



MAPLYTICS™ – User Manual



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Introduction

Maplytics™ is a leading Certified for Microsoft Dynamics 365 (CfMD) geo-analytical mapping app. Maplytics empowers users across verticals with the power of Geographical Data Visualization, Optimized Routing, Automated Appointment Planning, Proximity Search, Heat Maps, Shape Overlay, Census data visualization and Territory Management to drive better sales, improve business processes and engage right customers at the right time.

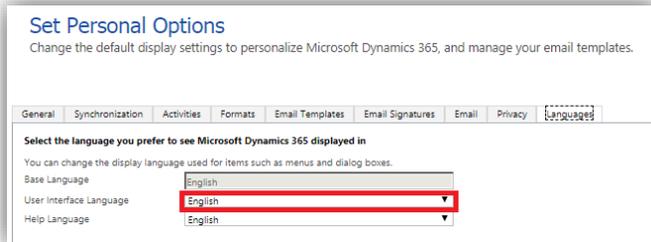
Maplytics is available for Microsoft Dynamics versions CRM 2013 and above and supports all deployment models of CRM On-Premise (IFD as well), CRM Online and Partner-hosted. It uses the API services provided by Bing maps. The following are the highlights of Maplytics:

- ✓ Ease of access
- ✓ Multiple language support
- ✓ Plot any entity record on the map
- ✓ Area of Service
- ✓ Proximity Search
- ✓ Auto Scheduling
- ✓ Territory Management
- ✓ Check-In
- ✓ Bring your own icons
- ✓ Multiple category on plot card
- ✓ Multiple territory for a record
- ✓ Spider Cluster
- ✓ Building Marketing list
- ✓ Pie Charts and Column Charts in Heat Map
- ✓ Overlay
- ✓ Merged Plot and Route view
- ✓ Maplytics Security Template
- ✓ Point of Interest search
- ✓ Layer Menu
- ✓ Concentric Proximity search
- ✓ Bulk geographies upload
- ✓ Shape operations
- ✓ CRM / Dynamics 365 Customer Engagement
- ✓ View travel distance on proximity search
- ✓ PowerApps Component Framework
- ✓ Census data visualization
- ✓ Support for CDS
- ✓ Data grid resizable
- ✓ Plot Saved Templates on individual records
- ✓ Color coding of pushpins based on configurable categorizations
- ✓ Routing with multiple waypoints
- ✓ Along the Route search
- ✓ Ability to Save & Share Driving directions
- ✓ Sales analysis made easy with Opportunity and Sales Heat Maps
- ✓ Summary Card on Detail and Heat Map
- ✓ Configurable color for Heat Map measure
- ✓ Include Maplytics component on the Dashboard through configurable queries
- ✓ Geocoding Confidence Rating
- ✓ Compatibility with Dynamics 365 App for Phones and Tablets
- ✓ Route Redirect for turn by turn navigation on mobiles and tablets
- ✓ Seamlessly integrated within Dynamics
- ✓ Check-In

Language Support

Maplytics is a multi-language solution currently available in six different languages namely:

- English
- Spanish (Español)
- German (Deutsche)
- French (Français)
- Portuguese (Português)
- Turkish (Türk)



Maplytics auto-detects the user language set in Dynamics CRM and sets its language accordingly.

To check user language set in Dynamics CRM, please go to **Settings > Options > Languages**

Maplytics Configuration (Personalization)

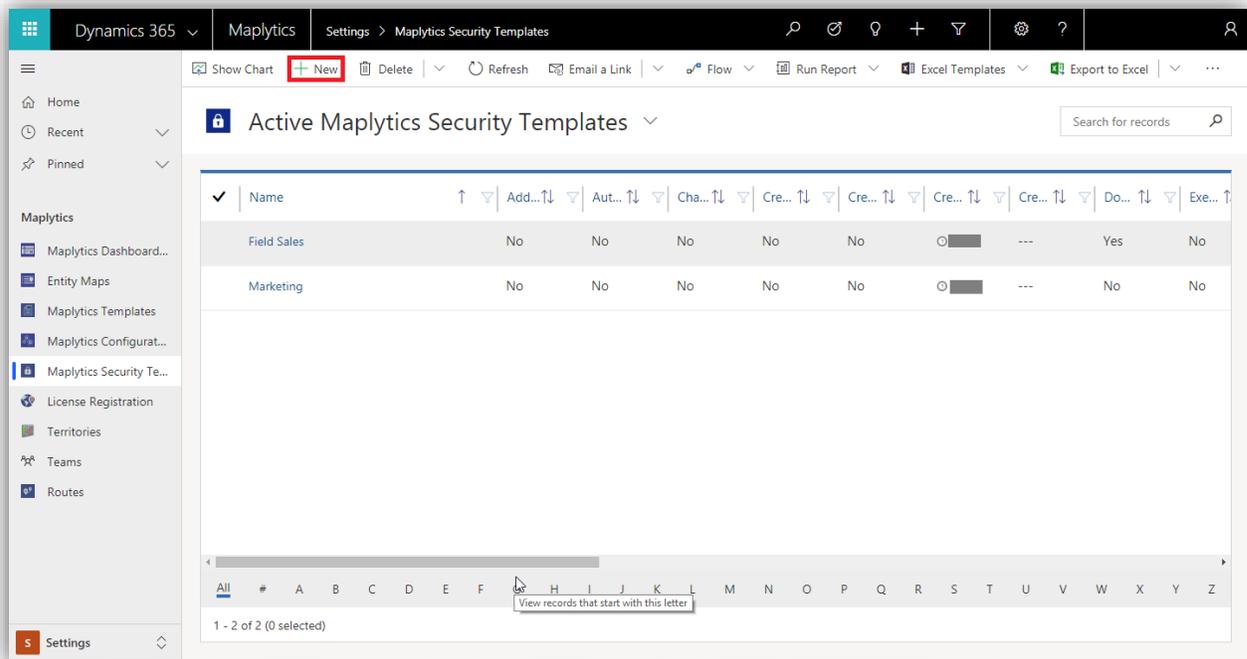
Each user of Maplytics can customize Maplytics configuration according to their preference. The user can configure Zoom level, Current Location, default origin and destination and a couple of other settings like Map more, default summary grouping, etc. Please go to **Settings > Maplytics Configuration Details > Select Maplytics Configuration record for the required user (users added in Team Maplytics)> Set according to the preference**

Refer to **'Maplytics Configuration Details (Personalization)'** section of **Installation Manual** for a detailed description of personalization settings.

Maplytics Security Template

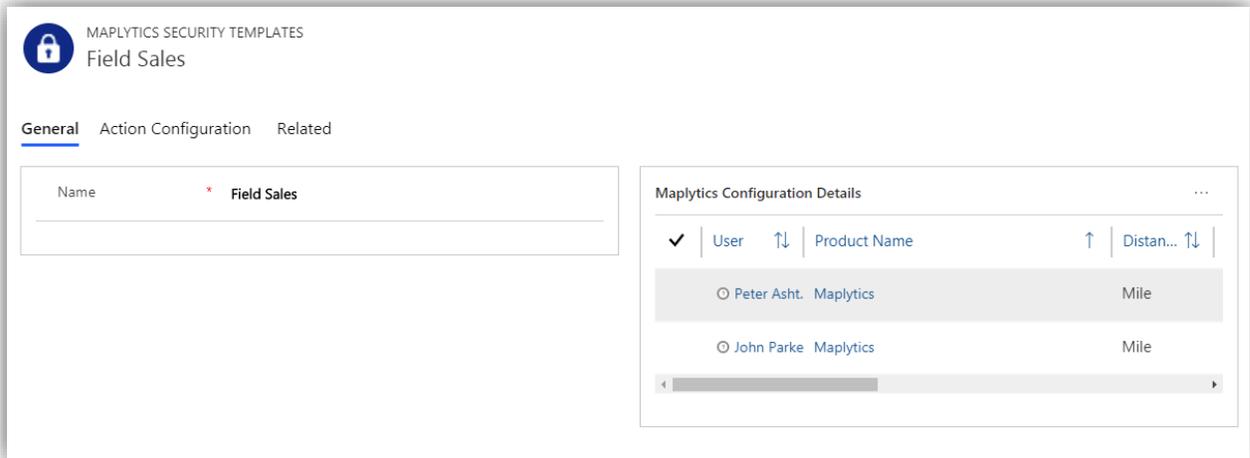
System admin and Maplytics admin can provide selective access of Maplytics actions to the Maplytics users. They can select the relevant Mass actions & other actions and provide the access of the same to the respective Maplytics users on the map.

Go to the Settings > Maplytics > Maplytics Security Templates > New

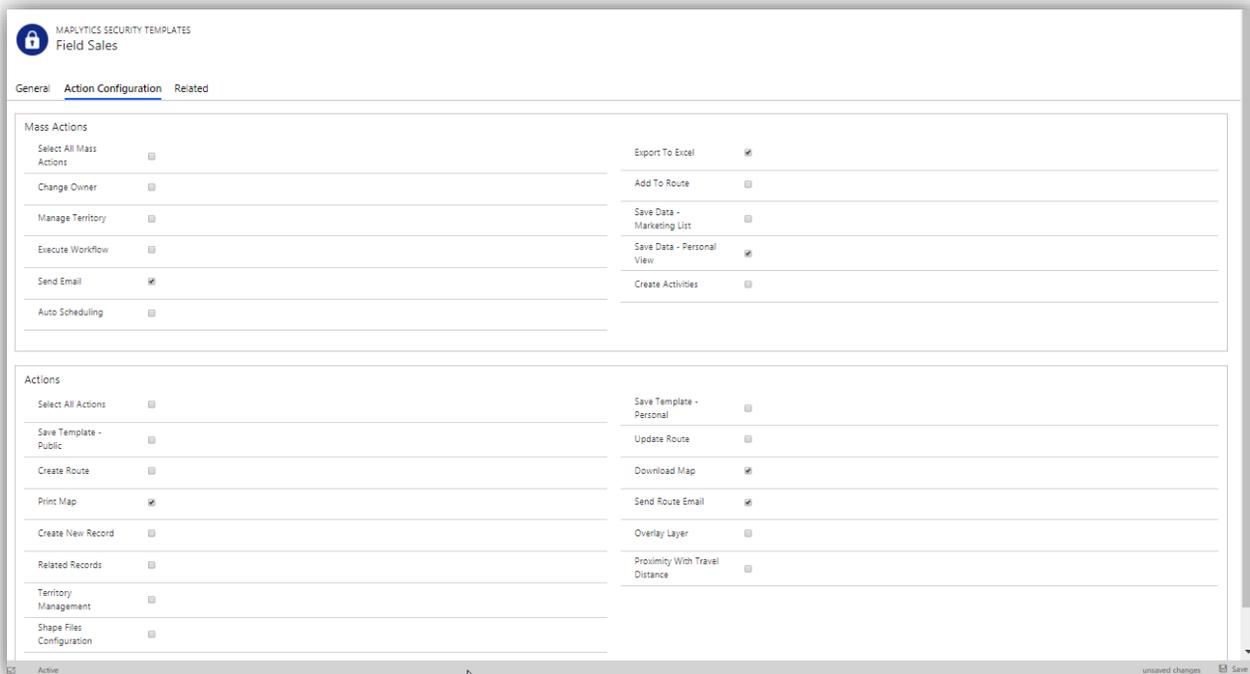


Go to General and provide a name for the template. Under the section of Maplytics Configuration Details, add the Maplytics Configuration Detail records of the Maplytics users whom the created template has to be assigned.

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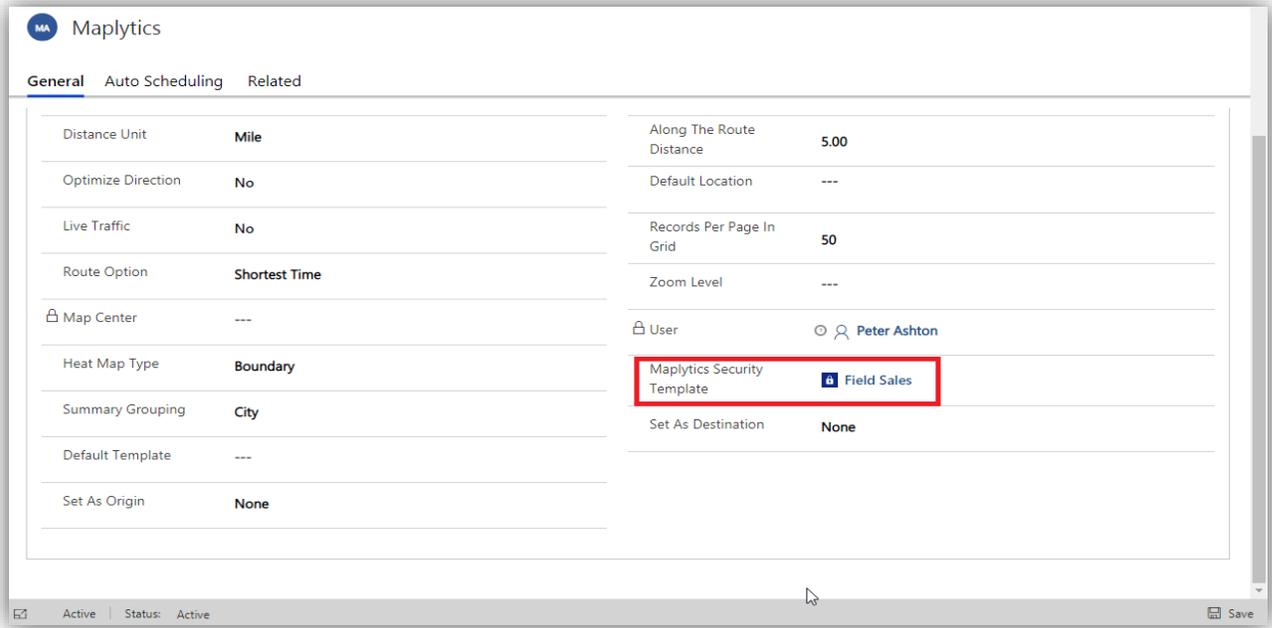


Go to Action Configuration > Select the required actions to be made available to the users selected



To remove the users from the list, **Go to Settings > Maplytics Configuration Details > Select the record of the required user > Remove the lookup value for the field of 'Maplytics Security Templates'**

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Note:

- All the actions will be visible to a user, if no template is assigned to the user
- Only System Admin and Maplytics Admin will be able to access the Maplytics Security Template Entity

PowerApps Component Framework

User can add custom controls on fields or grids within Dynamics CRM. These custom controls will help the user to view the respective records on the map on the record form or the entity grid without switching to any other screen. This will enhance the user experience while working with views and individual records. User can add the following custom controls:

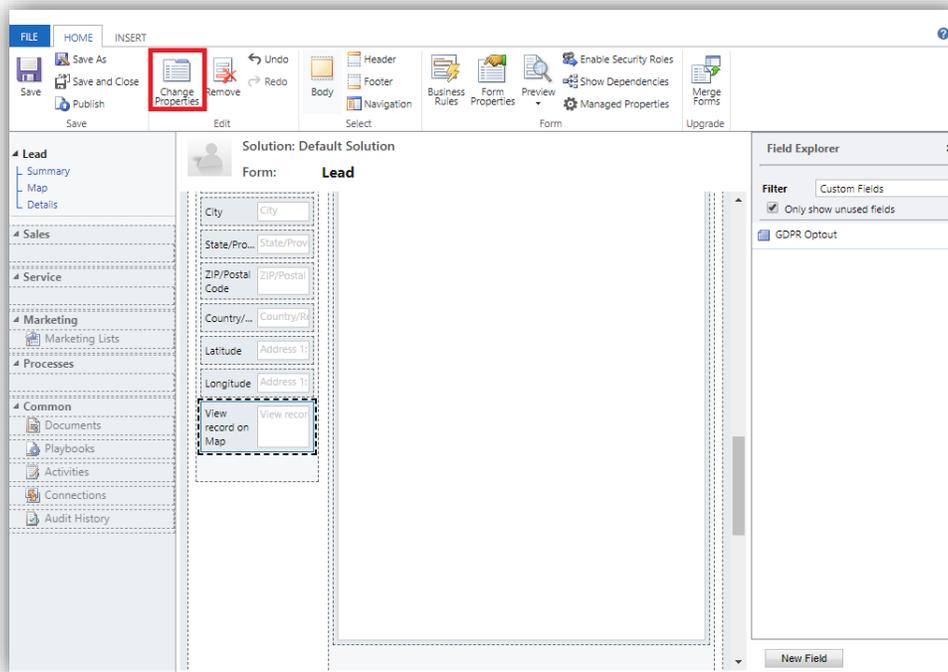
Map View Control for Record

User can add this control on any of the field with the Data type ‘Single Line of Text’ of the record to view the respective record plotted on the map. User can further view the Address and geo-coordinates on the hover of the pushpin.

To add the control to a field within a record form, user can follow the steps mentioned below:

1. **Go to Settings > Advanced Settings > Customizations > Customize the System > Components > Entities > Required Entity**

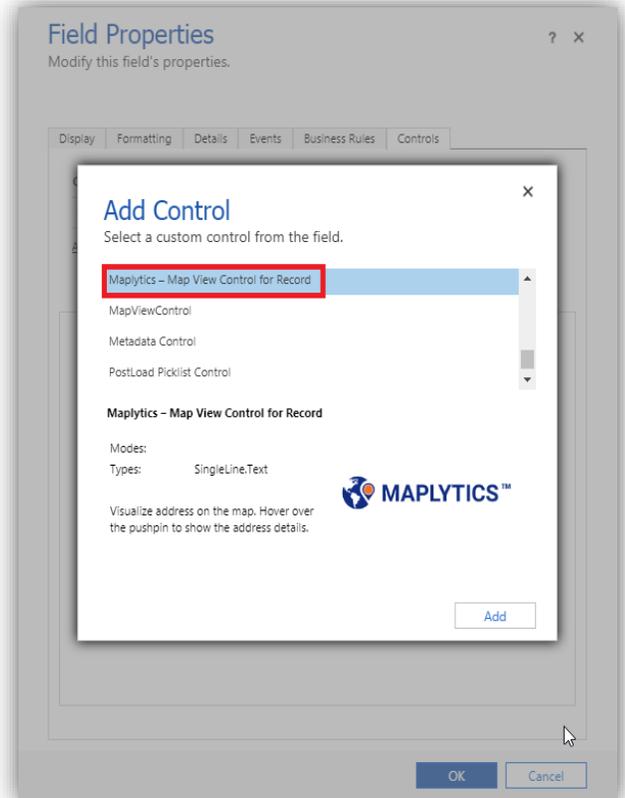
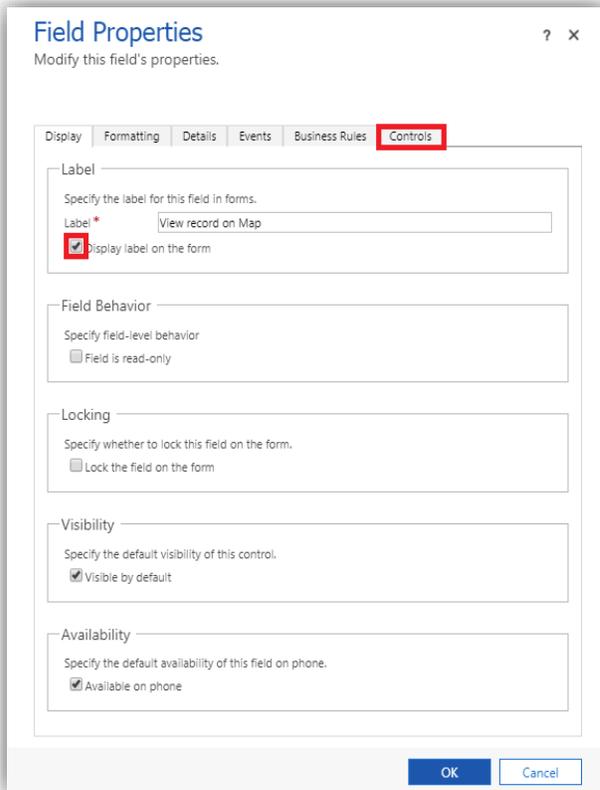
Here, we have taken the Lead entity for an instance. **Within Leads, go to Forms > Main Form > Select a field > Change Properties**



Note: The data type of the field on which user needs to add control should be ‘Single Line of Text’.

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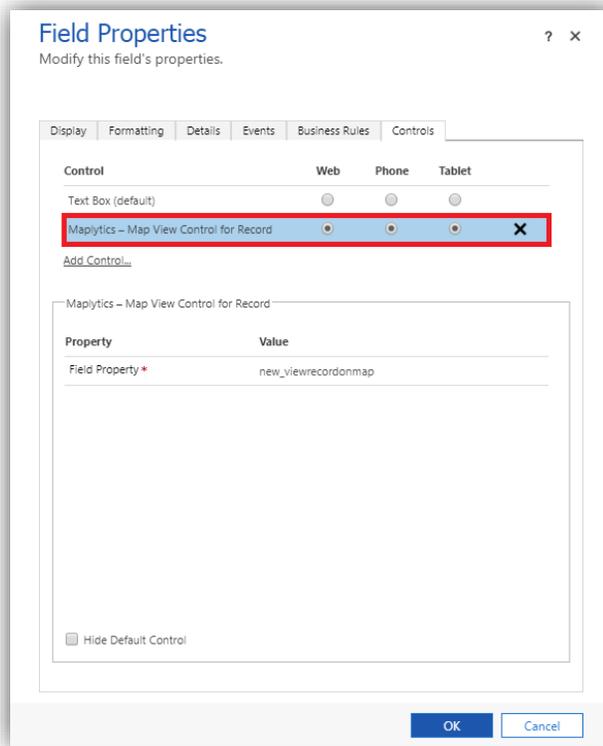
2. Go to Controls > Add Control > Select Map View Control for Record > Add



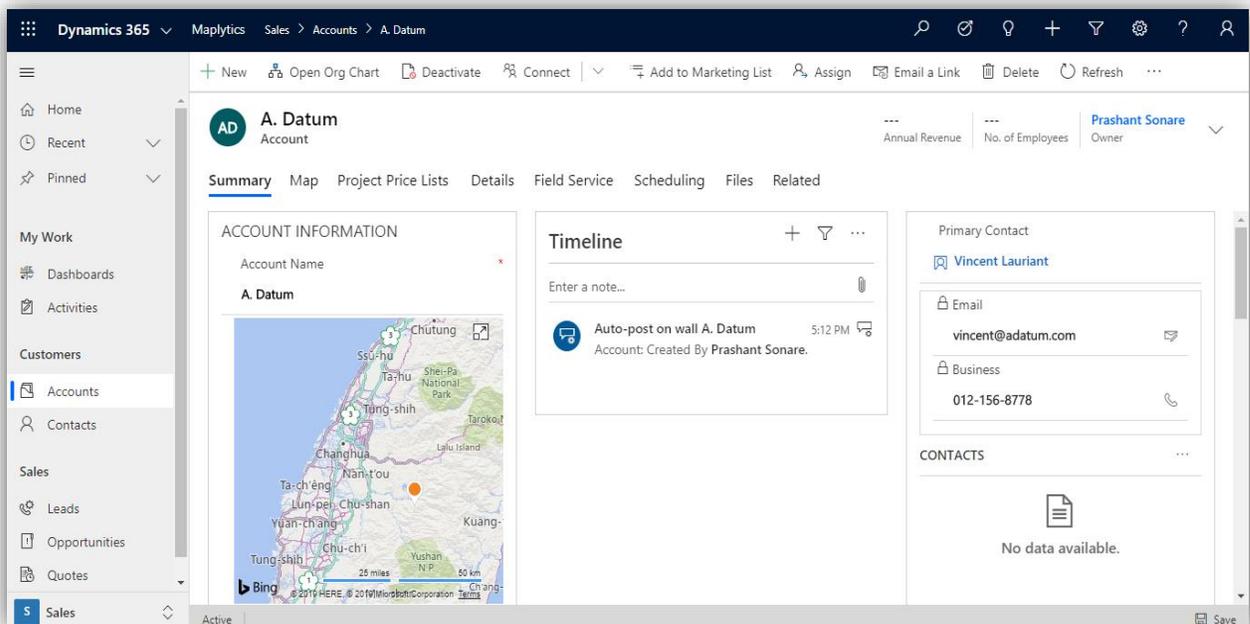
Note: Please uncheck the option of 'Display label' within the field properties for better visualization.

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3. User can choose to allow the control on Web, Phone or Tablet. Click on **'OK' > Save & Publish**.



4. User can open any record of the entity to view this control added on the field.

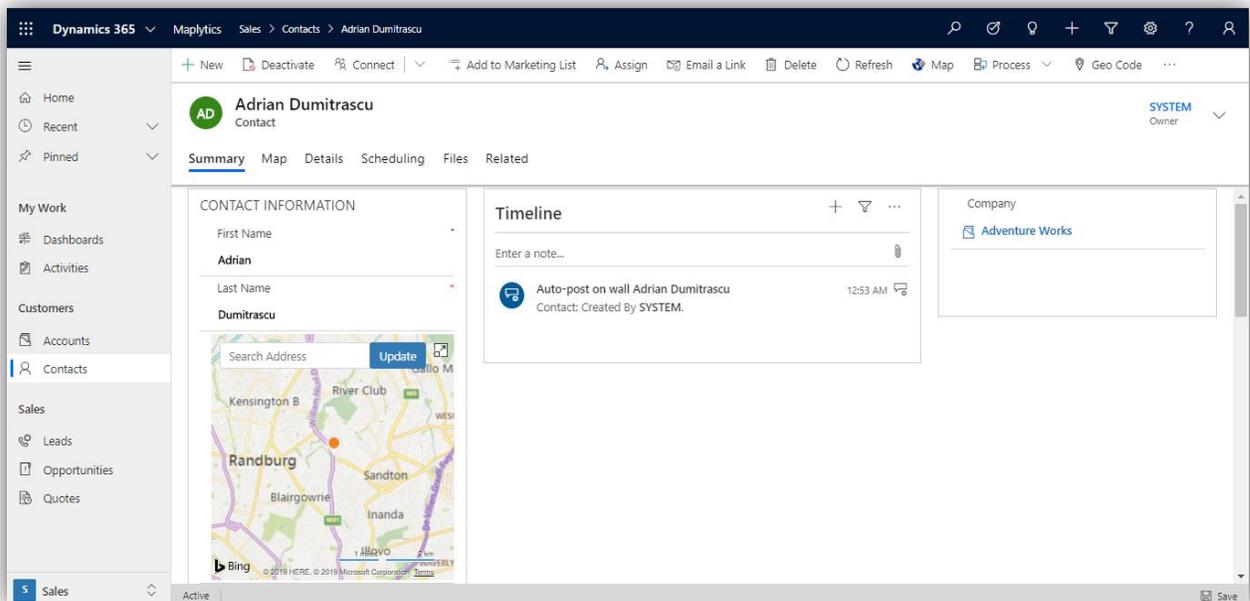


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Map Edit Control for Record

User can add this control on any of the field with the Data type ‘Single Line of Text’ of the record to view the respective record plotted on the map. User can further drag the pushpin around and drop it on location to update the new Address and the geo-coordinates for the record. User can also type in the address in the space provided and click on the update button to update the Address and the geo-coordinates for the record.

To add the control to a field within a record form, user can follow the steps mentioned above while selecting ‘Map Edit Control for Record’ in the Step2. After adding the control user can open any record of the entity to view this control added on the field.



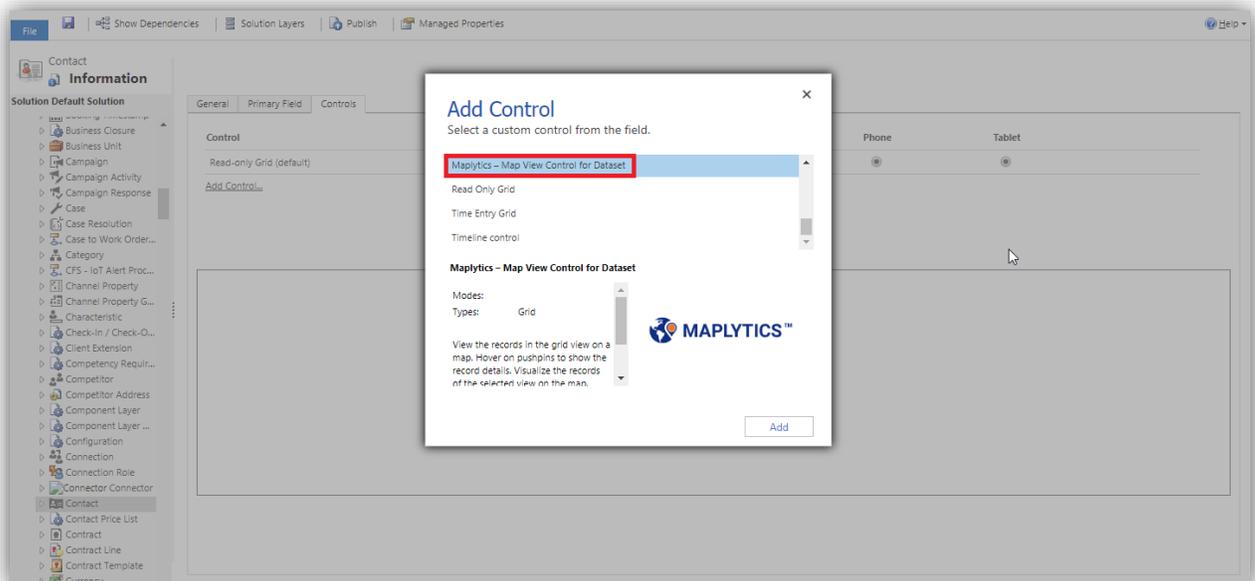
Map View Control for Dataset

User can add this control to any entity to visualize all of the records of the view or sub-grid on a map. User can further hover on the pushpins to view the information regarding the records. The information on the hover of the records is customizable. To add more information on hover, please refer to the section of Advanced Settings within the Entity maps in the Installation manual. User can also click on the pushpins to highlight them. Highlighting multiple pushpins can help the users to perform various actions on all the highlighted records at once. User can also right click on any pushpin to open the respective record.

To add this control on an entity grid, user can follow the steps mentioned below:

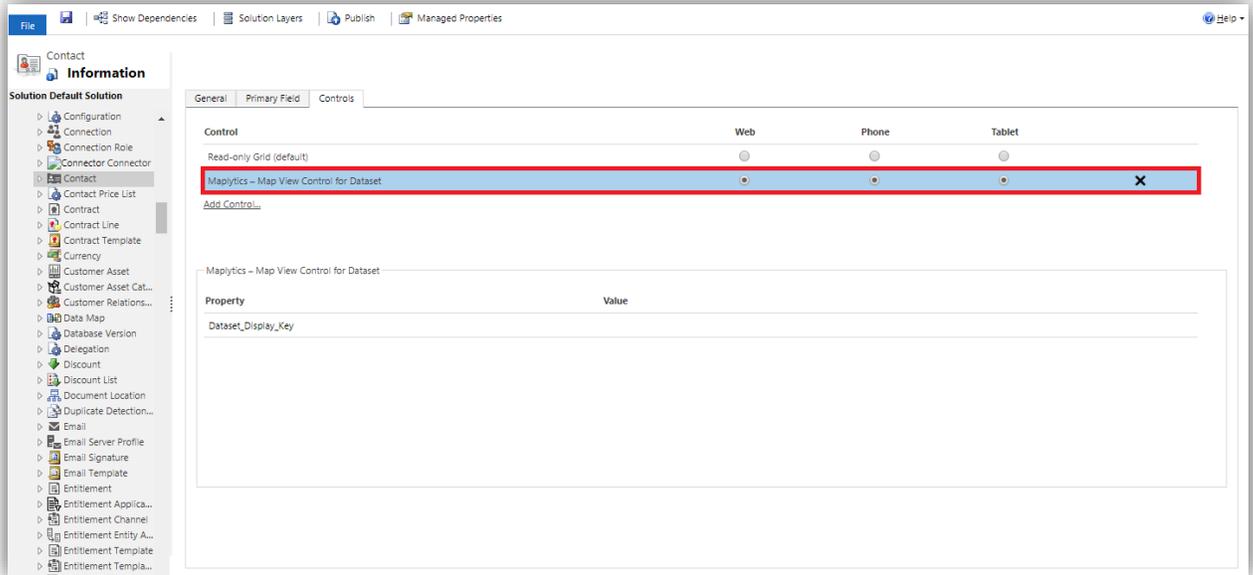
1. Go to Settings > Advanced Settings > Customizations > Customize the System > Components > Entities > Required Entity

Here, we have taken the Contact entity for an instance. **Within Contacts, go to Controls > Add Control > Select Map View Control for Dataset > Add**

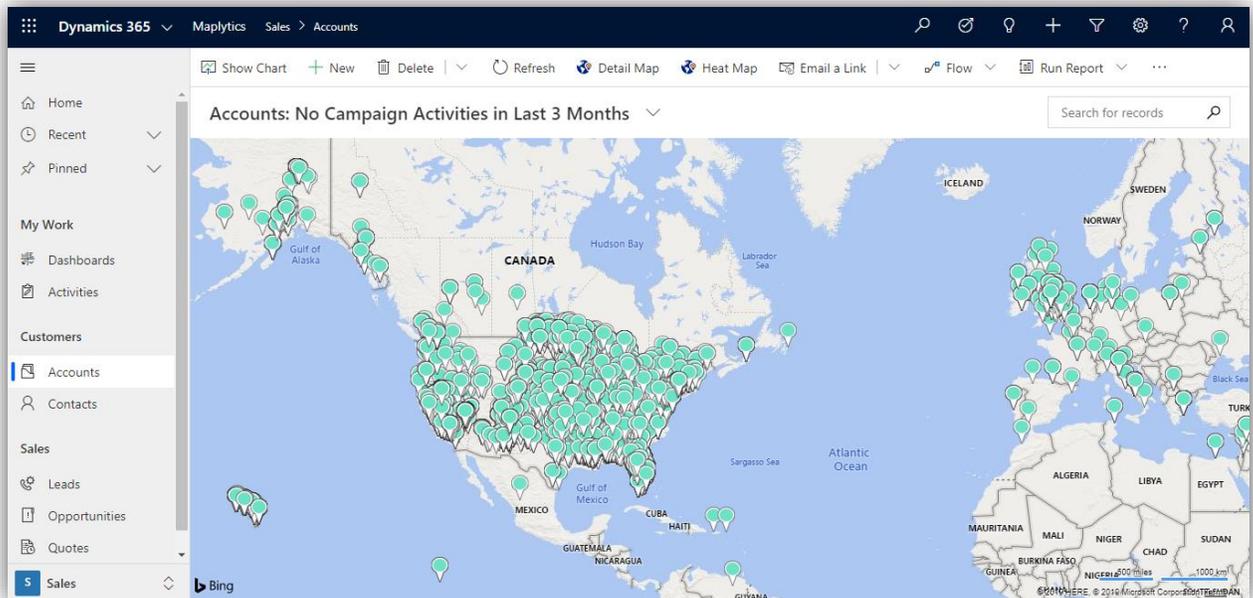


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2. User can choose to allow the control on Web, Phone or Tablet. Click on Save > Publish.



3. User can open any view of the entity to view this control.



Detail Map Control for Dataset

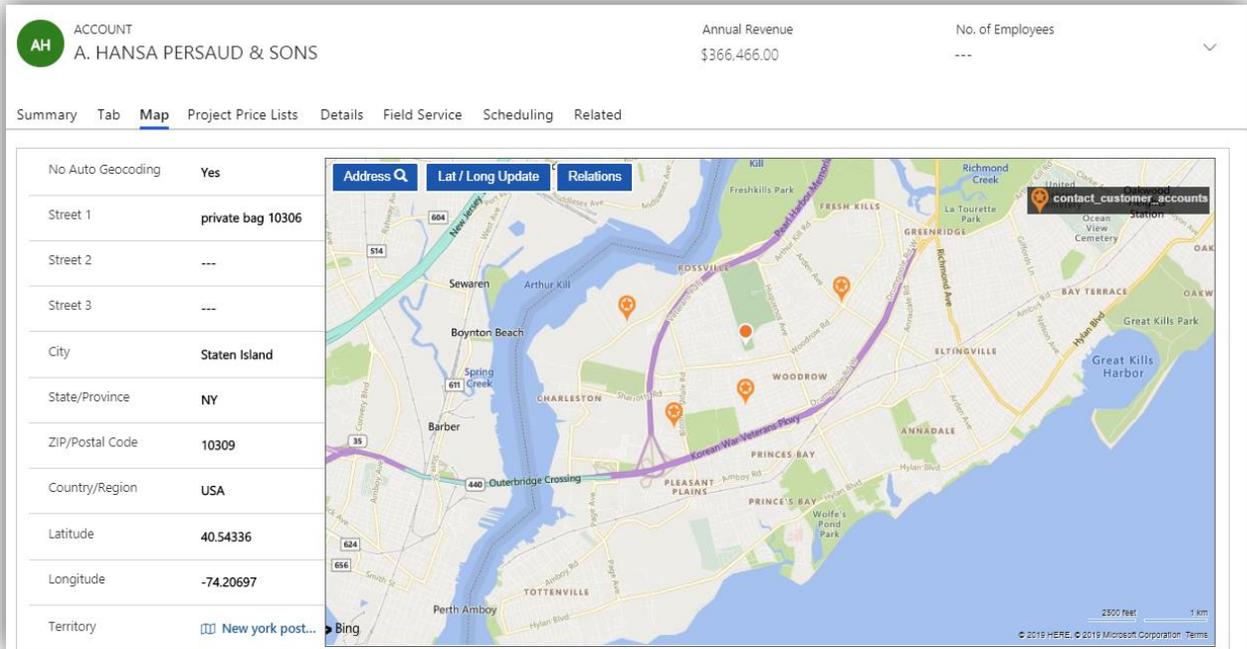
User can add this control to any entity to visualize all of the records of the view or sub-grid on a map. User can also perform some Maplytics functionalities. This will provide the user with the freedom of using Maplytics abilities right from the grid page without switching to any other screens. This control will be available in our upcoming release.

User can perform the following Maplytics features:

- Plot entity records
- Proximity search
- POI locations
- Route optimization
- Plot categorized data

Individual Record Map

A tab to display an Individual Map section has been added by default on the Account, Contact and Lead records as a part of the Maplytics solution.



Here, two types of pushpins are plotted on the map:

- **Orange color pushpin:**
This always indicates the record location on the map. This pushpin is movable on the map. If the user is not satisfied with the automatic geocoding information stored for the record, they can manually move the pushpin to the exact location of their choice. As the user moves the pushpin, the geocoding information (*Latitude* and *Longitude*) is updated in the bar at the top. Use the Update button to save the updated geocoding information.

If the application is not able to geocode the address provided, the user can edit the address in the *Address text* box and click on Search button. This will help the user to geocode the address.

Set the '*No Auto Geocoding*' option to 'Yes' available on the left-hand side, if the user has manually set the geocoding information and do not want the automation to override the geocoding information.

- **Related Record Pushpin:**
The related records are indicated by star pushpins. Related records correspond to all 1:N relationship between the plotted Entity and the user can set a default relationship which should always be plotted whenever this map is loaded. The user can further see related record information by clicking on it. The user can plot maximum two relationships here. The user can use 'Relations' drop-down to select the available relationships for this Entity. Check the Entity Map

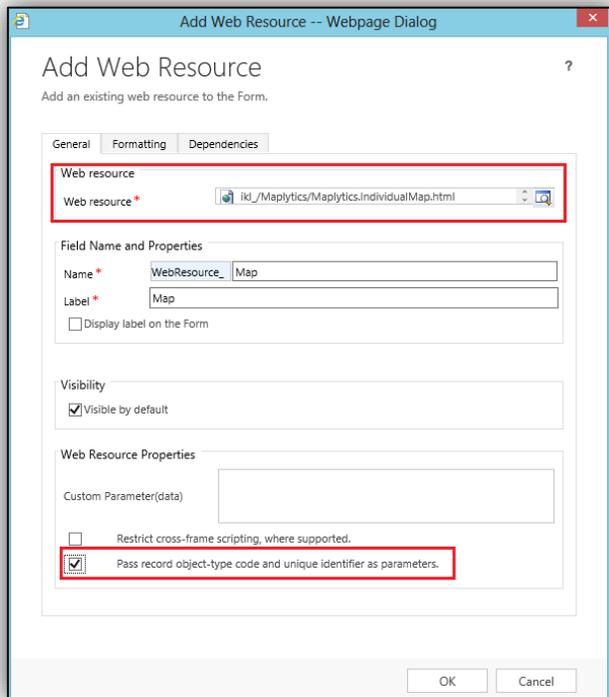
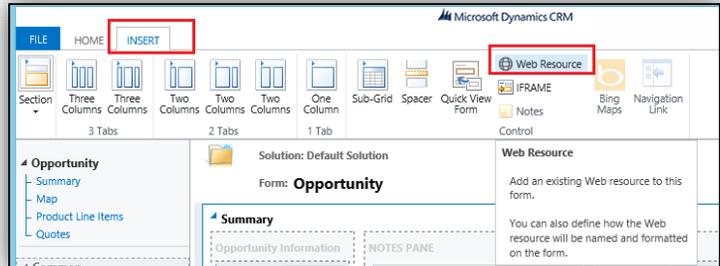
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settings (refer to Installation Manual) to set Default relationship and adding more relationships to 'Relations' dropdown.

Steps to add the Map to other entity forms:

Open the Entity form and go to the 'Insert' tab.

Click on 'Web Resource' button, as shown in the screenshot.



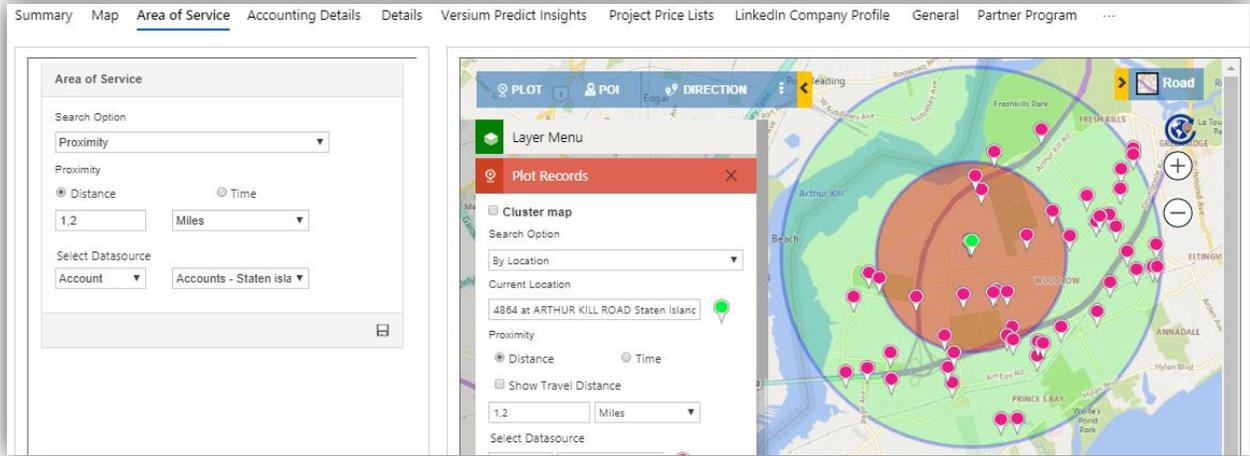
In the Add Web Resource dialog, select "**ikl_/Maplytics/Maplytics.IndividualMap.html**" web resource and check the Pass record object-type checkbox as shown in the screenshot.

Click **OK**, then **Save and publish** the form to see the Map on the entity form.

Note: To plot a particular address on the Map, it should be geocoded and the Latitude & Longitude should be set for that address. For geocoding you need to execute Maplytics Geocoding workflow for the records.

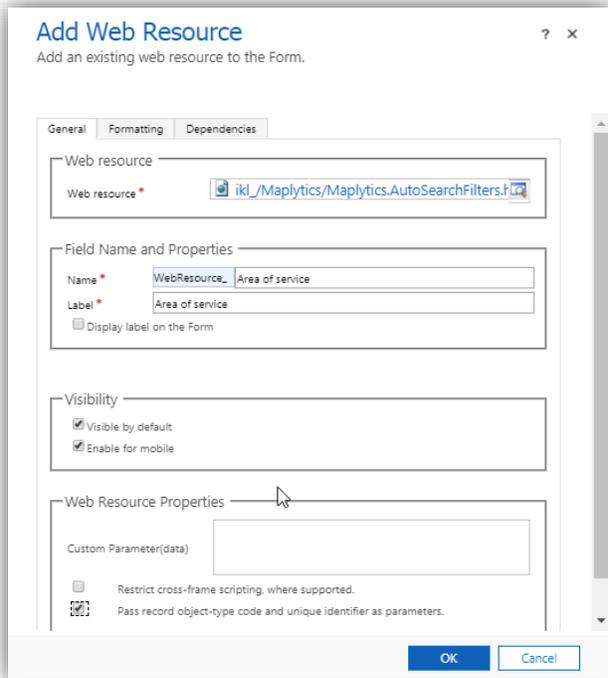
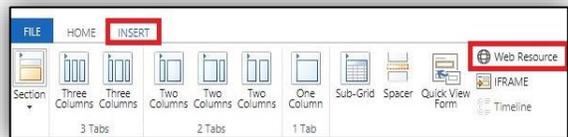
Area of Service

The user can view the data in a proximity or a region around an individual record as defined by the user in the Area of service.



Add Area of Service tab

To add Area of Service tab, Open the Entity form and go to the 'Insert' tab. Click on Web Resource button, as shown in the screenshot.



In the Add Web Resource dialog, select “*ikl_/Maplytics/Maplytics.AutoSearchFilters.ht ml*” web resource and check the ‘Pass record object-type’ checkbox.

The preferred number of rows in formatting is 15.

Click **OK**, then **Save and publish** the form to see the Map on the entity form.

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Create an Area of Service field

To save the values entered in the Area of Service, the user needs to create a field for the Entity for which Area of Service has been added. **Go to Entity form > New field.** Enter the following values:

Name - Area of Service

Data type – Multiple Line of Text

Maximum Length – 10000

Select the field in the respective Entity map for the Area of Service field.

The screenshot shows the 'ENTITY MAP account' configuration page. The 'Attribute Mappings' tab is selected. The 'Title' field is set to 'Account Name'. The 'Area of Service' field is highlighted with a red box, and its value is 'Area of Service'. The 'Template' field is empty.

The values when entered and saved into the Area of Service, the corresponding data will be plotted on the map.

View Area of Service data on a map

To view the Area of Service data on the map, there are two ways:

- Using Map button – the results are shown in a map opened in a different tab
- Adding Detail map on form – the results are shown in a map added on the same record

Using Map button

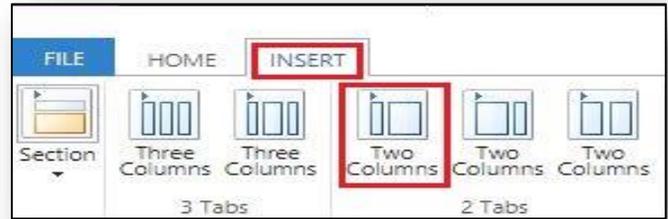
The user can open the Detail map to view the corresponding Area of Service data plotted on the map.

