Add Columns** window appears. Select the following columns for the view of the service request type, and click **OK** to add the columns into the view.

- Request Id (150 pixels)
- Service Status (100 pixels)
- Priority (100 pixels)
- Location (200 pixels)
- Dispatcher (150 pixels)
- Service Owner (150 pixels)
- Opened Date (150 pixels)
- Due Date (150 pixels)
- Closed Date (150 pixels)
- Owner (125 pixels)

![View: Active General Service Requests](image)

**Figure 6: Adding columns.**

4. Double-click the column. The **Change Column Properties** window appears. Select the width for each column, and click **OK** to apply the configuration.

5. Click a column in the view, and select the left (←) or right (→) button to move the position of the column.

6. Click **Configure Sorting** in the right pane. The **Configure Sort Order** window appears. You can select at most two columns to sort data in the view.
7. In the **Sort By** field, select the **Request ID** column, and select **Descending Order** to sort data by the value of this column.

![Configure Sort Order](image)

**Figure 7:** Configuring sort order.

8. Click **Edit Filter Criteria** in the right pane. The **Edit Filter Criteria** window appears.
9. Click **Select** and select the column from the drop-down list to add a criterion for this view.
   You can click **Clear** to remove all of the criteria.

![Edit Filter Criteria](image)

**Figure 8: Editing filter criteria.**

10. Click the **Save As** button to create a duplicate view and name the duplicate view as **My Active [your entity plural name]** and click **OK** to create this view.

11. Click the **save ( )** button in the upper-left corner to save the configurations.

   You can also edit the existing **Advanced Find, Lookup, Associated, and Quick Find** views.

### Creating a Service Request Type Record

You must now create a service request type definition record for your new service request type entity.

The service request type entity contains configuration information that the CRM plugins and portal reads to influence the behavior of the system.

Complete the following steps to create a service request type record.

1. Navigate to **Settings > Service Request Types.**
2. Click **New** to create a new service type.

3. Enter all of the configuration data for the service request type. The entity name is critical to get correct. Use the schema name for the entity you created in the earlier steps of this document. The Web Form is also important as the Web Form is used by the portal to determine the appropriate fields to list on the portal page.

4. Set the value of the **Service Request ID Definition** field to **Default Service Request Numbering**.

   ![Figure 9: Creating a service type.](image)

   *Note*: It is important to place the exact schema names of all of the fields that you created earlier in this document into the correct location in this form.

   *Note*: If you want to create a service type associated with location, set the value of the **Location Required** field to **Yes** and configure the associated fields.

**Wiring Up the Plugins for Custom Entities**

In order for the service request system to work, you must wire up the plugins to your custom entity. Follow the instructions below to wire up the plugin using the **Plugin Registration** tool that ships with the CRM SDK.

1. Launch the **Plugin Registration** tool.
2. Connect to your CRM.
3. Select your organization.
5. Find the Ave.E311.ServiceRequest.Plugins.Pre_Sync_Create_1_ServiceRequest_Plugin and register a new step, as the screenshot below shows.

**Figure 10:** Registering a step.

6. Enter the message.

7. Enter the entity you created as the Primary Entity.

8. Select **Post-operation**

9. Select **Synchronous**.

10. Click **Register New Step**.

11. Add another step using the same process, only register this one on the update message.
At this point, the geo-location plugin will be registered on your entity and will ensure that latitude and longitude fields are updated so that your entity is mappable.

12. Locate the Ave.E311.ServiceRequest.Plugins.Pre_Sync_Create_1_ServiceRequest_Plugin and register your entity on the create message, as the screenshot below shows.

*Note: This is a synchronous step and needs to be registered on the pre-operation stage.

13. Locate the Ave.E311.ServiceRequest.Plugins.Pre_Sync_Delete_1_ServiceRequest_Plugin and register your entity on the delete message, as the screenshot below shows.
*Note: This is a synchronous step.

After completing the steps above, test the portal to ensure that all the processes associated with service requests function properly.

FAQ Management

To display the FAQs on the Citizen Portal, Government Workers can create FAQs in CRM. To create FAQs in CRM, follow the steps below:

1. Navigate to the Microsoft Dynamics CRM > FAQ Configuration > FAQs entity.
2. Click New on the left top of the page to go to the New FAQ page.
3. In the General section the Owner field is automatically populated. Configure the following fields:
   - **Scope Type** – If the FAQ is a common question, select Common to display this question under the Common tab in the FAQS page of the Citizen Portal; otherwise, select Specified Service Type Only, and define the service request type in the Service Request Type field to display this question under the corresponding tab in the FAQS page of the Citizen Portal.
   - **Publish Status** – If the FAQ is not ready for publishing, select Draft; if the FAQ is for public, select Published.
4. Complete the fields in the Content tab.
5. Click SAVE & CLOSE to save the configurations.
INTERNAL PORTAL-GLOBAL ADMINS, ADMINS, MANAGERS, OR DISPATCHERS

The Internal Portal is provided to manage and report the service requests as well as design the look and feel of the Citizen Portal and Field Portal.

The HOME page of the Internal Portal displays the shortcuts to the DASHBOARD, SITE SETTINGS, and CONFIGURE SERVICES pages. The HOME page also lists the information of the current user, the account to sign into CRM, and the URLs of the Citizen Portal, Field Portal, and CRM.

*Note: Dispatcher can also see the Work on Service Requests tab on the Home page.

There are four roles using the Internal Portal:

- **Admins**
  - can perform the following operations:
    - In the SITE SETTINGS page, Admins can change the logos and branding for the Citizen Portal and Field Portal. For details refer to Changing Branding and Logos.
    - In the DASHBOARD page, Admins can filter service requests and view reports. For details, refer to Viewing Reports on the Dashboard.
    - In the CONFIGURE SERVICES page, Admins can configure the settings of service requests displayed on the Citizen Portal. For details, refer to Configuring Citizen Services.
    - In the FEEDBACK & SURVEY page, Admins can manage the feedbacks and surveys. For details, refer to Managing Feedback and Survey.
- **Global Admins**
  - can perform all of the actions that the Admins can do and can also manage users or groups in the USERS & GROUPS page. For details about manage users and groups, refer to Managing Users and Managing Groups of Internal Portal.
- **Managers**
  - can perform the following operations:
    - In the DASHBOARD page, Managers can filter service requests and view reports. For details, refer to Viewing Reports on the Dashboard.
    - In the FEEDBACK & SURVEY page, Managers can manage the feedbacks and surveys. For details, refer to Managing Feedback and Survey.
• Dispatchers can create or manage service requests in the REQUEST MANAGEMENT page.

Changing Branding and Logos
To change the branding and logos for the Citizen Portal and Field Portal, follow the steps below:

1. Go to the SITE SETTINGS page of the Internal Portal.
2. Click Configure to go to the corresponding page to configure the following settings:
   - Portal Logo for the Citizen Portal, Field Portal, and Internal Portal
   - Portal Theme for the Citizen Portal, Field Portal, and Internal Portal
   - Locale Settings for the Citizen Portal and Field Portal
   - Banner and Introduction for the Citizen Portal
   - Social Sharing for the Citizen Portal
   - Help Information for the Citizen Portal

Configuring Citizen Services
In the CONFIGURE SERVICES page of the Internal Portal, Global Admins and Admins can edit the precondition for each service request and enable or disable service requests.

To configure settings for service requests, follow the steps below:

1. Go to the CONFIGURE SERVICES page of the Internal Portal.
2. Click the switch next to a service type to activate or deactivate the corresponding service. Only the active service request types are available on Citizen Portal
3. Click Configure to modify the preconditions and logos for the corresponding service request type.
4. Click Save to save the preconditions.

Managing Users of the Internal Portal
Global Admins can assign different roles to different users. Only Global Admins can add and manage the users and groups who can use Internal Portal.

Complete the following steps to add a user into the Internal Portal:

1. Go to the USER MANAGEMENT > Users & Groups page.
2. Click Add User to go to the Add User page.
3. Enter username in the search box to search the user.
4. Select one of the following roles for the user:

- **Global Admin** – Administrators that have full control of the Internal Portal.
- **Admin** – Administrators can perform all of the actions in the Internal Portal except managing users and groups.
- **Manager** – The users that can manage feedbacks and surveys, and view the HOME and DASHBOARD pages.
- **Dispatcher** – Only the users have this role can create or manage service requests in the Internal Portal.

Click **Add** to add the user.

To edit a user, click the name of the user to go to the **Edit User** page to edit the roles for the user.

**Managing Groups in the Internal Portal**

Only the Global Admins can add and manage the groups. If a user is added into a group, the user will gain the roles of groups automatically.

*Note*: If there are any conflicts between the roles of a user and the user’s group, the user will have the full set of user and group’s roles respectively.

Complete the following steps to add a group for using the Internal Portal:

1. Go to the **USER MANAGEMENT > Users & Groups** page.
2. Click **Add Group** to go to the **Add Group** page.
3. Select the way to add the group:
   - Add an existing group from your domain
   - Create a new group
4. If you select **Add an existing group from your domain**, enter group name in the search box to search the existing group; if you select **Create a new group**, enter a name for the new group.
5. Enter an optional description.
6. Select one of the following roles for the group:
   - **Global Admin** – Administrators that have full control of the Internal Portal.
   - **Admin** – Administrators that can perform all of the actions in the Internal Portal except managing users and groups.
   - **Manager** – The users that can manage feedbacks and surveys, and view the HOME and DASHBOARD pages.
   - **Dispatcher** – Only the users have this role can create or manage service requests in the Internal Portal.
7. Click **Add** to add the group.
To edit a group, click the name of the group to go to the Edit Group page to edit description, roles, or members for the group.