The screenshot shows a data table with a 'Map' button highlighted in red. The table has the following data:

ACCOUNT	Annual Revenue	No. of Employees
AH A. HANSA PERSAUD & SONS	\$366,466.00	---

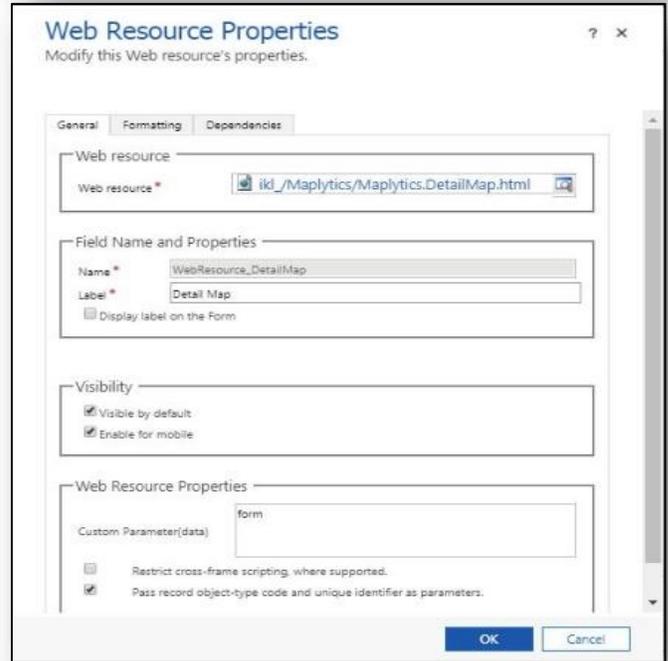
Adding Detail map on form

To add a Detail map to show the data of Area of Service, follow the steps mentioned below:
Open the Entity form and go to the 'Insert' tab. Add two columns.



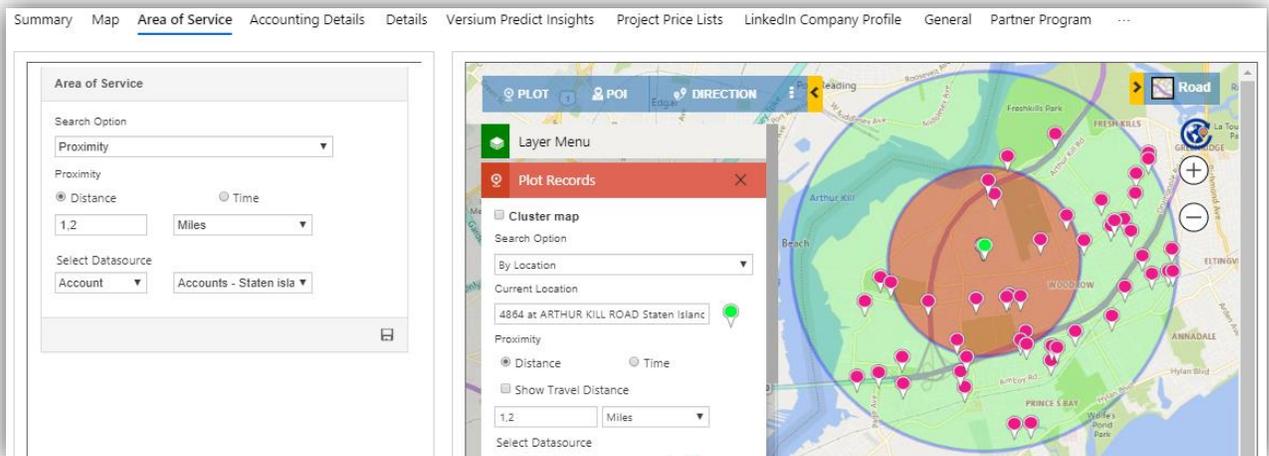
After adding Area of Service tab in the entity form as mentioned above, follow the steps mentioned below to add the Detail map on the entity form.

To add a detail map, Click on 'Web Resource' button. In the Add Web Resource dialog, select **"ikl_/Maplytics/Maplytics.DetailMap.html"** web resource, add "form" as custom parameter (data) and check the 'Pass record object-type' checkbox as shown in the screenshot. The preferred number of rows in formatting is 15.



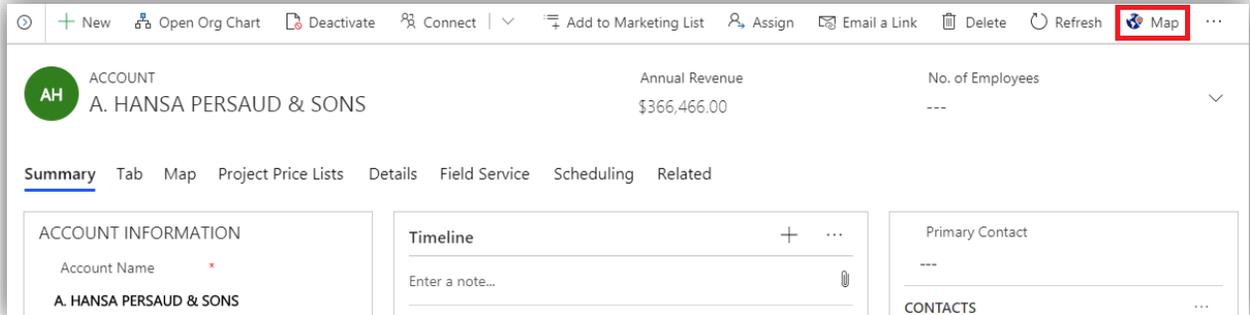
Click **OK**, then **Save and publish** the form to see the Map on the Entity form.

Enter the required values into Area of Service, save it and click on the refresh button on the Detail map to view the data plotted.

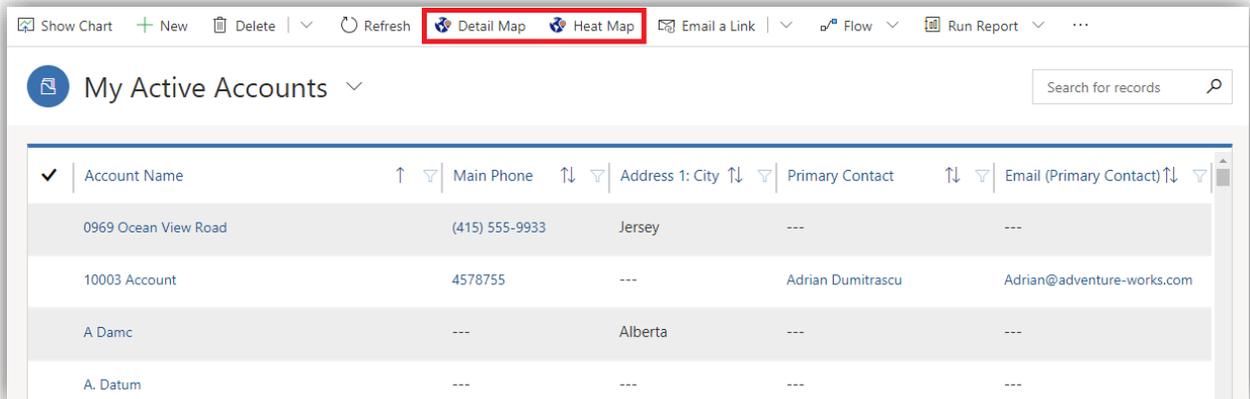


Detail Map

Maplytics buttons are added to the Entity forms as well as the Entity Homepages so that it can be easily accessed from anywhere.

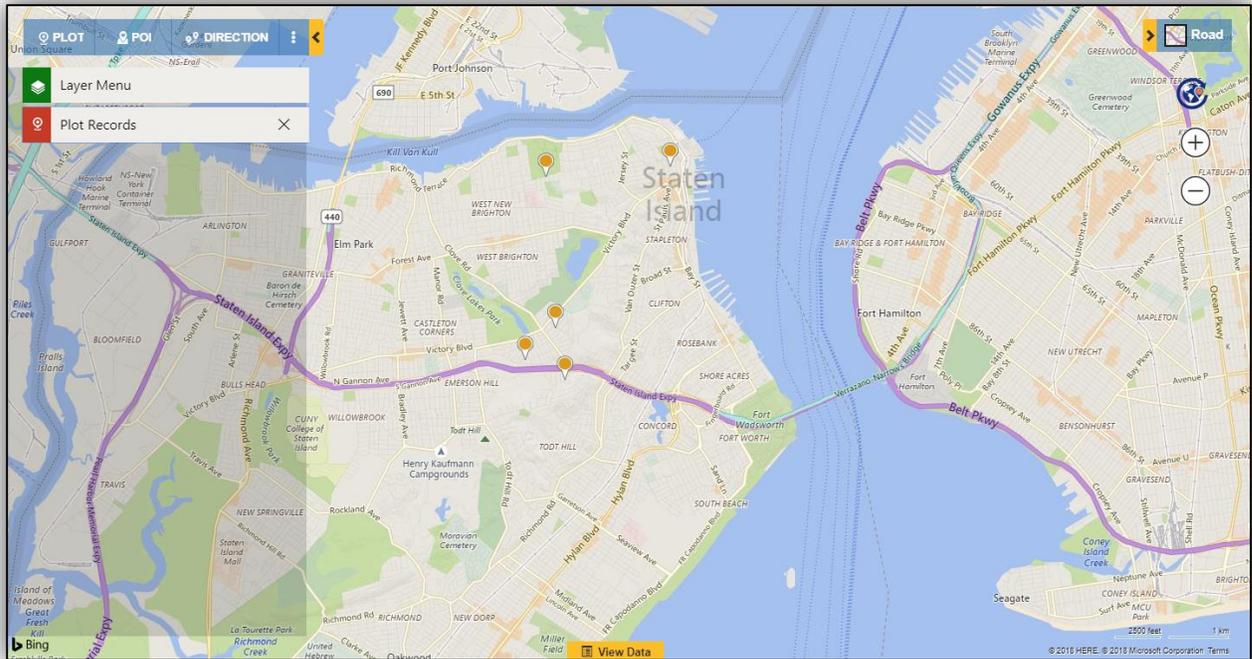


Using this button, the user can invoke the Maplytics application for detailed geographical analysis. Maplytics provides both 'Heat Maps' view as well as 'Detail Map' view of the Dynamics CRM data. These views can be easily accessed from the buttons added to the command bar in entity home pages and other views.



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Selecting a few records and clicking on the 'Detail Map' button on a particular Entity Grid view will open the following window;



It will automatically plot the selected records from the view on the map. **Records that do not have their latitude/longitude will be ignored and will not be plotted on the Map.**

Plot

There are five different search options to plot the data on Map:

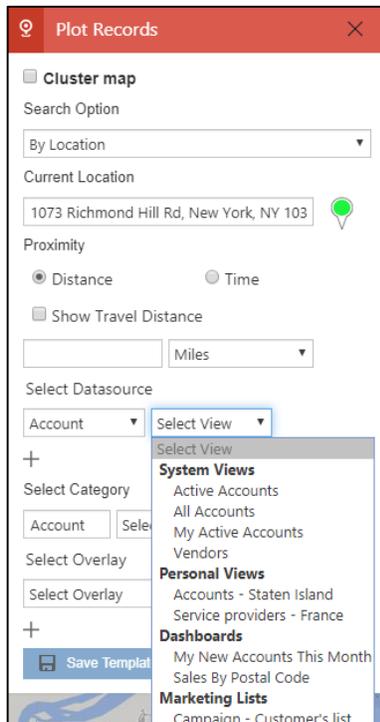
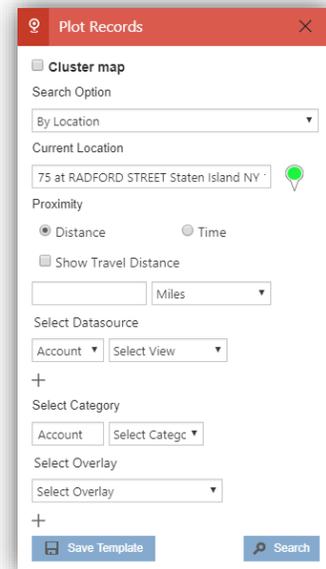
- By Location
- By Region
- By Drawing
- By Territory
- By Template

Note: The user can also configure the 'Search Options' to be visible on the map. Refer 'Setup Entity Map' section of Installation Manual for further instruction.

By Location

This helps the user to plot the data using the geocoding of each record. By Location search option also allows the user to perform Proximity/Radius Search based on Distance or Time.

The Current Location is fetched from the user's personalization record. The user can also set a new current location using the contextual menu. Refer to the section of the Contextual menu.



Select Datasource dropdown will list out all the Entities (OOB and Custom) configured for Maplytics and the active views (System views, Personal views, Maplytics Dashboards and Marketing Lists) that are available for the selected Entity type. The user can choose one of the views to plot all the records available in that view.

Note: The user can also configure the 'Views List'. Refer 'Setup Entity Map' section of Installation Manual for further instruction.

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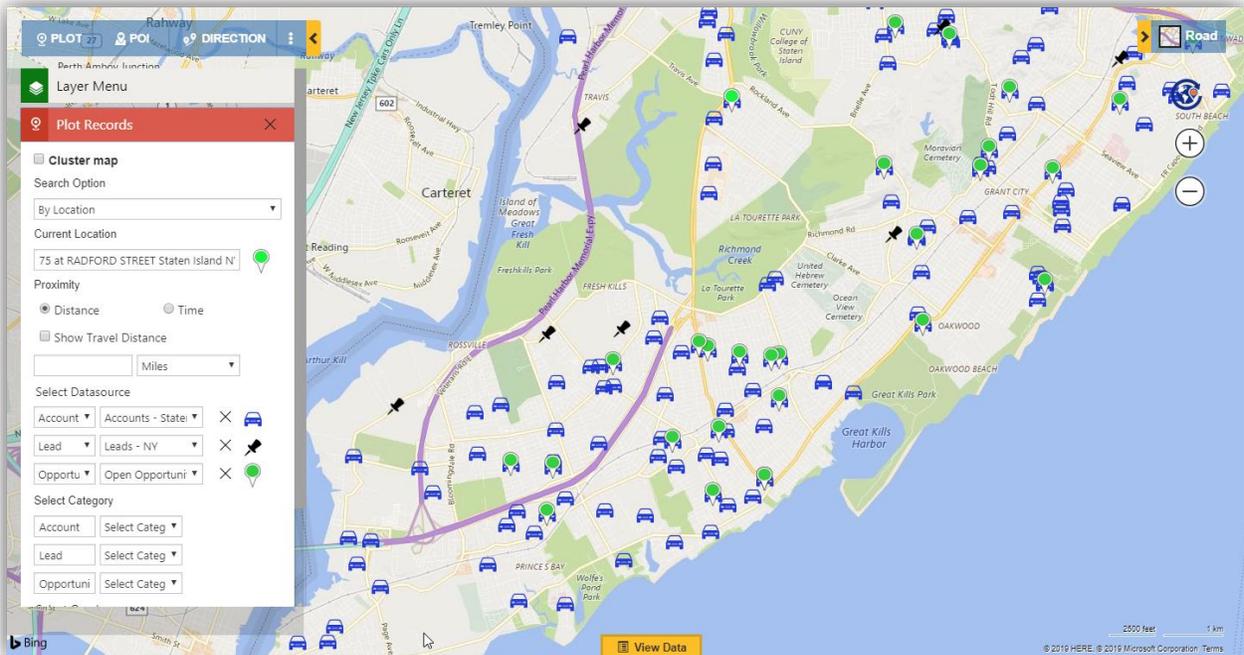
The user can select additional entities using the '+' button. The user is allowed to specify a maximum of 3 Datasources for plotting the data at a time. This allows for viewing Dynamics CRM data across Entities in a single view on the map.

After selecting multiple entities, the user can click on the 'Search' button to plot the records for the selected entities. This helps the user to visualize three entities on a single map.

Note: User can define the colors as well as pushpin shapes of the Entity – view combination. Refer to 'Setup Entity Map' section of Installation Manual for further instructions.

The 'Plot Records' dialog box is shown with the following settings:

- Cluster map:**
- Search Option:** By Location
- Current Location:** 75 at RADFORD STREET Staten Island NY 103
- Proximity:** Distance, Time
- Show Travel Distance:**
- Distance Unit:** Miles
- Select Datasource:**
 - Account: Active Accounts (Color: Orange)
 - Lead: Leads - NY (Color: Purple)
 - Opportun: All Opportunities (Color: Green)
- Select Category:**
 - Account: Select Categor
 - Opportunity: Select Categor
 - Lead: Select Categor
- Select Overlay:** Select Overlay
- Buttons:** Save Template, Search

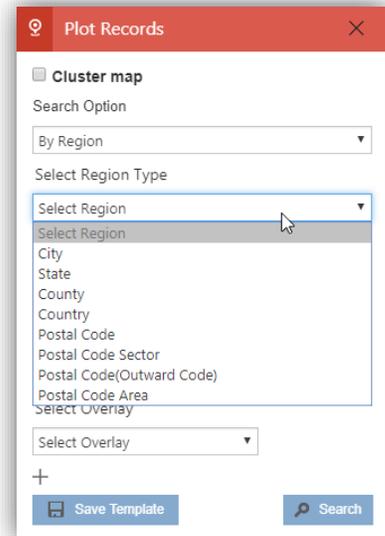


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By Region

This helps the user to plot the data by the region of records, i.e., City, State, County, Country, PostalCode, PostalCode Sector, Postal Code(Outward Code), Postal Code Areas. The user can plot multiple regions under a particular region type.

- **Postal Code:** The smallest postcode category, such as a zip code.
- **Postal Code Sector:** The second '1' is called "Postcode Sector". Example: CA1 1
- **Postal Code(Outward Code):** This is called Outward Code, the part of the postcode before the single space in the middle. Example: CA1
- **Postal Code Areas:** The next largest postcode category after Postcode1 that is created by aggregating Postcode1 areas.



Note:

- *The regions that were plotted using the option of Post code Areas before will now be plotted by using the option of Post code sector.*
- *The regions will be plotted as per the Bing maps.*



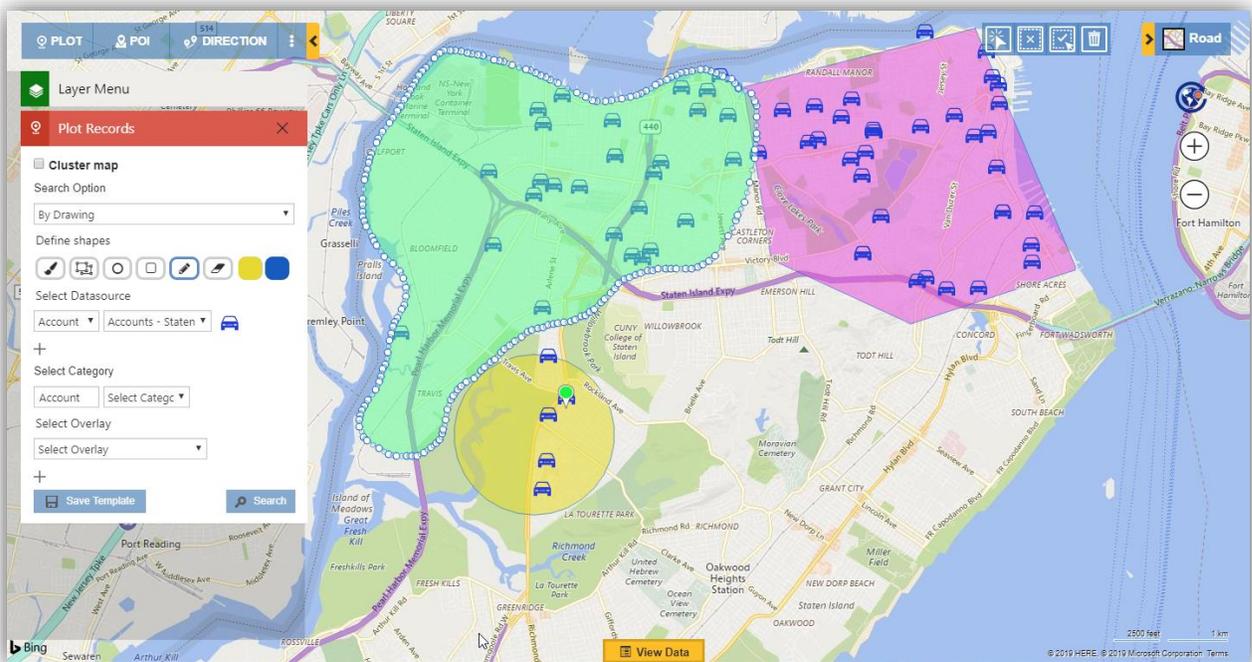
By Drawing

This helps the user to plot data by defining their own shapes. The user can use the 'Drawing tool bar' to draw the following shapes:

- Freehand drawing
- n-sided polygon
- Circle
- Rectangle

The user can further edit the drawn shapes by using the following options in the Drawing tool bar:

- Edit
- Erase
- Fill color
- Stroke color

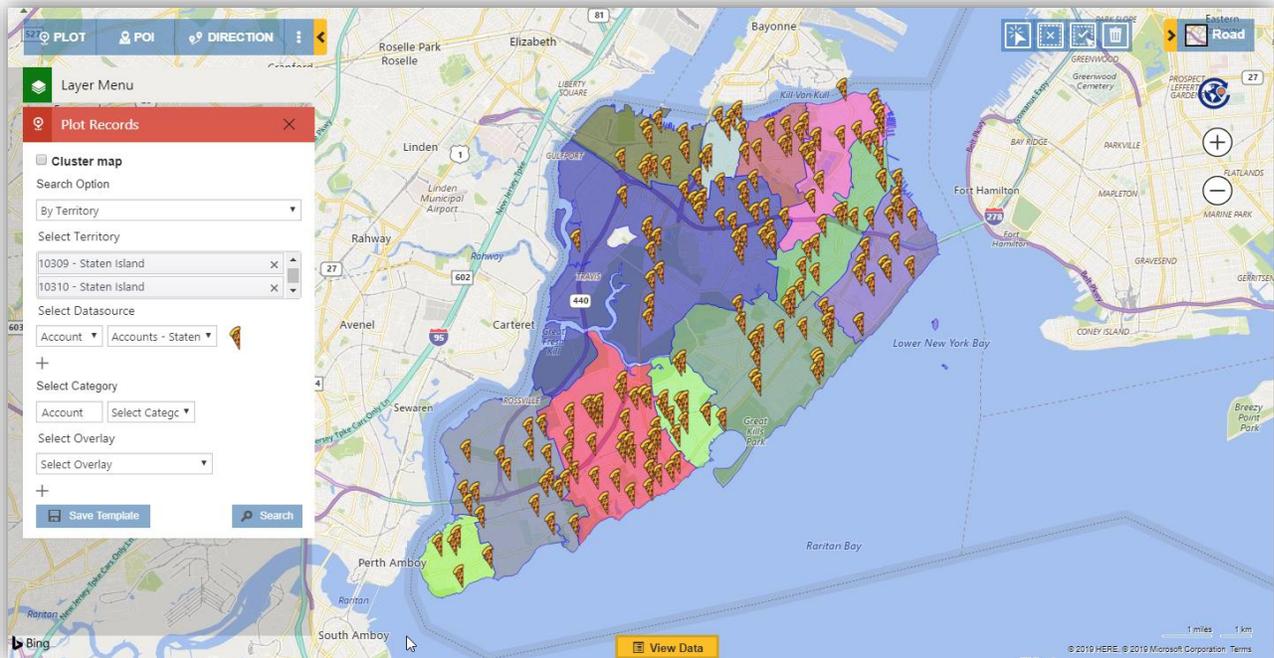
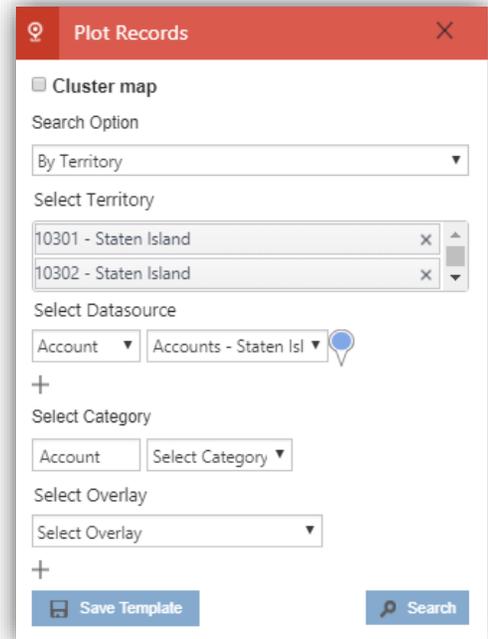


Note: While creating an n-sided polygon, use the 'Esc' key from keyboard to close the shape.

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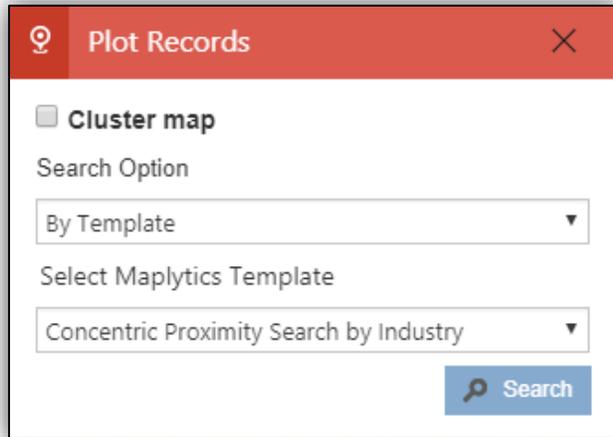
By Territory

This helps the user to plot the data defined in a particular sales territory. The user can select multiple territories to plot on the map in 'Select Territory' option.

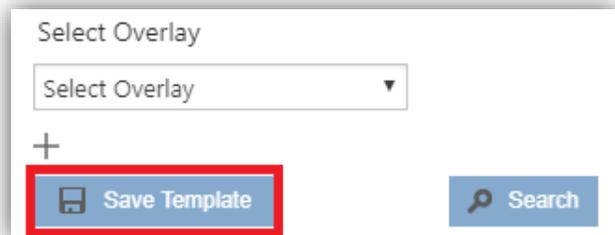


By Template

This helps the user to plot the predefined search criteria in Detail Map. The user can save the search criteria as a template and use the 'By Template' search option to quickly plot the data with that search criteria. This helps the user to save a considerable amount of time.



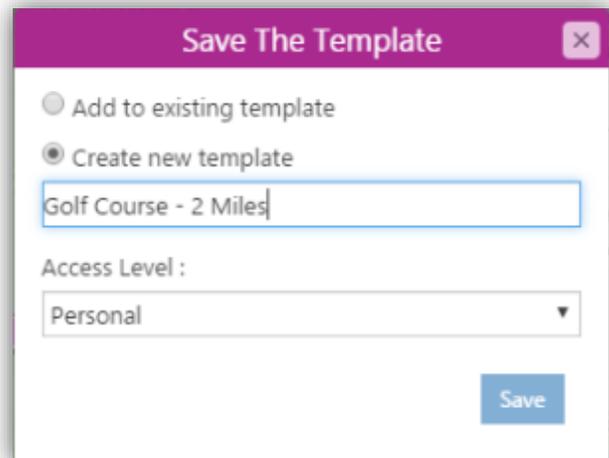
For example, if any user is assigned with a task where the requirement is to regularly plot 'My Active Accounts' records in 2 miles of a particular location and filter a particular Industry, then the By Template option can be beneficial.



The User can also define the access level of the Template as described below:

- **Personal** – The users can limit the usage of this template to themselves
- **Public** – Anyone in the organization can use this template

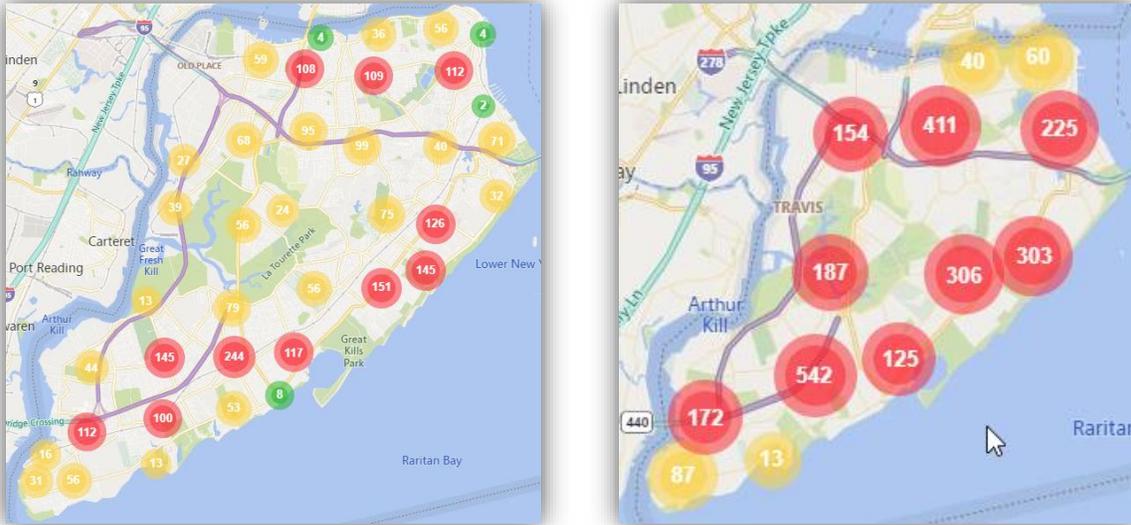
Apart from saving information of Plot Records, Category card, and filters from Grid, it also saves the Zoom level & Center of the map.



Note: Please assign 'Maplytics User' security role to Team Maplytics before exploring this functionality.

Cluster map

The user can select this option to group the closely positioned pushpins into a cluster. A cluster shows the number of pushpins in the cluster. The user can zoom in further to break down the cluster into smaller clusters or zoom out to group closely positioned clusters into one.



Cluster Area

The user can hover on any cluster to see the ‘Cluster area’ which shows the data spread. The data spread is based on the area covered by the pushpins existing in the cluster.

Contacts - Staten Island leads (99)				
	Full Name	Email	Company Name	Business Phone
<input checked="" type="checkbox"/>	Jack ledwith	some_26925@inogic.com	A Datum Integration	6462879571
<input checked="" type="checkbox"/>	Rob MEDINA	some_26925@inogic.com	A Datum Corporation	6462879571
<input checked="" type="checkbox"/>	FRANK VACCARO	some_26400@inogic.com	Organo	6467021843
<input checked="" type="checkbox"/>	Edward Watson	some_26400@inogic.com	Motor corporation	6467021843
<input checked="" type="checkbox"/>	Jessica Anderson	some_26400@inogic.com	James wood	6467021843

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Spider cluster

The user can click on any cluster to view the pushpins existing in the same in the form of a ‘Spider cluster’.

The screenshot displays the Maplytics interface. At the top, there are navigation and search tools including 'PLOT', 'POI', 'DIRECTION', and a search bar. A 'Layer Menu' is open on the left, showing 'Plot Records' and a selected location '103-03,101 AVE QUEENS NY ...'. The map shows a spider cluster of pushpins in the Queens area, with various colored circles (red, yellow, green) representing different records. Below the map is a data table titled 'Contacts - Staten island leads (24)'. The table has columns for 'Full Name', 'Email', 'Company Name', and 'Business Phone'. The first five rows are visible, each with a checked checkbox in the first column.

<input checked="" type="checkbox"/>	Full Name	Email	Company Name	Business Phone
<input checked="" type="checkbox"/>	K. ERIK BJORNEBY	some_25322@inogic.com	James wood	9172957146
<input checked="" type="checkbox"/>	Nick Rogers	some_25322@inogic.com	Motor corporation	9172957146
<input checked="" type="checkbox"/>	Bobby Cook	some_26223@inogic.com	Berry sweet industries	3475895721
<input checked="" type="checkbox"/>	S. CHARLES MAGRINO	some_26223@inogic.com	Organo	3475895721
<input checked="" type="checkbox"/>	Wilson Coleman	some_26223@inogic.com	Avid packaing	3475895721

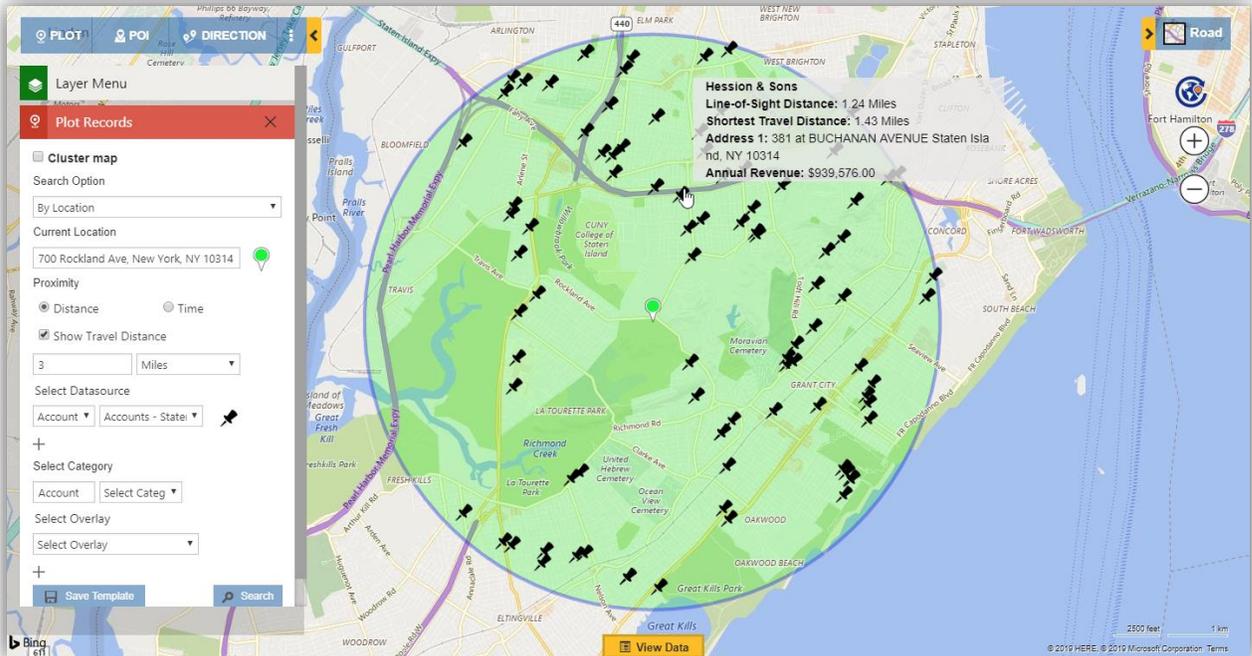
Note: Spider clusters can be visualized only for records less than or equal to 50.

Proximity Search

There are two different options to perform a Proximity Search.

Distance-based Proximity

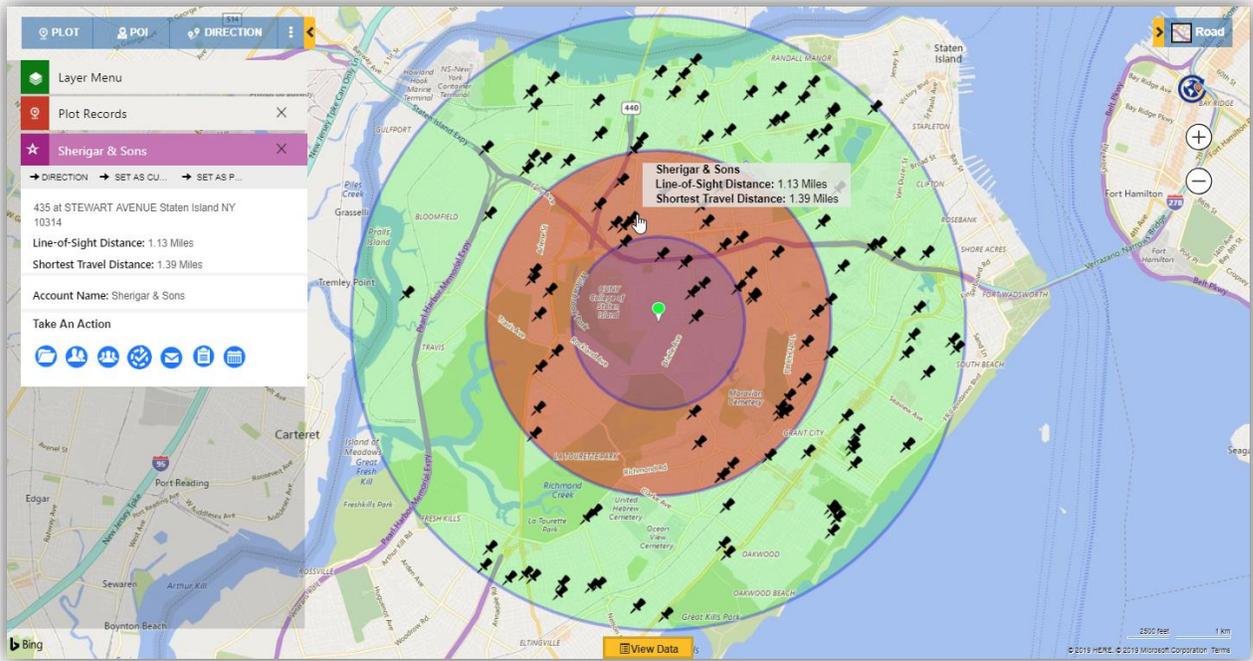
This option will calculate the straight line distance between the current location and all the points which fall in the proximity parameter as shown below:



Enter the radius for the Proximity search. The user can also add decimal values with a scale of 2 for the radii. The Proximity can be provided either in Miles or Kilometers. The User can also hover over a pushpin and see the distance from current location.

Concentric Proximity Search

This new addition to Proximity based on Distance allows users to perform up to 3 proximity search simultaneously. The user needs to enter the distance values separated by a comma (,) and all the points that fall in the defined proximity parameter will be plotted.



The Concentric proximity zones are represented by different colors for easy visual analysis. The user can also click on individual proximity zones to highlight the circle and open the Summary Cards for that proximity parameter.

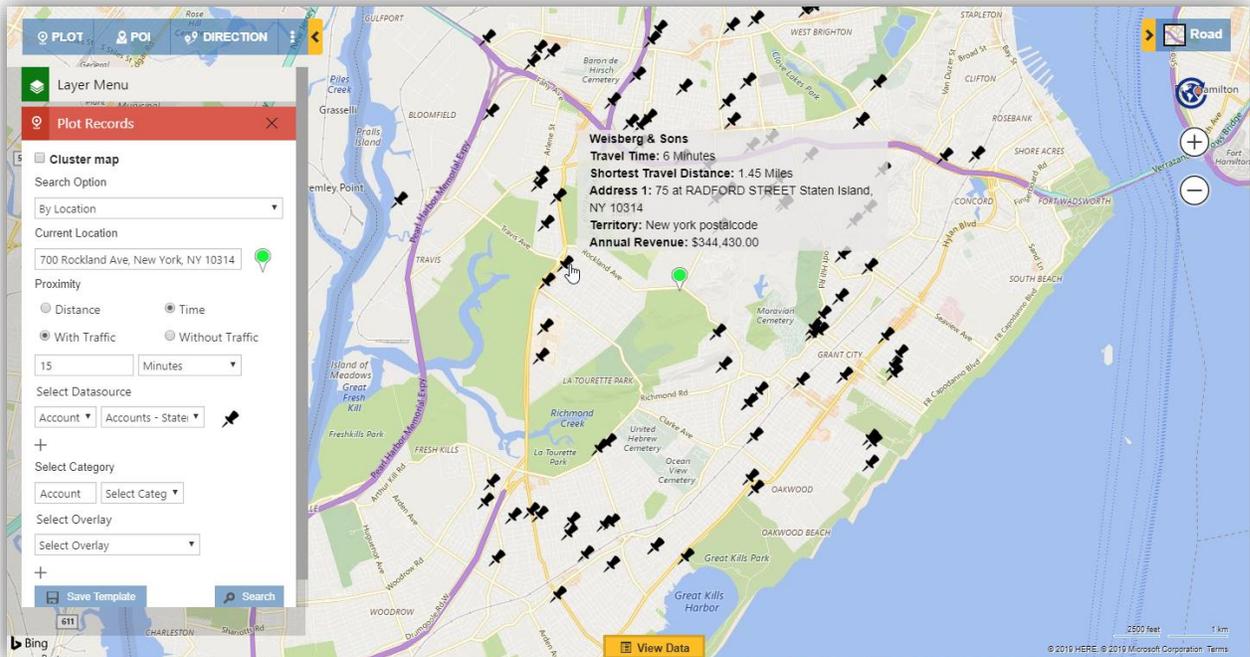
The user can also filter the data points based on the proximity zone and their proximity distance from the current location in the 'View Data' grid.

Accounts - Staten Island (130)							Reset	Related Records	Mass Actions
	Account Name	Primary Contact	Main Phone	Shortest Travel Distance	Line-of-Sight Distance	Proximity Zone			
<input checked="" type="checkbox"/>	Abbas & Sons		7188520069	2.5	1.84	2			
<input checked="" type="checkbox"/>	Abdelmessih & Sons	Abraham McCormick	2122501122	2.04	1.32	2			
<input checked="" type="checkbox"/>	Adamita & Sons	Adrienne McMillan	2124180645	0.43	0.39	1			
<input checked="" type="checkbox"/>	Adams & Sons	Benno Kurmann	2122068501	1.55	1.1	2			
<input checked="" type="checkbox"/>	Aguayza & Sons		2123082665	3.21	2.96	3.56			
<input checked="" type="checkbox"/>	Aiello & Sons		2128165282	3.88	2.85	3.56			

Note: User can enter integer value from 0.1 to 2000 for distance proximity search.

Time-based Proximity

This option will calculate how many points fall in 'x' minutes or hours of driving distance from current location. The Proximity can be provided either in Minutes or Hours. The User can also hover over a pushpin and see the distance from current location.



Current Location

This is used in combination with Proximity to specify the center point for the Proximity search. By default, this field displays the address stored in the Maplytics personalized record of the logged in user. This is always represented by a green color pushpin on the map and also indicated right next to the current location message box.

Show Travel Distance

While performing Proximity Search by Distance or Time, if the user wants to see the actual travelling distance from the current location till each of the individual pushpins, they can select the checkbox of 'Show Travel Distance' to view the Shortest Travel Distance on the hover and view data grid.

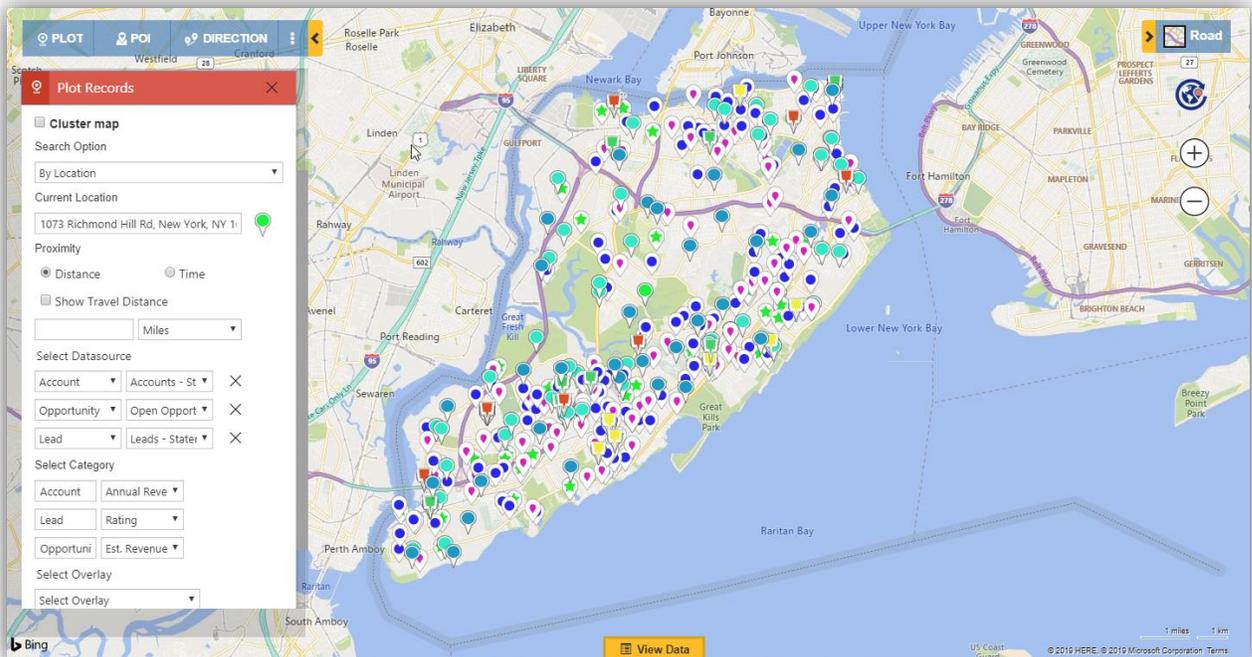
Accounts - Staten Island (103)				Reset	Related Records	Mass Actions
<input checked="" type="checkbox"/>	Account Name	Primary Contact	Main Phone	Shortest Travel Distance	Line-of-Sight Distance	Proximity Zone
<input checked="" type="checkbox"/>	Abbas & Sons		7188520069	2.5	1.84	3
<input checked="" type="checkbox"/>	Abdelmessih & Sons	Abraham McCormick	2122501122	2.04	1.32	3
<input checked="" type="checkbox"/>	Adamita & Sons	Adrienne McMillan	2124180645	0.43	0.39	3
<input checked="" type="checkbox"/>	Adams & Sons	Benno Kurmann	2122068501	1.55	1.1	3

Category

This lists out all attributes of the selected entities. Users can choose the attributes by which they would like to color-code the pushpins plotted on the map. The screenshot below shows the categorization of all the records of Account, Lead and Opportunity on the basis of the attributes Annual revenue, Rating and Est. Revenue respectively.