Managing Service Owner Groups for the Field Portal

Global Admins and Admins can add Service Owner groups into the Internal Portal. Users in the Service Owner groups can sign into the Field Portal to assign services to Field Engineers. For details, refer to Viewing the Service Requests.

Complete the following steps to add the Service Owner Groups:

1. Navigate to the USER MANAGEMENT > FIELD MANAGEMENT > Service Owner Groups tab.
2. Click Add to go to the Add Service Owner Group page.
3. Select the way to add the Service Owner Group:
   - Import an existing group from your domain
   - Create a new group
4. If Global Admins and Admins select Add an existing group from your domain, enter group name in the search box to search the existing group; if Global Admins and Admins select Create a new group, enter a name for the new group.
5. Enter the e-mail address for the group.
6. Enter an optional description.
7. Click Add to add the group.

To edit a Service Owner Group, click the name of the group to go to the Edit Service Owner Group page to edit name, e-mail address, description, service type, or members for the group.

Managing Field Engineer Groups for the Field Portal

Global Admins and Admins can add Field Engineer Groups into the Internal Portal. Users in the Field Engineer groups can sign into the Field Portal to process services. For details, refer to Processing the Service Requests.

Complete the following steps to add the Field Engineer groups:

1. Navigate to the USER MANAGEMENT > Field Engineer Groups tab.
2. Click Add to go to the Add Field Engineer Group page.
3. Select the way to add the Field Engineer Group:
• Import an existing group from your domain
• Create a new group

4. If Global Admins and Admins select **Import an existing group from your domain**, enter group name in the search box to search the existing group; if Global Admins and Admins select **Create a new group**, enter a name for the new group.

5. Enter an optional description.

6. Click **Add** to add the group.

To edit a Field Engineer group, click the name of the group to go to the **Edit Field Engineer Group** page to edit name, description, service type, or members for the group.

### Creating a Request

Dispatchers can create requests in the Internal Portal. Complete the following steps to create a request:

1. Go to the **REQUEST MANAGEMENT** page.
2. Click **CREATE NEW** to go to the **Request Type** page to select the request type, and click **Create** to go to the next page.
3. Fill in the fields.
4. Click **Submit** to submit the service request.

### Managing Requests

Dispatchers can manage all of the requests in the Internal Portal. Dispatchers can find a specific service request in the following ways:

- Go to the **Unprocessed Requests, My Pending Approvals, Overdue Requests**, or **All Requests** tab to view the service requests.
- Enter the request ID, location, or description of the service request in the search box on the top of this page. Click the **Search** button to search the service request.
- Filter the service requests by selecting the **Request Type, Time Range**, and **Status**.

To manage a service request, Dispatchers can perform the following actions:
• **Assign** – Click **Assign** to go to the **Assign Request** page. If you want to review this request after it is accomplished, select the **Need my approval when accomplishing** option. Select a due date and a priority for the request.

• **Link Related Requests** – Click **Link Related Requests** to go to the **Link Related Requests** page. Search the related request. Select the related request, and click **Link** to link the request or click **Create** to create the related request.

• **Delete Relationship** — Go to the bottom of the page, and select the **Related Requests** tab. The linked requests are displayed on this tab. Click **Delete Relationship** to delete the relationship of these linked requests.

• **Duplicated** – Go to the bottom of the page, and select the **Duplicate Requests** tab. The potential duplicates are displayed on this tab. If there is no relation between the requests, click **Dismiss** to remove the potential duplicate request from this tab. Click **Select as Parent** to set the request next to the button as parent request.

• **Complete Request** – Click **Complete Request** to complete the request.

---

**Managing Feedback and Surveys**

Global Admins, Admins, and Managers can view the feedback and surveys from the Residents or Visitors. The Internal Portal only lists the latest survey for each service request type.

**Viewing Reports on the Dashboard**

To view the reports, go to the **DASHBOARD** page of the Internal Portal. The **Service Request Analysis Dashboard** is displayed in this page. By default, the reports are reporting on all of the submitted service requests of all service types.

Follow the instructions below to view the reports:

- The **Service Request Analysis Dashboard** provides multiple filters. Use these filters to define the scope of services to report on. For details, refer to [Generating Reports](#).
- The **Service Request Analysis Dashboard** provides multiple reports in the formats of charts and lists. For details, refer to [Viewing Charts and Lists](#).
- By using the **Filters** pane, administrators can analyze certain chart or list further. For details, refer to [Analyzing Individual Chart or List](#).

**Generating Reports**

Use the following filters to filter service requests and load reports:

- **Date Filter** – This filter is on the top of the dashboard. Click the unit of period to filter service requests.
  - **Y** represents Year. Select this option to filter the service requests created in the specific year.
- Q represents Quarter. Select this option to filter the service requests created in the specific quarter of the year.
- M represents Month. Select this option to filter the service requests created in the specific month.
- W represents Week. Select this option to filter the service requests created in the specific week.
- D represents Day. Select this option to filter the service requests created in the specific date.

- **Report Filters** – This filter is on the right of the dashboard pane, and filters the service requests by **Type**, **Status**, and **Priority**.

### Viewing Charts and Lists

The following reports will show analysis on the service requests from different aspects:

- **Open Service Requests** – This section reports the results of open service requests, and this section is divided into the following four parts:
  - **Unprocessed Requests** – This part shows the number of the open service requests.
  - **Open Requests - Detail** – This part shows the detailed information of open service requests.
  - **Open Requests by Engineer** – This part shows the open service requests by the Field Engineers that the service request assigned to.
  - **Open Requests by Location** – This part shows the open service requests by location.

- **All Service Requests** – This section reports the results of all of the service requests, and this section is divided into the following four parts:
  - **Volume of Service Requests** – This chart shows the differences of the service requests volume according to the change of year.
  - **Requests by Type** – This chart shows the proportion of different service request types.
  - **Requests by Status** – This chart shows the proportion of different service request status.
  - **Requests by Priority** – This chart shows the proportion of different service request priorities.

- **Performance Reports** – This section shows the performance of solving service requests.
  - **Average Duration of Request** – This chart shows the average duration of each service request type to solve a service request.
Request Volume vs Avg Duration – This chart shows the relationship of the average duration to solve a service request and the request volume.

Unique Citizen Reports – This chart shows the relationship of the individuals that submit service requests and the request volume.

*Note: The Request Volume vs Avg Duration and Unique Citizen Reports charts supports to drill up or drill down.

- User Satisfaction – This section shows the requester’s satisfaction of solving service requests.
  - Average Satisfaction of Request – This chart shows the average requesters’ satisfaction of the service requests.
  - Average Satisfaction of Engineer – This chart shows the average Field Engineers’ satisfaction of the service requests.
  - Average Satisfaction of Year – This chart shows the average satisfaction of the service requests in the year.

Analyzing Individual Chart or List

Administrators can analyzing an individual chart or list further by filtering the service requests for the chart or list.

The Filters pane is next to the Report Filters. Click the arrow button to expand the Filters pane. By default, only the Page level filters appear. If a chart or list is selected, the Visual level filters will appear. The Page level filters and Visual level filters are divided into Basic filtering and Advanced filtering.

- Basic filtering – Select the specific options to filter the service requests. The filter is applied automatically.
- Advanced filtering – Select an option from the drop-down menu and define a value to filter the service requests by certain property. Click Apply filter to apply the configurations.

Global Admins, Admins, and Managers can analyze the filtering results in the chart or list.

Global Admins, Admins, and Managers can also download the reports by clicking Download Cortana Analysis Report Template, and open the download reports with Power BI Desktop.
AvePoint Citizen Services uses Streetlight data to monitor streetlight failures as well as predict and report broken streetlights intelligently. Streetlights can automatically create service requests based on Internet of Things data. The Streetlights service follows the workflow below:

1. Service Owners and Field Engineers add the information of each streetlight in the streetlight page of the Field Portal. For details, refer to Adding Streetlights.
2. Global Admins, Admins, and Managers will view the predictive results in the Internal Portal, and service requests will be generated in CRM automatically. For details, refer to Monitoring Streetlights.
3. Dispatchers can assign the streetlight service requests to Service Owner groups, and Service Owners will assign the streetlight service requests to Field Engineers to process the service requests.

Adding Streetlights

Service Owners and Field Engineers can add and update information for each streetlight in the streetlight page of Field Portal, and Global Admins, Admins, and Managers can view the status and predictive information for these streetlights.

To add streetlights, follow the steps below:

1. Go to the STREETLIGHTS page of the Field Portal.
2. Click Add Device. The Add Device page appears.
3. Fill in the fields about the streetlight.
4. Click Save to save the information.

Monitoring Streetlights

Service Owners and Field Engineers add the information for each street light, and then Global Admins, Admins, and Managers can view the status and predictive information for these streetlights in the Internal Portal. To manage the streetlights, follow the steps below.