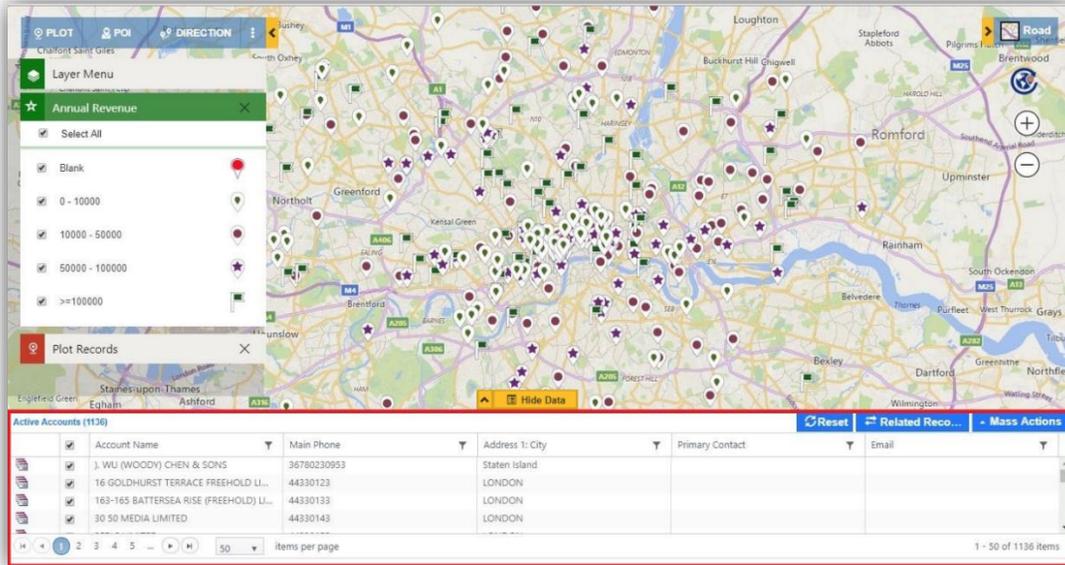
Note:

- **User can choose respective categories for at a maximum of three different entities. Only one category can be chosen for an entity selected twice or thrice.**
- **The user can define the color as well as shape of pushpins for each parameters of category. Refer to [Pre-Define Colors for Category section](#) for further details.**
- **User can also choose the field attributes to be visible in Category list. Refer to 'Setup Entity Map' section of Installation Manual for further instruction.**



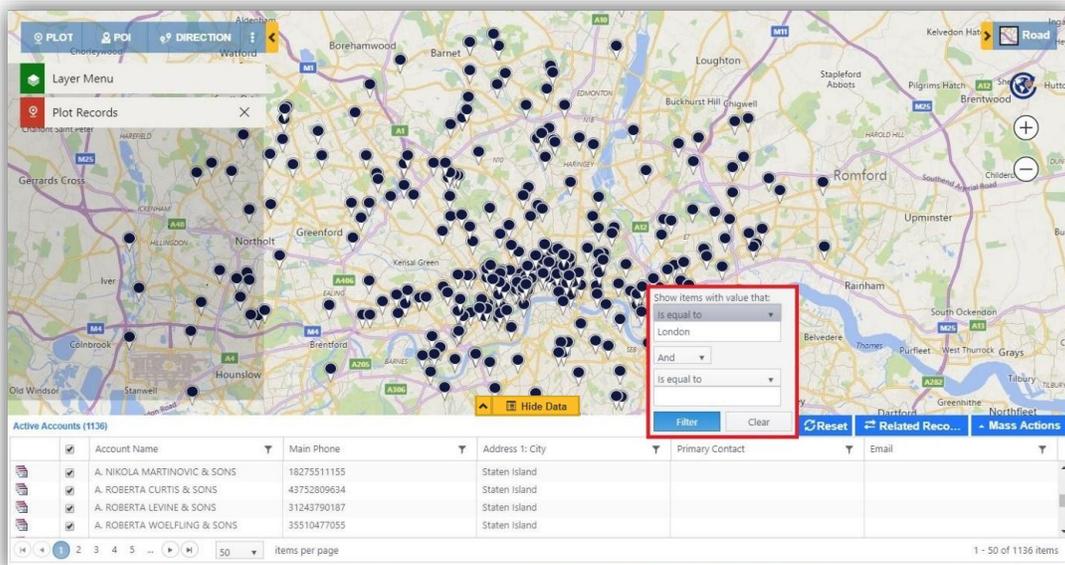
Data Grid

All plotted pushpins represent a unique record in Dynamics CRM and data grid helps the users to access these records from the map screen, filter the data further and perform some mass actions.



Filter Data:

The user can use the filter present on the top of every column to filter the data further. Order of columns in the grid depends upon the Dynamics CRM View selected to plot the data and in the case of Marketing Lists & Maplytics Dashboard records, it is same as that of the Entity-View selected in Entity Map. The users can also customize the data columns to be visible in the grid by adding/removing columns from the Entity view.



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Reset:

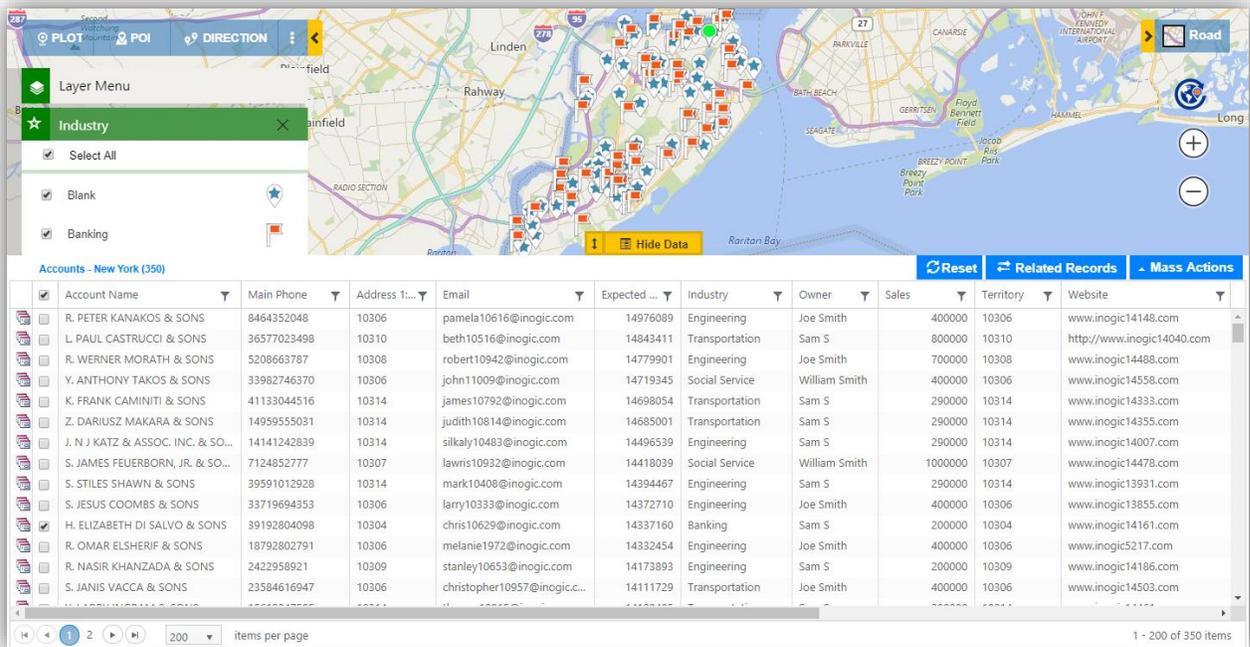
This will reset the grid to the initial search.

Parent Record / Related Record:

This is useful when the user is dealing with plot related records functionality. The user can switch between child data and parent data using this button.

Resizable Data grid:

Double click on  Expand button to view the data grid in full screen. Double click on  Collapse button to view the default size of the data grid. Use can also click once and drag to resize the data grid to the desired size.

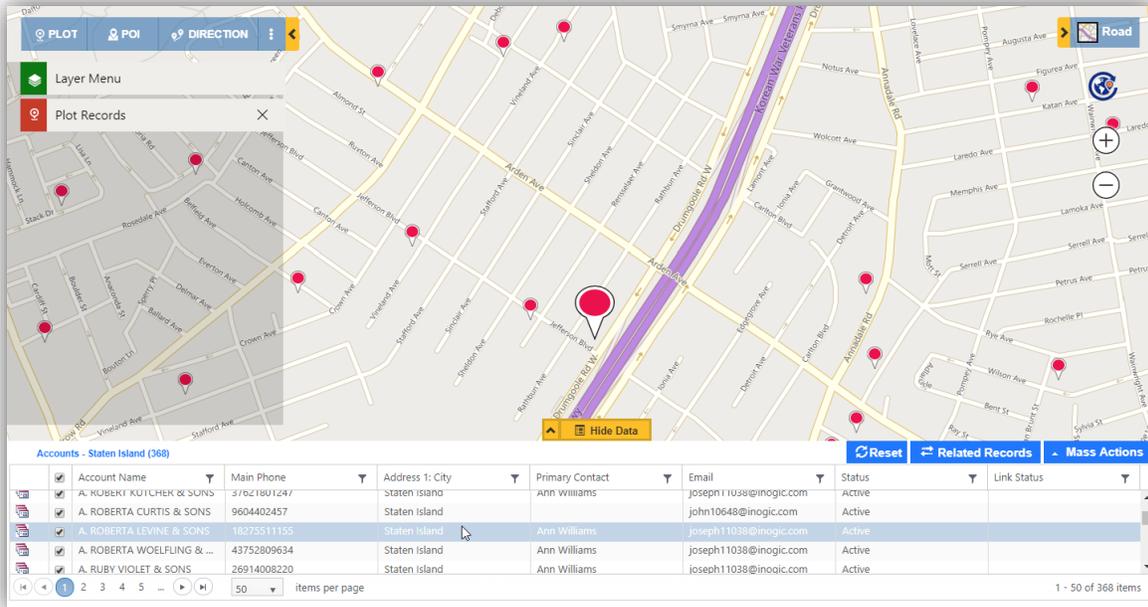


The screenshot displays the Maplytics application interface. At the top, there is a navigation bar with options like 'PLOT', 'POI', and 'DIRECTION'. Below this is a map of New York City with various data points (red and blue icons) overlaid. A 'Layer Menu' is visible on the left, with 'Industry' selected. Below the map is a data grid titled 'Accounts - New York (350)'. The grid has columns for Account Name, Main Phone, Address 1..., Email, Expected ..., Industry, Owner, Sales, Territory, and Website. The grid is currently expanded to full screen. At the bottom of the grid, there are navigation controls including a page number '2', a dropdown for '200 items per page', and a total count '1 - 200 of 350 items'.

Account Name	Main Phone	Address 1...	Email	Expected ...	Industry	Owner	Sales	Territory	Website
R. PETER KANAKOS & SONS	8464352048	10306	pamela10616@inogic.com	14976089	Engineering	Joe Smith	400000	10306	www.inogic14148.com
L. PAUL CASTRUCCI & SONS	36577023498	10310	beth10516@inogic.com	14843411	Transportation	Sam S	800000	10310	http://www.inogic14040.com
R. WERNER MORATH & SONS	5208663787	10308	robert10942@inogic.com	14779901	Engineering	Joe Smith	700000	10308	www.inogic14488.com
Y. ANTHONY TAKOS & SONS	33982746370	10306	john11009@inogic.com	14719345	Social Service	William Smith	400000	10306	www.inogic14558.com
K. FRANK CAMINITI & SONS	41133044516	10314	james10792@inogic.com	14698054	Transportation	Sam S	290000	10314	www.inogic14333.com
Z. DARIUSZ MAKARA & SONS	14959555031	10314	judith10814@inogic.com	14685001	Transportation	Sam S	290000	10314	www.inogic14355.com
J. N J KATZ & ASSOC. INC. & SO...	14141242839	10314	silkaly10483@inogic.com	14496539	Engineering	Sam S	290000	10314	www.inogic14007.com
S. JAMES FEUERBORN, JR. & SO...	7124852777	10307	lawris10932@inogic.com	14418039	Social Service	William Smith	1000000	10307	www.inogic14478.com
S. STILES SHAWN & SONS	39591012928	10314	mark10408@inogic.com	14394467	Engineering	Sam S	290000	10314	www.inogic13931.com
S. JESUS COOMBS & SONS	33719694353	10306	larry10333@inogic.com	14372710	Engineering	Joe Smith	400000	10306	www.inogic13855.com
H. ELIZABETH DI SALVO & SONS	39192804098	10304	chris10629@inogic.com	14337160	Banking	Sam S	200000	10304	www.inogic14161.com
R. OMAR ELSHERIF & SONS	18792802791	10306	melanie1972@inogic.com	14332454	Engineering	Joe Smith	400000	10306	www.inogic5217.com
R. NASIR KHANZADA & SONS	2422958921	10309	stanley10653@inogic.com	14173893	Engineering	Sam S	200000	10309	www.inogic14186.com
S. JANIS VACCA & SONS	23584616947	10306	christopher10957@inogic.c...	14111729	Transportation	Joe Smith	400000	10306	www.inogic14503.com

Highlight pushpins:

User can click on any record within the Data Grid to highlight the respective pushpin on the map. User can also click on any pushpin on the map to highlight the respective record in the Data grid.



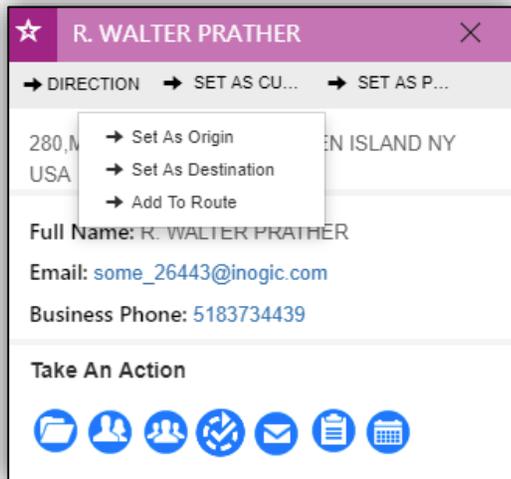
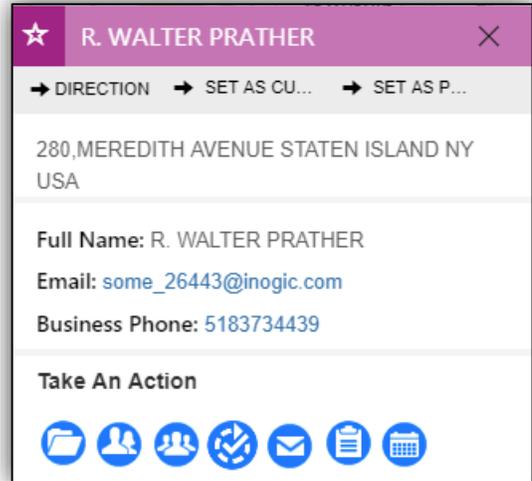
Mass Action Buttons

The user has the option to take actions on the plotted records like adding to route or executing the workflow on selected records in the grid. Defined mass actions are as follows:

- **Add To Route:** This option will add selected data points to the route. The user can add at max 25 data points to the route
- **Save Data:** The selected records can be saved as static Marketing List or Personal View in Dynamics CRM
- **Change Owner:** The user can assign the owner of the plotted records by selecting a user or a Team
- **Manage Territory:** The User can assign or change the territory of selected records
- **Send Email:** The user can send a mass email to the selected records. This will open the list of available email templates or new blank email
- **Execute Workflow:** The user can execute any on-demand workflow with this functionality
- **Export To Excel:** The user can use this feature to export data from the map to excel. This functionality adhere to CRM security roles, if the user does not have the permission to 'Export Data to Excel' in CRM then that user will not be able to export data from Maplytics
- **Create Activities:** User can create activities for non-activity Entity records currently selected in "View Data grid." The user can define the Activity, Subject, Duration, Owner(User/Team) and Priority. The user can also select the number of activities they want to create from Mass actions. The activity selected in respective Entity maps can be seen in the Mass actions list under the label of "Create activities", by clicking this label below window will open which will list the activity selected in respective entity map.
- **Auto Scheduling:** User can use this option to schedule a plan for the plotted records. Refer to the section of Auto scheduling.

Tooltip Card

User can click on any pushpin to open a tooltip card. This card will display the data like Address, Account name etc. which is defined in the Tooltip Mapping section of the Entity Map.

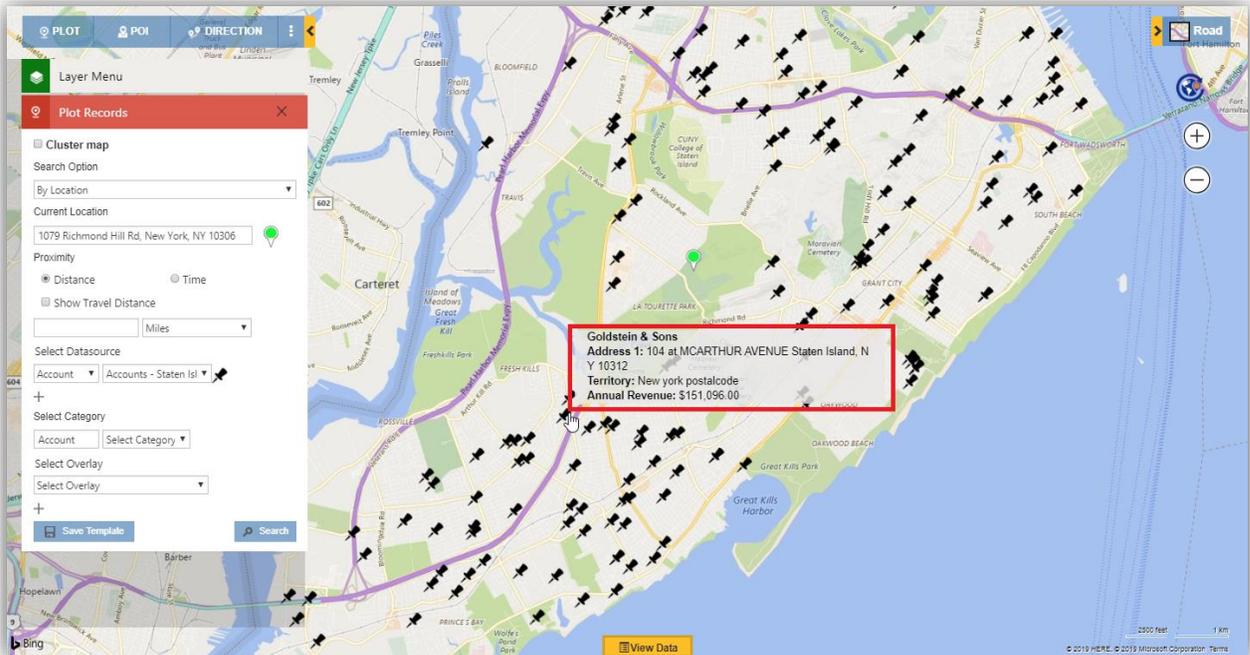


User can also set a particular record as 'Origin', 'Destination', 'Add to Route' under Direction, 'Set as Current Location' and 'POI location' from the Tooltip card.

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Hover:

User can hover on Dynamics CRM Records plotted on the map to have a quick glance at its details.



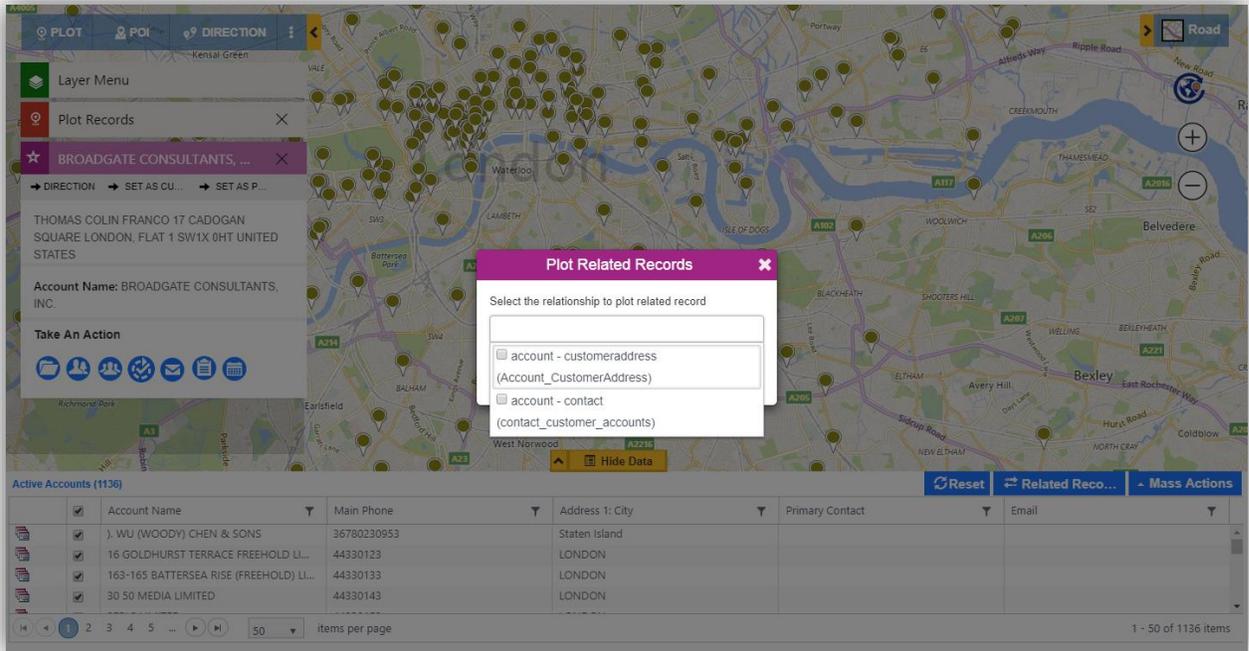
The user can have a maximum 6 different attributes here apart from the title attribute. Refer to the 'Setup Entity Map' section of Installation Manual for further instruction.

Quick Call to Action Buttons:

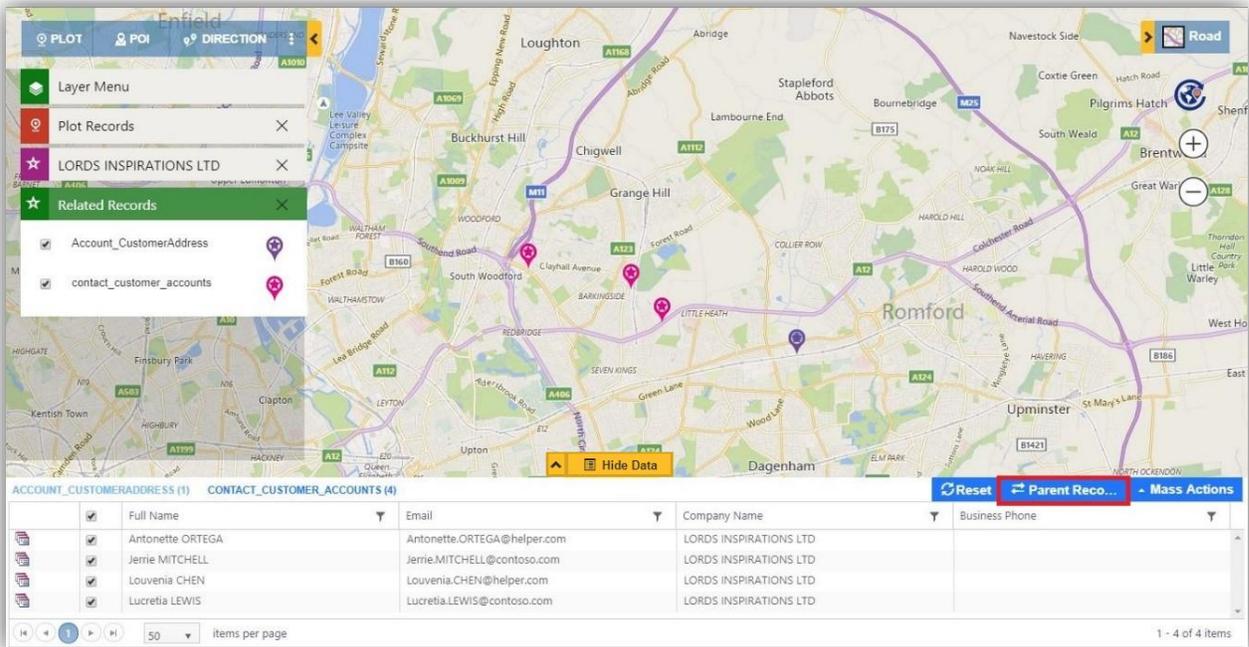
User can associate quick action buttons. This helps in saving time while switching between screens to take actions. First four actions are the default actions and cannot be changed by the user, but they can modify the rest of the actions. The default records are as follows:

- **Change Owner** : Assign an owner to the respective record by selecting a user or a team
- **Open Record** : Open record directly from this screen to edit any field
- **Plot Related Record** : Plot One-to-Many Relationships/Related records of a particular record as shown below:

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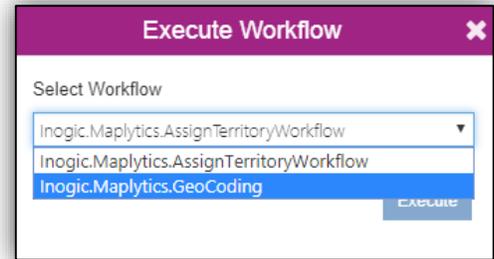


Select the required relationships from the list and click on 'Plot Records' button. Related records will be plotted as shown below. Use 'Parent Records' button to switch between Parent and Related records data points.



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- **Run workflow**  : The user can execute on-demand workflows on an individual record. When clicked on this button, it will open a window which will list down all the on-demand workflows available for respective Entity as shown below :



The user can customize the rest of the actions according to their requirement. In this example, we have added the following three actions:

- **Email**  : Send email to this record
- **Add Task**  : Add task to this particular record
- **Appointment**  : Schedule appointment with this record

The user can define these actions under 'Advance Settings' in Entity Maps. **Go to Setting > Entity Map > Select Required Record > Advance Settings > Tooltip Card Actions** or refer to 'Setup Entity Map' section of Installation Manual for further instructions.

Reset Map

User can use the button of 'Reset Map' to reload the map with the initial Detail map settings.



Note:

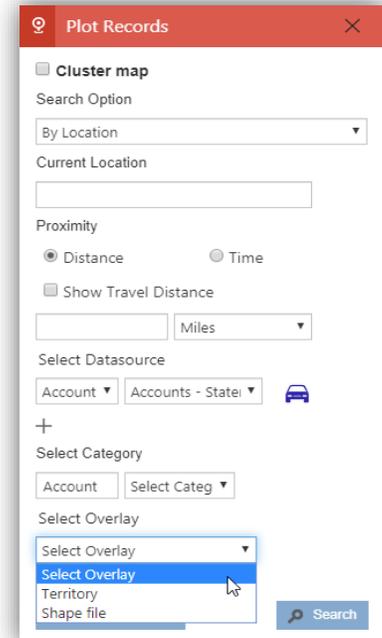
- **This action will clear all the data plotted on map**
- **The refresh map button will show the same data on the map in the following conditions:**
 - **Expanding the map or plotting a route from a dashboard**
 - **Using the map button from an individual Entity record page**
 - **Plotting a route or a template**
 - **Plotting records by selecting the records from the Entity records page**
 - **User had set a default template for the Detail map**

Overlay

This helps user to view the Dynamics CRM records along with shapes files and existing territories plotted on the map. User can also view the 'layer menu' to select or deselect the layers so as to show or hide the same respectively. Using Overlay user will easily be able to understand and analyze the data spread in required shape file regions and territories.

User can select the following two options:

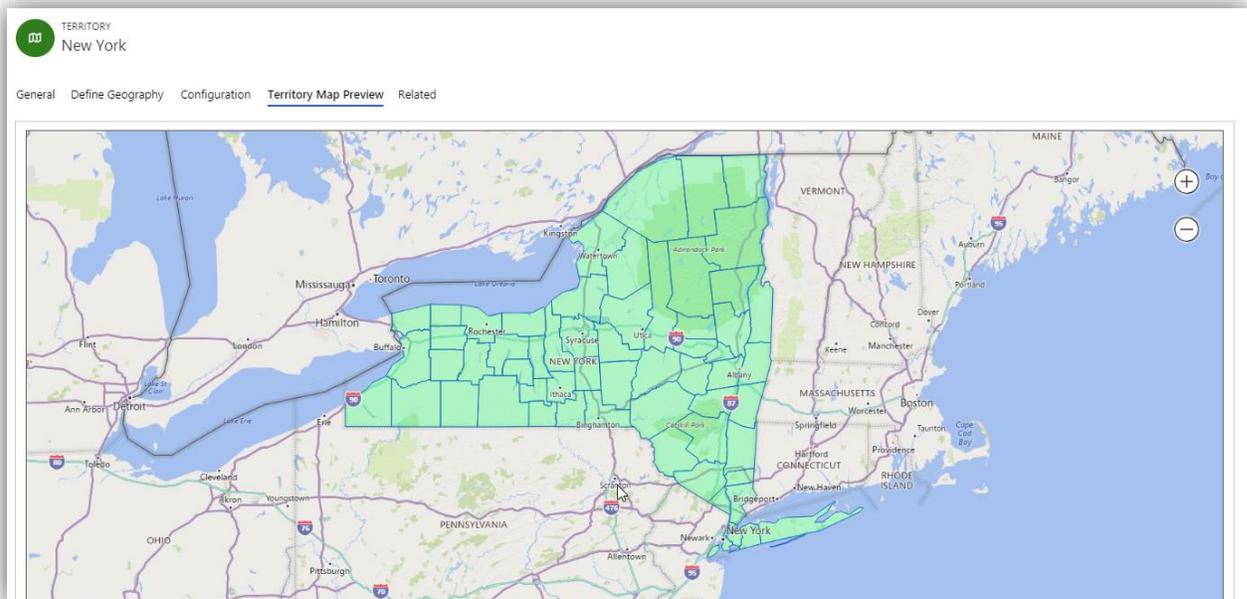
- Territory – This option helps the user to select among the list of existing territories
- Shape file – This option helps the user to select among the list of shape files



Shape file in territory

A shape file should be saved in a territory in order to be visible in the list of the shape files. Follow the steps mentioned below:

- **Go to Settings > Business Management > Sales Territories > Create a sales territory > Save**
- **Go to Territory Map Preview > Select By Shape File > Choose a shape file > Save**



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Convert overlay to territory

User can use this button to convert an overlay record to a territory. After the overlay record is converted, it becomes a territory which can be searched in the option of 'Territory' in Overlay.

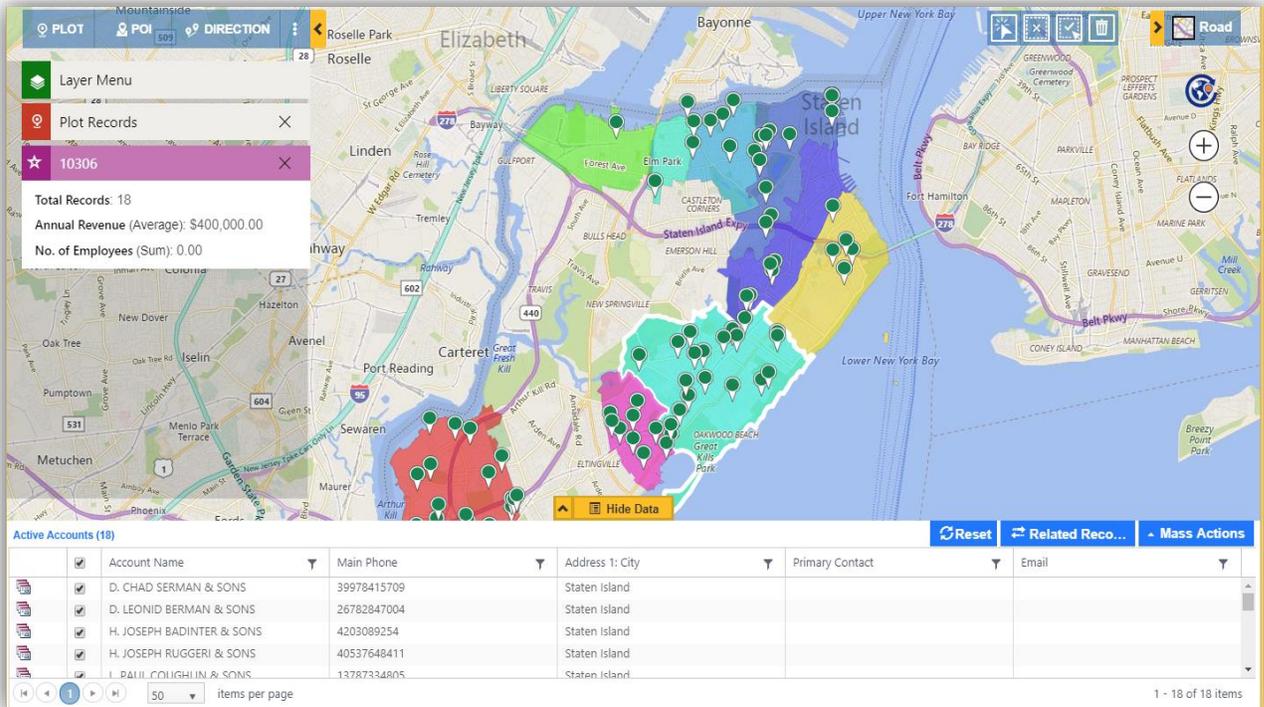


Note:

- **Supported file types for shape files are .shp, .kml and .geojson**
- **In a territory, either a shape file can be saved or geographies can be created**
- **Only one shape file can be saved in one Territory**

Summary Card

The user can click on any enclosed area to get the summarized information of the plotted records in that area in a summary card. The area clicked will get highlighted and the respective data will be visible in the data grid. The user can customize the settings for this under the Summary card section in the respective 'Entity Maps'. Refer to 'Setup Entity Map' section of Installation Manual for further details.



	Account Name	Main Phone	Address 1: City	Primary Contact	Email
<input checked="" type="checkbox"/>	D. CHAD SERMAN & SONS	39978415709	Staten Island		
<input checked="" type="checkbox"/>	D. LEONID BERMAN & SONS	26782847004	Staten Island		
<input checked="" type="checkbox"/>	H. JOSEPH BADINTER & SONS	4203089254	Staten Island		
<input checked="" type="checkbox"/>	H. JOSEPH RUGGERI & SONS	40537648411	Staten Island		
<input checked="" type="checkbox"/>	I. PAULI COLIGHI IN & SONS	13787334805	Staten Island		

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With territories plotted on the map, Summary card also shows the link to open the respective territory from the card itself.

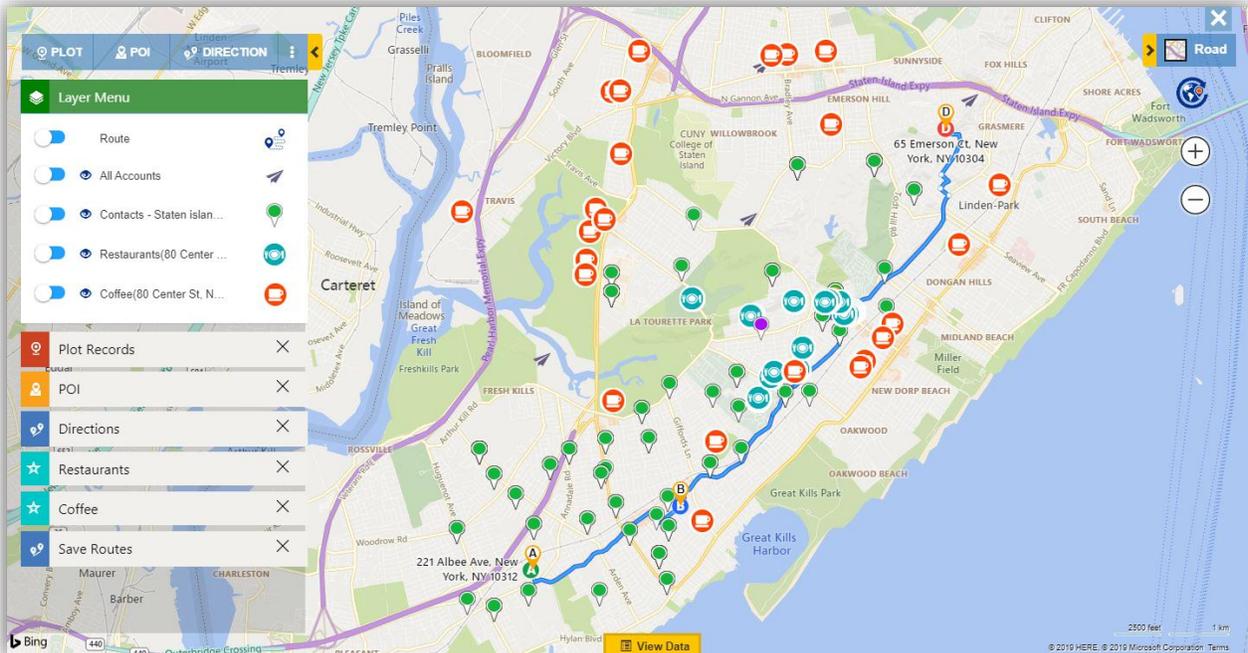


A summary card for territory 10314 - Staten Island. The card has a purple header with a star icon on the left and a close icon on the right. The main content is white with a red border around the territory name. It displays the following information:

- Territory: 10314 - Staten Island
- Total Records: 26
- Account - (All Accounts): 26
- Annual Revenue (Average): \$38,711,538.46
- No. of Employees (Sum): 161,300.00

Layer Menu

This helps the user to select the required data among the multiple data plotted on the map. The user can use the toggle buttons on the Layer menu card to show or hide the required layers of the data to be shown on the map without removing the same from map.



Note: Layer menu card is collapsible but a user can not close this card exclusively.

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The layer menu card will show the following icons for the respective layers mentioned:

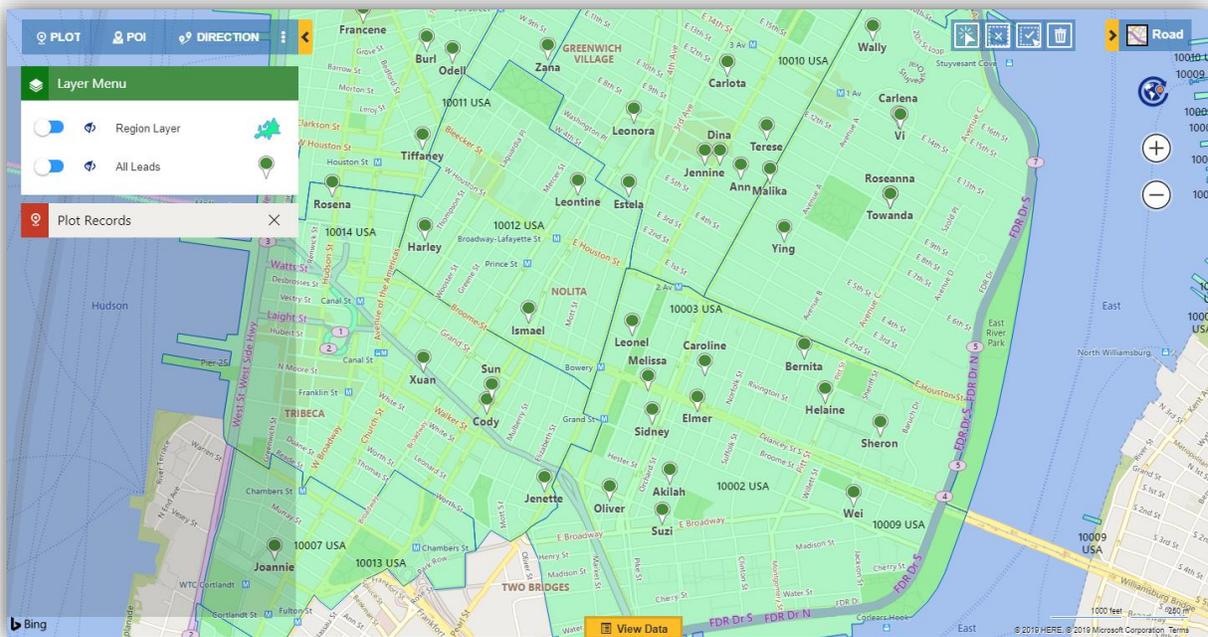
Layer type	Icon	Layer type	Icon
Data source		Territory	
Route		POI	
Proximity		Cluster Pushpin	
Drawing Shape		Shape Operation	
Region Shape		Overlay- Shape file	
Plot-child		Territory Management – Shape file	

Note:

- **Layer icon for Data source layer, POI layer and Plot-child layer will change depending upon pushpins visible on map**
- **If category is selected in the plot card, the layer menu card will show only the default pushpin for the Data source layer**

Show/Hide Labels

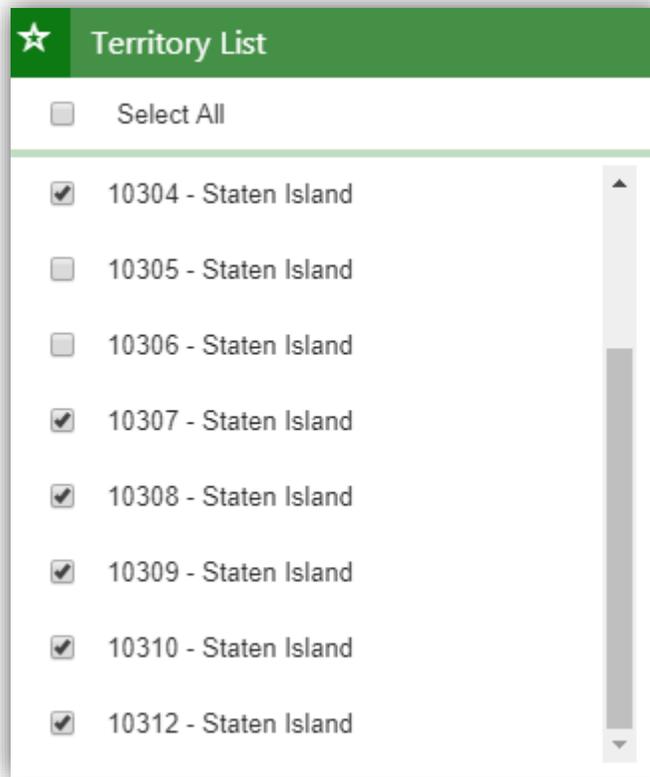
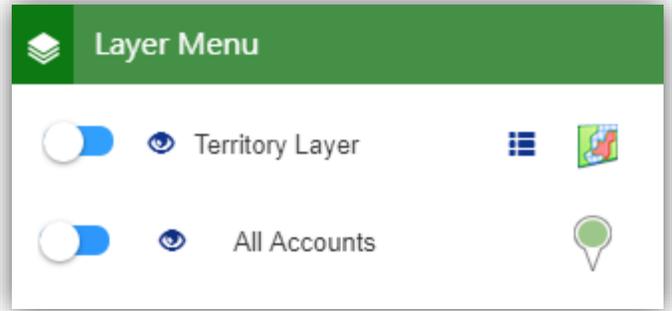
User can click on the 'Show label'  button to view the labels for the pushpins, regions as well as territories plotted on the map. User can again click on 'Hide Label'  to hide the labels showing on the map. The option for showing/hiding labels is available for every individual layer of data plotted on the map.



Note: Show Labels is available for less than 5k records.

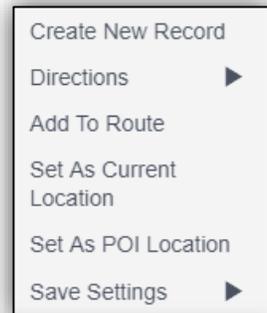
Show/Hide Territory List

With territories plotted on the map, layer menu will also show an option of Show/Hide List for the layer of territories. User can click on the show/hide list button  option to open the list of territories plotted on the map. User can further select or deselect the territories which are required to be plotted on map.



Contextual Menu

User can right click on the map to open Contextual menu. It provides commonly used features in Dynamics CRM like creating a new record, set origin/destination or selecting map zoom level on the map. The contextual menu provides the following options:



Create New Record:

User can right-click anywhere on the map or POI result icons and create a record for that particular location. This will save the record with the details of the address and the geo-coordinates (Latitude & Longitude).

Note: Create new record option will not available for existing record pushpin



Directions:

- **Set As Origin:** This option will set the address of the pushpin/map location as the start location of the route.
- **Set As Destination:** This option will set the address of the pushpin/map location as the end location of the route.

Add to Route: This option will set the address of the pushpin/map location as a middle waypoint(s) of the selected route. For example, the user has selected Point A & B as origin & destination respectively for a route and now clicks on the 'Add To Route' option, the Point B will remain as the destination and will become the Point C. The address of the selected pushpin will become the Point B of the route.

Set as Current location: User can click on any pushpin or anywhere on the map to set the address of the pushpin or the location as the current location respectively, which can be used for Proximity search.

Set As POI Location:

This option helps the user to set the location for the Point of Interest (POI) searches like ATMs, restaurants, Airports, etc. Setting the POI location, user can search for various Geo-tagged & Bing mapped locations around it.

Save Settings:

User can save the default settings for the following options. These settings will be saved in the Configuration details record of the user:

- **Current location:** This will save the location as the default current location.
- **Map zoom level:** This sets the zoom level and map center for the Map. After this setting is done, whenever the user will open the Detail Map, it will be zoomed down to the location set here.
- **Origin:** This sets the location as the default origin.

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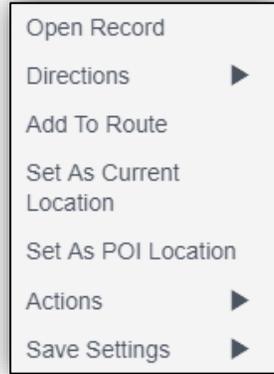
- Destination: This sets the location as the default destination

User can also click on any pushpin to get a contextual menu. Along with the options mentioned above, this will provide the following options:

Open record: User can open the record form right from the map and can further edit the details for the record.

Actions: User can perform the following actions on the pushpin selected:

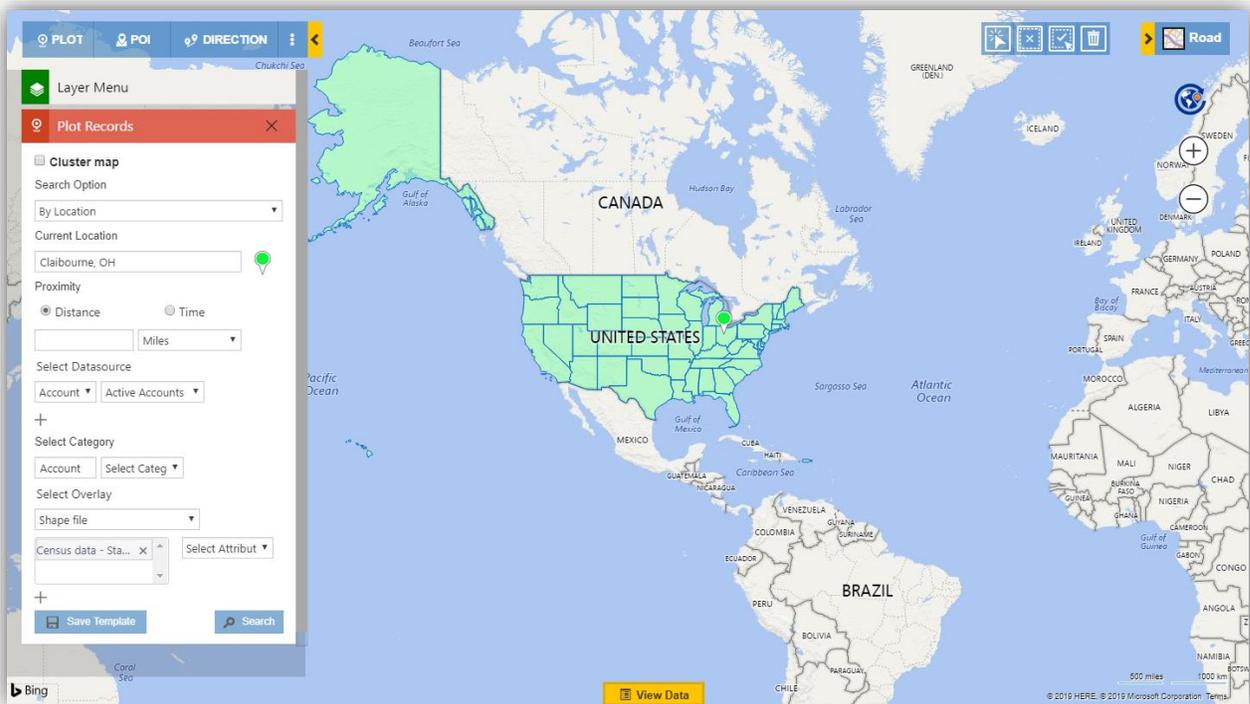
- Add Task: This option helps the user to create a new task in Dynamics CRM regarding the selected record.
- Schedule Appointment: The user can use this option to create a new appointment for the selected record.
- Manage Territory: The user can assign/re-assign a territory to the selected record from the map and hence can manage the territory.



Census data Visualization

This feature helps the user to visualize census data on the map. Census data provides the information about the population for a whole country or parts of country. Visualization of this data on Maplytics will help the user to analyze various information of the required area in a country like Housing units, Area land, Area water, population demographics, etc. and take strategic decisions. A few census data are available by default within Maplytics. These default census data are provided by Bing maps for USA. User can also plot their own shape files on the map which contains census data.