1. To view the streetlights, go to the STREETLIGHTS page of the Internal Portal. The Streetlight Status tab shows the status of the streetlights via the map.
2. Enter an address and select a radius to define a scope, and check the streetlights in the scope.
   The following colors show different streetlight statuses:
- **Green**: represents that the streetlight is working normally.
- **Red**: represents that the streetlight has failed.

3. Click the **Predict Failures** tab to view the predictive information.

4. Enter an address, define a time range, and select the radius to define a scope. The predictive information is listed below the map. You can filter the results by clicking the buttons of the following predictive status:
   - **Working** – The streetlight in green is still working in the time range.
   - **Failed** – The streetlight in red is broken in the time range.
   - **Will Fail** – The streetlight in orange may break during the time range.

5. Click **Place Order** to capture the results via an e-mail.

6. Click the **Preventative Maintenance** tab to maintain streetlights.

7. Enter an address and select the radius to define a scope.

8. View the detailed information of streetlights listed in the table. You can select one of the following methods for submitting **Schedule Maintenance** service requests:
   - To submit a single service request, click **Schedule Maintenance** in the **Service Request** column, and select a date to maintain the streetlight. Click **Submit** to create a service request in CRM.
   - To submit service requests in batch, select the streetlights, and configure the date to maintain the streetlights in advance. Click **Schedule Maintenance** to create a service request for each selected streetlight in CRM.
CONFIGURING THE CORTANA PERSONAL ASSISTANT

The AvePoint Citizen Services trial supports integration with the Cortana Personal Assistant.

To use Cortana with AvePoint Citizen Services, the following prerequisites must be configured:

1. Set up a free Microsoft Power BI account. To sign up for a free account, refer to the Power BI Sign In interface at powerbi.microsoft.com.
2. For Cortana to access data in Power BI, you must add the work or school account you use with Power BI.
   
   Complete the following steps to add a Power BI account:
   
   a. Ensure you have Windows 10 version 1511 (Windows 10 November Update) or later installed. To check which version you have by navigating to Settings > System > About.
   b. Navigate to the Settings > Accounts > work access > add a work or school account interface.
   c. Scroll to the bottom where you will see Add a Microsoft account.
   d. Sign in with the account you use with Power BI.
3. Ensure that Power BI Desktop is installed on your PC. For how to download Power BI, refer to Get Power BI Desktop.

To configure your PC to use the Cortana Personal Assistant integrating with the AvePoint Citizen Services, complete the following steps:

1. Downloading the Cortana Analysis Report Template
2. Opening and Publishing the Template to Your Power BI Subscription
3. Configuring the New Data Source in Power BI
4. Testing the Configurations

Downloading the Cortana Analysis Report Template

Complete the following steps to download the Cortana Analysis Report Template:

1. Sign in the Internal Portal.
2. Go to the Dashboard page.
3. Click **Download Cortana Analysis Report Template** in the top of the **Dashboard** page to download the Cortana Analysis Report Template, as the screenshot below shows.

![Dashboard](image)

**Figure 9: Downloading the Cortana Analysis Report Template.**

**Opening and Publishing the Template to Your Power BI Subscription**

Complete the following steps to open the Cortana Analysis Report Template in Power BI and publish it to your Power BI subscription:

1. Launch Power BI Desktop.
2. In the **File** menu, select **Import**, and click **Power BI Template**.

![Figure 10: The Power BI File menu.](image)

3. Select the template you downloaded. The **AvePoint Citizen Services** window appears.

![Figure 11: The AvePoint Citizen Services window.](image)

4. Enter the URL of the CRM of your portal.

The full URL of the CRM is in the following format:
https://[your portal name].crm.dynamics.com/XRMServices/2011/OrganizationData.svc

*Note: The first part of this URL can be found on the home page of the Internal Portal, or in the email you received to start your trial.*
5. To configure the connect to the data service, select **Organizational Account** on the left of the form, and select the last option in the drop-down menu.

![Access an OData feed](image)

**Figure 12: Selecting the last option.**

6. Click **Sign in**, and enter the credentials of the Dynamics CRM User. Power BI desktop will load your AvePoint Citizen Services trial data from CRM automatically.

7. Publish the dataset to your Power BI account via the **Publish** button in the ribbon of Power BI Desktop, and save the file.

![Publish button](image)

**Figure 13: Publishing the dataset.**
8. Rename the file.

9. Sign in the account associated with your Power BI subscription. If the message **Publishing to Power BI** appears, the publishing process has been completed successfully.

![Publishing to Power BI success message](image)

**Figure 14: Publishing to Power BI success message**

### Configuring the New Data Source in Power BI

Configure the dataset in Power BI so that it can be searched by Cortana by following the steps below:

1. Click **Open…** in the **Publishing to Power BI** window to access Power BI or navigate to powerbi.com and select a data source that you have published.