To plot the census data, user can choose the option of shape files in the feature of Overlay. Please refer to the section of 'Overlay'.



Configuration for Census data

User can configure the Census data provided by Maplytics in the Dynamics CRM. Please refer to the section of Configure in Installation manual for the steps to 'configure'.

While configuring the census data into Dynamics CRM, territories will get created within which the respective census data will be saved in the form of geographies. To view the saved census data, **Go to Settings > Business Management > Sales Territories**. Following are the territories for census data created on configuration:

- Census data - States in USA
- Census data - Counties in USA
- Census data - 111th Congressional Districts in USA

Configuration for attributes

User can configure the attributes available in the census data/shape files to show on the map, create categories for attributes and select the colors to visualize the categorized data on the map. This allows the user to frame the data how they want to view on the map.

Go to Settings > Business Management > Sales Territories > Territories with census data/shape files saved > Configuration

- **Attribute Configuration:**
 - **Summary Attributes:**
User can select the attributes to show on the Summary card shown on the click on the regions in the census data/shape file plotted on the map.
 - **Hover Attributes:**
User can select at a maximum of 6 attributes that will be shown on the hover on the regions in the census data/shape file plotted on the map.
 - **Data grid Attributes:**
User can select the attributes from the census data/shape file to be shown as columns in the data grid in Detail map.

Attribute Configuration

Summary Attributes	Actions	Hover Attributes	Actions	Data Grid Attributes	Actions
Select Summary Attribute(s)	+	Select Hover Attribute(s)	+	Select Grid Attribute(s)	+
Name	🗑️	Name	🗑️	Name	🗑️
Population	🗑️	Population	🗑️	Population	🗑️
Area_Land	🗑️	StateCode	🗑️	Area_Land	🗑️

- **Category Configuration**
User can create categories for the attributes in the census data/shape file. Creating categories will help the user to view the categorized census data for the required attributes in the desired colors. Some categories are provided by default for configured census data. User can click on **+ New** New button to create a new category for any attribute. User can also click on **✎ 'Edit'** and **🗑️ 'Remove'** to make changes or delete the existing categories respectively.

Create Categories + New

Name	Actions
Population	✎ 🗑️
Area_Land	✎ 🗑️
Area_Water	✎ 🗑️
Pop_Over16	✎ 🗑️
Pop_Male_Over16	✎ 🗑️
Pop_Female_Over16	✎ 🗑️

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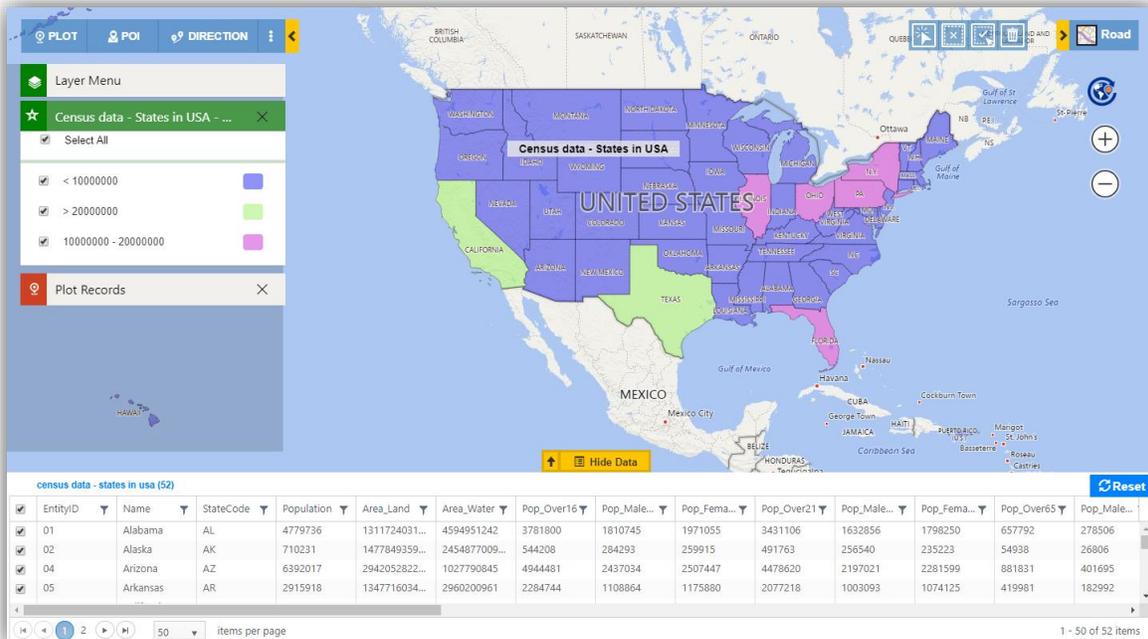
- **Create filters and define colors**

After clicking on Edit/New button, user can filter the attributes and define colors for the ranges of the filtered attributes.

- **Attribute:** This shows the name of the Attribute for which the category has been created/will be created.
- **Display Name:** User can type a name for the category which should be displayed in the list of the categories.
- **Save:** User can click on save button to save the changes made.
- **Discard:** User can click on Discard button to discard the changes made.
- **Filter:** User can set various filter conditions for the category.
- **Value:** User can set values for respective filters set.
- **Color:** This can be used to set colors for individual filters set. The user can click on the  Auto Set button to set random colors for all the values.
- **Add/Remove:** Click on Add or Remove to add a new filter or delete the filter respectively.

Attribute	Filter	Value	Color	Add	Remove
Pop_Female_Over...	Is Less Than	3000000	#5a546	+	×
Pop_Female_Over...	Is Between	3000000 - 6000000	#e7405	+	×
Pop_Female_Over...	Is Greater Than	6000000	#8bc21	+	×

After the user has created categories, user can plot the census data along with an attribute selected to visualise the categorised Census data on the map as shown below:

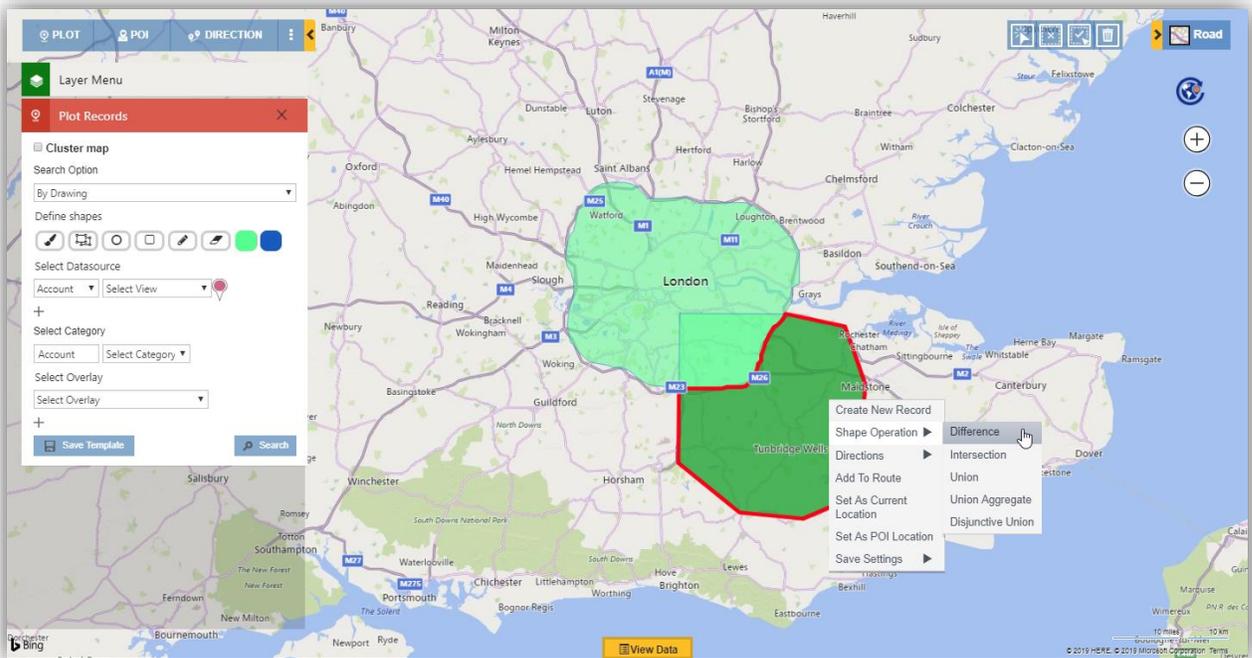


Shape Operations

With the help of Shape operations, users can perform Binary operations on the shapes drawn on the map. These operations can only be performed under the Search option of 'By Drawing' in the Plot card and Territory management section. Please refer to the section of Territory management for the shape operations in Territory management.

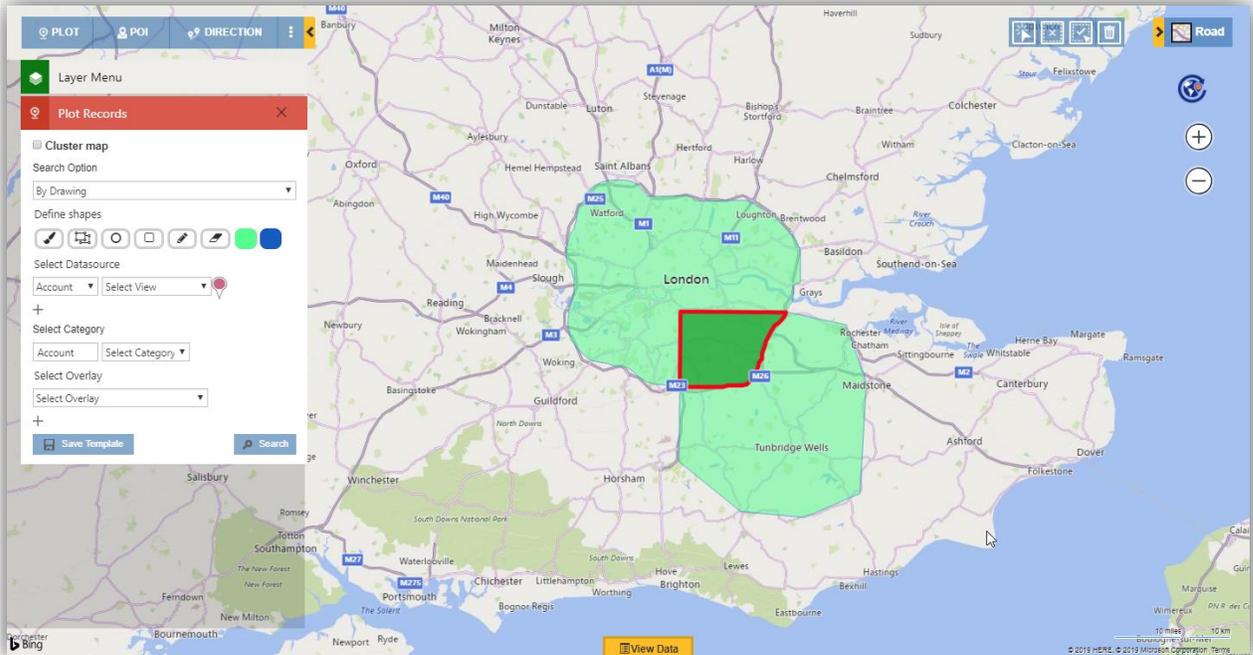
User can open the 'by drawing' search option and right click on the shapes and can choose the option of 'Shape operations'. The following five operations can be performed on the shapes:

- **Difference:** This highlights the shape(s) obtained by subtracting the overlapped ones from the selected shape

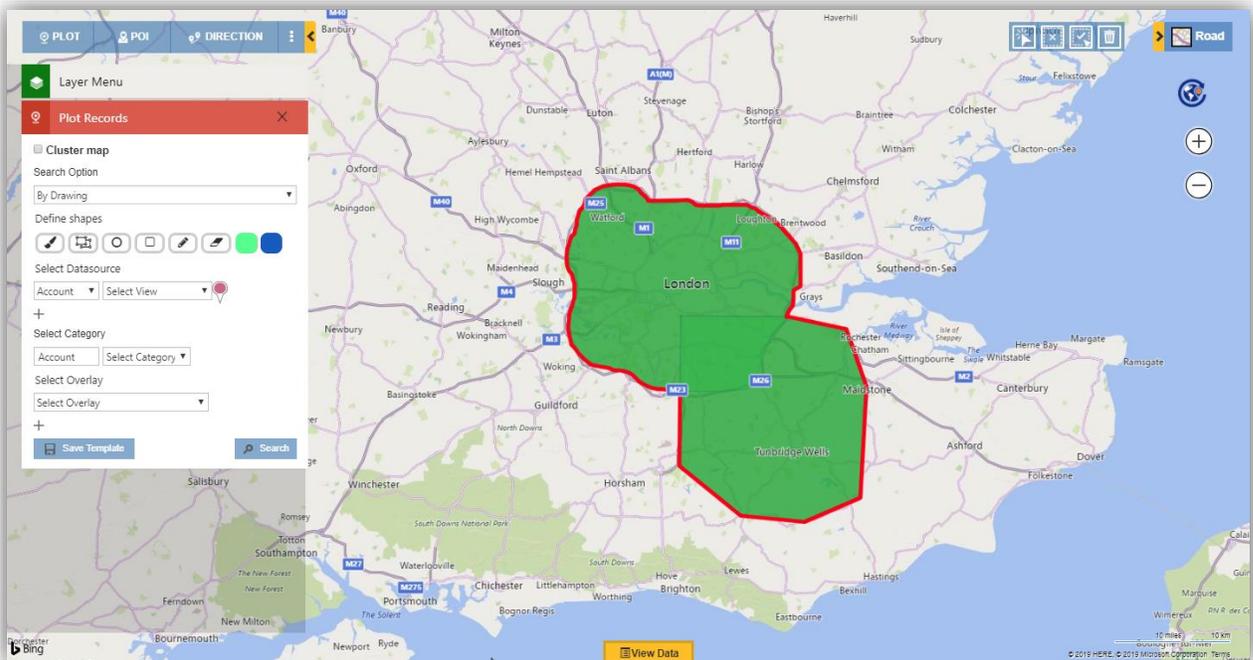


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- **Intersection:** This highlights the shape(s) where the selected shape and other shapes overlap.

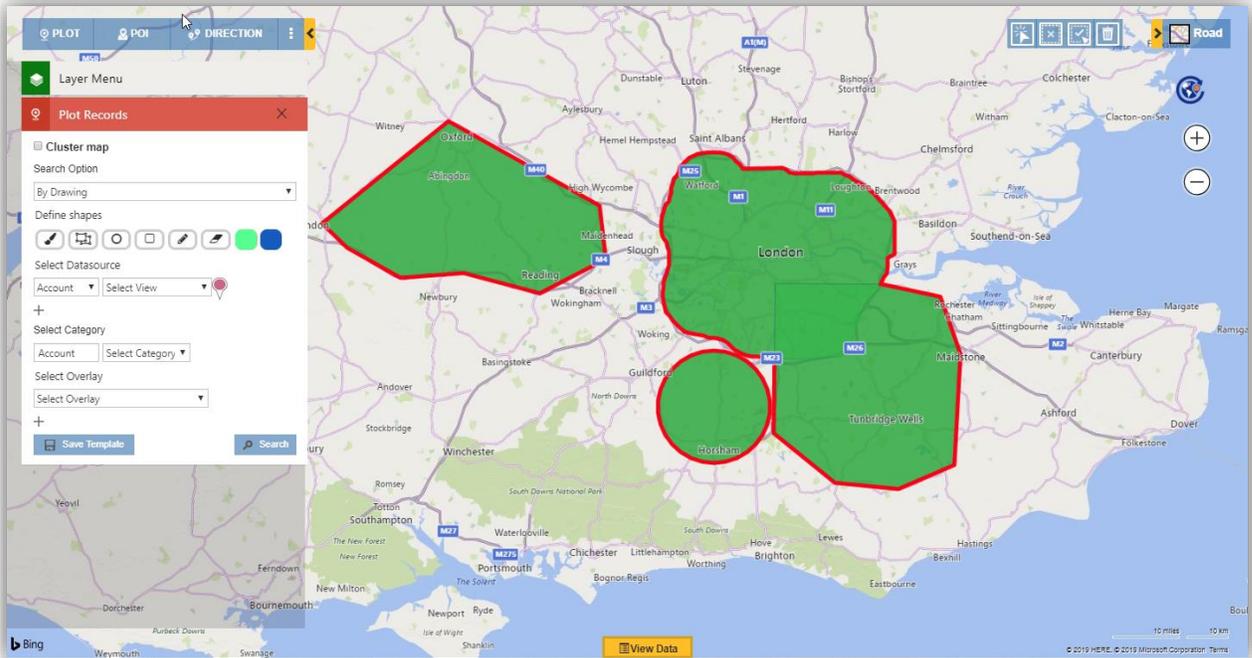


- **Union:** This adds all the shapes overlapped on the selected shape

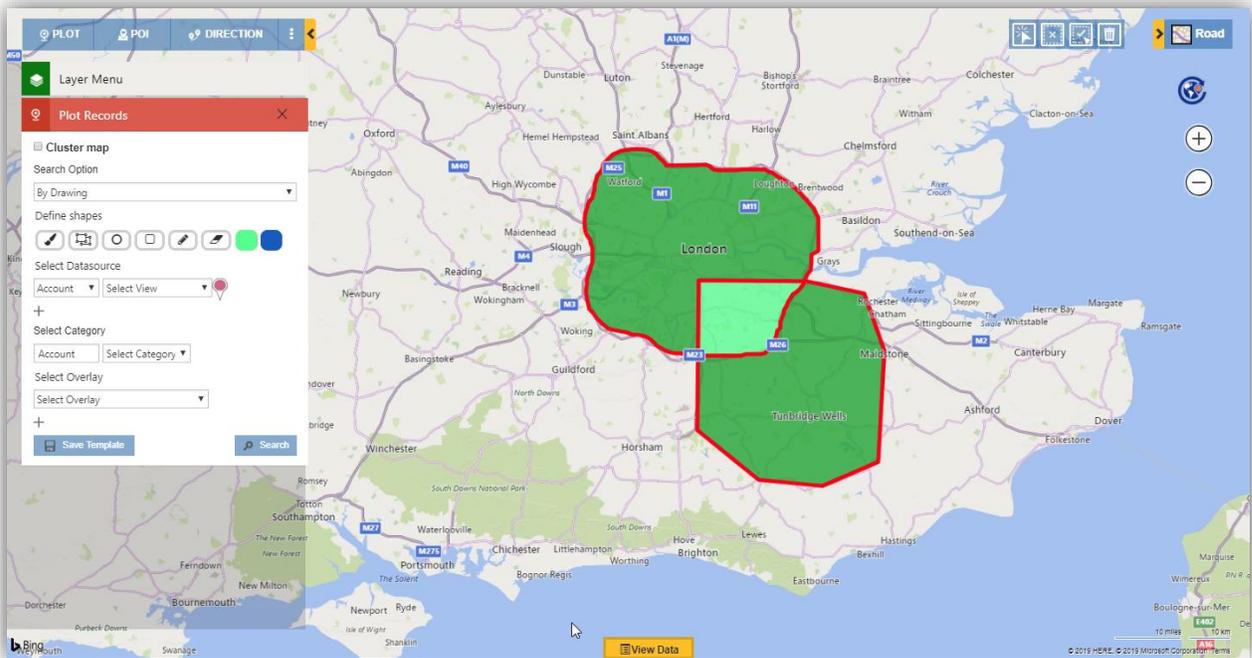


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- **Union Aggregate:** This performs union operation on all the shapes that are drawn on the map. If a shape does not overlap with any other shapes, it highlights such shapes and the union of the rest of the overlapping shapes.



- **Disjunctive union:** This highlights the shapes that are not overlapped and lie in the selected shape & the shapes that are linked with the selected shape



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Undo – While performing operations, user can use the option of ‘Undo’ to go only one step back into the binary operations performed

Reset – Using the option of reset, user can remove all the operations that are performed on the shapes drawn on the map

Note:

- *To perform any operation, two or more shapes should overlap.*
- *For Union Aggregate, there should be more than one shapes with or without overlap.*
- *The highlighted shapes are new shapes as resultants of the operations performed. User can click on the highlighted shapes to view the summary card and the data in the view data grid.*

Territory Management

Territory management helps the user to create new territories and align the existing territories. User can plot regions on map with files or by location of regions. Based on the analysis of the plotted regions, user can use the Alignment tool to select the required regions and create new territories. Further, user can plot the existing territories and edit them to perform proper Territory distribution.

Go to Detail map > More Options > Territory Management

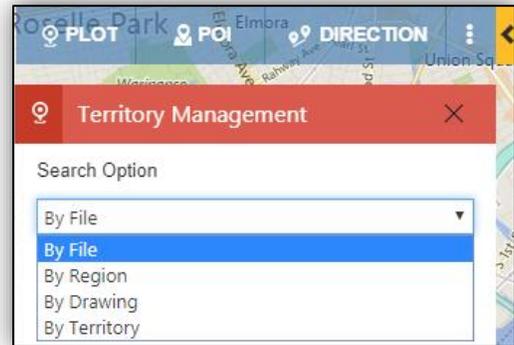


Note: Users other than System Admin, can use Territory management only if they are given the role of Maplytics Territory Manager

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User can use the search options to plot shape files, excel files, search by region, draw a shape or plot existing territories on the map. There are four search options:

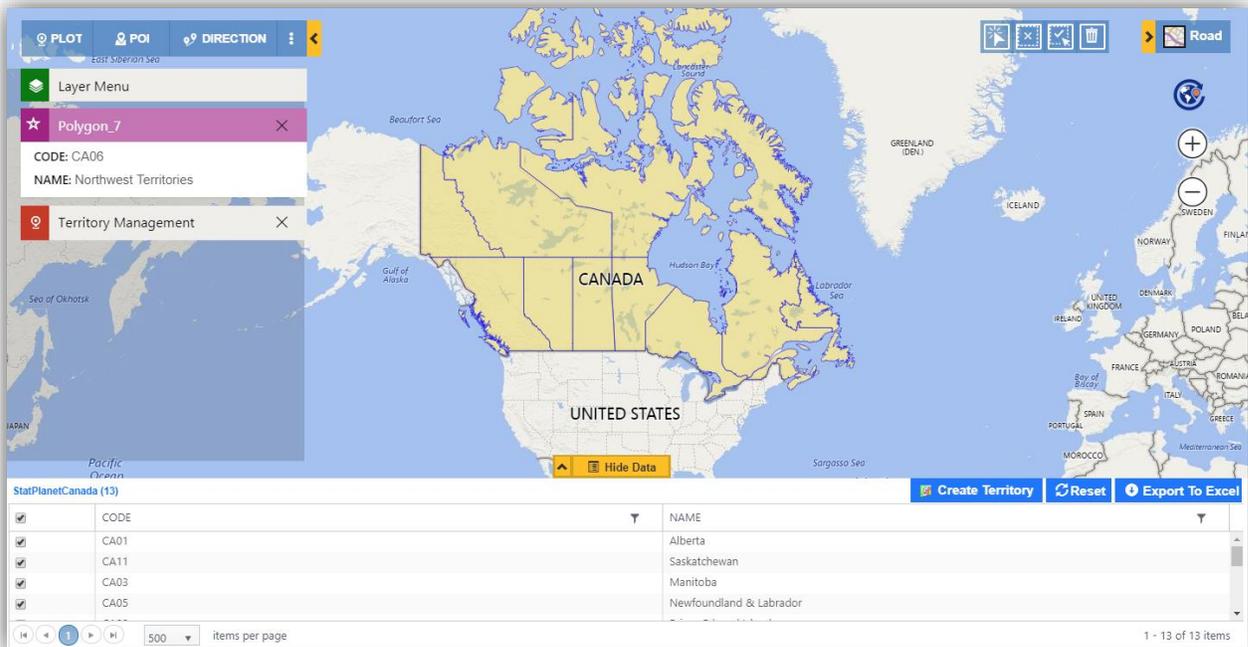
- By File
- By Region
- By Drawing
- By Territory



By File:

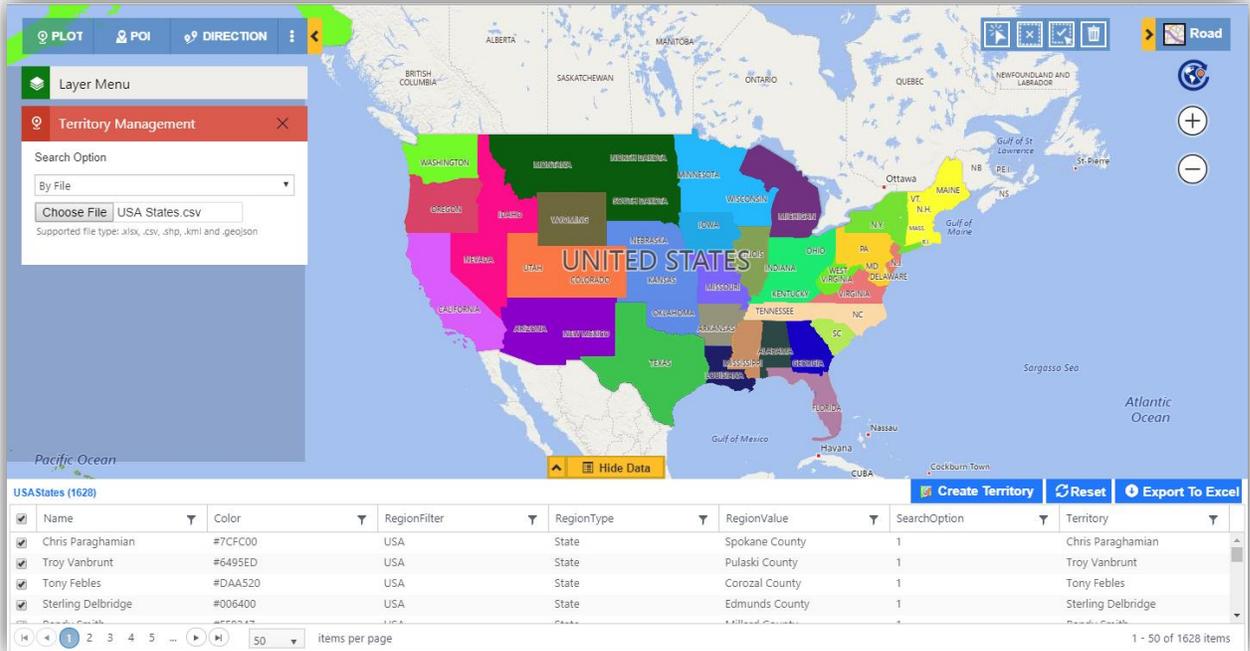
This helps user to plot the shape files and excel files on the map that store geographical information and attributes of the geographic features. User can plot the following two types of files:

- Shape files: The supported file formats are .shp, .kml and .geojson



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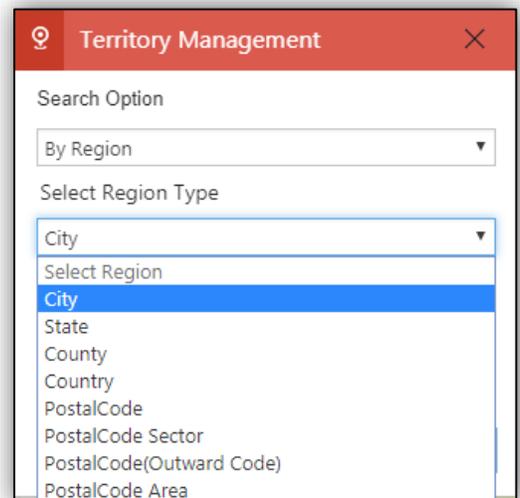
- Excel files – The supported file formats are .xlsx, .csv



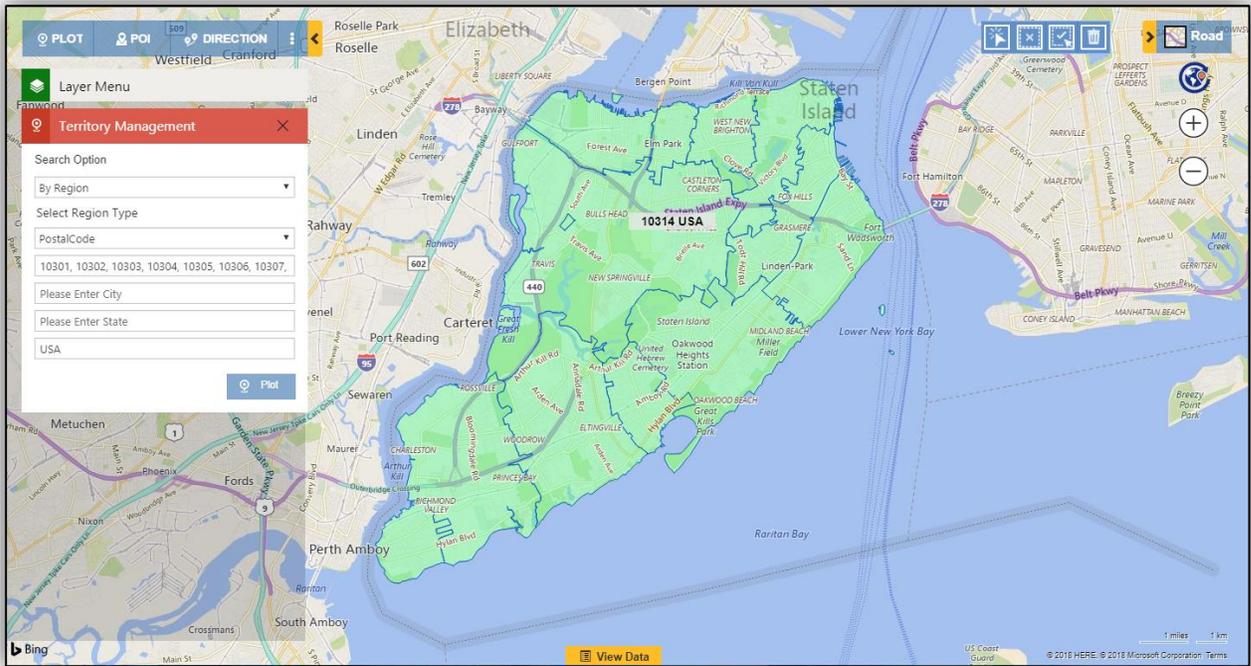
Note: The excel files should be in a predefined format so as to get supported by Territory Management. Please refer to the section of Bulk Geographies by uploading an Excel file

By Region

This options helps the users to search for regions on the map by City, State, County, Country, PostalCode, PostCode Sector, PostCode(Outward Code), PostalCode Area.

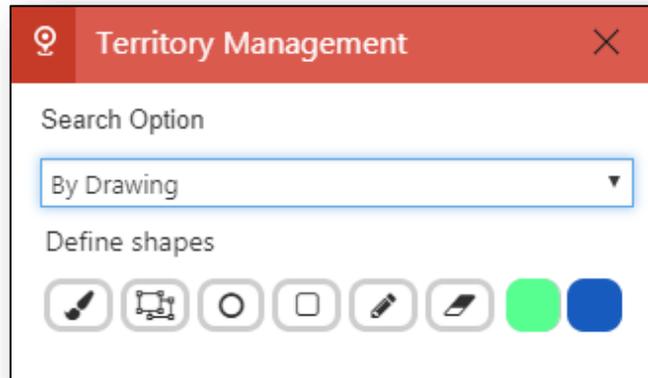


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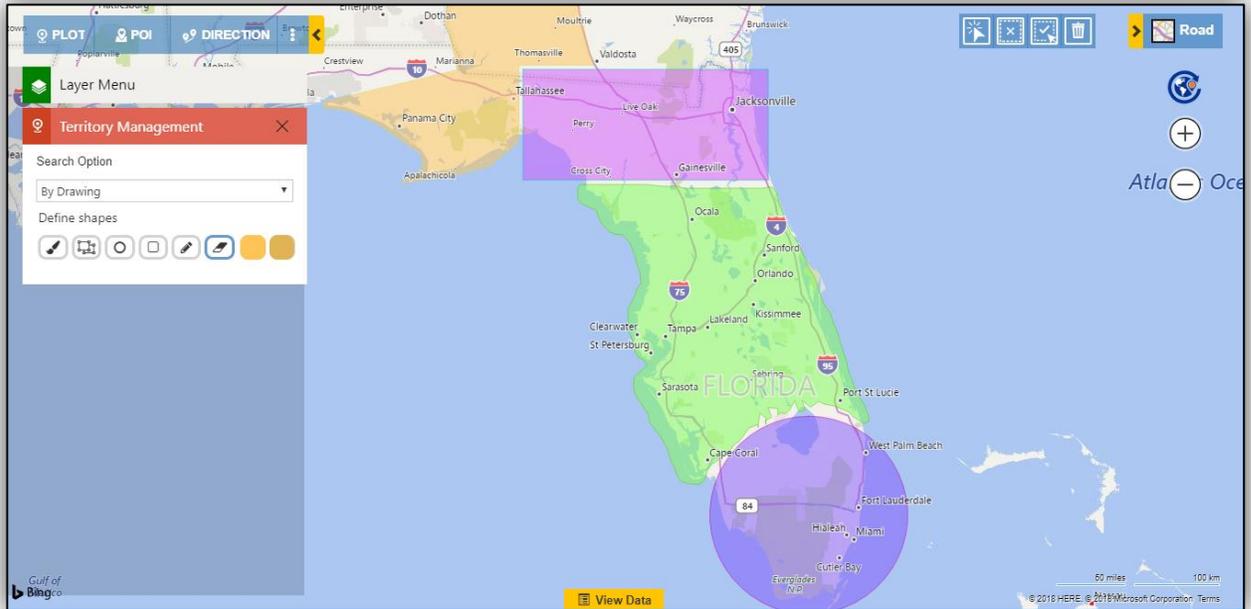


By Drawing

This helps the user to draw a shape using the custom Drawing Tool Bar.

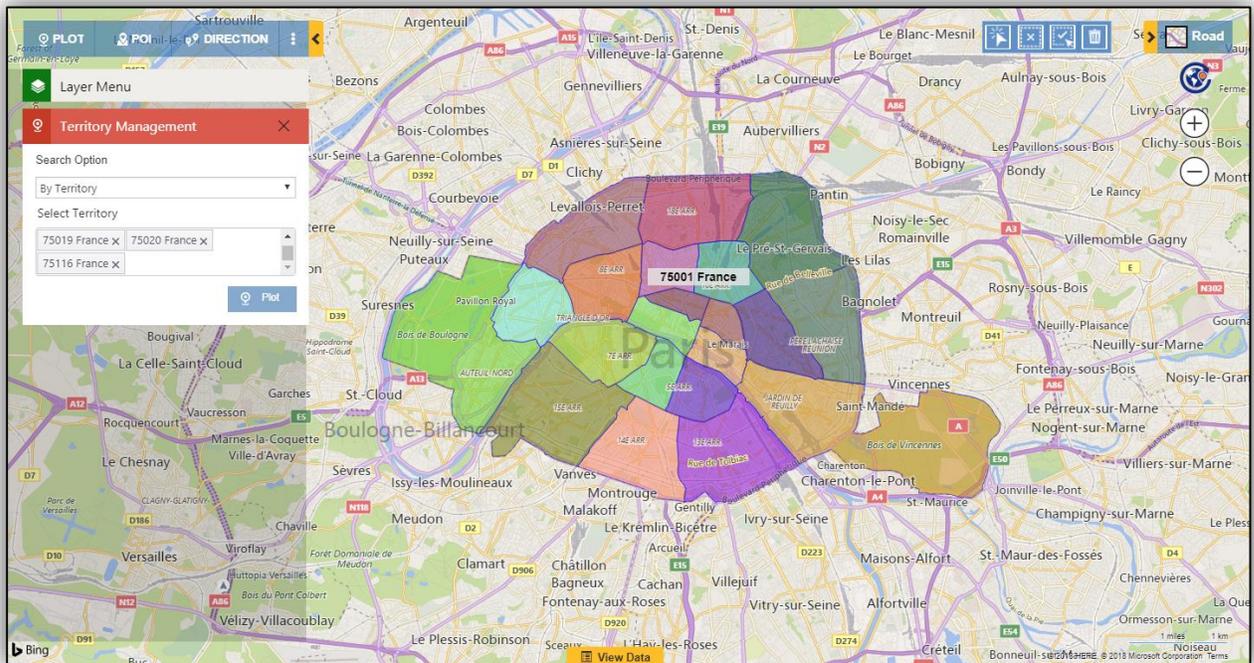


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By Territory

This helps user to plot the existing territories on the map.



Territory Alignment Tool

This tool has four options respectively as mentioned below:

- Select/Deselect: User can select regions/shapes/territories one by one on the map
- Deselect All: User can deselect all the selected regions/shapes/territories on the map
- Select Multiple: This is a freehand selection which helps the user to select multiple regions/shapes/territories on the map
- Delete: User can delete the shapes/regions/geographies plotted on the map



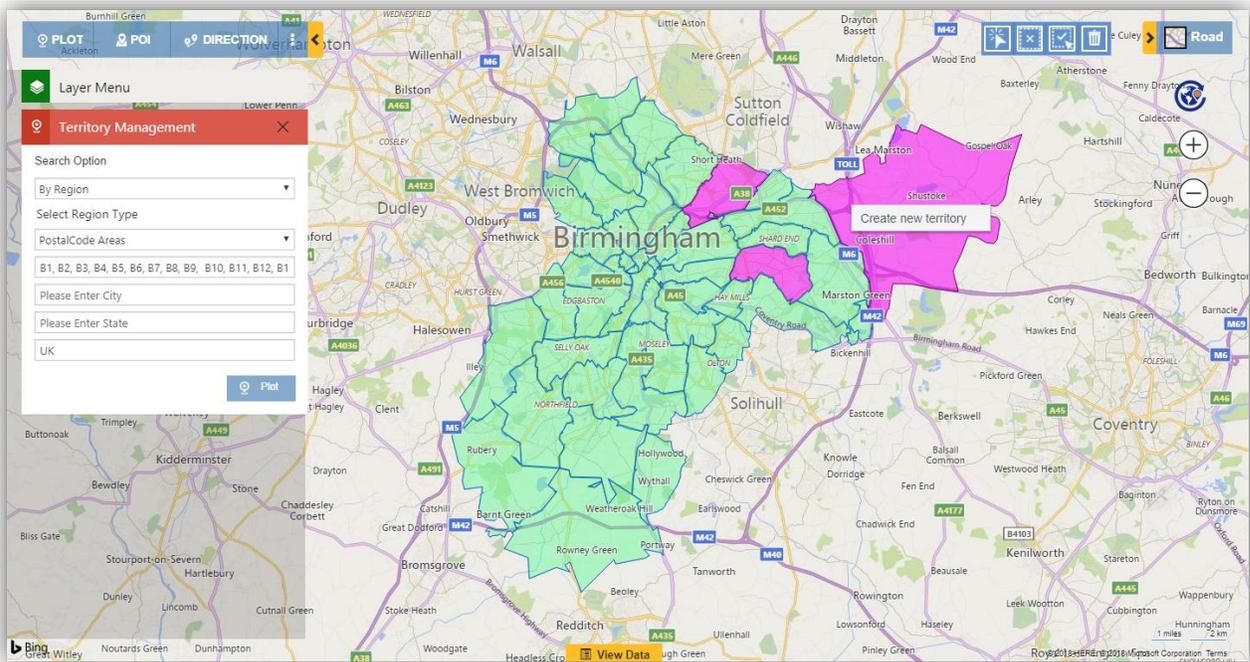
Note: If the delete option is used on the existing territories, it will delete the selected geographies from the existing territories.

Note: Territory Alignment can also be performed on Plot card.

- The option of 'create new territory' works on all enclosed shapes except Proximity circles.
- The option of 'Move to/copy to' works on all shapes of plotted territories.

Create new territory

User can select some of the regions/shapes and create a new territory.

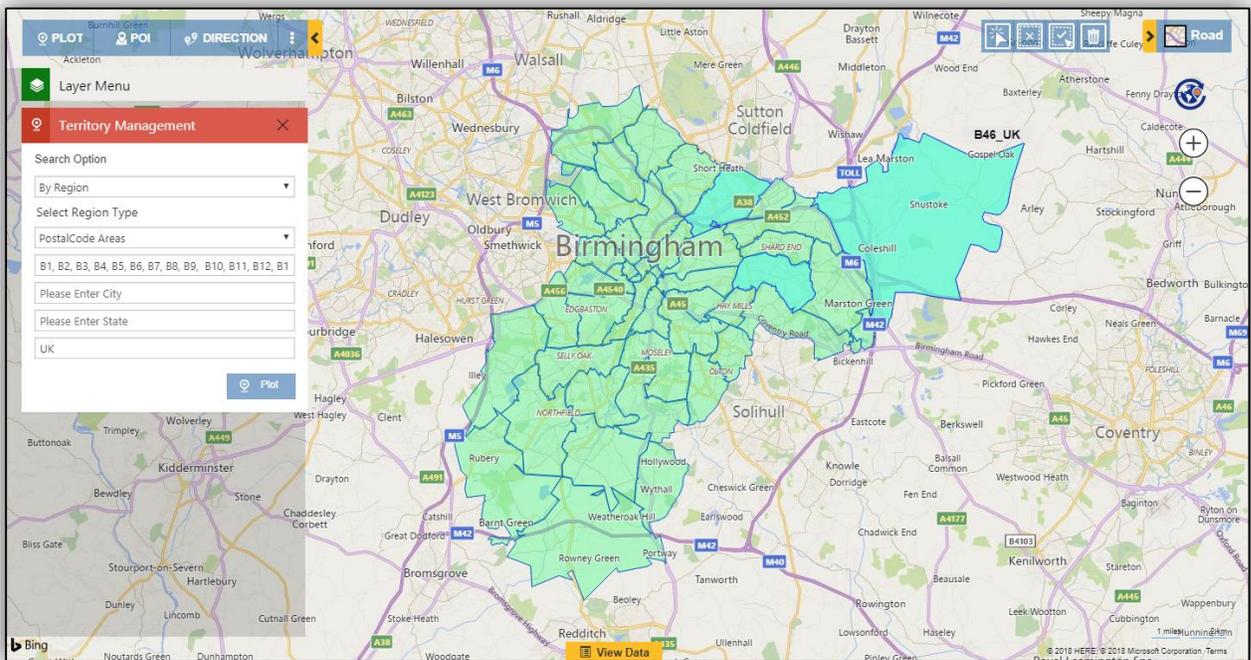


Create new territory ✕

Add to existing territory

Create new territory

Select Manager



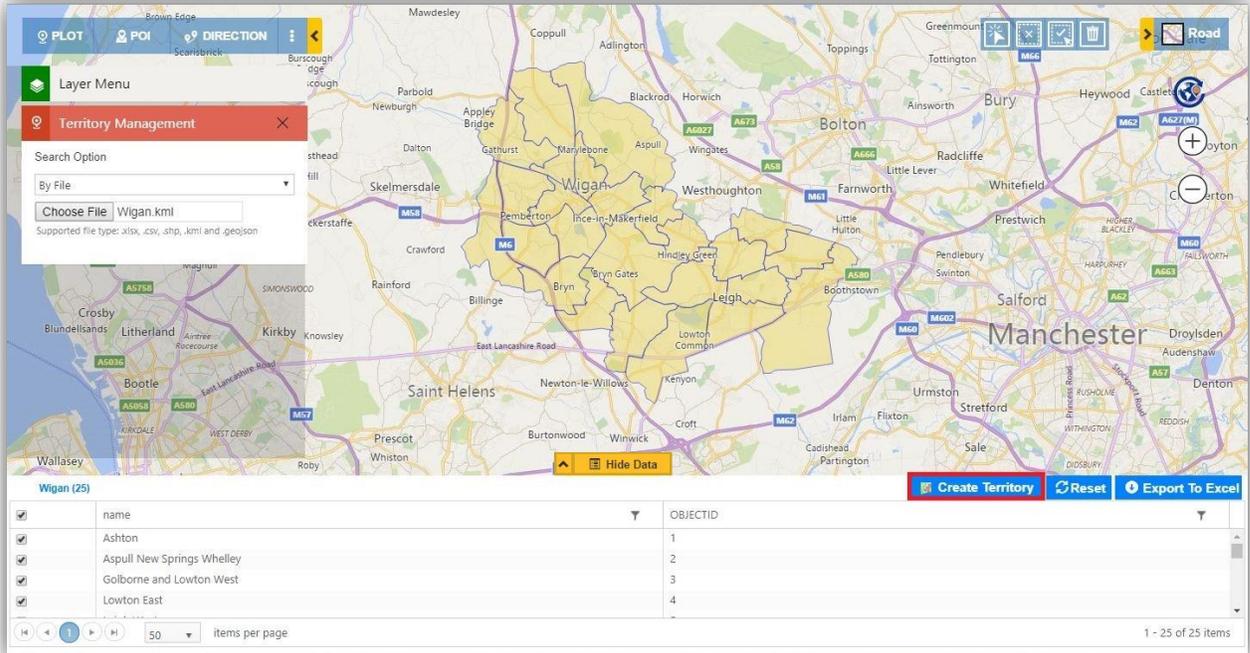
Create territory on one click

User can create territory(ies) with a single click on 'Create Territory' button. User can plot shape files or excel files on the map to view the shapes required as geographies and follow the steps mentioned below to create territory(ies):

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By Shape file:

After plotting a shape file on the map, user can click on the ‘Create Territory’ button to create a new territory with the plotted shapes as geographies or create the plotted shapes as geographies into a selected existing territory.



Create New Territory

Add to existing territory

Create New Territory

Please enter the name of territory

Select Geography Name

Select Geography Name

Select Manager

Select Manager

Save

User can provide the name for the new/existing Territory to be created and the respective names of geographies will be fetched from the file.

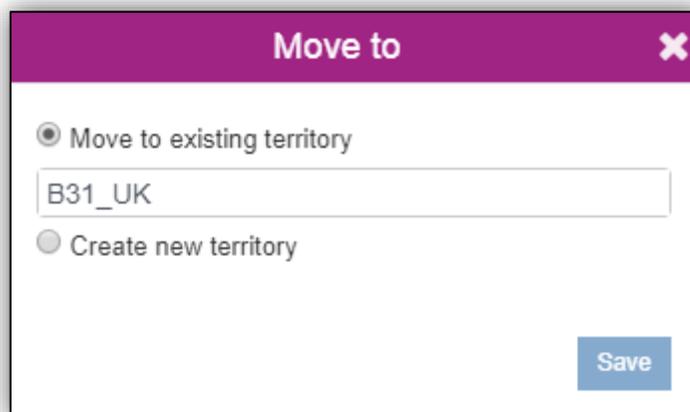
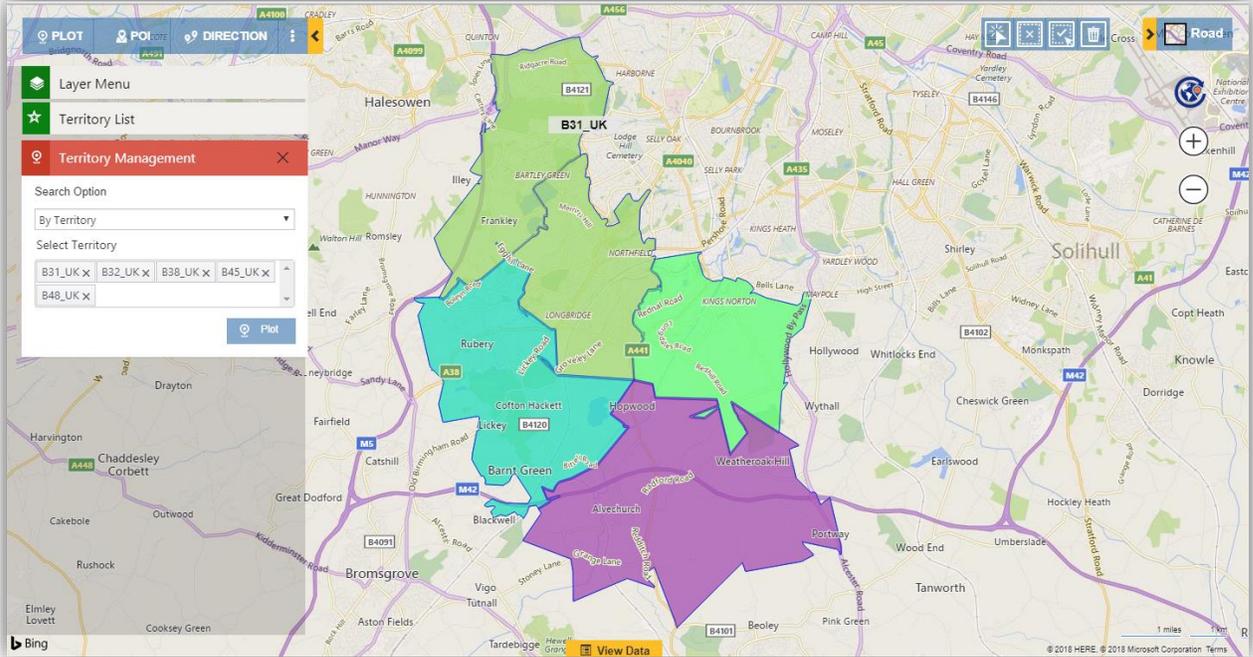
By excel file:

After plotting an excel file, user can click on the ‘Create Territory’ button to create territories along with the shapes plotted on the map as Geographies. The names of the territories and the respective Geographies will be fetched from the excel file.

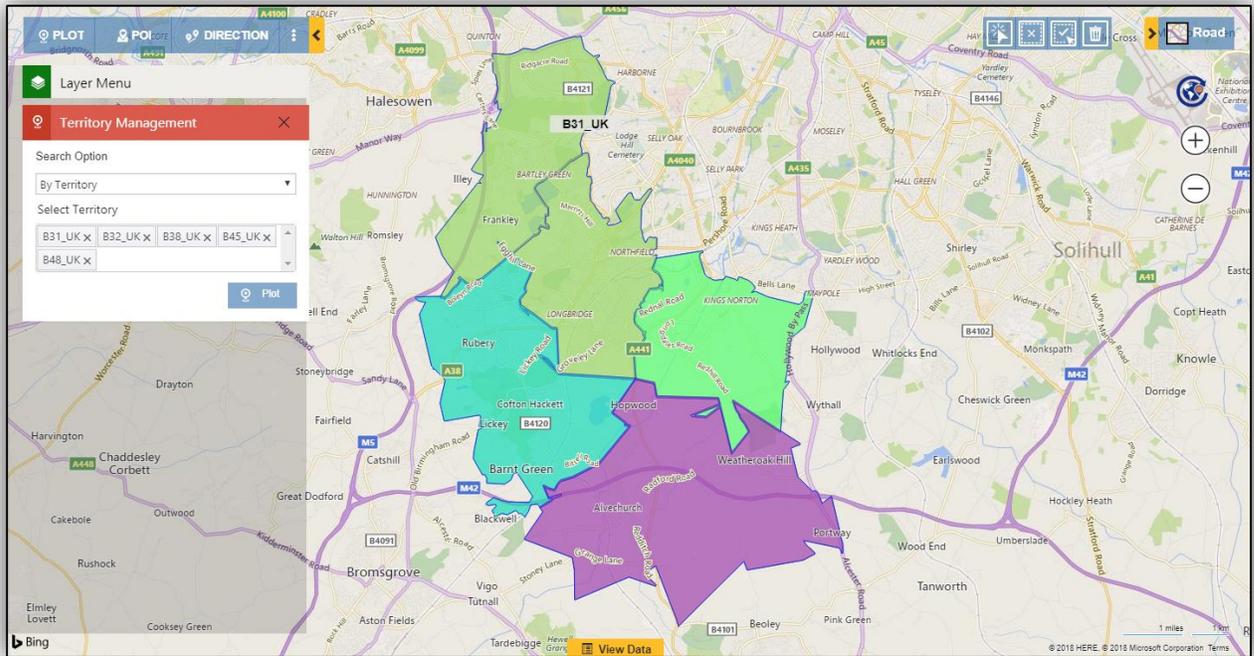
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Move to

User can select some geography(ies) of one or more territories and move it to another plotted existing territory or create a new territory. This will remove the geographies from the original territory.

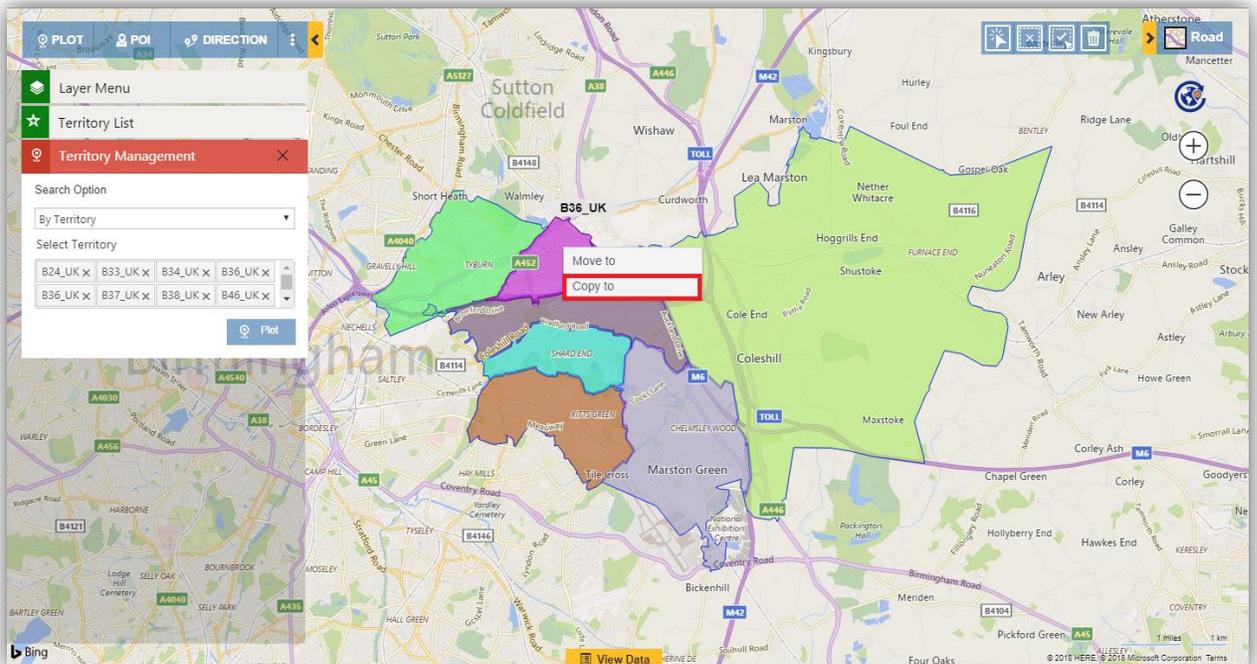


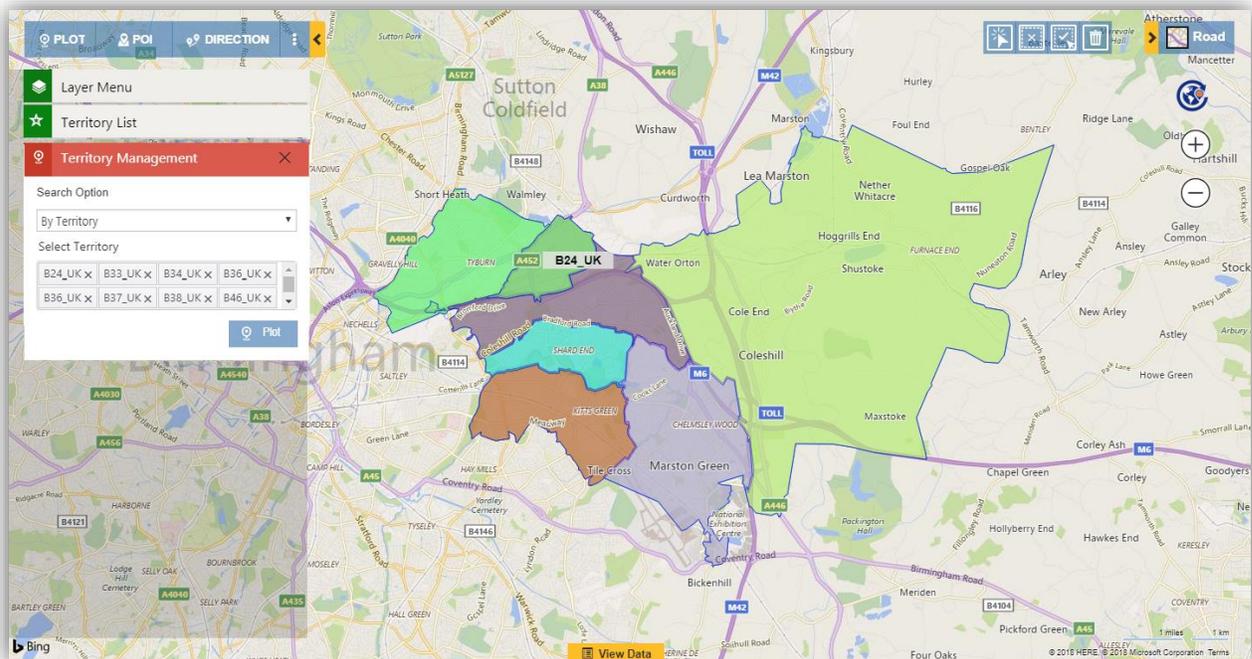
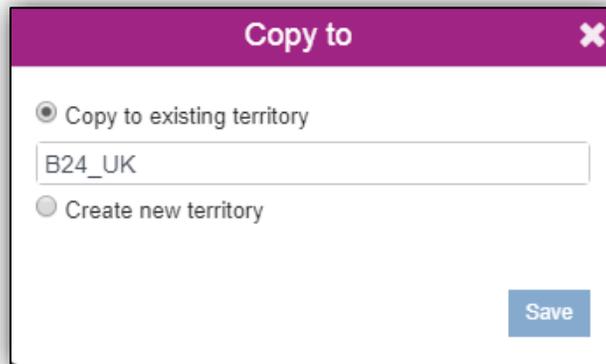
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Copy to

User can select some geography(ies) of one or more territories and copy it to another plotted existing territory or create a new territory while keeping the geography in the original territory.





Shape Operations in Territory Management

User can perform Binary operations on the shapes, regions or territories plotted on the map. User can select the shapes on which they want to perform operations and right click on them to select the Binary operations. There are five Binary options available: Difference, Intersection, Union, Union Aggregate and Disjunctive Union. Please refer to the section of the Shape operations to know more about these Binary operations.

Note:

- *The shapes should overlap each other to be available for performing shapes operations*
- *There should be a layer of drawing overlapped with the shapes to be performed binary operations on*
- *The required shapes should be selected before performing Binary operations*

Multiple Territories assigned to records

If a user needs to assign more than one territory to the entity records, user can enable the feature of Multiple Territories for a record. This feature will help the user to visualize records which lie in single or multiple territories. After assigning the territories, they can plot the territories to visualize the respective records lying into them.

To start using the feature of Multiple Territories for a record, user can follow the steps mentioned below:

Step 1: Enable Multiple Territories

Go to Settings > Maplytics > Maplytics Configuration Details > Default configuration detail record > Configuration option > Select 'Enable Multiple Territories'.

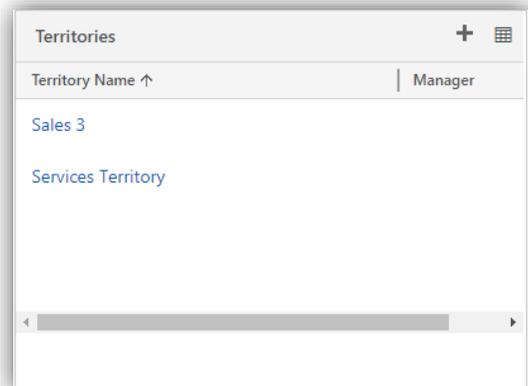
Note: User cannot undo this option, once selected and saved.

Step 2: Creating N: N relationship of entity with Territory.

Go to Settings > Customizations > Customize the System > Entities > Select Entity > N: N Relationships > New Many-to-Many Relationship

Step 3: View the list of territories assigned to a record

User can add a sub-grid to show the territories that an entity record is associated with. This step is optional, even if a sub grid is not added, the assigned territories will get associated with the records in background.



Step 4: Select relationship for the field 'Territory Relationship' in Attribute mapping section of Entity map.

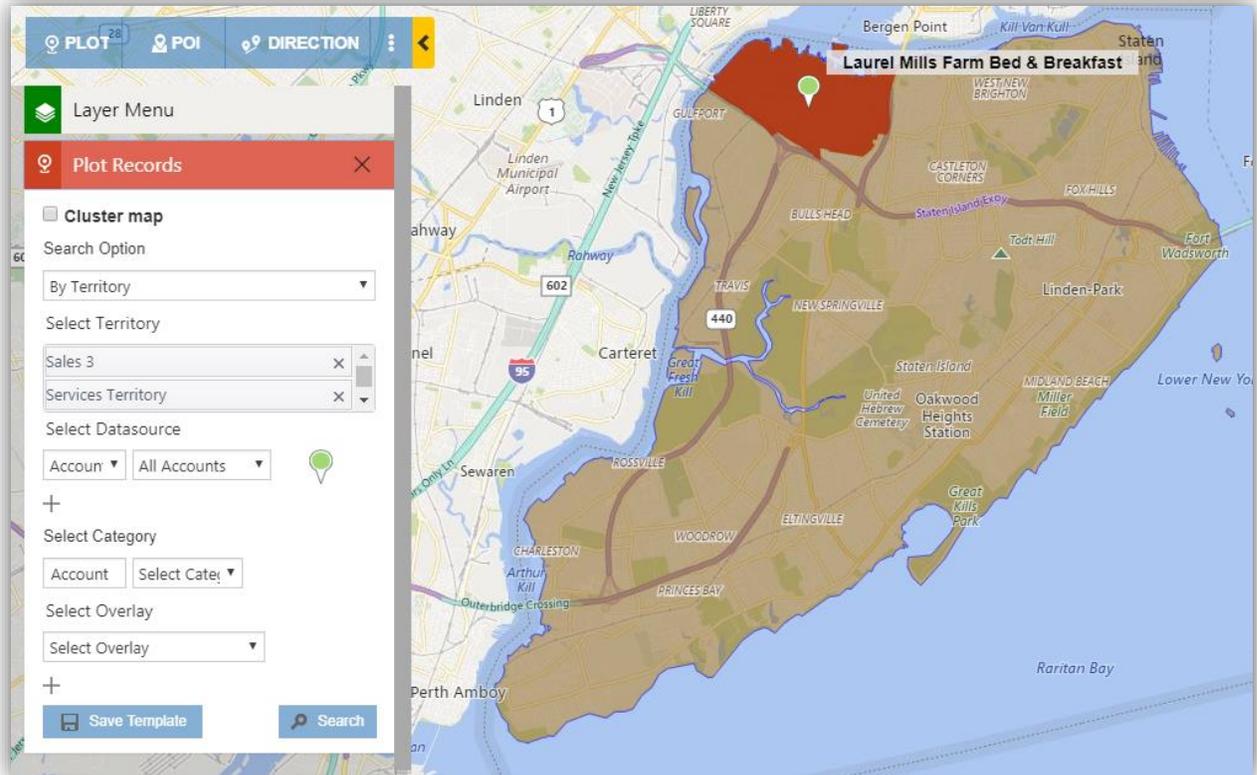
Go to Settings > Maplytics > Entity maps > Attribute mappings > Territory Relationship > Select 'Entity - Territory' relationship

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Step 5: Assign territories to records

User can either run **Batch Processing tool** or the **Inogic.Maplytics.AssignTerritoryWorkflow** on the records to assign the territories to the records.

After assigning the territories, user can choose the Search option of 'By territory' to plot the territories along with the respective records. The below screenshot shows a record plotted on the Detail map along with the two overlapping territories which are assigned to the same record.



Detail Map on CRM Dashboard

To include the Maplytics Detail Map component on the Dashboard, click on the 'new' button and select 'Add Web Resource'. Select '*ikl_/Maplytics/Maplytics.DetailMap.html*' web resource. The User can further modify this web resource by including some custom parameter. For Example, if the user wants to plot a route from a dashboard like Appointment Planner. The user can automate the complete process.

The screenshot shows the 'Add Web Resource' dialog box with the following configuration:

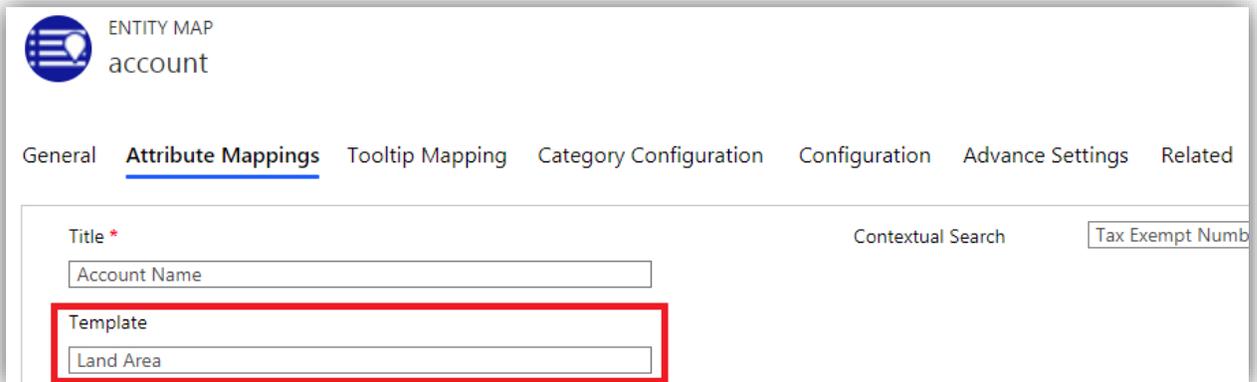
- Web resource:** `ikl_/Maplytics/Maplytics.DetailMap.html`
- Field Name and Properties:**
 - Name: `WebResource_Route`
 - Label: `Route`
 - Display label on the Form:
- Visibility:**
 - Visible by default:
- Web Resource Properties:**
 - Custom Parameter(data): `Appointment Planner|Dashboard|true`
 - Restrict cross-frame scripting, where supported.:
 - Pass record object-type code and unique identifier as parameters.:
 - Enable for tablet:

Custom Parameter(data) : You need to provide the Custom Parameter(data) as

- **<Dashboard Name>| |dashboard| |true**
- **Appointment Planner| |dashboard| |true**

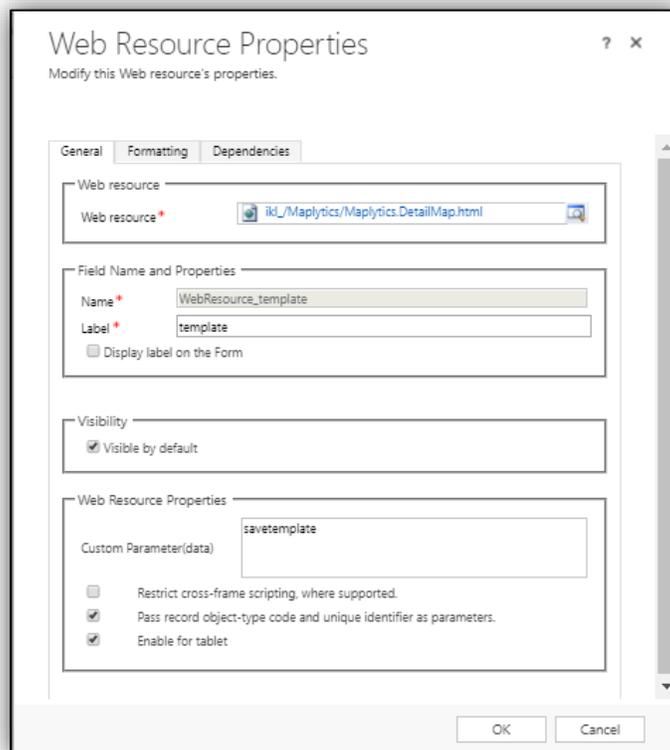
Saved Template Visualization on CRM Entity Form

Users can include the Maplytics Detail Map component that loads a saved template associated with the Entity record on the Entity Form. For this, the user needs to create a 'Template' lookup field on the Entity form where user can select the required Maplytics Template. The user also needs to select the name of that field in the 'Template' field under 'Define Attributes' section on the Entity Map for that particular entity.



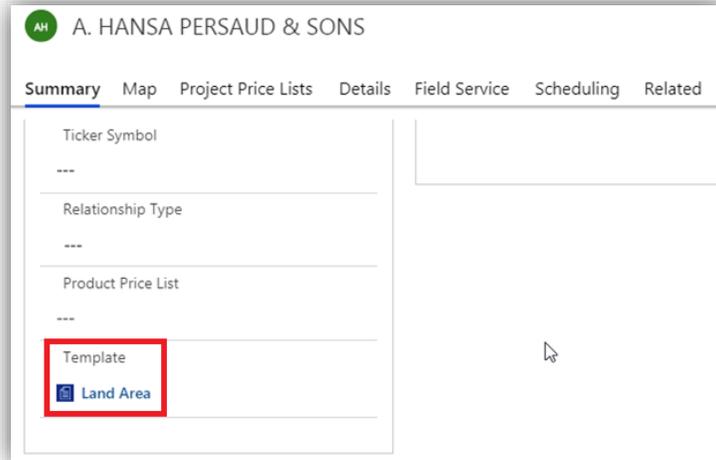
On the Entity form, the user needs to 'Insert' a new Tab and select 'Add Web Resource'. Select '*ikl_/Maplytics/Maplytics.DetailMap.html*' web resource. The user now needs to add a Custom Parameter for the saved templates.

- Custom Parameter (data): Provide the Custom Parameter(data) as **savetemplate**



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Now, when the user selects a Maplytics Saved Template on the 'Template' lookup field on the Entity form, the selected template will be plotted on the Detail Map component added on the Entity form.



A. HANSA PERSAUD & SONS

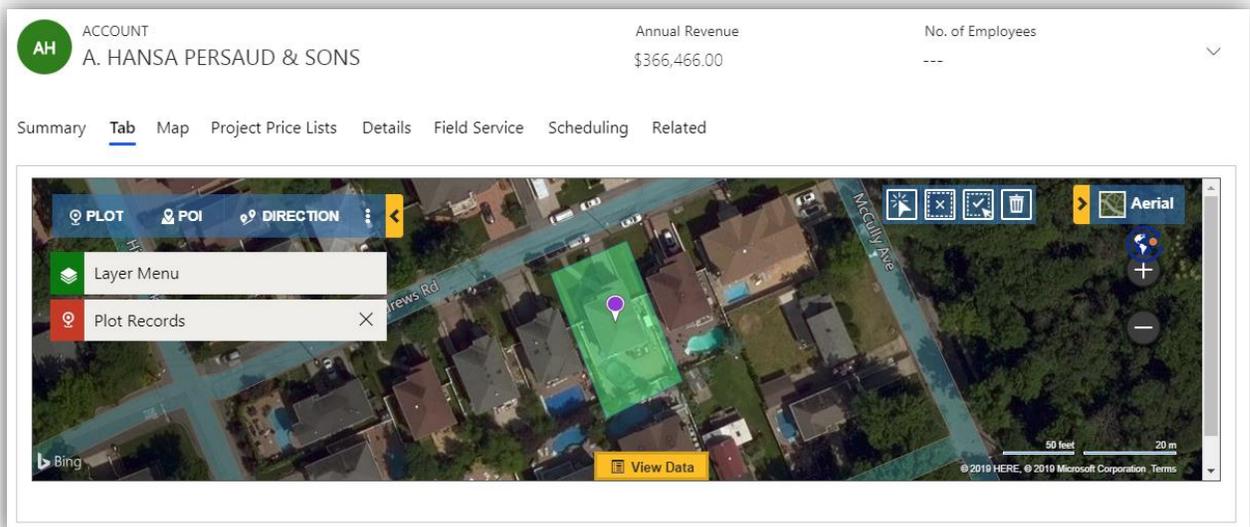
Summary | Map | Project Price Lists | Details | Field Service | Scheduling | Related

Ticker Symbol

Relationship Type

Product Price List

Template
Land Area



ACCOUNT
A. HANSA PERSAUD & SONS

Annual Revenue
\$366,466.00

No. of Employees

Summary | **Tab** | Map | Project Price Lists | Details | Field Service | Scheduling | Related

PLOT | POI | DIRECTION

Layer Menu
Plot Records

Aerial

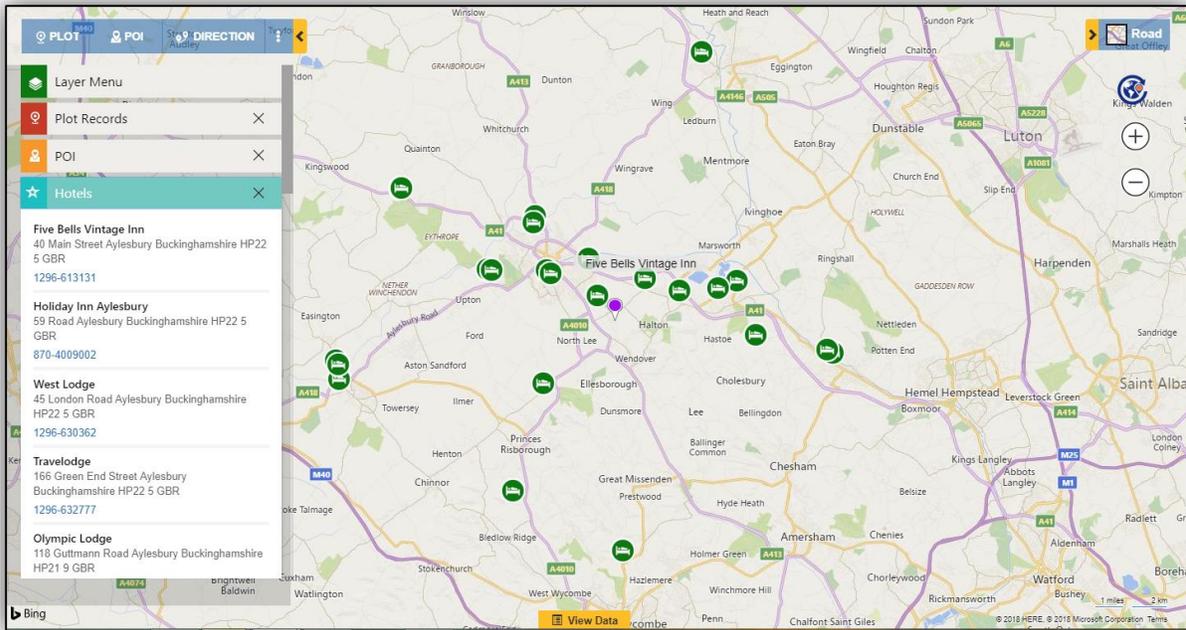
View Data

50 feet 20 m

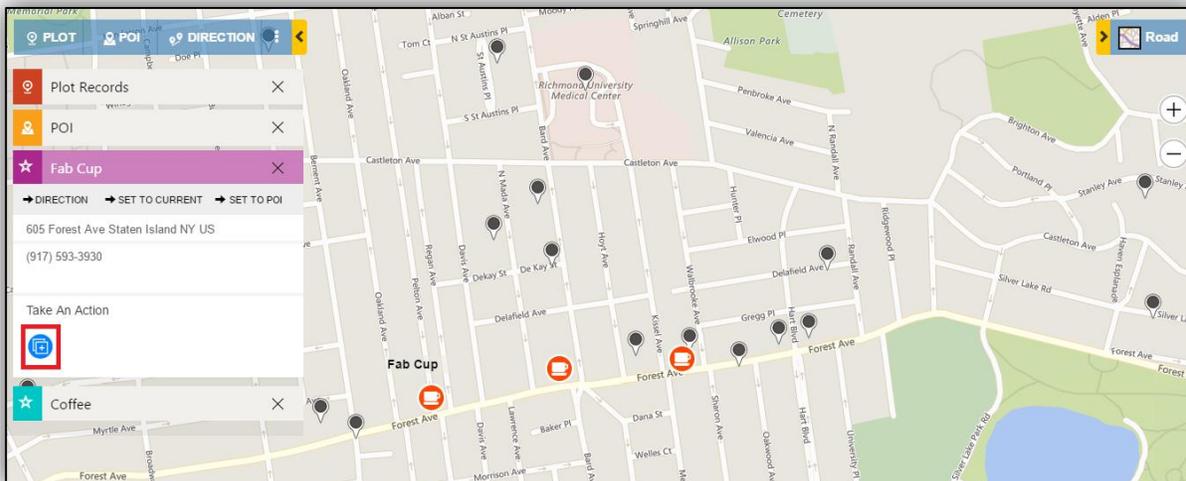
© 2010 HERE, © 2010 Microsoft Corporation. Terms

Point of Interest (POI) Locations

Ability to search for any points of interest (POI) like ATMs, restaurants, hotels, coffee shops, etc. in the vicinity. This will be plotted alongside the CRM data.



Apart from plotting POI data, Maplytics also allows the user to add millions of businesses in Dynamics CRM record as lead, account, contact, or any custom-built entity by using the Create New Record option in the POI card or Contextual menu. (Refer to Contextual menu section)



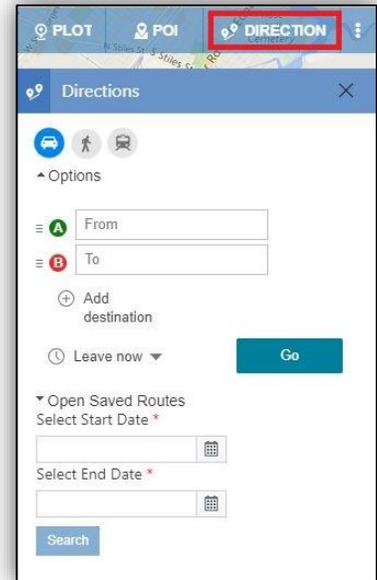
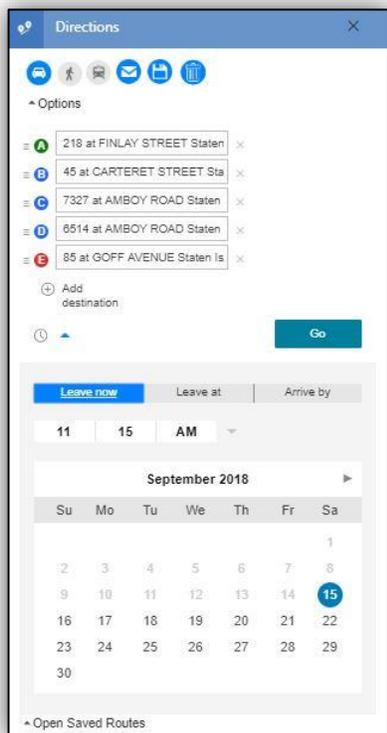
Routing Management

User can select some locations on the map as waypoints to plot an optimized route. User can follow this route to visit the required locations and complete their meetings. User can also redirect themselves for turn-by-turn navigation in order to reach the right location on time.

Directions Card

Directions card provides the user with all the routing features. The user can open the Directions Card directly by clicking on Directions tab.

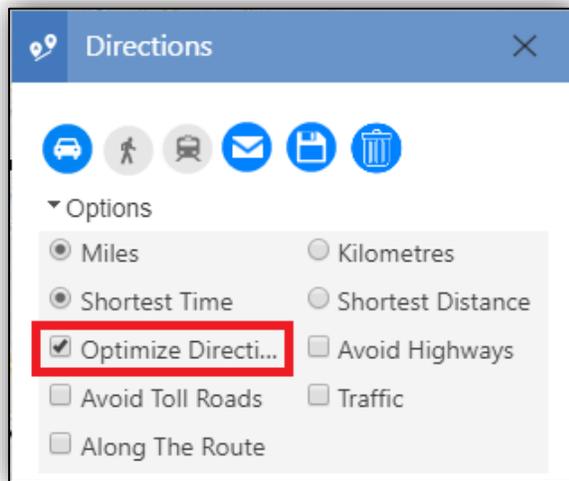
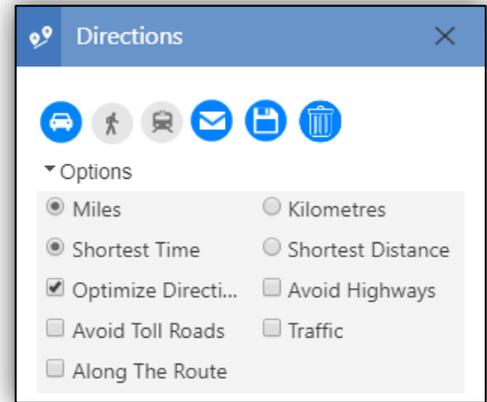
The Directions Card also opens up when the user adds a waypoint(s) to the route either through the Contextual Menu, ToolTip Card or using the 'Add to Route' mass action. User can select the required waypoints and the leaving/arriving time.



Note: The user can add a maximum of 25 waypoints in the direction functions.

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Once the waypoints are selected, the user can choose the mode of transports like Driving, Walking or Transit to view the route. The user can select different options to reduce the time, toll, highways, etc. by clicking on the Options button. Some of these can be auto-selected using Maplytics Configuration Settings. The user can drag and drop the waypoints to change the order of route.

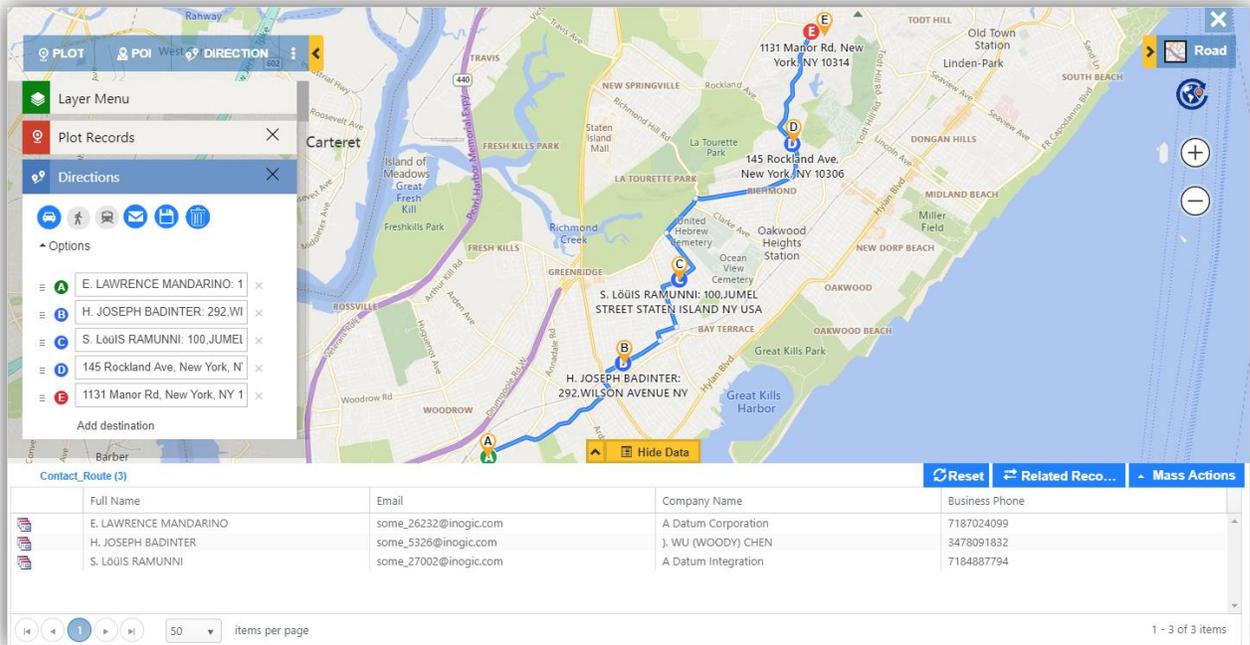


Optimize Direction

This can be selected from the Options. This option will provide the users with the optimized route direction between their waypoints keeping Origin & Destination as fixed waypoints.

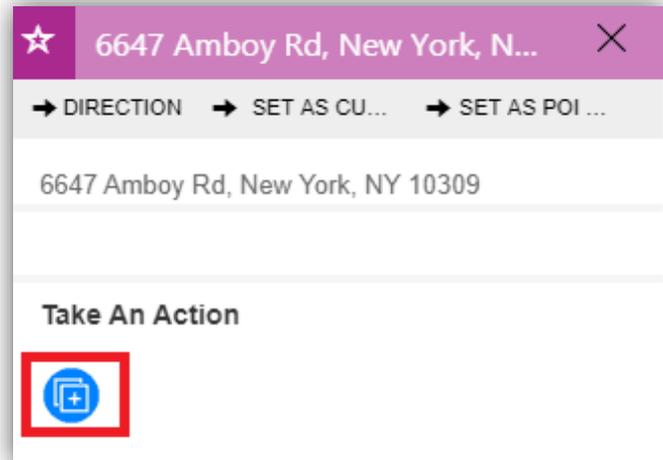
Once the user clicks on 'Go' the route will be plotted and the directions will be available on the Directions Card.

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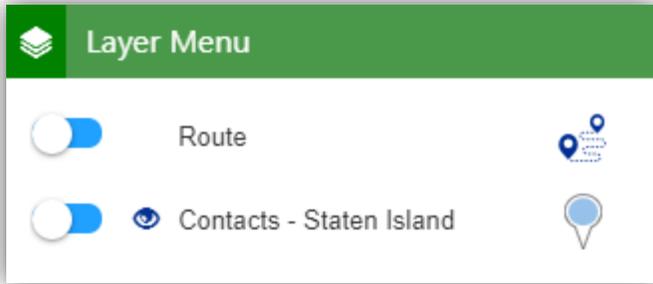


User can view all the details regarding the pushpins on the route in the view data grid in the tab named as entity_Route. for example: Contact_Route. Each waypoint on the route will be represented by a pushpin. User can hover or click on any pushpin to view the details of the waypoint. If the waypoints are records saved within Dynamics CRM, it will open the tooltip card on its click showing the respective data configured for tooltip card.

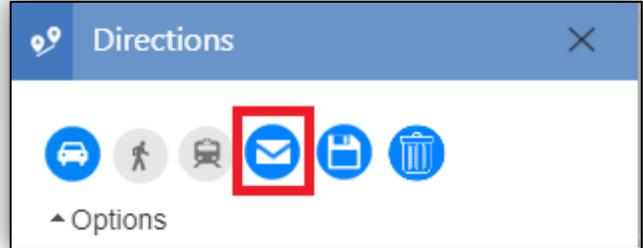
If the waypoint is just a location, on a click it will open a tooltip card showing its address and an icon which can be used to create a record for the location. This includes the Default origin and destination pushpin as well.



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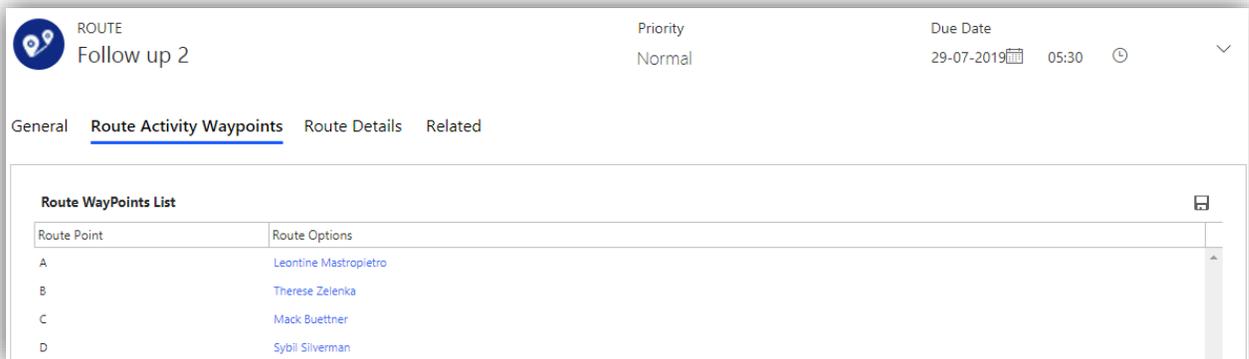
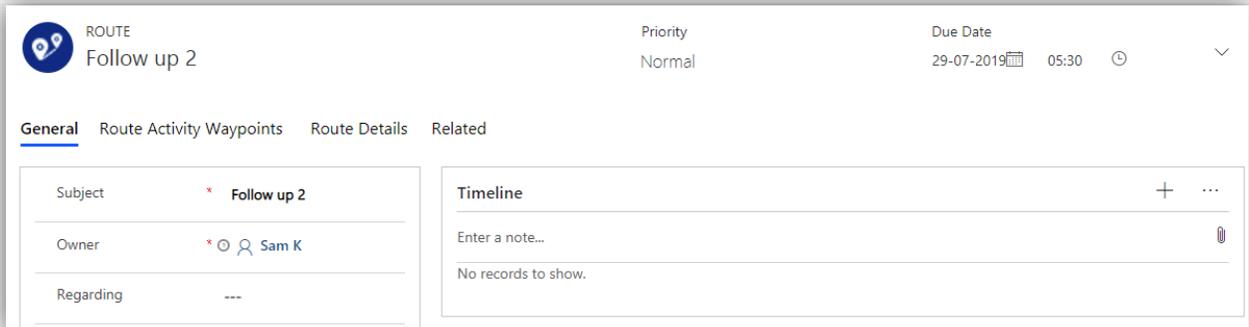
User can also choose to show or hide the layer of route from the layer card.



Route Sharing

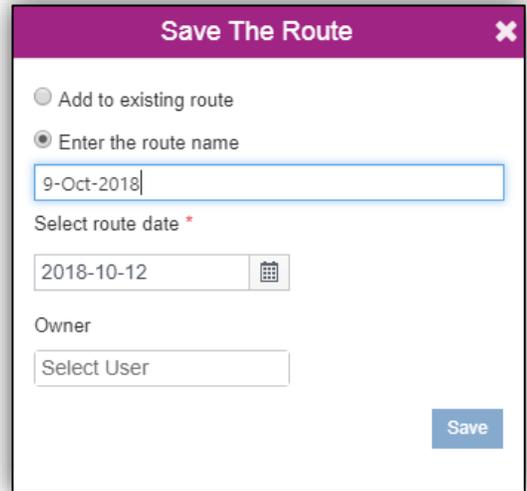
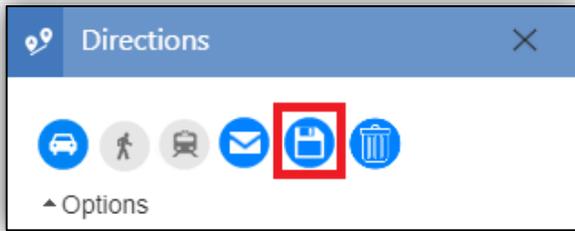
Maplytics also helps the user to share a route in different ways.

Email Route:

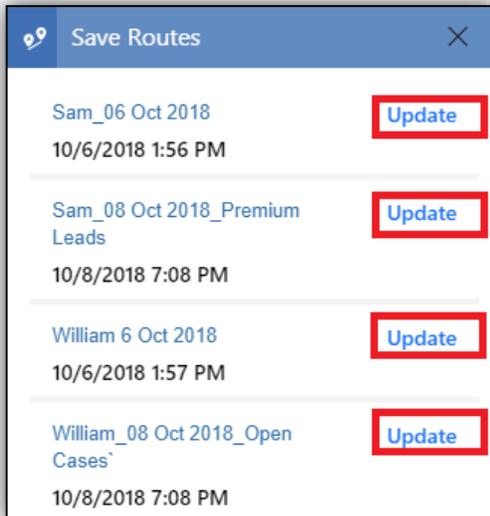


The user can email the route to any of the Dynamics CRM records using email route option.

Save Route:



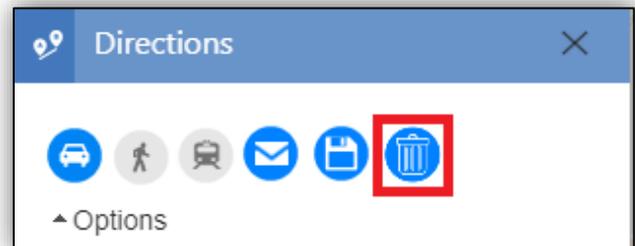
Users can also save their route plotted. The route record will also save the information like number of waypoints, total distance and time for the route. User can add the route to an existing route or save the route with a name & owner as a new route.



User can also update any route directly using the update button. User can search for route existing in the required duration and click on the update button besides the required route.

Clear Route:

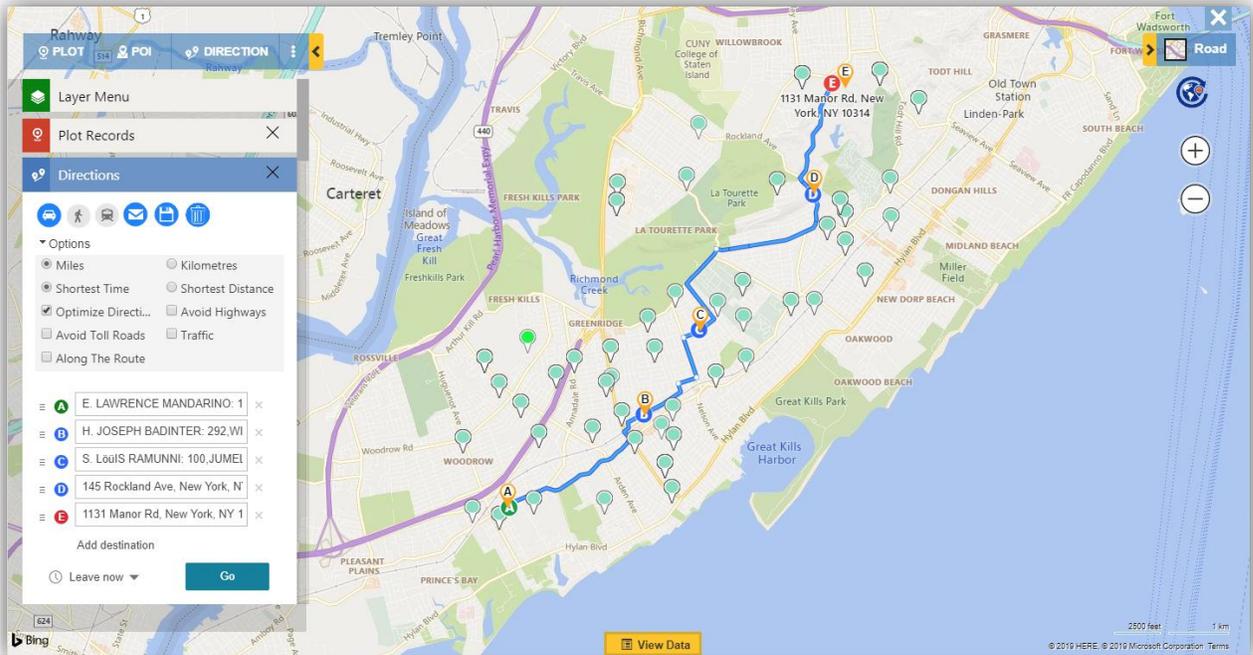
The user can use the **Clear Route** button to clear the route from the map. This will just clear the route and directions card will still be opened for further use.