2. Select the **Settings (⋮)** button in the ribbon.

![Clicking the Settings button](image)

**Figure 15: Clicking the Settings button.**
3. In the settings page, select the **Datasets** tab, and expand the **Q&A and Cortana** section. Select the **Allow Cortana to access this dataset** option, and click **Apply** to save the configurations.

![Setting up Cortana access](settings.png)

**Figure 16:** Allowing Cortana to access this dataset.

*Note:* When a new dataset or custom Cortana Answer Page is added to Power BI and enabled for Cortana, it can take up to 30 minutes for results to begin appearing. Signing in and out of Windows 10 or restarting the Cortana process in Windows 10 will allow new content to appear immediately. For more details, refer to [Enable Cortana for Power BI](#).

**Testing the Configurations**

To test the configuration, type any of the following questions or phrases into Cortana. If configured properly, you will see results immediately.
- Service request summary
- How many open service requests?
- Unprocessed service requests
- Streetlight outages
- What are Field Engineers working on?
- Field Engineer utilization
- Service requests this year
- This year's service requests
- Summary of service requests for this year
- All service requests for year
- Requests for last 30 days
- Service requests for last 30 days
- Summary of service requests for last 30 days
- All service requests for last 30 days
- Service requests for the past month
- Summary of service requests for the past month
- Service requests for this quarter
- All service requests for this quarter
Once the results appear after typing the phrases, you can test speaking the phrases to Cortana.

*Note: For more information about using the Hey Cortana feature so you can speak phrases to Cortana, refer to the following link: Activate “Hey Cortana” mode.

*Note: For more details about Microsoft’s resources on using Cortana with Power BI, refer to the following sites:

- Enable Cortana for Power BI
- Introduction to Cortana for Power BI
APPENDIX A - REQUIRED FIELDS

The customized service request type requires a set of fields in order to process service requests properly. The table below lists the required fields.