Another important feature of Maplytics is Routing across multiple waypoints. All the routing features in Maplytics can be accessed from the Directions Card.

Merged Route and Plot View

Now, when the user plots the data and then creates a route, both the plotted data and the route will stay on the map for an easy Route Management. This makes it easy for the user to add more waypoints to the route without switching between Plot and Directions card.



Note: The route will remain on the map unless the user clicks on the 'Clear Route' button or closes the Directions Card

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Default Origin and Destination

User can set default origin and destination for Route management.

Go to Settings > Maplytics > Maplytics Configuration Details > Record of the user

The screenshot shows the 'Maplytics' user configuration page. The 'General' tab is selected. Under the 'Defaults' section, there are two columns of settings. The 'Set As Origin' dropdown is set to 'Other' with a value of '10 Venus Pl, New York, NY 10312'. The 'Set As Destination' dropdown is also set to 'Other' with a value of '382 Arthur Kill Rd, New York, NY 10308'. Both dropdown values are highlighted with red boxes. Other settings include Map Mode (Road), Distance Unit (Mile), Optimize Direction (No), Live Traffic (No), Route Option (Shortest Time), Map Center (---), Heat Map Type (Boundary), Summary Grouping (City), Default Template (Proximity - 3 Miles), Plot Data (Non Cluster), Along The Route Distance (5.00), Default Location (50 Perkiomen Ave, New York, NY 10312), Records Per Page In Grid (50), Zoom Level (---), User (Peter Ashton), Maplytics Security Template (Field Sales), and Maplytics Security Template (Field Sales).

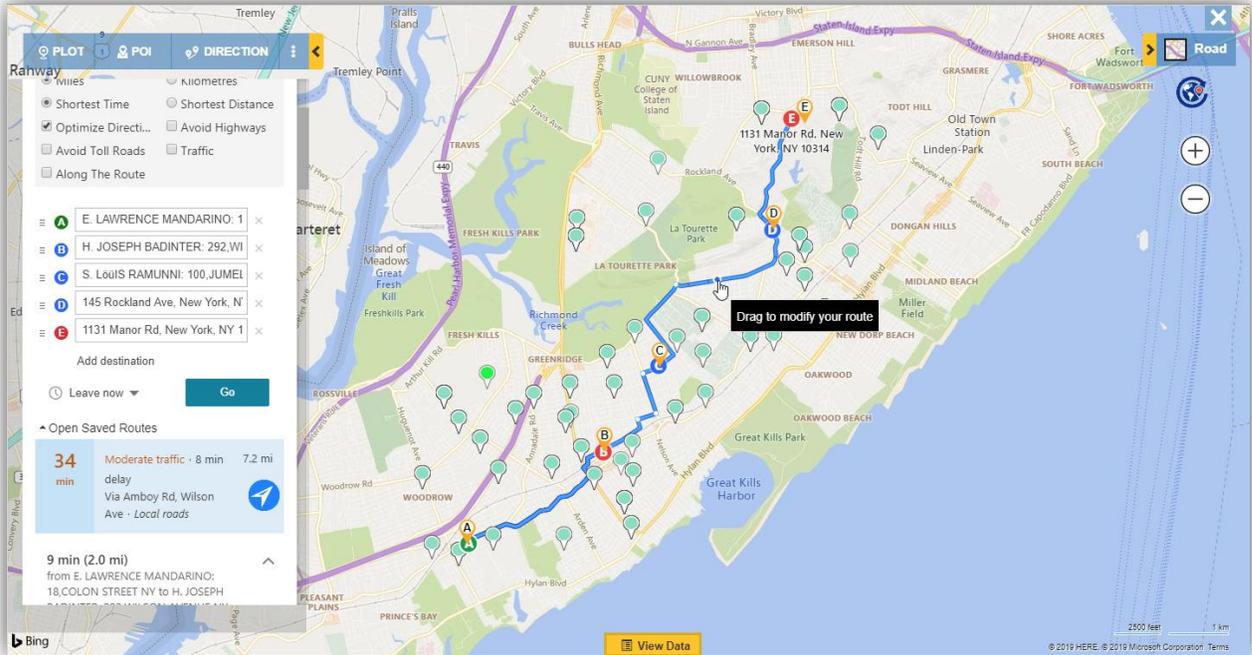
There are six options to select:

- **User Mailing Address** - Reads address from User mailing address
- **User Other Address** - Reads address from User other address
- **Business unit Bill to Address** - Reads address from logged in user's Business units bill to address
- **Business unit Ship to Address** - Reads address from logged in user's Business units ship to address
- **None** - If user do not want to set default origin/destination
- **Other** : It will have its own multiline textbox associated where user can enter their own address

Note: If a user uses the "Plot route" button to plot a "Route" activity record on the Detail map, the Default origin/destination will not be set in the Direction card

Snap waypoint

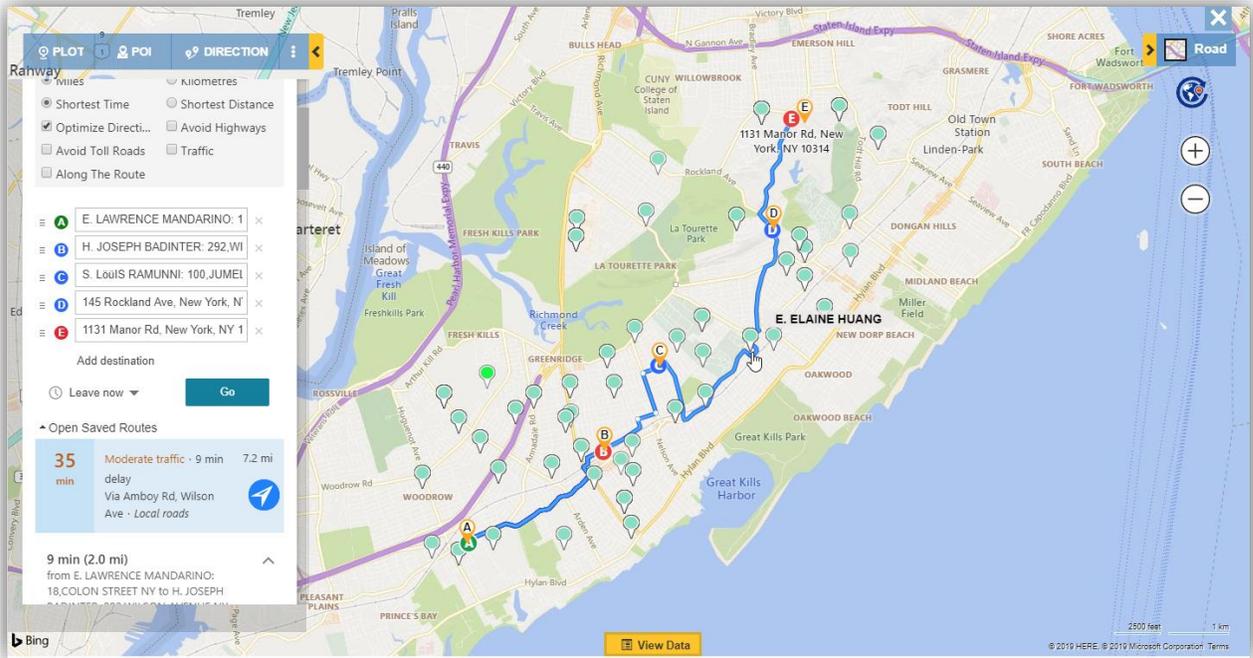
This helps the user to edit a plotted route just by dragging the route to the required point on the map.



Drag to a location: User can drag a point on the route to a required location on the map. This will add the location as a waypoint at the dragged point in the route. This will also update the Directions card with the newly added waypoint.

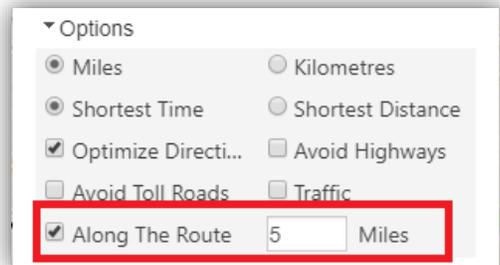
Drag to a pushpin: User can also drag a point on the route to a pushpin plotted on the map. This will detect the record and add the record's location at the dragged point in the route. This will also update the Directions card with the newly added waypoint.

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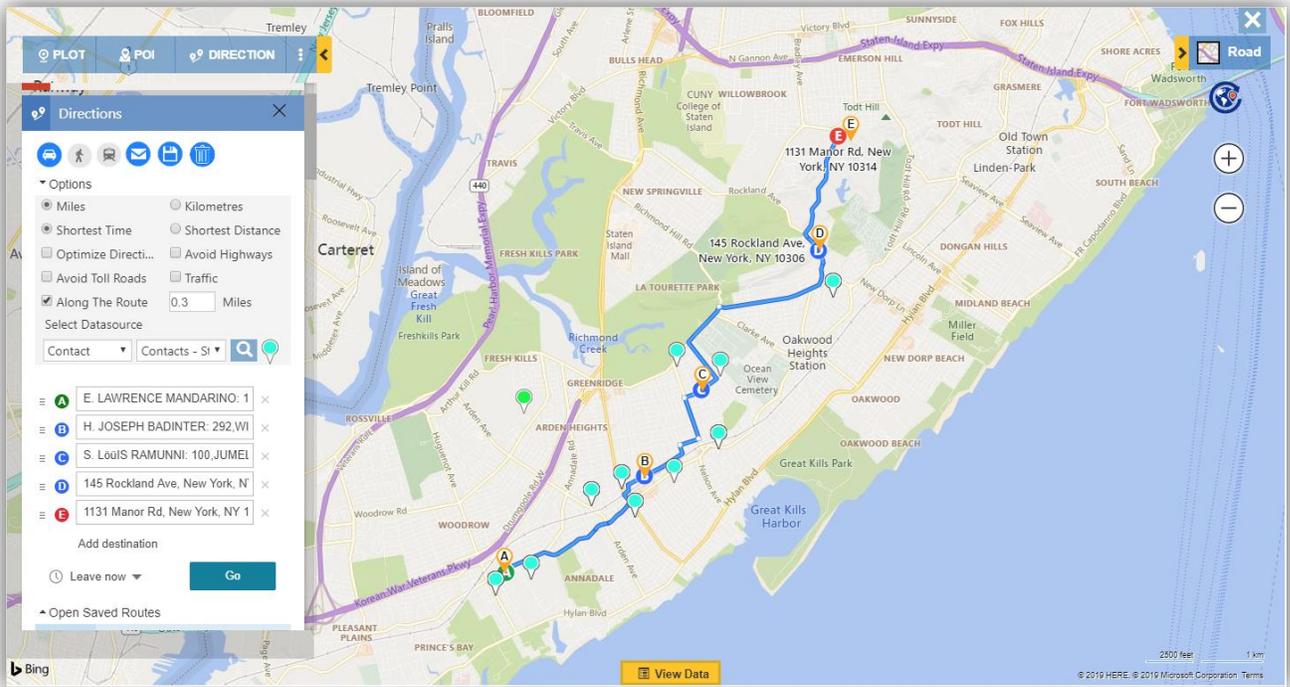
Along the Route

This feature provides the user the ability to search the records that fall in the defined proximity along the route. The default value for Along the Route search can be configured in the Maplytics Configuration record. This will find all the records with the defined search parameter and that falls in the entered proximity along the route.



Note: The user can add the value between 0 – 25. The user can also add a decimal values with a scale of 2 for the radius.

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The Along the route records is also saved when the user saves the route. However, if the user has selected multiple Datasources on the Plot Card, only the first Entity and View combination in the Select Datasource will be saved for along the route search in the saved route.

If the user has plotted data on the map and opens a saved route that has along the route parameter saved as well:

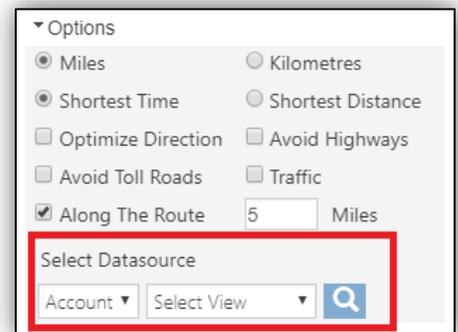
- The user can either click on 'Confirm' to clear the plotted records and search along the route records with the Datasource saved in the route.
- Or, the user can click on 'Cancel' to search along the route records with the existing plotted data, ignoring the Datasource saved in the route.

Confirm!

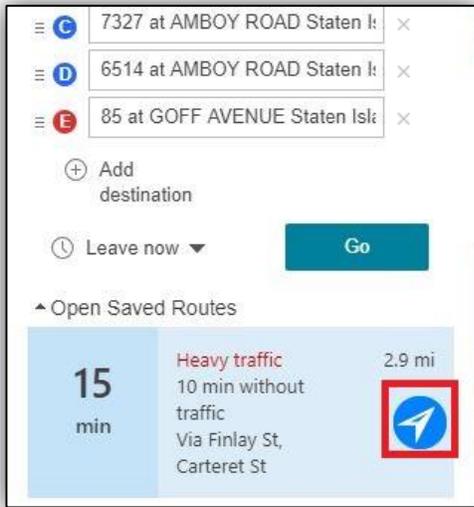
This action will clear the plotted records and will plot the Datasource saved in the route. Click 'OK' to continue Or Click 'Cancel' to plot the route using the existing search criteria.

CONFIRM **CANCEL**

If the user open the Directions card directly without plotting the data or opens a saved route without the along the route parameter saved, they have the option to select the Datasource for the Along the route search directly on the Directions Card.



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Route Redirect and Copy Route Links

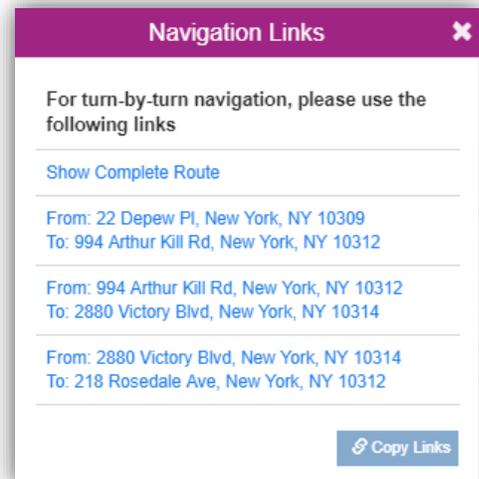
After plotting the route, user can use the 'Redirect' button to open the 'Navigation Links' popup on the browser as well as the Dynamics 365 App for Phones and Tablets.

The user can click on individual links for route navigation from point A – B, B – C, and so on. User can also select the application within the User Configuration record to navigate the route. Refer the section of 'Maplytics Configuration Details (Personalization)' in the installation manual to select the application. These links will redirect the route to the app selected in the configuration.

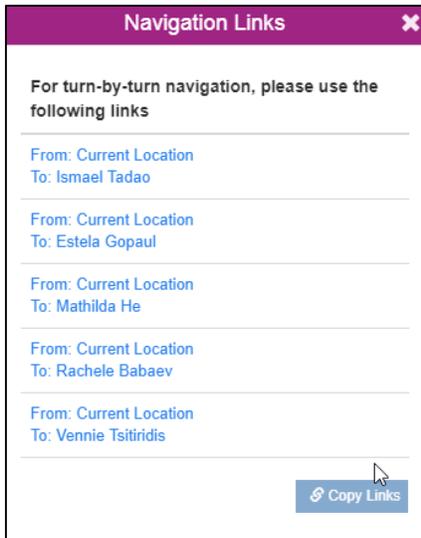
Redirect with Google Maps

User can view the turn-by-turn navigations on Google Maps site on desktop and Google Maps App on Phones and Tablets. User can also choose to view the complete route.

Note: The maximum waypoints to show the complete route is 10 waypoints.



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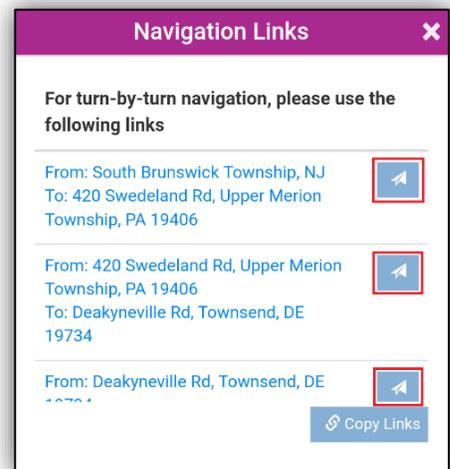


Redirect with Waze

User can view the turn-by-turn navigations on Waze site on desktop and Waze App on Phones and Tablets. This will show the navigation links from current location to the waypoints.

Note: The check points should be under 3000 miles from the current location to view routes on Waze.

Redirection on mobiles: User can click on the route navigation buttons to redirect on the Google maps/Waze. The user can also use the 'Copy Links' button to copy the links to send them as an email or save it into a note.



Note:

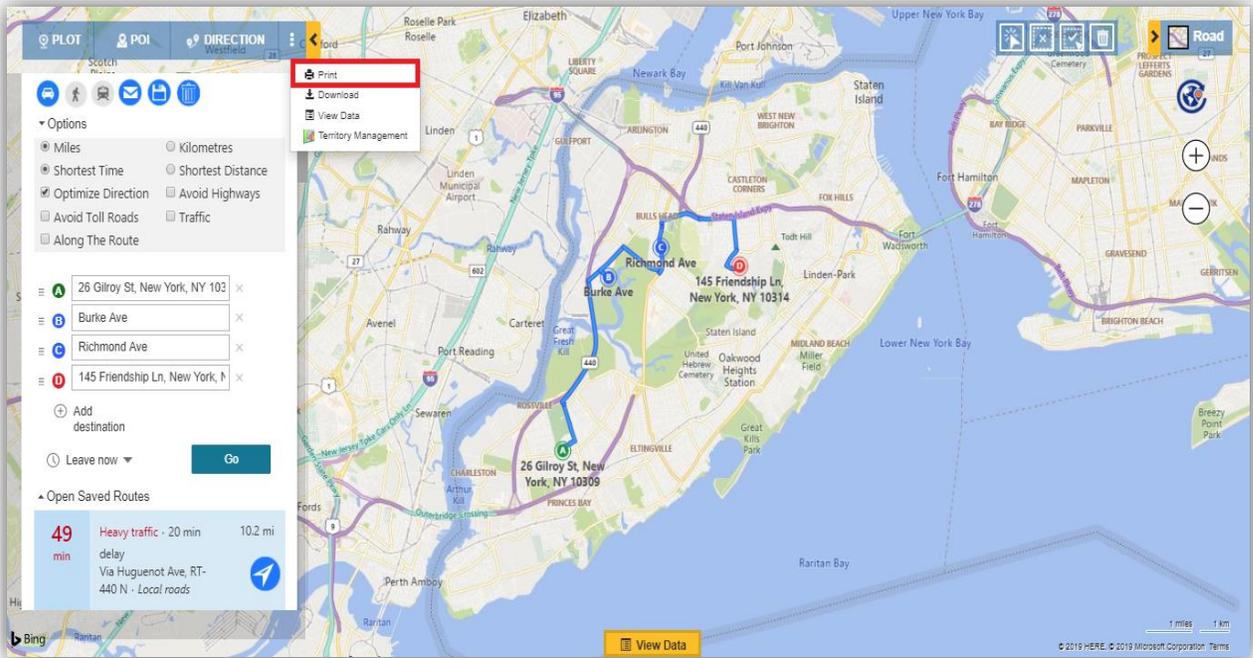
- **By default the Links will be redirected in Google Maps.**
- **The links redirect on the Dynamics 365 App for Phones and Tablet works with Dynamics 365 v9.x**
- **For other devices and Dynamics 365 v8.2, users can use the 'Copy Links' button.**

Print Route

Using the 'Print button', the user can print the Directions as well as the adjoining Map. After the route is plotted, user can click on the 'More Options' button to open the 'Print' option and click on the Print button to print the route.



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Clicking on the Print button will open a new window with the map and directions on the page which can be seen in the below screenshot:

Click on the **Print Icon** to print the map and route instructions.

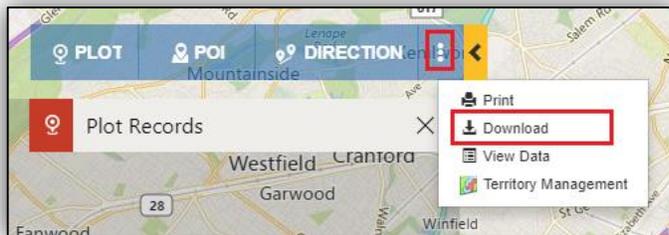


Note:

- **Routing requires a minimum of two waypoints to be provided.**
- **A4 size paper with landscape mode is recommended while printing.**

Download map

Using the Download map button, the user can download the map as visible on the screen



Note: Download map is not supported for Internet Explorer.

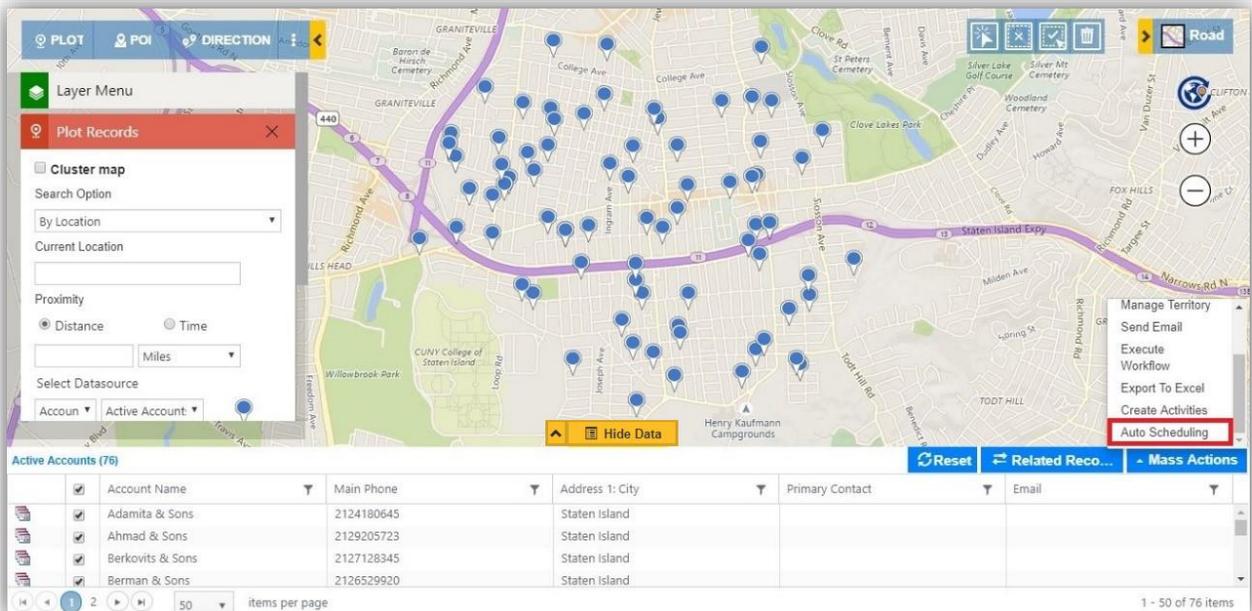
Auto Scheduling

Auto Scheduling helps users to plan an optimized schedule to follow on the field. The user can decide the required set of customers to meet, the preferred date and time to cover all the meetings and the number of working days. Auto scheduling will provide an optimized schedule which includes the routes to follow each day based on the details entered by the user and option of creating activities for the same.

User can plot the Entity records on the map that are needed to be visited. User can open the view grid to check the number of records plotted on the map and deselect the records that are not required.

Note: Auto Scheduling can be performed on a maximum of 100 records plotted on the map

After plotting the required records on the map, user can Go to **Mass actions > Auto scheduling**. This will consider all the records that are plotted on the map and will proceed to plan a schedule.



Note: The visibility of the option of 'Auto scheduling' into Mass Actions will be based on the Maplytics Security Template assigned to the user. Please refer to the section of 'Maplytics Security Template'.

Auto scheduling card

User can set the preferred values to be considered while scheduling a plan.

Start Date *
09/29/2018

Start Location *
104 Kell Ave, New York, NY 10314

End Location
104 Kell Ave, New York, NY 10314

Period *
1 Week

Duration *
30 Minutes

Start Time *
08 00 AM

End Time *
05 00 PM

Break *
01 00 PM

Break Duration *
60 Minutes

Buffer Time *
10 Minutes

Working Days *
 Su Mo Tu We Th Fr Sa

Proceed

Start date: The preferred date to start the schedule

Start Location: The starting location for every day's route

End location: The ending location for every day's route

Period: The number of days the user wants to cover the meetings in. The meetings will be distributed among the days selected in period on the basis of optimization of routes. User can choose any one options of the following:

- 1 Day
- 2 Day
- 3 Day
- 4 Day
- 5 Day
- 1 Week
- 2 Week
- 3 Week
- 1 Month

Duration: The time frame required for each meeting. User can choose any one of the following options:

- 5 Minutes
- 10 Minutes
- 15 Minutes
- 20 Minutes
- 30 Minutes
- 45 Minutes
- 60 Minutes
- 75 Minutes
- 90 Minutes
- 120 Minutes

Start time: Starting time to start the schedule of each day. User can enter the time in 12-hour format (hh:mm)

End time: Ending time to end the schedule of each day. User can enter the time in 12-hour format (hh:mm)

Break time: Starting time of Break during each day. User can enter the time in 12-hour format (hh:mm)

Break Duration: Duration of the break during each day. User can select any one of the following options:

- 0 Minutes
- 5 Minutes
- 10 Minutes
- 15 Minutes

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- 20 Minutes
- 30 Minutes
- 45 Minutes
- 60 Minutes
- 75 Minutes
- 90 Minutes
- 120 Minutes

Buffer time: User can add extra time to the schedule as buffer to use in unforeseen situations without changing the schedule.

- 5 Minutes
- 10 Minutes
- 15 Minutes
- 20 Minutes
- 30 Minutes

Working days: User can select the days that will be working and should be considered in the plan of Auto scheduling. User can select any day between Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. *At least one day should be selected.*

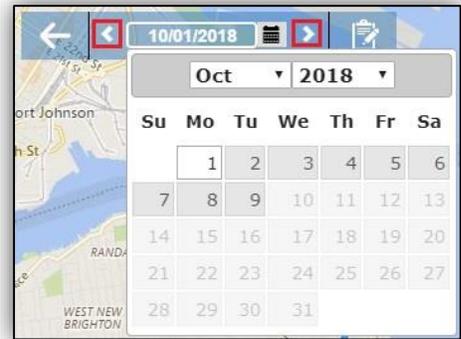
The screenshot displays the 'Auto Scheduling' interface. On the left, a 'Directions' panel lists waypoints A through H. The main map shows a blue route connecting these waypoints across a city street grid, with the Staten Island Expressway (I-19) highlighted in purple. A date selector at the top indicates '10/01/2018'. Below the map is a 'Schedule for 10/01/2018 (10)' table with the following data:

Waypoint	Start Date	End Date	Account Name	Main Phone	Address 1: City	Primary Contact	Email
B	01/10/2018 8:15 AM	01/10/2018 8:45 AM	Spaeth & Sons	2123505212	Staten Island		
C	01/10/2018 9:00 AM	01/10/2018 9:30 AM	Incantalupo & Sons	2122885747	Staten Island		
D	01/10/2018 9:45 AM	01/10/2018 10:15 AM	Prendamano & Sons	2124008433	Staten Island		
E	01/10/2018 10:30 AM	01/10/2018 11:00 AM	Spencer & Sons	2123559161	Staten Island		

User can click on proceed to get the optimized routes for each of the working days considering all the values provided in the Auto Scheduling card. The waypoints of the routes will be shown in the Direction card. Users can also view the details of the waypoints in the view data grid

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Transition bar: User can use the transition bar to view the route planned for different days. User can either click on the arrow buttons to go to the previous or next day plan. They can also select the date to go directly to the date required.



Create Activities: User can create activities for the schedule planned. The user can create the followings:

- Appointment
- Service Activity
- Bookable Resource Booking

User can also select the option of 'Create Route(s)' in order to save the planned routes into 'Route' Activity Entity.

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Note: To make the option of Bookable resource booking visible, the user needs to create a relation between the respective Entity and Bookable Resource Bookings.

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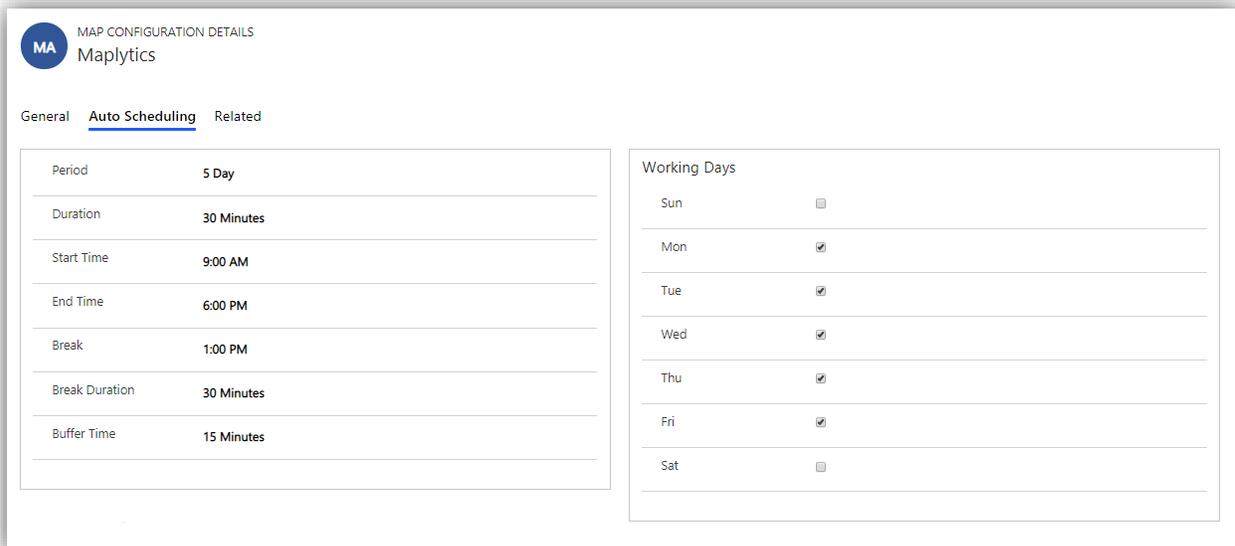
Go To Detail Map: Using this button user can go back to the Detail map.

Note: All the scheduled data will be cleared, if 'Go to Detail Map' button will be used



Configuration details for Auto Scheduling

- User can set the default settings for Auto Scheduling in the Maplytics Configuration Details.
Go to Settings > Maplytics > Maplytics Configuration Details > Configuration details record for the user > Auto Scheduling



MAP CONFIGURATION DETAILS
Maplytics

General **Auto Scheduling** Related

Period	5 Day
Duration	30 Minutes
Start Time	9:00 AM
End Time	6:00 PM
Break	1:00 PM
Break Duration	30 Minutes
Buffer Time	15 Minutes

Working Days	
Sun	<input type="checkbox"/>
Mon	<input checked="" type="checkbox"/>
Tue	<input checked="" type="checkbox"/>
Wed	<input checked="" type="checkbox"/>
Thu	<input checked="" type="checkbox"/>
Fri	<input checked="" type="checkbox"/>
Sat	<input type="checkbox"/>

- System admin and Maplytics admin can set the start time as the default start time for the first activity.
Go to Settings > Maplytics > Maplytics Configuration Details > Default Configuration details record > Auto Scheduling

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MAP CONFIGURATION DETAILS : INFORMATION

Maplytics ☰

▶ Advance Settings

Search Options

By Region	<input checked="" type="checkbox"/>	By Drawing	<input checked="" type="checkbox"/>	By Territory	<input checked="" type="checkbox"/>	By Template	<input checked="" type="checkbox"/>
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Proxy Settings

Proxy Uri

Auto Scheduling Option

Schedule first activity at start time	<input checked="" type="checkbox"/>
---------------------------------------	-------------------------------------

Note:

- **Auto Scheduling cannot be performed on Activity entity records**
- **Create Activities for Custom Entity:**
 - **A custom entity should be linked to any OOB Entity into Entity Maps in order to Create Activities for the Entity**
 - **If a custom entity has its own address, the option to create Appointment and Service Activity will not be available. The user can only create activity of Bookable Resource Bookings**

Check-In/Check-Out

Check-In feature enables users to register their arrival and departure time for the Check Points while navigating on field with the help of Check-in and Check-Out buttons. These buttons will help to tag the geo-coordinates of the location while a user is visiting a meeting. This will also help the management to track the activities of the field professionals as well as the time they have spent on every meeting.

Configuration

To get started with the feature of Check-In, the first step is to configure Maplytics. Configuration will create the Entity Map for the Check-In entity. Please refer to the section of 'Configure' under the 'Initial Setup - Maplytics License Activation, Configuration for Entity Map, Dashboards and Census data' within the Installation manual.

This feature can be enabled for any OOB or custom entity within their respective Entity Maps. To enable this, System Admin/Maplytics Admin can follow the steps mentioned below. The following screenshot shows the entity map of Appointment for an instance.

Go to Settings > Maplytics > Entity Maps > Open Required Entity Maps Record > General Tab > Enable Check-In > Set the value to 'Yes' & click on 'Save'.

The screenshot shows the 'ENTITY MAP' configuration page for 'appointment'. The 'General' tab is selected. The 'Entity Name' is 'Appointment' and 'Link To' is 'Regarding'. The 'Total Records' is 22 and 'Geocoded Records' is 22. The 'Enable Check-In' checkbox is checked, and the value is set to 'Yes'.

Entity Name *	Appointment	Link To	Regarding
Total Records	22		
Geocoded Records	22	Enable Check-In	Yes

Note:

- **The default value for 'Enable Check-In' is set to 'No'.**
- **User cannot undo this option, once selected and saved.**
- **After enabling this feature, please wait for a while before using this.**

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View Related Check-In/Check-Out records:

User can choose to view the related Check-In/Check-Out records for the plotted records (Appointments, Accounts, etc.) using the feature of 'Plot Related Records'. To plot related Check-In/Check-Out records, user needs to select the relationship. To select the relationships, user can follow the steps mentioned below. We have provided the steps for Appointments for an instance.

Go to Settings > Entity Maps > Required Entity Maps record > Configuration > Related Records Configuration > Relationship List > Select appointment - iki_checkinentity

User can also refer to the section of 'Related Record Configuration' under the Entity Maps within the Installation manual for the same.

Note: User needs to select the respective Relationship with Check-in for every entity within their respective entity maps for which they want to see the related Check-In/Check-Out records.

The screenshot shows the 'ENTITY MAP appointment' configuration page. The 'Configuration' tab is selected, displaying two main sections: 'Related Records Configuration' and 'View Configuration'.

Related Records Configuration:

Relationship List	Relation Schema	Default Relations...
<input type="checkbox"/> appointment - annotation	Appointment_Annotation	
<input type="checkbox"/> appointment - slakpiinstance	slakpiinstance_appointment	
<input type="checkbox"/> appointment - syncerror	Appointment_SyncErrors	
<input type="checkbox"/> appointment - actioncard	appointment_actioncard	
<input type="checkbox"/> appointment - queueitem	Appointment_Queueitem	
<input type="checkbox"/> appointment - bookableresourceboo	msdyn_appointment_bookableresour	
<input type="checkbox"/> appointment - msdyn_resourcerequir	msdyn_appointment_msdyn_resource	
<input checked="" type="checkbox"/> appointment - iki_checkinentity	iki_appointment_iki_checkinentity	

View Configuration:

View List	View Type	Color	Pushpin
<input checked="" type="checkbox"/> Views			
<input checked="" type="checkbox"/> All Appointments	System View	Green	<input type="checkbox"/>
<input checked="" type="checkbox"/> Appointment Planner	Dashboard Record	Dark Green	<input type="checkbox"/>
<input checked="" type="checkbox"/> My Appointments	System View	Olive	<input type="checkbox"/>
<input checked="" type="checkbox"/> My Completed Appointments	System View	Purple	<input type="checkbox"/>
<input checked="" type="checkbox"/> My Draft Appointments	System View	Red	<input type="checkbox"/>

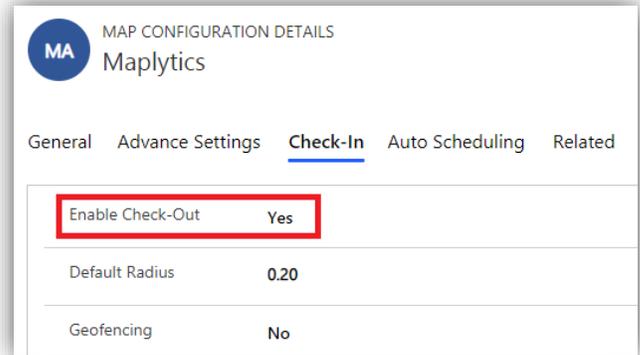
Check-Out

After enabling the feature, user can also enable the option of 'Check-Out'. This way the user can first click on the Check-In button while visiting the meeting and then can click on the Check-Out button while completing the meeting. Here, the geo-coordinates for both the locations will be saved which will also help the management to track the time spent on the meetings.

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In order to enable Check- Out, System Admin/Maplytics Admin can follow the steps mentioned below:

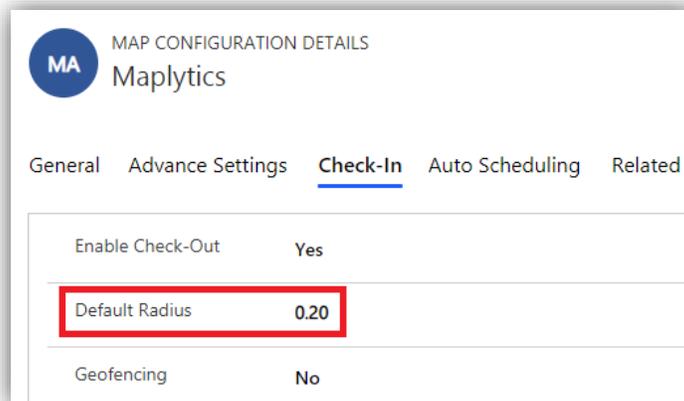
Go to Settings > Maplytics Configuration Details > Default Configuration Detail Record (the one with no user name) > Check-In tab > Set the value for Enable Check-Out to 'Yes' & click on 'Save'.



Note:

- **The default value for 'Enable Check-Out' is set to 'No'.**
- **User can anytime disable this option.**
- **Check-Out option can only be enabled for entities for which the feature of Check-In has been enabled.**
- **Check-Out can be enabled/disabled only at Organization level.**
- **Check-Out button will only be available for the records for which the user has checked-in.**

Default Radius: It is the distance that the System admin/Maplytics admin can set to consider the accuracy of the Check-In/Check-Out records created by the field professionals. If the Check-In/Check-Out records do not lie within this radius then it will be considered as invalid record and will be shown with a pushpin with this Red Cross. For example: 



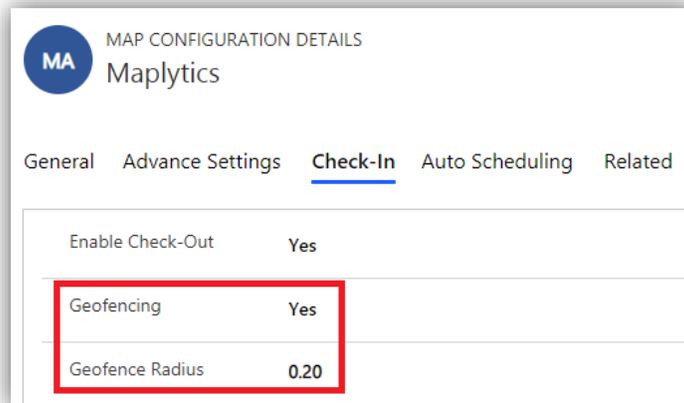
Note: By default, Geofence radius is 0.20 kilometers or miles depending on the unit set in User Configuration Detail record.

Geofencing

Geofencing is creating a virtual geographical boundary of a specified Geofence radius around a record. If Geofencing is enabled, user needs to be within this radius to successfully Check-In/Check-Out for a record. If the user is not within this radius, the user will not be able to Check-In/Check-Out and will be shown a message specifying that they need to be within 'n' Km/Mi of distance from the Check-In/Check-Out location. This will help the management to have only valid Check-In and Check-Out records done by the field professionals.

In order to enable Geofencing, System Admin/Maplytics Admin can follow the steps mentioned below:

Go to Settings > Maplytics Configuration Details > Default Configuration Detail Record > Check-In tab > Geofencing > Set the value for Geofencing as 'Yes'



Geofence Radius:

After enabling Geofencing, System Admin/Maplytics Admin can set the default value for Geofence radius which will be considered while a user Checks-In or Checks-Out.

Note:

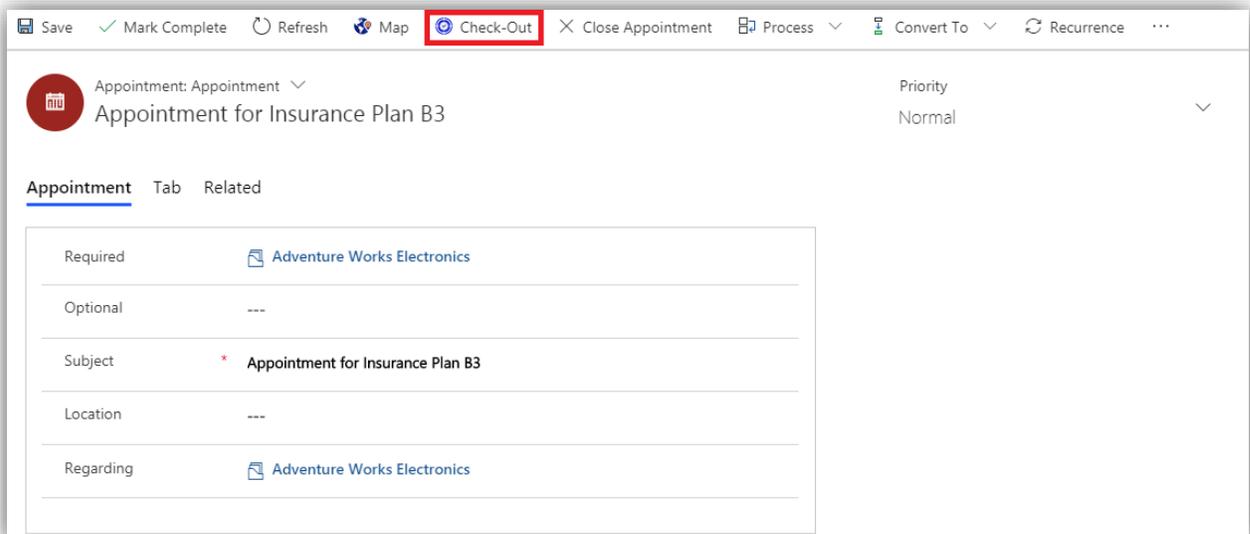
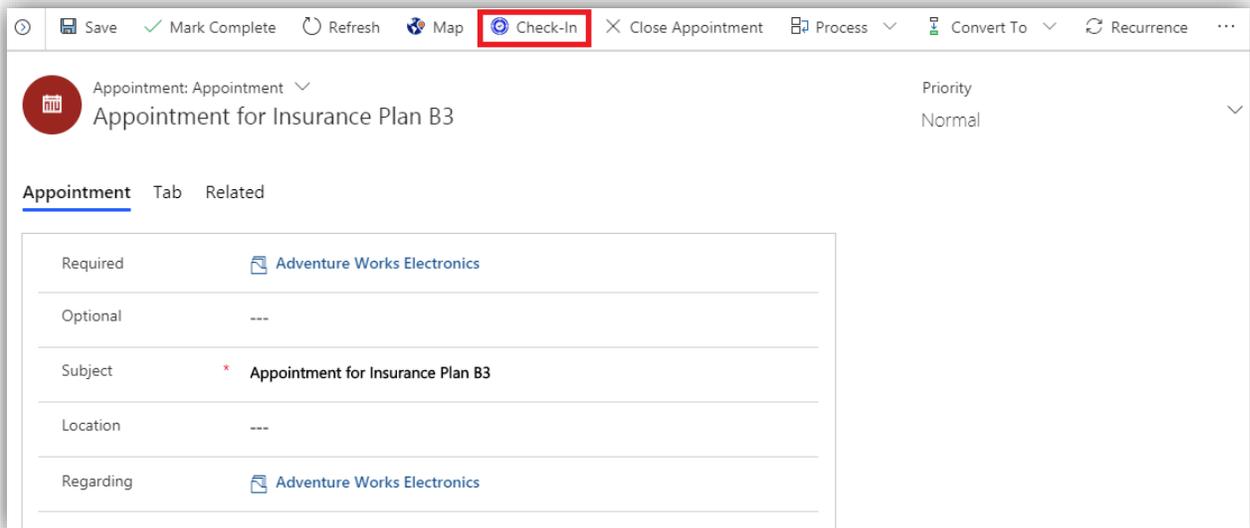
- **By default, Geofencing is disabled in which case the user can Check-In/Check-out from any location.**
- **By default, Geofence radius is 0.20 kilometers or miles depending on the unit set in User configuration Details record.**

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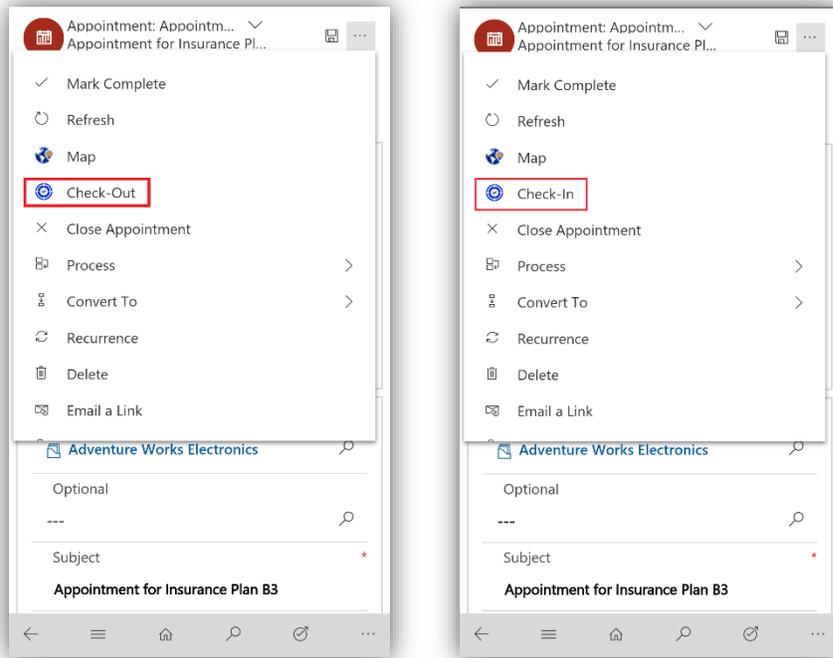
Creating Check-In/Check-Out records:

While navigating on field user can Check-In and Check-Out against any record. This can be done in the following two ways:

- From Record Form: User can open the required record (Appointments, Accounts etc.) and click on Check-In/Check-Out button on the ribbon.

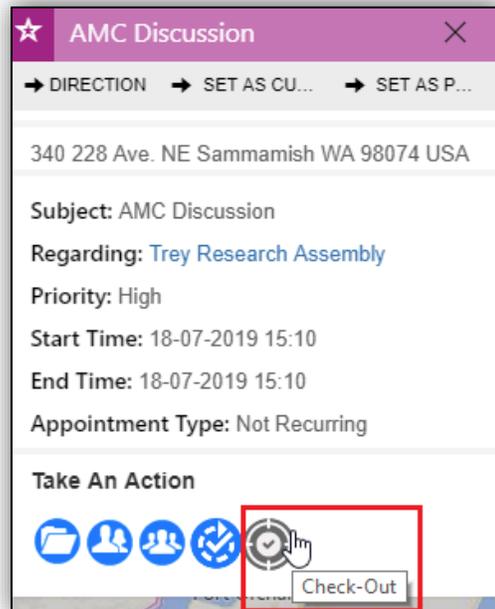
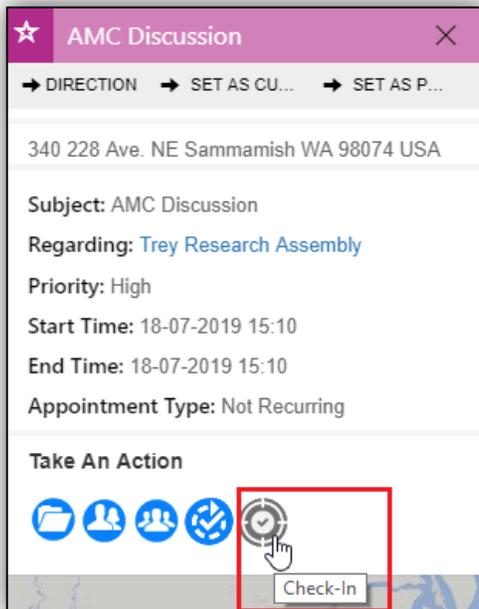


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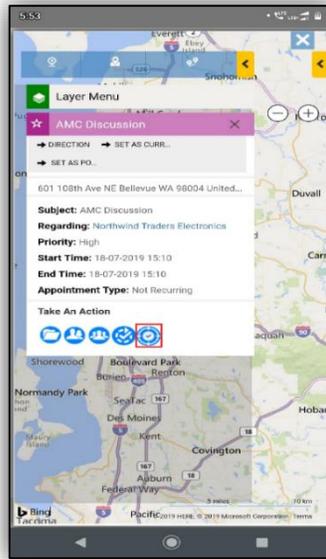


Note:

- **User needs to allow to read the GPS location of the device in order to Check-In/Check-Out.**
- **The Check-Out button will be available in the place of Check-In button after the user Checks-In.**



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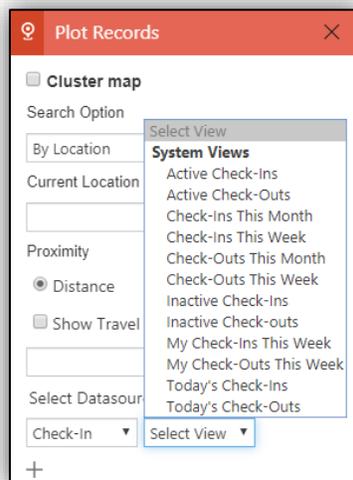


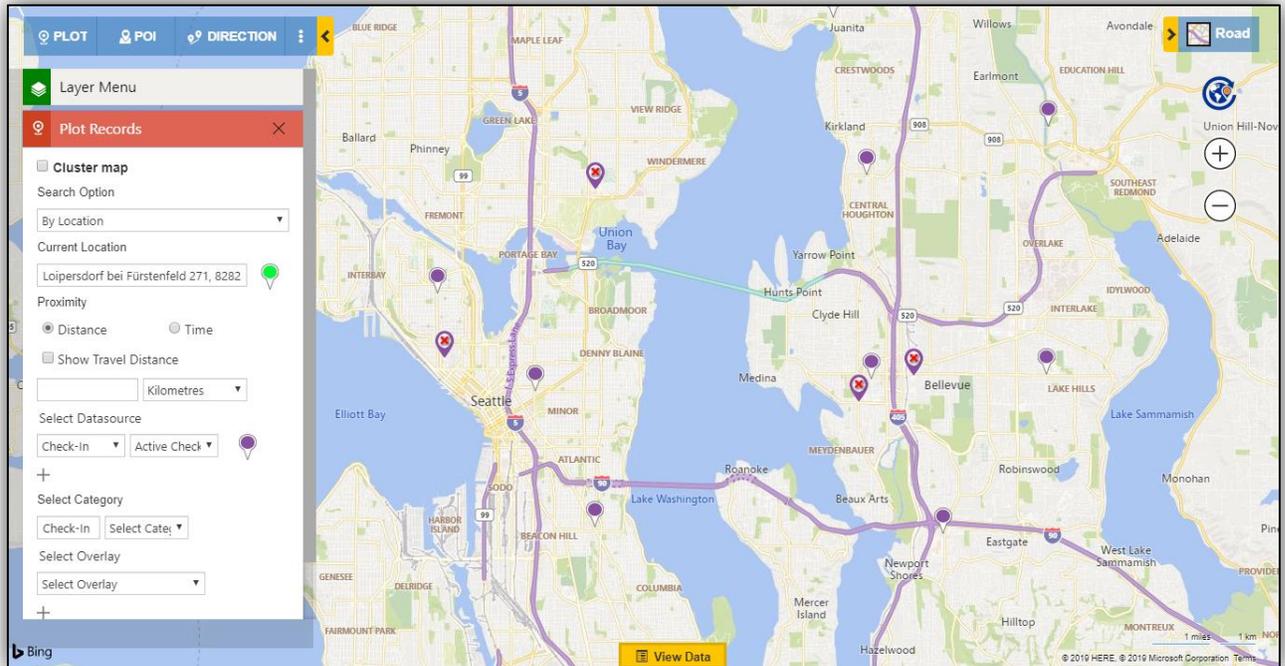
- Through Detail Map: User can click on any plotted records (Appointments, Accounts etc.) to open the Tooltip Card and click on the Check-In/Check-Out button.

Note: Multiple Check-In/Check-Out records can be created for any record (Appointments, Accounts, etc.)

Visualize Check-In/Check-Out records on Detail Map

To analyze the activities of field professionals, Check-In/Check-Out records can be plotted on the map like other entity with the help of the Plot Card. User can select 'Check-In' as the Datasource and select a required view to visualize the records from that view.





Analyze Check-In/Check-Out records

After plotting the records for Check-In and Check-Out, user can analyze the pushpins by distinguishing between the following two kinds of pushpins:

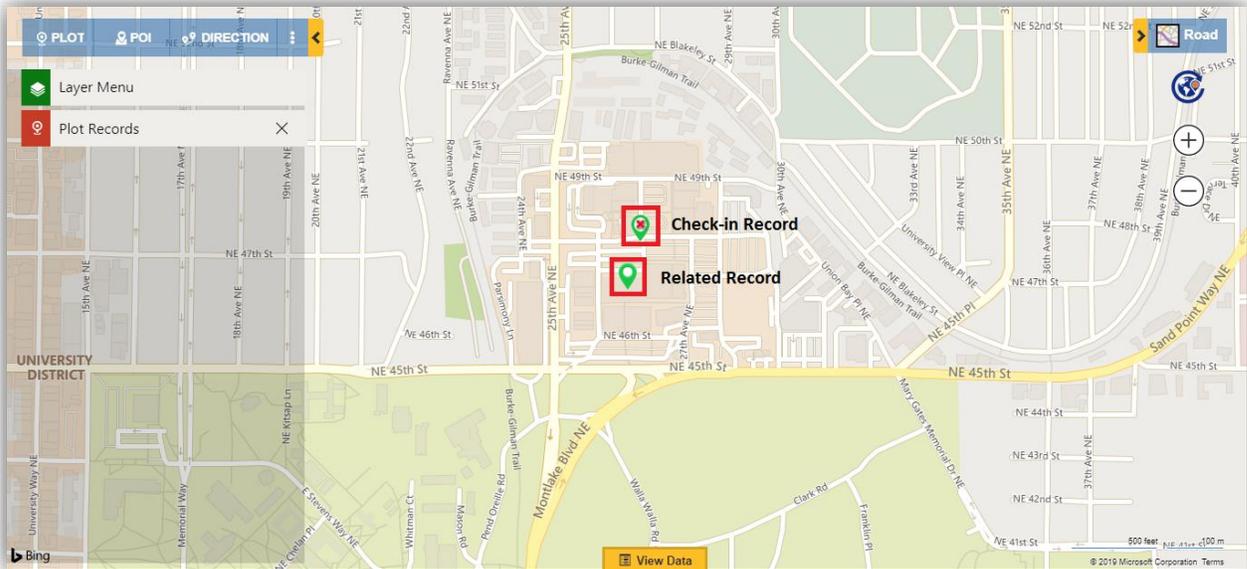
- Valid Check-In/Check-Out: When a user Checks-In/Checks-Out within the Default Radius or Geofence Radius, it is a valid record and will be represented by  pushpin.
- Invalid Check-In/Check-Out: When a user Checks-In/Checks-Out outside the Default Radius it is represented by  pushpin.

Visualizing Related Records

After plotting the records for Check-in, user can also choose to view the records(Appointments, Accounts etc.) against which the plotted check-ins and check-outs were created.

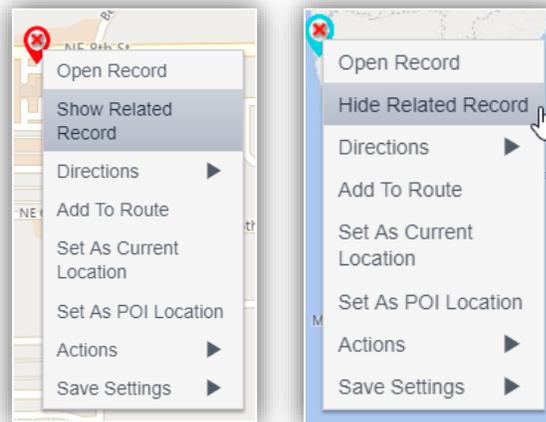
Visualizing Related Record for Check-In/Check-Out records:

After selecting the relationship, user can choose to view the related record for any Check-in and Check-Out record plotted on the map.



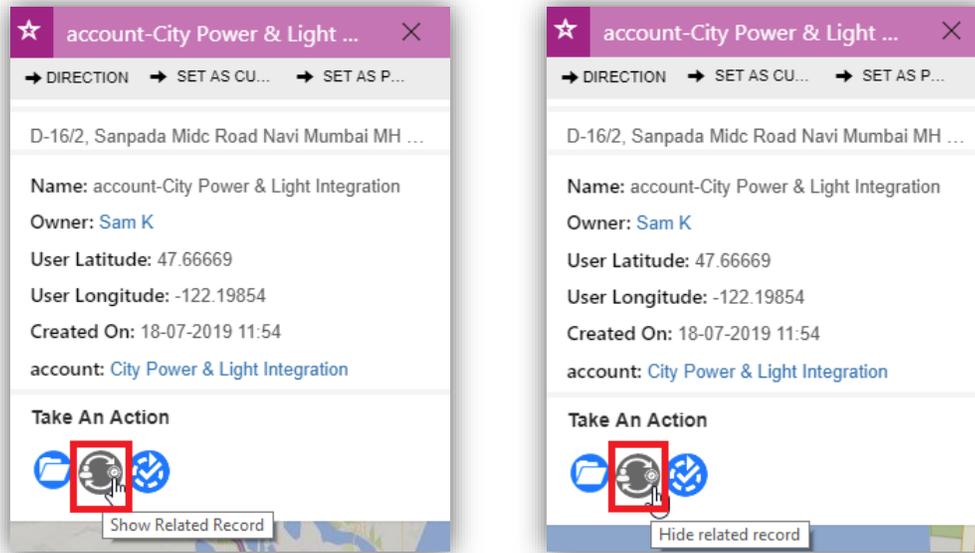
The related record can be visualized in the following two ways:

- By Contextual Menu: User can right click on any Check-In/Check-Out pushpin to open the 'Contextual menu' and click on 'Show Related Record'. This will plot the related record for the selected pushpin. To hide the related record, user can again right click on the same Check-In/Check-Out pushpin to open 'Contextual Menu' and click on 'Hide Related Record'.



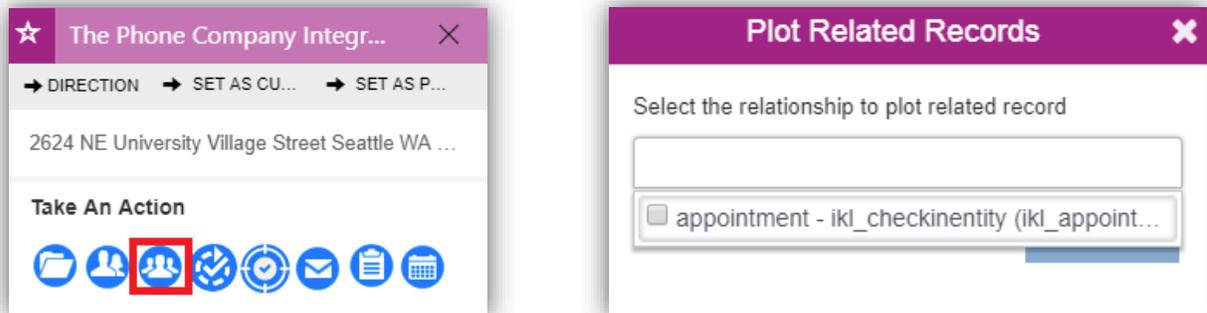
- By Tooltip Card: User can click on the Check-In/Check-Out pushpin to open the Tooltip Card and click on 'Show Related Record' from the 'Tooltip Card Actions'. To hide the related record, user can again click on same Check-In/Check-Out pushpin to open the Tooltip Card and click on 'Hide Related Record'.

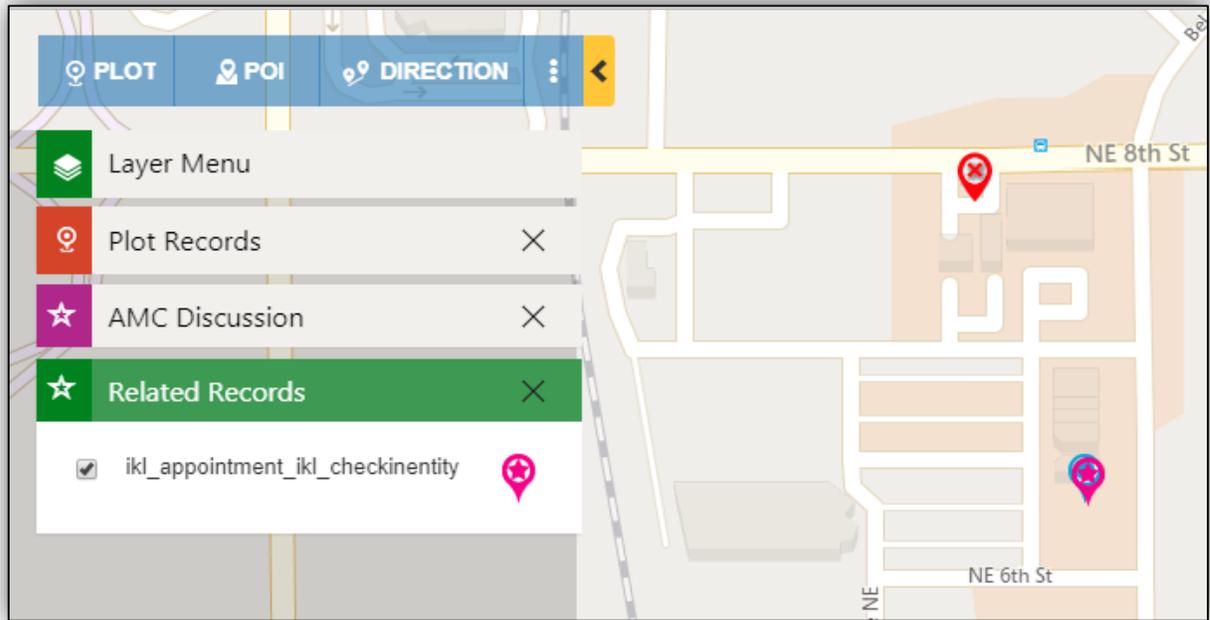
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Visualizing related Check-in/Check-Out records for plotted records (Appointments, Accounts, etc.)

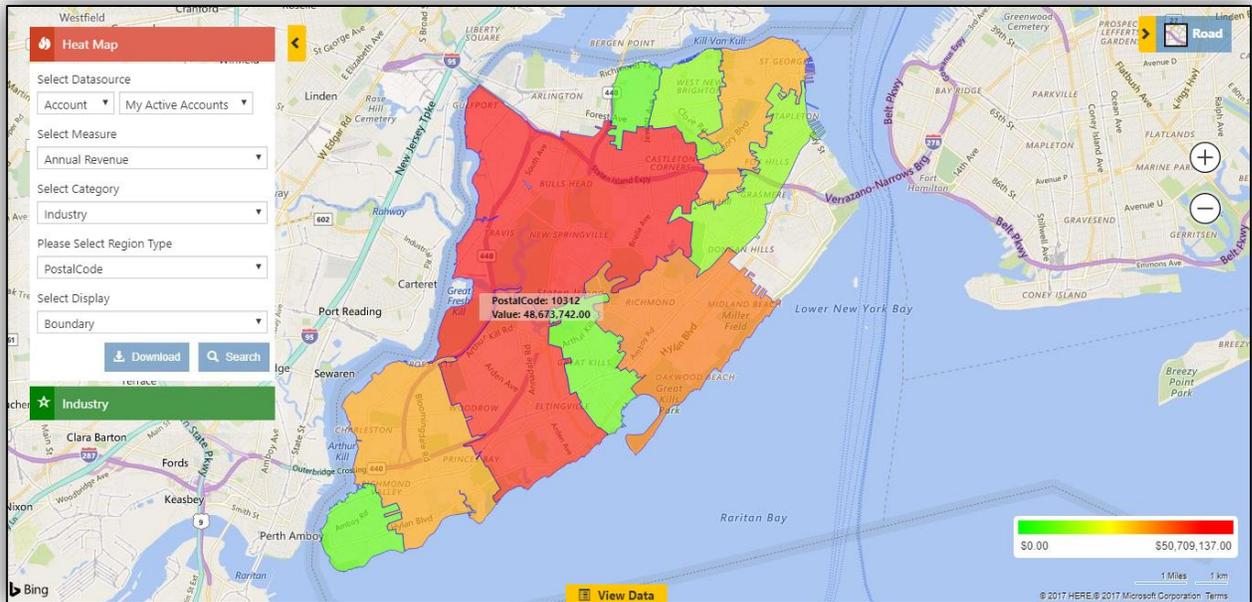
After selecting the relationship for the required entity within the entity map as suggested above, user can click on any plotted record to open the Tooltip card and click on 'Plot related record' to plot the related Check-In/Check-Out records.





Heat Map

Clicking on the Heat Map command button will bring up the Heat Map Screen.



Select Datasource:

This option helps the user to choose the Entity and view combination to analyze the data.

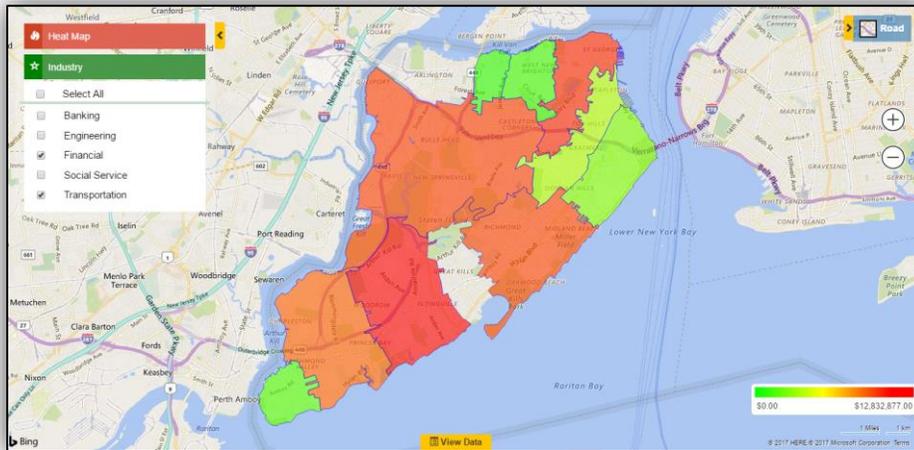
Select Measure:

This helps the user to define the aggregation method to be used to color code the region. By default, it is based on number of records (i.e. 'By Count'). The user can change this to any other field attribute from the drop-down. Dropdown contains the list of all numeric and currency fields.

Select Category:

This option helps the user to filter data. The user can modify the search result using selection in the Category option.

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Select Region Type:

This option helps the user to define the geography level for aggregation. The user can choose any option from the drop-down:

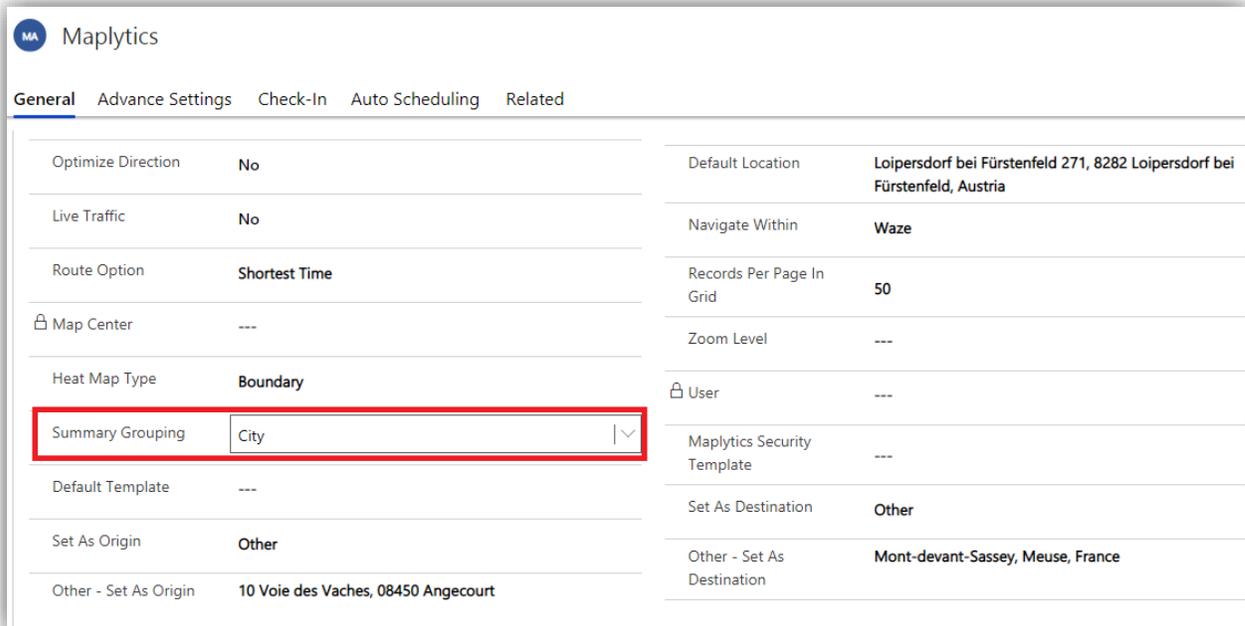
- **City**
- **State**
- **County**
- **Country**
- **PostalCode:** The smallest postcode category, such as a zip code.
- **PostCode Sector:** The second '1' is called "Postcode Sector". Example: **CA1 1**
- **PostCode(Outward Code):** This is called Outward Code, the part of the postcode before the single space in the middle. Example: **CA1**
- **PostalCode Areas:** The next largest postcode category after Postcode1 that is created by aggregating Postcode1 areas.
- **Territory:** This option will use the Sales Territory defined in Dynamics CRM.

Note:

- *The regions that were plotted using the option Post code Areas before will now be plotted by using the option of Post code sector.*
- *The regions will be plotted as per the Bing maps.*

The default option is to summarize the addresses by City. You can find the default settings on the Maplytics Configuration record for the individual user as shown below:

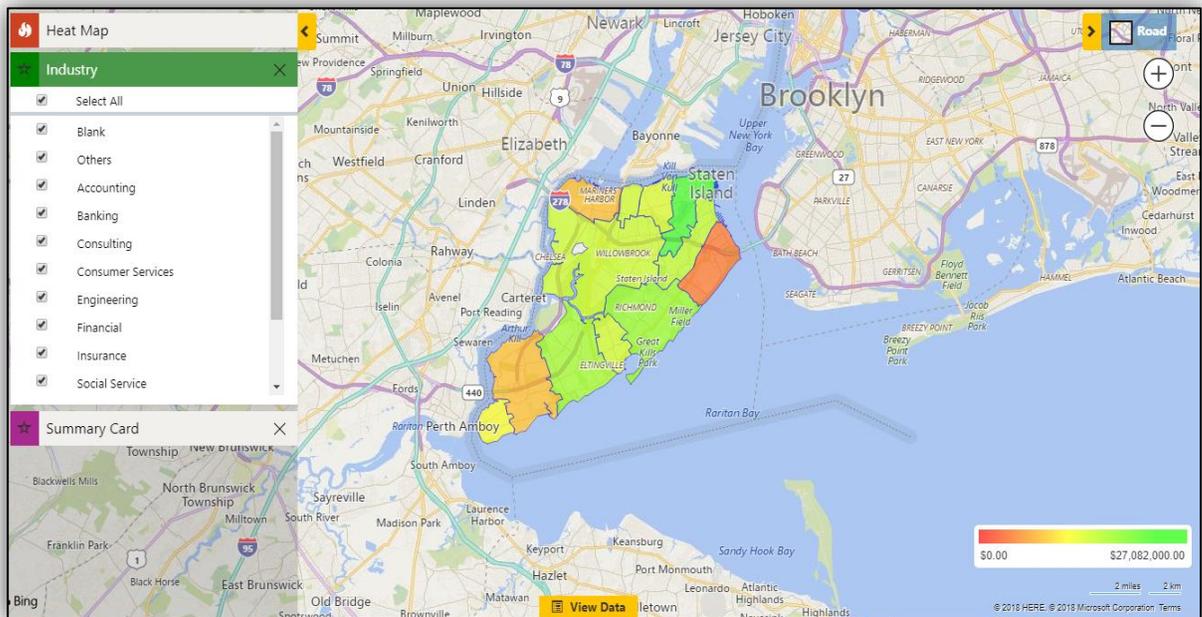
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Select Display

There are four options available to analyze data on Heat Map. Default Heat map display can be selected using Maplytics Configuration Settings.

- **Boundary:** This will create Heat Map on basis of selected region type like City, Postal Code, Country, State, Territory, etc.

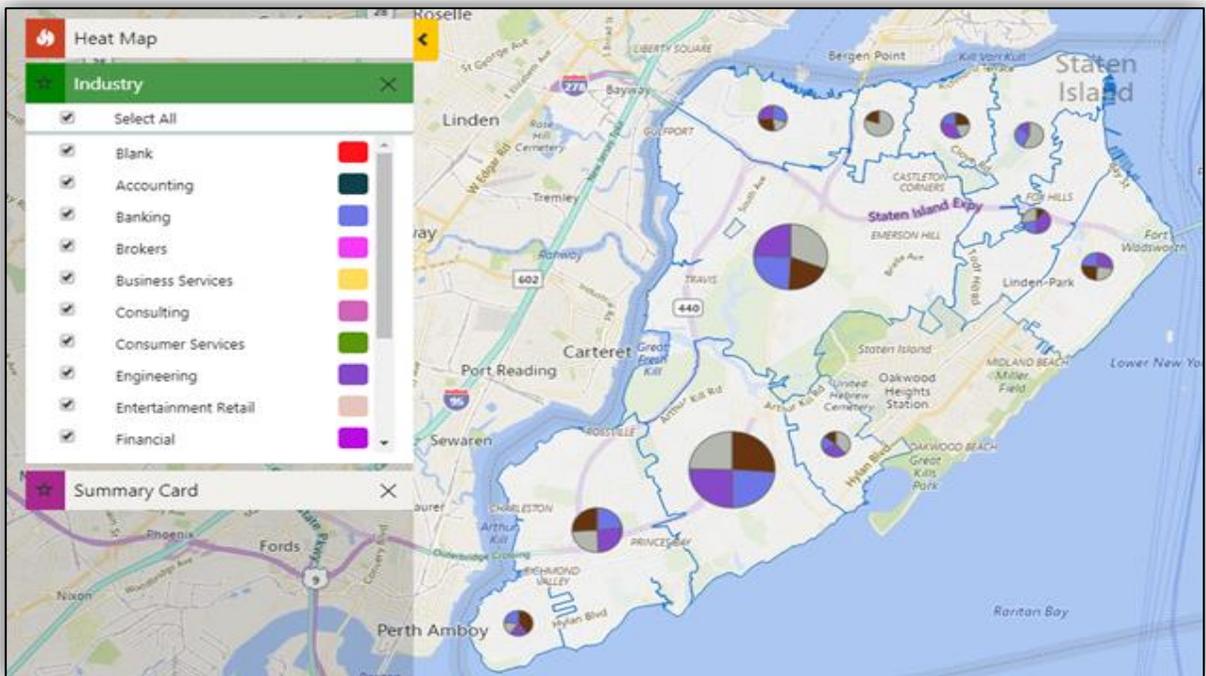


- **No Boundary:** This option does not consider the region type. It simply creates a Heat Map by the density of the measure selected without geographical boundaries.

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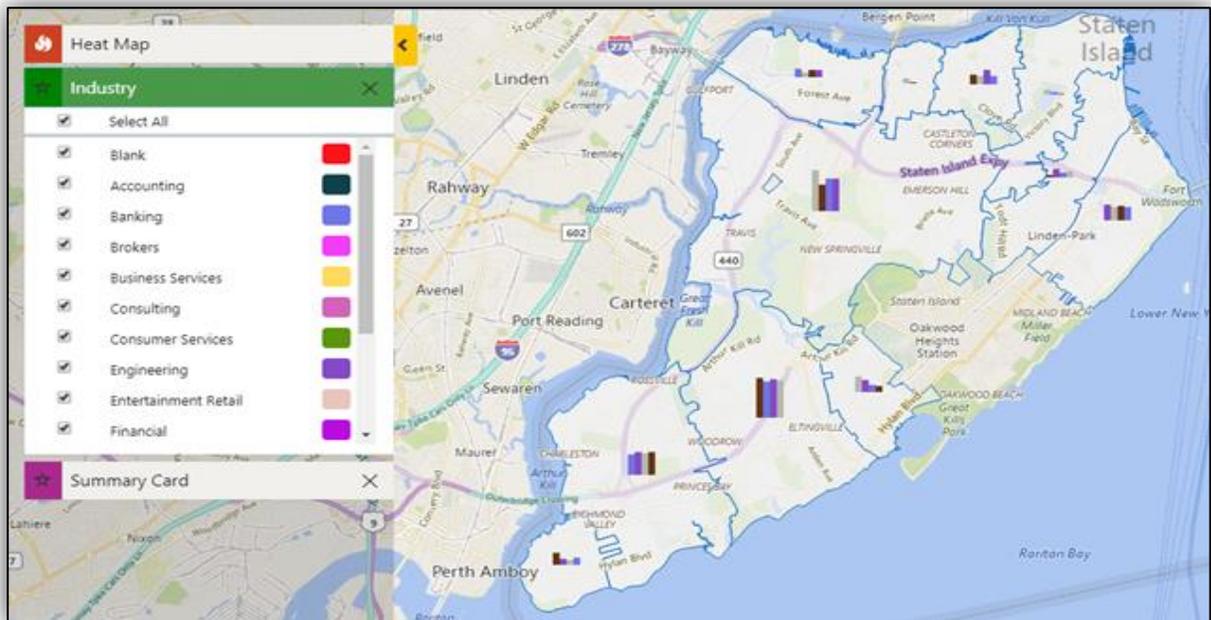


- **Pie chart:** Users can view the data in the form of Pie charts based on the heat of the attribute selected in the Measure and Filter. Pie charts help the users to analyze the data on the basis of comparative data shown by the Pie charts on the map.

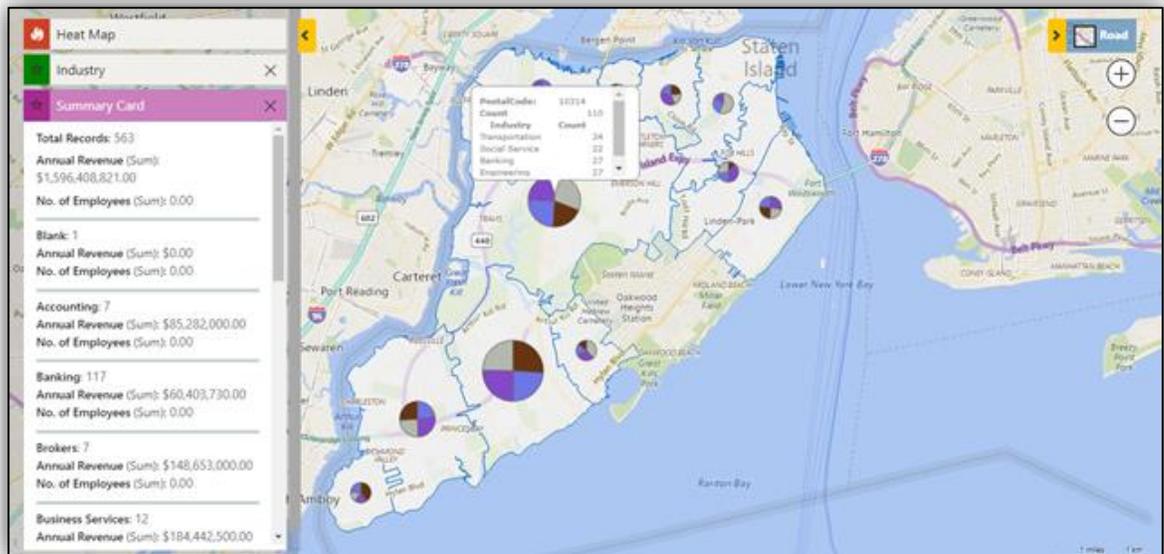


- **Column chart:** Users can view the data in the form of column charts plotted on the basis of the heat of the attribute selected in the Measure and Filter. User can easily analyze the plotted data on the basis of the proportions shown by the respective columns.

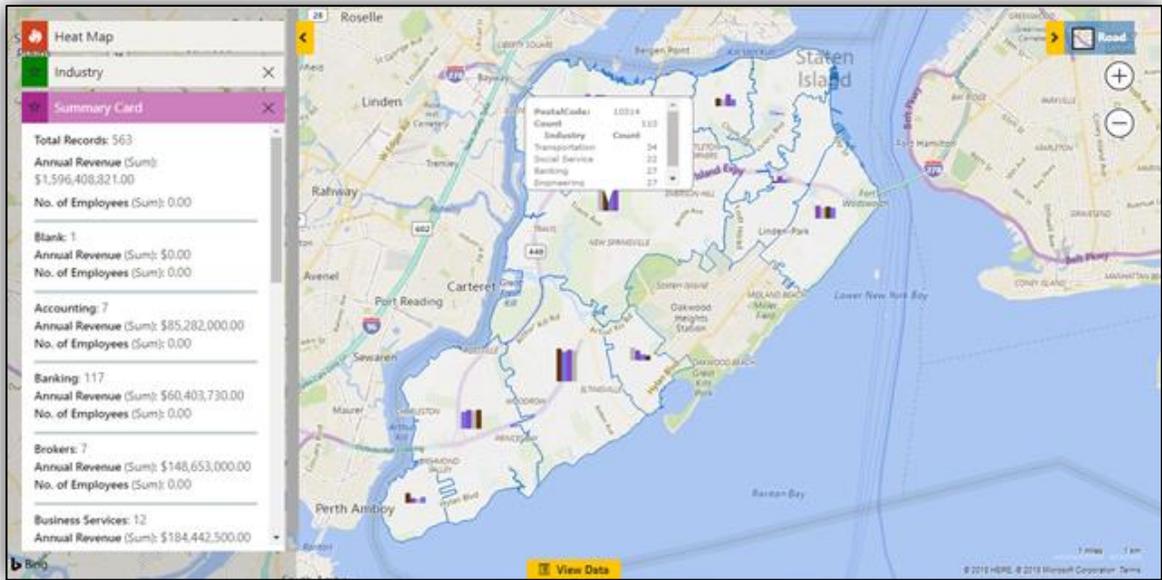
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- Hover: On hover, it shows the details of that Boundary/Pie chart/Column chart
- Summary Card: The user can click on any Boundary/Pie chart/Column chart to get the summarized information of the same.



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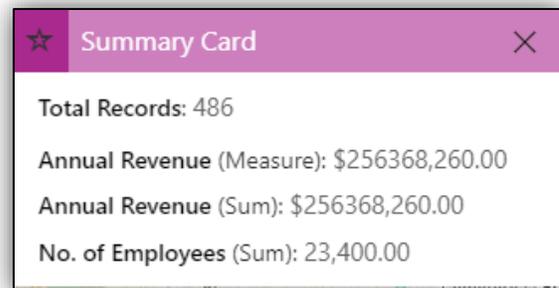
Note: If Pie chart/Column chart is selected as the Display type, the option of Territory under Region Type will not be available.

Search:

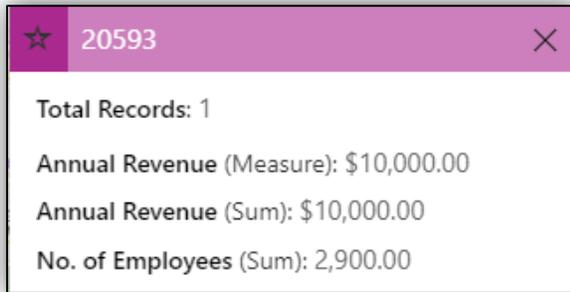
Clicking on the 'Search' button will plot the addresses of all the records that were selected in the view and has already been geocoded. Records that do not have their latitude/longitude updated in the record will be ignored and will not be plotted on the map.

Summary card:

Every time the users create a heat map visualization, a 'Summary Card' summarizing the aggregate information for the complete heat map will open up. This gives the users a brief summary of the heat map they created. The measure is also summarized by default.



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The user can also click on any region plotted on the map to open the summary card for that region. This will also filter the data of the region in the data grid. To differentiate between the summary cards, the individual summary cards have the region name/number as the title.

If the user has selected a field attribute in the 'Filter' dropdown, the summary card will further summarize the information for the selected category filter as well.

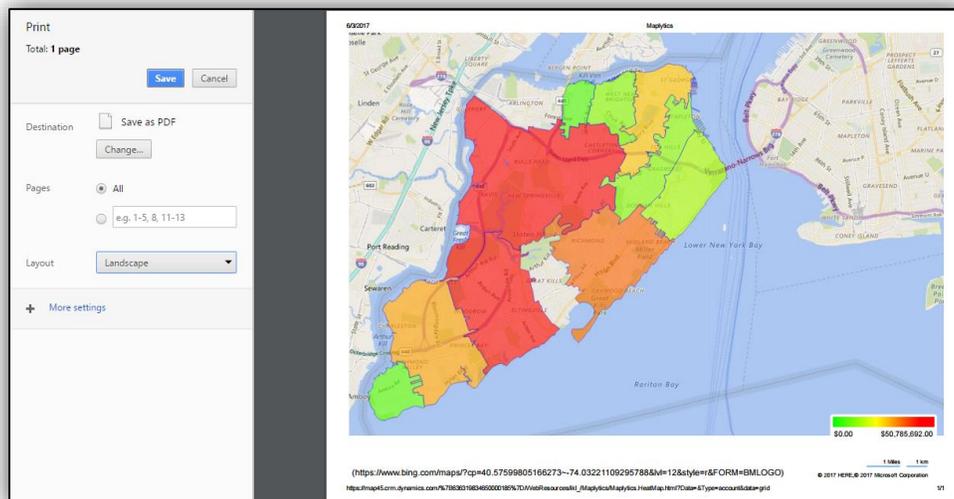
Export to Excel: The search results are listed by the grouping selected at the bottom of the screen and user can further export these data points using this button as shown below;

	Account Name	Address 1: City	Main Phone	Territory	Industry	Email	Created On	Annual Revenue
▶	PostalCode: 10302, NY, Staten Island, USA (Count: 18)							
▲	PostalCode: 10303, NY, Staten Island, USA (Count: 21)							
📄	Y. ANTHONY MOREN...	Staten Island	4092255691	North - Staten	Transportation	robert10363@inogic.c...	11/4/2016 12:00 AM	\$420,185.00
📄	O. DAMIANO GERACI ...	Staten Island	4059969317	North - Staten	Engineering	douglas10430@inogic...	11/6/2016 12:00 AM	\$993,938.00

This functionality adhere to CRM security roles, if the user does not have permission to 'Export Data to Excel' in CRM, then he/she will not be able to export data from Maplytics.

Zoom Level of Heat Map uses personalized 'Zoom Level' setting for the logged in user. Also, the color scale for the Measure will be fetched from the defined 'Heat Map Measure Color Scale' in the Entity Category configuration on the Entity Map for that particular entity.

Print: Clicking on the print button will print the heat map, as shown in the screenshot below:



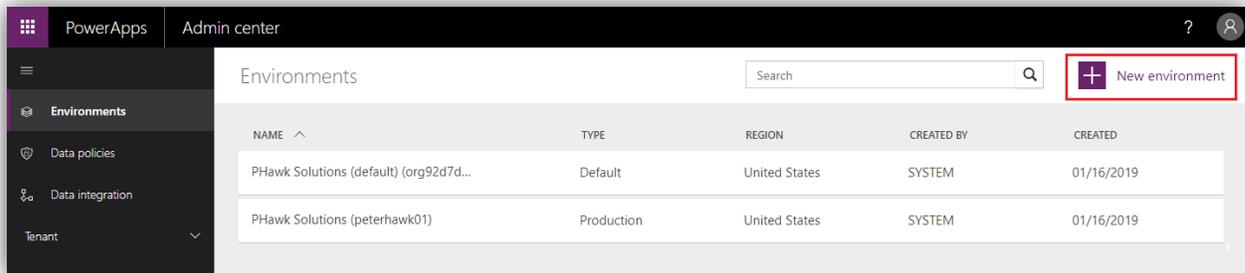
Note: A4 size paper with landscape mode is recommended while printing.

Support for CDS

If user does not have Dynamics CRM, they can still use Maplytics by subscribing for the PowerApps platform. This platform comes packaged with some base entities that includes Accounts and Contacts along with other platform entities to provide support for it security and other infrastructure.

To use Maplytics within PowerApps, user can follow the steps mentioned below:

- A. Go to admin.powerapps.com > log in using PowerApps credentials.
- B. Click on 'New environment' > Enter the details > Create an environment



New environment
Create new environments for app and flow development and to maintain separate databases. [Learn more](#)

Environment name

Region ?

Can't be changed once your environment is created.

Environment type ?

- Click on 'Create database' > Select the required details > Create database

✓ You created an environment

Do you want to create a database? (Recommended)

Your environment includes access to the Common Data Service. Create a database to start using it.

- Collect, store, and share data.
- Use data modeling
- Create custom forms
- Manage security and access to data

Create a database for this environment ?
Choose the currency and language your data should use.

Currency ?

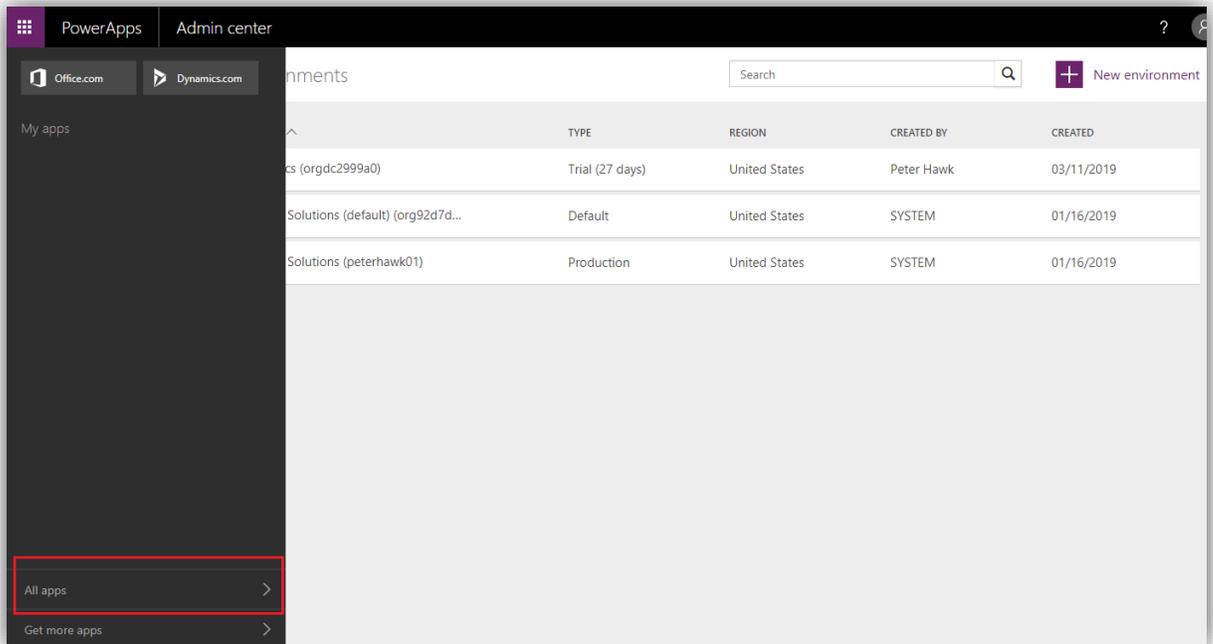
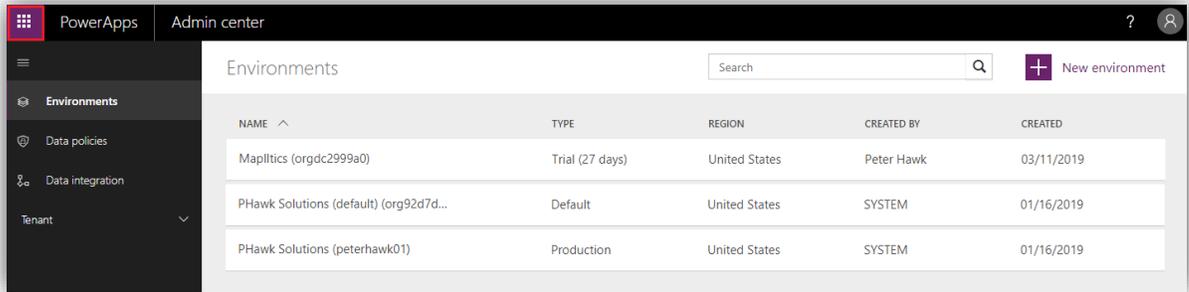
Language ?