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Definition</th>
<th>Field Display Name</th>
<th>Field Type</th>
<th>Search</th>
<th>Required Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>[your service request name]CloseDate</td>
<td>The time when the service request is closed.</td>
<td>Closed Date</td>
<td>Date and Time</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]IncidentDate</td>
<td>The time when the service request is submitted.</td>
<td>Opened Date/Incident Date</td>
<td>Date and Time</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]LatitudeNumber</td>
<td>The latitude value of the location that is used for web view. This field is required when the service request needs location information.</td>
<td>Latitude</td>
<td>Decimal Number</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]LocationText</td>
<td>The location where accident occurred.</td>
<td>Location</td>
<td>Single Line of Text</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]LongitudeNumber</td>
<td>The longitude value of the location that is used for map view. This field is required when the service request needs location information.</td>
<td>Longitude</td>
<td>Decimal Number</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]PriorityCode</td>
<td>The priority of service requests. You can use the built-in global option set: Service Request Priority.</td>
<td>Priority</td>
<td>Option Set</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]ServiceStatusCode</td>
<td>The status of service requests. You can apply the existing global option set: Service Request Service Status. Set</td>
<td>Service Status</td>
<td>Option Set</td>
<td>Yes</td>
<td>Required</td>
</tr>
<tr>
<td>Field Name</td>
<td>Definition</td>
<td>Field Display Name</td>
<td>Field Type</td>
<td>Search</td>
<td>Required Option</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>--------------------</td>
<td>------------</td>
<td>--------</td>
<td>-----------------</td>
</tr>
<tr>
<td>[your service request name]ScheduledDate</td>
<td>The time when the service requests are proposed to be finished.</td>
<td>Scheduled Date</td>
<td>Date and Time</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]DescriptionText</td>
<td>The description of the service requests.</td>
<td>Description</td>
<td>Multiple Line of Text</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]SubmitTypeCode</td>
<td>Service requests can be submitted via online, offline, or IoT. This field records to the way to submit service requests. You can apply the existing global option set: Submission Type. Set Offline as the default value of this option set.</td>
<td>Submission Type</td>
<td>Option Set</td>
<td>Yes</td>
<td>Required</td>
</tr>
<tr>
<td>[your service request name]IsGetNoticeCode</td>
<td>This field records whether or not the requester wants to get notification. Set No as the default value of this field.</td>
<td>Notify me by email when request is closed</td>
<td>Two Options</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]ContactGUID</td>
<td>This field is used to look up Contact entity to generate relationship between signed in user and the service request type.</td>
<td>Regarding Contact</td>
<td>Lookup</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]SatisfiedStatusCode</td>
<td>The survey value of the service requests. You can apply the existing global option set: Service</td>
<td>Customer Survey Result</td>
<td>Option Set</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>Field Name</td>
<td>Definition</td>
<td>Field Display Name</td>
<td>Field Type</td>
<td>Search</td>
<td>Required Option</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>------------</td>
<td>--------</td>
<td>-----------------</td>
</tr>
<tr>
<td>[your service request name]DuplicateStatusCode</td>
<td>This field records whether this request is duplicated with other requests. You can apply the existing global option set: <strong>Service Request Duplicate Status</strong>.</td>
<td>Duplicate Status</td>
<td>Option Set</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>[your service request name]ParentGUID</td>
<td>This field is used to look up the entity of the service request to mark which request is the duplicate parent of the service request.</td>
<td>Parent Lookup</td>
<td>Yes</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>[your service request name]TypeOwnerGUID</td>
<td>This field is used to look up to <strong>Service Request Type Owner</strong> entity to add the request type owner information.</td>
<td>Service Request Type Owner Lookup</td>
<td>Yes</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>[your service request name]TypeOwnerGroupGUID</td>
<td>This field is used to look up to <strong>Service Request Type Owner Group</strong> entity to add the request type owner group information.</td>
<td>Service Request Type Owner Group Lookup</td>
<td>Yes</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>[your service request name]DispatcherReviewCode</td>
<td>Whether dispatcher want to review the request when it is finished by engineer or request type owner.</td>
<td>Need Dispatcher Review Two Options</td>
<td>Yes</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>[your service request name]DispatcherGUID</td>
<td>This field is used to look up to the <strong>Dispatcher</strong></td>
<td>Dispatcher Lookup</td>
<td>Yes</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>Field Name</td>
<td>Definition</td>
<td>Field Display Name</td>
<td>Field Type</td>
<td>Search</td>
<td>Required Option</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>---------------</td>
<td>--------</td>
<td>-----------------</td>
</tr>
<tr>
<td>RequestGUID</td>
<td>This field is used to look up to the Service Request entity.</td>
<td>Service Request</td>
<td>Lookup</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>ContactNumberText</td>
<td>This field records requester’s contact number. This field is only required when the contact information is necessary for this service request type.</td>
<td>Contact Number</td>
<td>Single Line of Text</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>FirstNameText</td>
<td>This field records requester’s first name. This field is only required when the contact information is necessary for this service request type.</td>
<td>First Name</td>
<td>Single Line of Text</td>
<td>Yes</td>
<td>Optional</td>
</tr>
<tr>
<td>LastNameText</td>
<td>This field records requester’s last name. This field is only required when the contact information is necessary for this service request type.</td>
<td>Last Name</td>
<td>Single Line of Text</td>
<td>Yes</td>
<td>Optional</td>
</tr>
</tbody>
</table>
APPENDIX B - REVIEWING AVEPOINT CITIZEN SERVICES SETTINGS

By default, the configuration of AvePoint Citizen Services system settings has been completed. The system settings include the URLs of each portal and the e-mail signature.

If you want to review or modify the system settings, follow the steps below:

1. Navigate to the Microsoft Dynamic CRM > Common > Settings > System Settings entity.
2. Click Default System Setting.
3. The fields in the General section are automatically populated. You can modify the name of the system settings, the URLs of portals, or change the e-mail signature.
4. Click SAVE to save the configurations.
APPENDIX C - REVIEWING SERVICE REQUEST ID DEFINITIONS AND SERVICE REQUEST TYPES

Citizen Services CRM Portal provides default service types. The service request ID definition is used to define the composition of the service request IDs of service request types.

By default, the configurations of the service request ID definitions have been completed, if Government Workers want to change the service request ID for a service request type, follow the steps below:

1. Navigate to the Microsoft Dynamic CRM > Common > Service Request ID Definitions entity.
2. Click New on the upper-left corner of the page to go to the New Service Request ID Definition page.
3. The Owner, Created On, and Modified On fields are automatically populated. Configure the following fields in the General section:
   - **Name** – Enter the name of this new service request ID definition.
   - **Format** – Enter the prefix of the ID in the format of Prefix{0}.
   - **Digits** – Enter the number of figures in the ID, for example 5.
   - **Last Number Issued** – Enter the number from which the number of the ID will count, for example 21.
4. Click SAVE & CLOSE to save the configurations.
5. Navigate to the Microsoft Dynamic CRM > Common > Service Request Types entity.
6. Click the name of a service request type to go to the page of the service request type.
7. In the Auto Numbering Definition field, select the service request ID definition Government Workers configured.
8. Click SAVE & CLOSE to save the configurations.

The next service request ID of the service request type that Government Workers configured will be Prefix00022.
APPENDIX D - VIEWING THE ROLES AND ROLE GROUPS

CRM displays users of the following roles:

- **Field Engineers Groups** – Field Engineers are sorted into different Field Engineer groups.
- **Field Engineers** – Field Engineers can process service requests and update the status of the service requests.
- **Dispatcher** – Dispatcher is an Internal Portal role. The users in the Dispatcher role can manage requests in the Internal Portal.
- **Service Owner Groups** – Service Owners are sorted into different Service Owner groups. Before assigning the service requests to certain Service Owner group, Government Workers can view the detailed information of Service Owner groups in the Service Owner Groups entity.
- **Service Owners** – Service Owner can assign the service requests assigned to their group to Field Engineers and define whether or not service requests require review.

Government Workers can navigate to Microsoft Dynamic CRM > Common > Workers and select the corresponding entity to view the information of Dispatchers, request type owner groups, request type owner, Field Engineer groups or Field Engineers.
APPENDIX E - CREATING AND ASSIGNING A SERVICE REQUEST

Government Workers can create service requests for the Residents or Visitors who submitted those requests by phone or in person, and they can also view the services request created in the Citizen Portal.

The Government Workers will assign the service requests that they created or are synchronized from Citizen Portal to Service Owner groups.

To create and assign a service request in CRM, follow the steps below:

1. Sign in CRM.
2. Navigate to the Microsoft Dynamic CRM > Citizen Services tab, and select an entity of the service requests. Go to page of the entity. All of the service request types are listed in this page.
3. Take one of the following actions:
   • Click New on the left top of the page to create a new service request. Fill in the particulars of the service request according to the information the requester provides.
   • Click the Request ID of a service request to go to the page of this service request to assign the service request. The basic and contact information provided by the requester are automatically populated in the General section and Contact section.
4. Check the information of the service request. To view the images in the comments, click Photo Gallery to display the photos in the Photo Gallery section. The duplicated requests, related requests, histories and subscribers are listed in the Duplicated Requests, Related Requests, History and Citizens following the request sections in this page. Government Workers can click the subject to view the corresponding records.
   If any requests do not need Field Engineers to process, Government Workers will resolve the service request directly. The Service Status field will be set to Completed by a Government Worker when the service request is completed.
5. In the Service Management section, the Owner and the Opened Date fields are already automatically populated. Configure the following fields to assign the service request:
- **Service Status** – Select the **Assigned** option, and the **Priority**, **Scheduled Date**, **Field Engineer Group**, and **Field Engineer** fields are changed to compulsory fields.

- **Priority** – Select the priority status for the service request. The four available options are **Urgent**, **High**, **Medium**, and **Low**.

- **Service Request Type Owner Group** – Enter the name of the service request type owner group Government Workers want to assign this service request to, and click the **Search** button. Select the service request type owner group from the search results.

- **Service Request Type Owner** – Enter the display name of the service request type owner Government Workers want to assign this service request to, and click the **Search** button. Select the service request type owner from the search results.

- **Dispatcher** – Enter the display name of the Dispatcher Government Workers want to assign this service request to, and click the **Search** button. Select the Dispatcher from the search results.

- **Need Dispatcher Review** – Define whether or not this service request need Dispatcher’s review. If this service request need Dispatcher’s review, select **Yes**; otherwise, select **No**.

- **Due Date** – Select a due date for this service request.

- **Close Date** – Select the closed date for this service request.

- **Customer Survey Result** – This field is automatically synchronized from the Internal Portal.

6. To add a comment to the service request, select one of the following methods:

   - To create a note that only Government Workers can view, enter a note in the **NOTES** text box, and click **Attach** to add a picture.

   - To create a note that can be shown to the Residents or Visitors, complete the following steps:
     - Click activities.
     - Click the More (····) button, and select **Comment** to go to the new comment page.
     - Enter a subject and the content.
     - Enter a subject and the content.
     - Set the value of the **Can be seen by citizen** field to **Yes**.
     - Click **Save** to save the comment.

Government Workers can view this comment in CRM, and Field Engineers can view this comment in the Field Portal. Click **MARK COMPLETE** to save the configurations and complete the comment. If the value of the **Can be seen by citizen** field is **Yes**, Residents or Visitors can view this comment in the Citizen Portal.
7. Click **SAVE & CLOSE** to save the configurations.

The status of the services request is changed from **Unprocessed** to **Assigned**.

The **Closed Date** field, will be filled when the service request is completed. If the request is a **Noise Complaint Service Request** or **General Service Request**, Government Workers can solve the service request directly, and this field will be selected by a Government Worker; otherwise, the assigned Field Engineer will fill in this field in the Field Portal, and the information will be submitted to the CRM.
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