Include sample apps and data

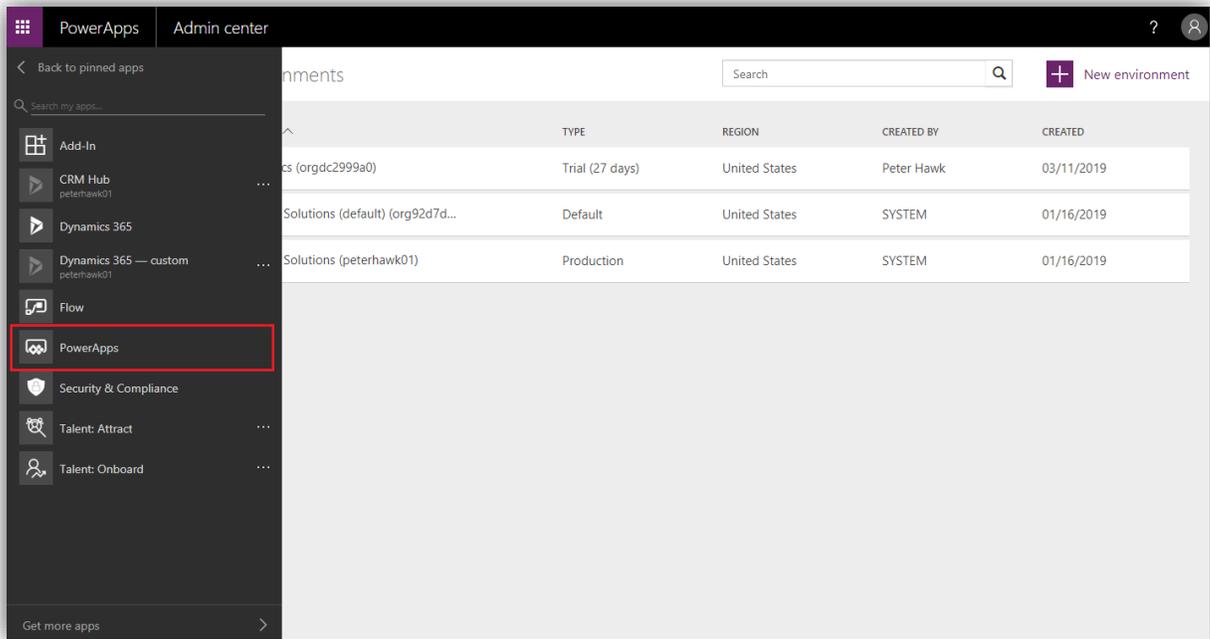
By choosing **Create my database**, you agree Microsoft can use entity and field names that you create (but not content in the database tables) to help improve our common data model. These names may be stored in our diagnostic systems and copied across regions. [Learn more](#)

- Click on 'Navigate to other Applications' > All apps > Powerapps > Select required environment

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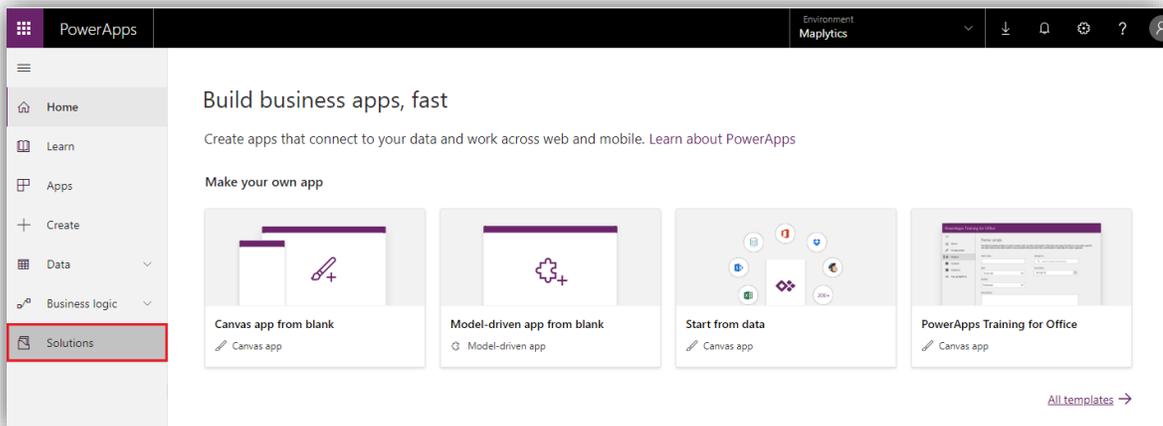


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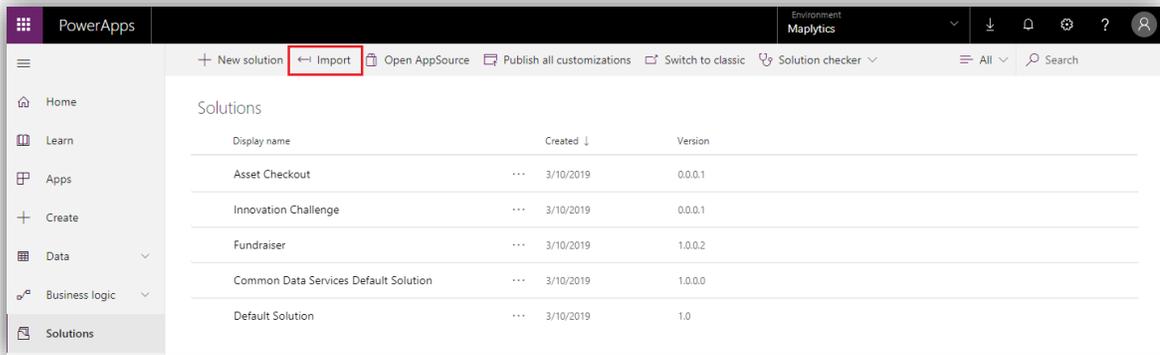


Import Maplytics solution

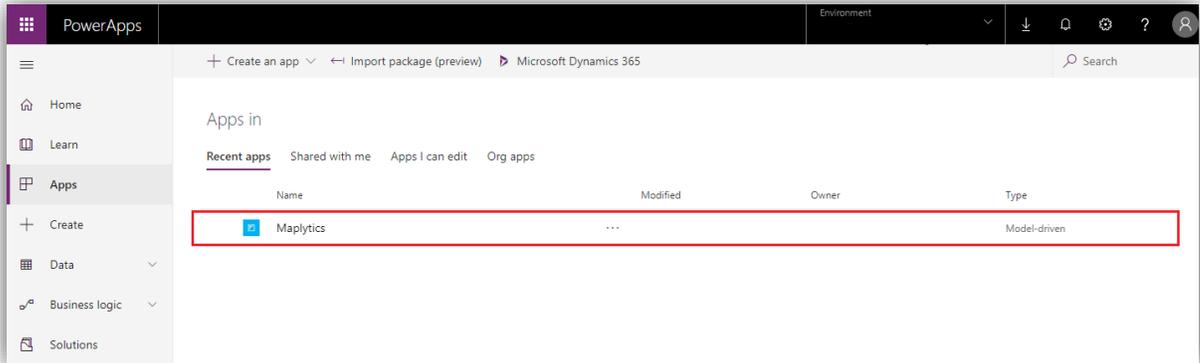
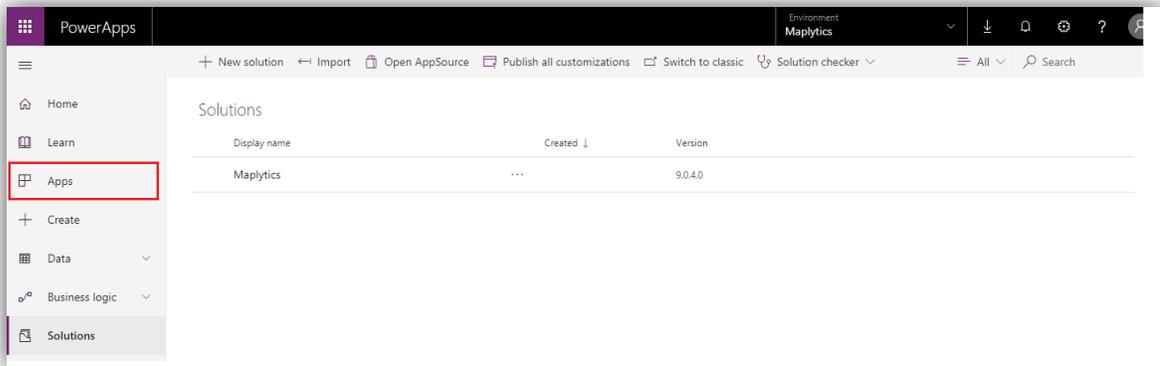
- Click on solutions at the left navigation pane > Import > Maplytics. This will create the Maplytics App.



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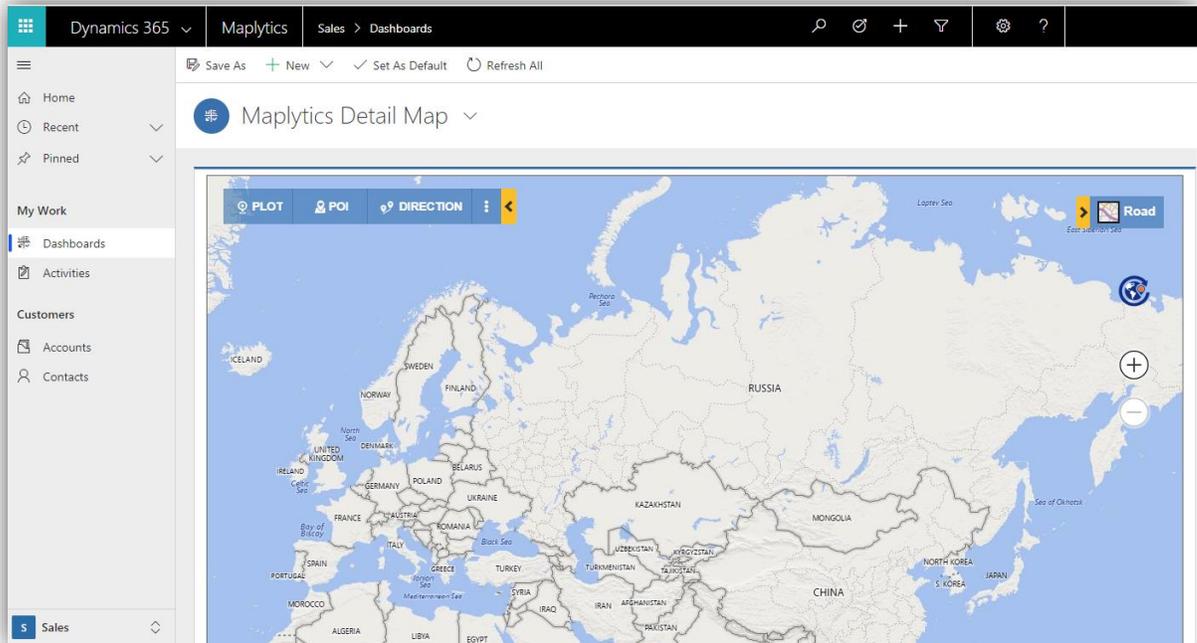


- To access the Maplytics App, click on Apps at the left navigation pane > Select Maplytics App.



Clicking on the Maplytics app, following Maplytics dashboard will open.

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- Activate and configure Maplytics
To access the Maplytics user needs to Activate and Configure Maplytics to start the license and configure the basic Entity maps, Dashboards and Census data.
 - Go to Settings > License registration > Click on Activate
 - Go to Settings > License registration > Click on Configure
- Add users to Maplytics team
 - Go to Settings > Teams > Maplytics team > Add users

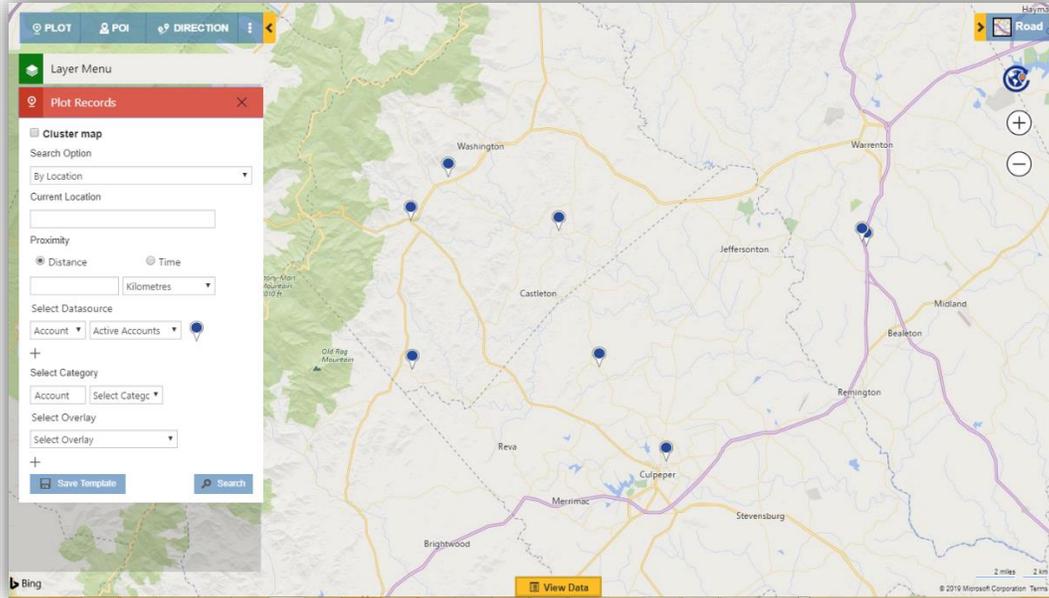
Note:

- 1. Entities of leads, Cases, Opportunity, Invoices are not available in PowerApps**
- 2. Marketing lists are not available**
- 3. While configuring, four Entity maps will get created for Accounts, Contacts, Appointments and Customer Address**
- 4. Only three dashboards will get shipped on configuration**

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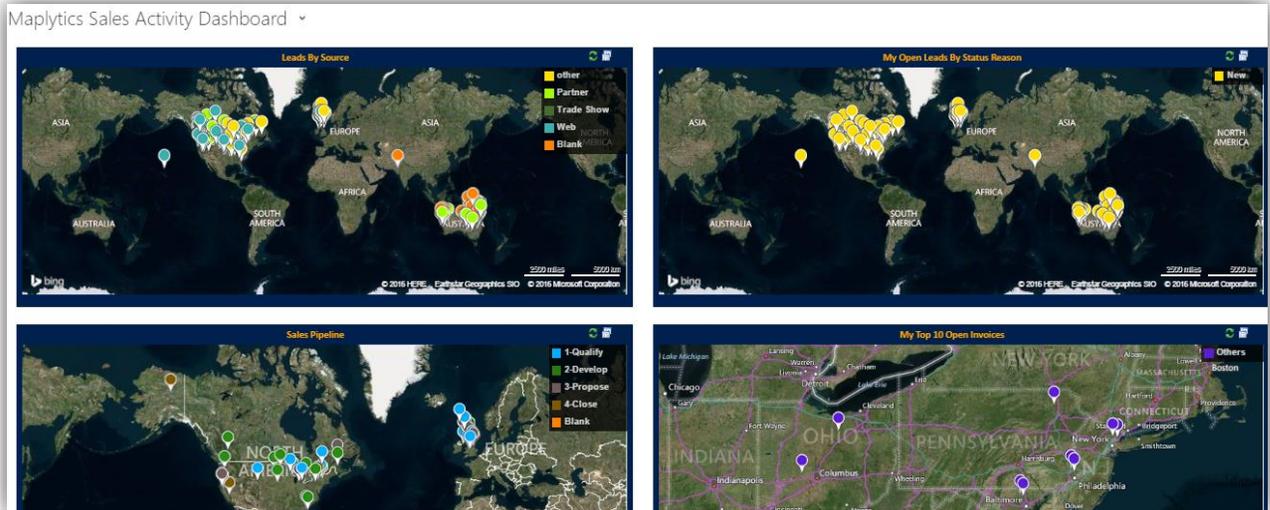
Access Maplytics in PowerApps

User can use the credentials of the environment to log in to PowerApps and select the Maplytics app to perform Maplytics features.



Maplytics Dashboard

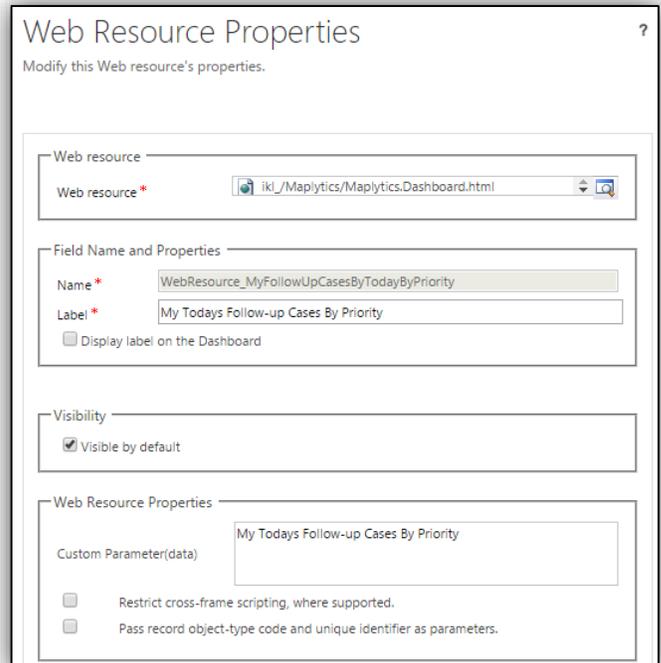
The users can define their Dashboard views for Maplytics and include them as web resources in standard Dynamics CRM Dashboards.



Maplytics ships with five pre-defined Dashboards for various Sales and Service Modules for different user roles. To set up more dashboards, please refer the 'Installation Manual'.

Steps to add Maplytics View to Dashboard:

To include the Maplytics component in Dashboard, click on the new button and select to add Web Resource. Select **'ikl_/Maplytics/Maplytics.Dashboard.html'** web resource and set the name of the Dashboard record in the custom data parameter to be passed to the HTML web resource.

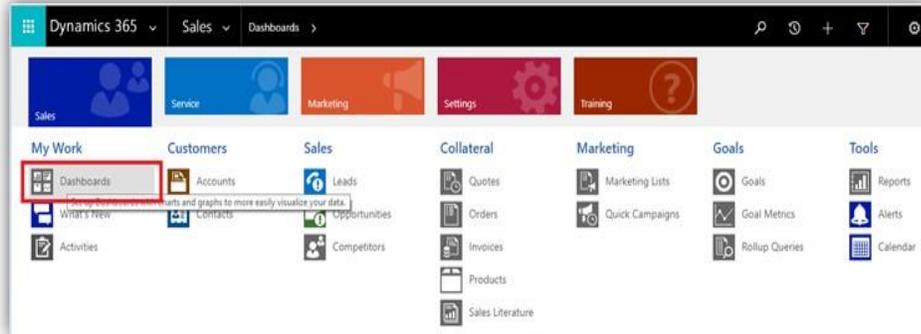


Create a route dashboard

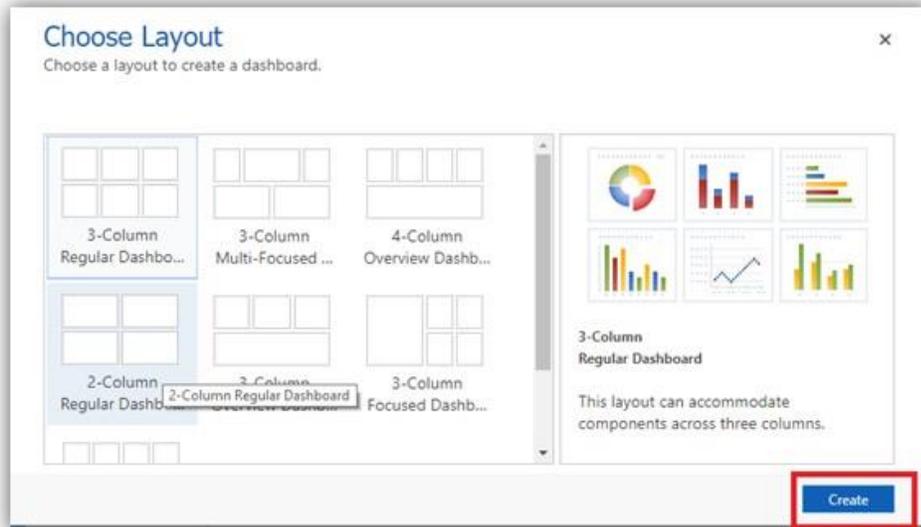
To plot route on a CRM dashboard follow the steps mentioned below:

1. User needs to include the Maplytics Detail Map component on the Dashboard. To do this click on the 'New' button in the section of dashboard and select 'Add Web Resource'. Select '*ikl_/Maplytics/Maplytics.DetailMap.html*' web resource.

Go to Sales > Dashboards > Click on "New" button

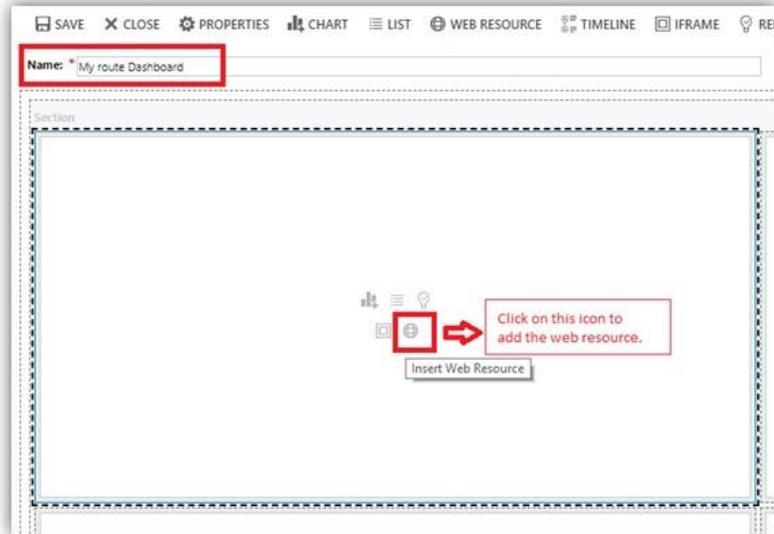


2. Choose any layout as shown below:

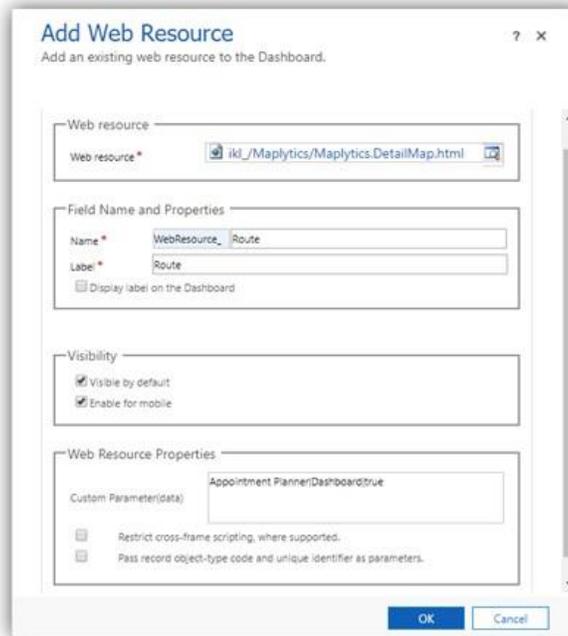


3. Provide the dashboard name and click on the web resource button to add the Detail map HTML web resource.

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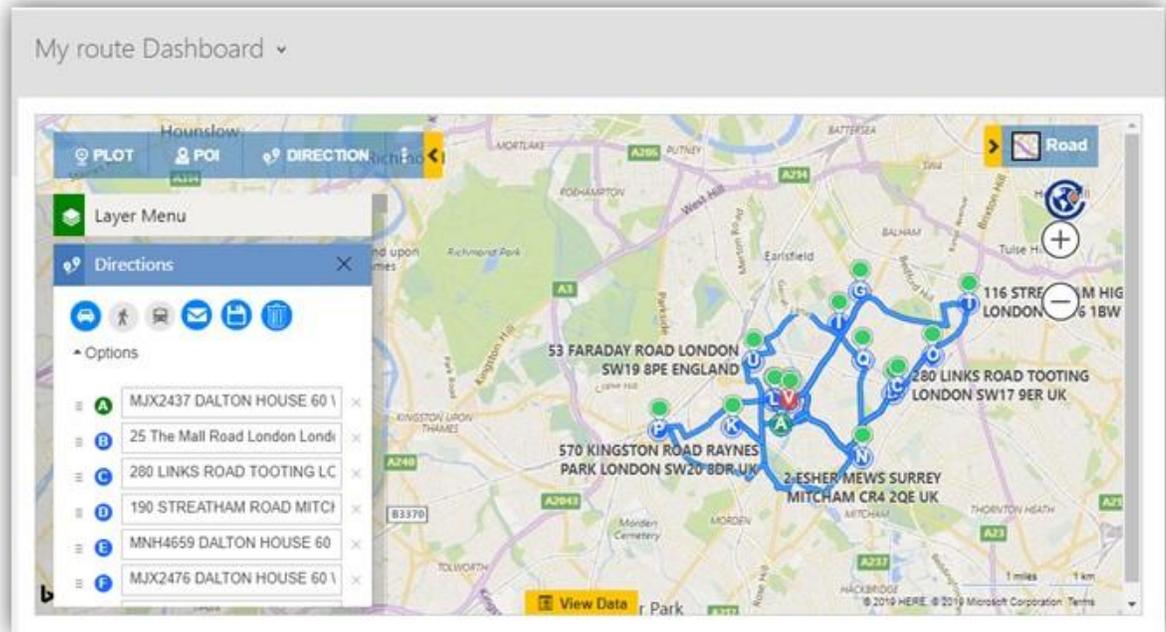


4. Add web resource :'*ikl_/Maplytics/Maplytics.DetailMap.html*' web resource
5. Add a parameter in Custom Parameter (data) field as **<Dashboard Name>||dashboard||true** and click on 'OK'



6. After saving the dashboard and user can see the route plotted on the dashboard.

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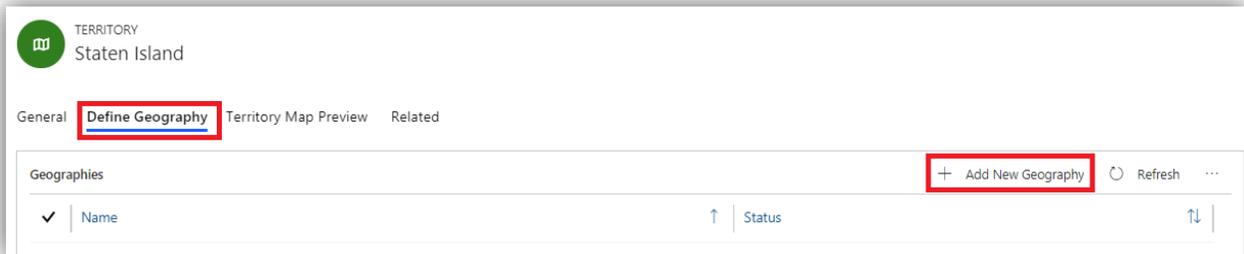


Note: Only 25 waypoints can be added into the route.

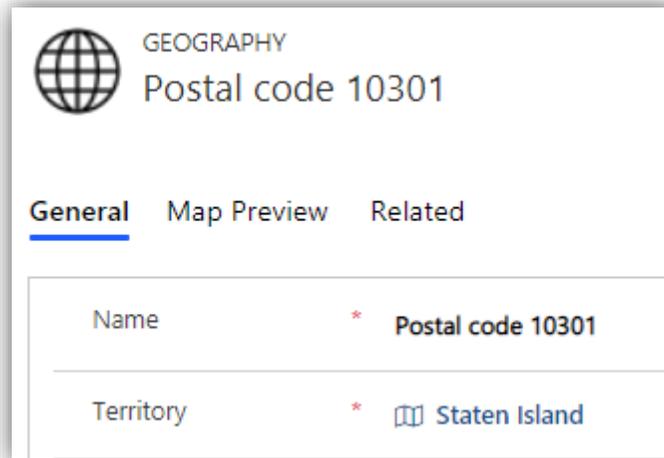
Defining Geographies for Sales Territory using Maplytics

The users can create sales territories using the native Dynamics CRM ‘Sales Territories’ feature and define geographies for the sales territories on a map using Maplytics.

To create geographies for sales territory, go to **Settings > Territories** and click on ‘New’ to create a sales territory. With Maplytics a ‘Geographies’ Entity is added on the territory. User can use this feature to visualize and create geographies for the sales territory. To create a new geography, click on **‘Add New Geography’**.

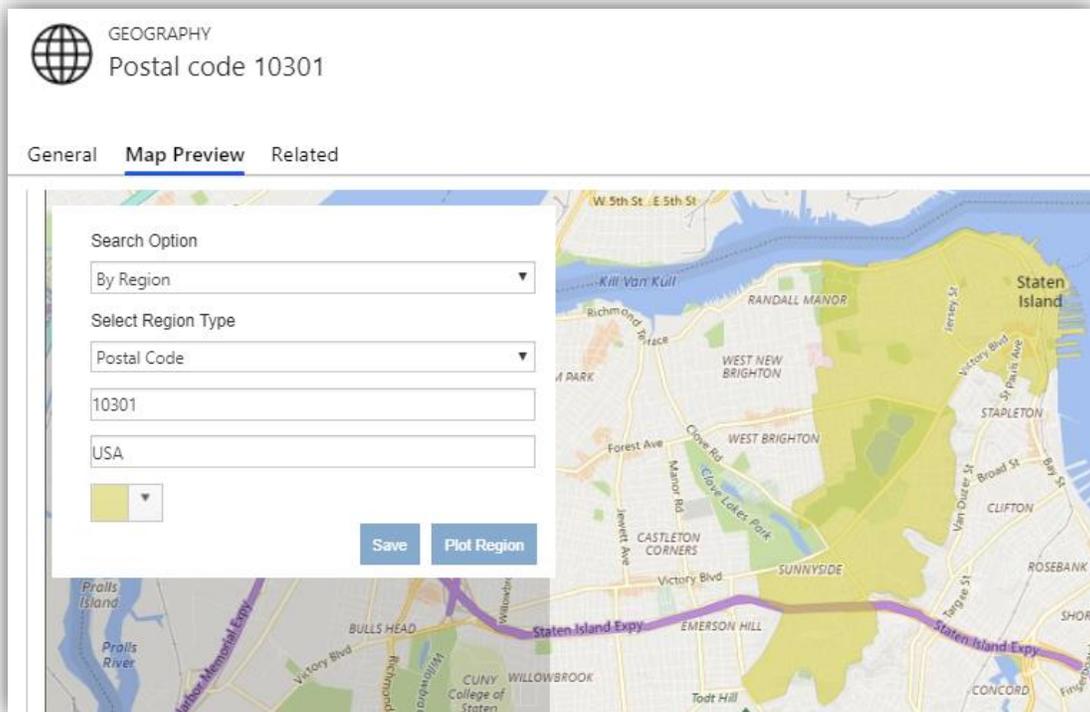


In the section **‘General’**, provide a name for the Geography.

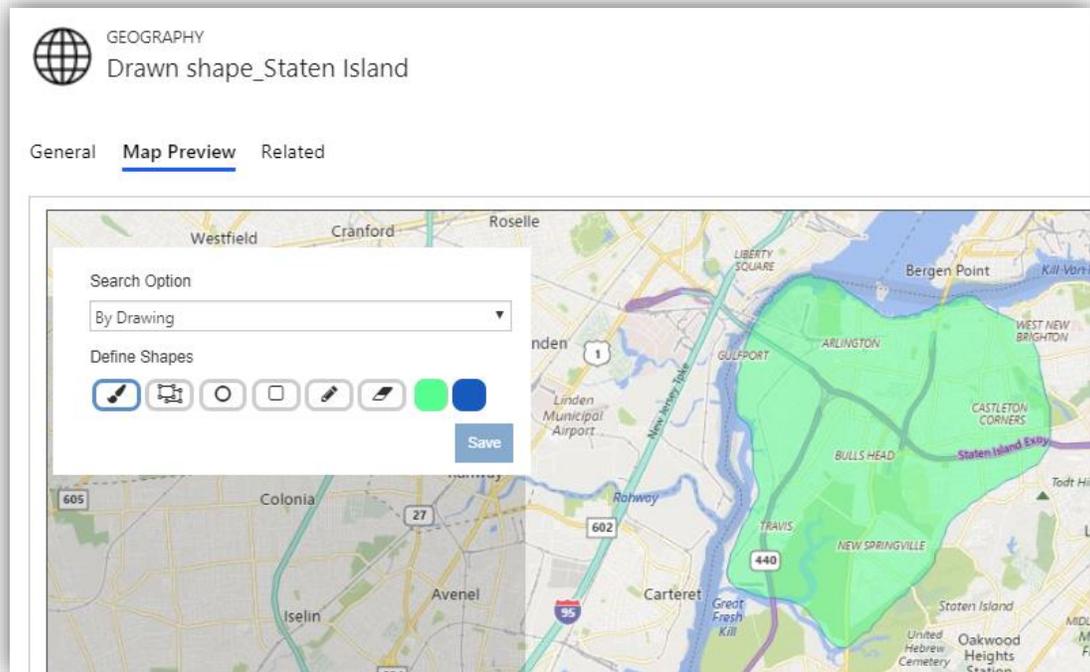


Within the section **‘Map preview’**, the user has the option to visualize the geography on a map ‘By Region’ or ‘By Drawing’. The ‘By Region’ option lets the user to plot the geography based on region types and the user has the freedom to choose the color for the plotted region.

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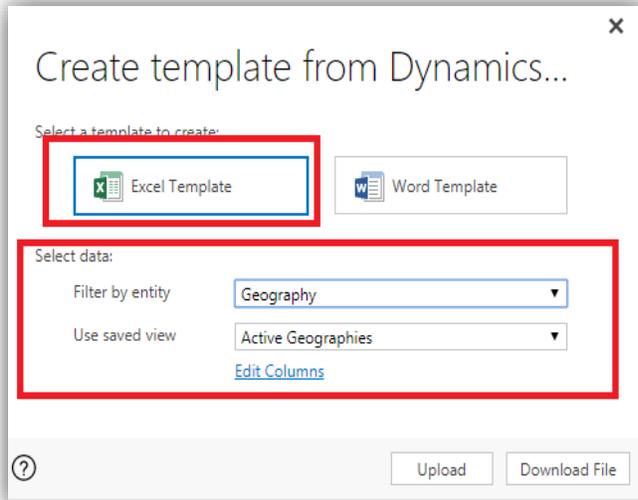
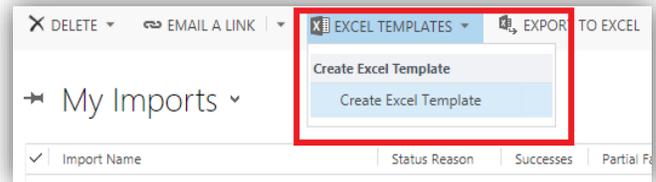
The 'By Drawing' option lets the user to plot the geography by drawing a shape on the map and the user can further edit the shape based on their needs.



Note: User can define multiple geographies for a single territory.

Bulk Geographies by uploading an Excel file

The users also have the option to upload multiple geographies through an Excel files supported by CRM using the Bulk Geographies feature in Maplytics.



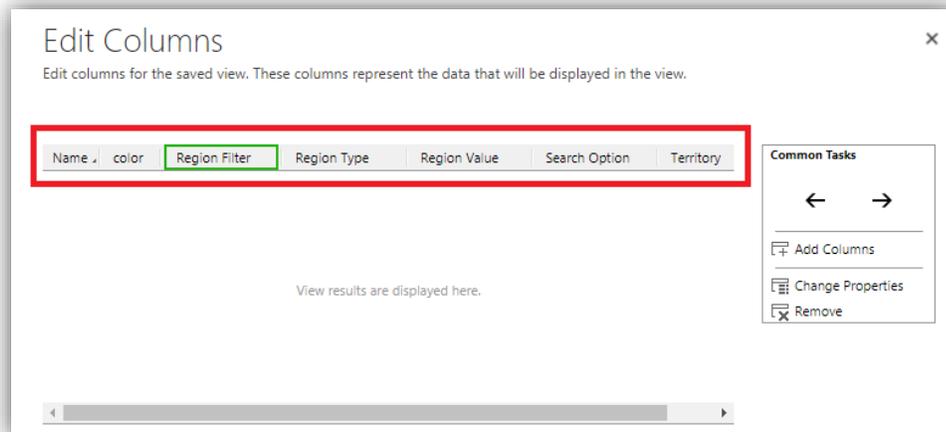
To upload the geographies in bulk, the user first needs to export an Excel template. Go to **Settings > Data Management > Imports >** select the **'Excel Templates'** and then click on the 'Create Excel Template' option. Select the 'Excel Template' and in the 'Select data' section, select the 'Geography' Entity in the 'Filter by entity' field.

Click on 'Edit Columns' and select the below columns;

Name: Name of the Geography.

Search Option: Bulk geography feature is available only for the 'By Region' option, so this value should always be '1'.

Color: Color should be in Hexadecimal format i.e. (#DAF7A6). If the user enters the color in other format then the default color (Blue) will be set.



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Region Type: There are 6 region types that the user can define to create the geography. (Country, State, County, City, PostalCode1, PostalCode2).

Region Value: If the user needs to create the geography based on Postal Code, then they can define the postal code values in this column. To define multiple geographies in single territory, use the comma separator (,).

Territory: This is a lookup value to define which geography belongs to which territory.

Note: For Territory management:

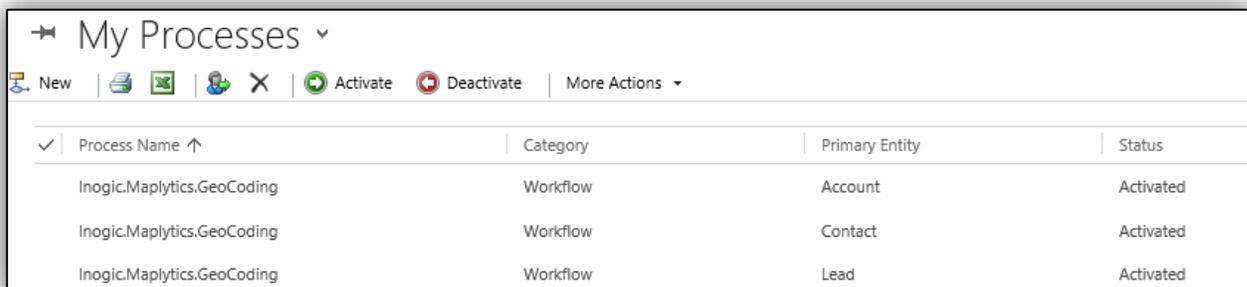
- **The column of 'Territory' should contain the Names of the territory(ies)**
- **Color: Color should be in Hexadecimal format i.e. (#DAF7A6). If the user enters the color in other format then the default color (Green) will be set.**
- **There are 8 region types that the user can define to create the geography. (Country, State, County, City, PostalCode1, PostalCode2, PostalCode3, PostalCode4).**

Workflows

Maplytics ship the following workflows:

1. **Geocoding workflows** – This geocodes addresses of the records and provides the values for respective Latitude and Longitude.
2. **Territory Assignment workflow** – This assigns territories to CRM records on the basis of the addresses in the respective records.
3. **Driving Instructions workflow** – This automatically generates directions (in HTML and Plain text format) between two related entity records using their respective addresses.
4. **Get Time zone workflow** – This provides the time zone of the respective records in which they lie based on their addresses.

Geocoding workflow is configured for Account, Lead, and Contact entities and Territory workflow for Account by default. The user can set up these workflows for custom entities also.

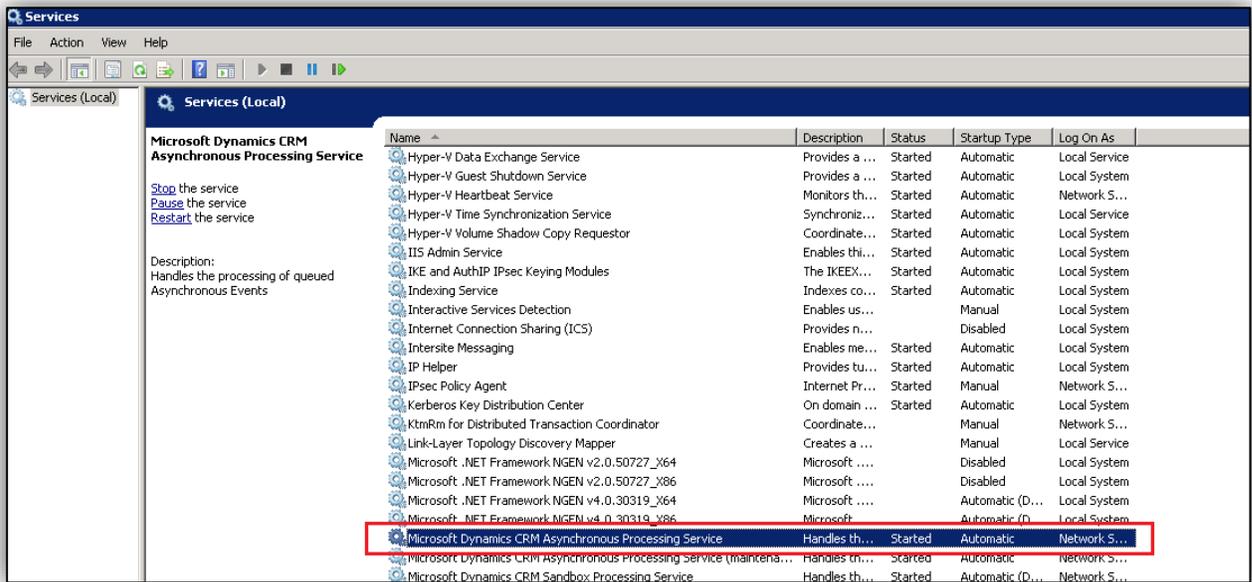


The screenshot shows a user interface titled "My Processes" with a dropdown arrow. Below the title is a toolbar with icons for "New", "Print", "Export", "Refresh", "Close", "Activate", "Deactivate", and "More Actions". Below the toolbar is a table with the following data:

Process Name ↑	Category	Primary Entity	Status
Inogic.Maplytics.GeoCoding	Workflow	Account	Activated
Inogic.Maplytics.GeoCoding	Workflow	Contact	Activated
Inogic.Maplytics.GeoCoding	Workflow	Lead	Activated

Note: To run the workflow, please make sure the Microsoft Dynamics CRM Asynchronous Processing service is running as shown in below screenshot.

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Configure Geocoding workflows for custom entities

1. Go to **Setting > Processes** > Click on **'New'** to design a new Workflow Process.
2. Write Process name, choose **'Workflow'** under category section and select desired entity as shown below;

The 'Create Process' dialog box is shown. The 'Process name' field contains 'Maplytics.GeoCodingWorkflow'. The 'Category' is set to 'Workflow' and the 'Entity' is set to 'Account'. The 'Run this workflow in the background (recommended)' checkbox is unchecked. The 'Type' is set to 'New blank process'. Below the form is a table with columns 'Template Name', 'Primary Entity', and 'Owner'. The table is empty, and a message states 'No process template records are available in this view'. At the bottom, there are 'OK' and 'Cancel' buttons.

Create Process

Define a new process, or create one from an existing template. You can create four kinds of processes: business process flows, actions, dialogs, and workflows.

Process name: * Maplytics.GeoCodingWorkflow

Category: * Workflow Entity: * Account

Run this workflow in the background (recommended)

Type: New blank process New process from an existing template (select from list):

Template Name ↑	Primary Entity	Owner
No process template records are available in this view		

0 - 0 of 0 (0 selected) Page 1

Properties

OK Cancel

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3. Select 'Organization' under 'Scope' dropdown. Select 'Record is created' and 'Record fields change' options as shown below:

Process: Inogic.Maplytics.GeoCoding

Information

General Administration Notes

Hide Process Properties

Process Name * Inogic.Maplytics.GeoCoding

Entity Account

Activate As Process

Category Workflow

Options for Automatic Processes

Scope Organization

Start when:

- Record is created
- Record status changes
- Record is assigned
- Record fields change [View](#)
- Record is deleted

4. For the Record fields change option, select all of the address fields to ensure the address is geocoded when any of the address fields is changed as shown below;

Select Fields

Select the fields that the process will monitor for changes.

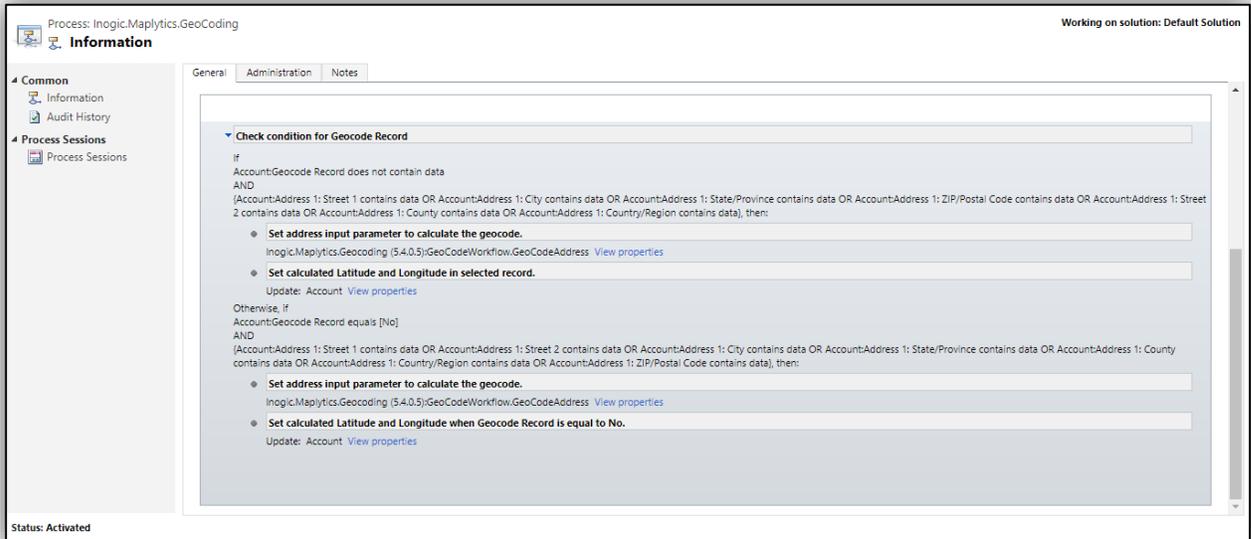
<input type="checkbox"/>	Display Name ▲	Name	Type
<input type="checkbox"/>	Address 1: Shipping Method	address1_shippingmethod...	Option Set
<input checked="" type="checkbox"/>	Address 1: State/Province	address1_stateorprovince	Single Line of Text
<input checked="" type="checkbox"/>	Address 1: Street 1	address1_line1	Single Line of Text
<input checked="" type="checkbox"/>	Address 1: Street 2	address1_line2	Single Line of Text
<input checked="" type="checkbox"/>	Address 1: Street 3	address1_line3	Single Line of Text
<input type="checkbox"/>	Address 1: Telephone 2	address1_telephone2	Single Line of Text
<input type="checkbox"/>	Address 1: Telephone 3	address1_telephone3	Single Line of Text
<input type="checkbox"/>	Address 1: UPS Zone	address1_upszone	Single Line of Text
<input type="checkbox"/>	Address 1: UTC Offset	address1_utcoffset	Whole Number
<input checked="" type="checkbox"/>	Address 1: ZIP/Postal Code	address1_postalcode	Single Line of Text
<input type="checkbox"/>	Address 2	address2_composite	Multiple Lines of Text

OK Cancel

Note: Please don't select Latitude & Longitude field attribute here.

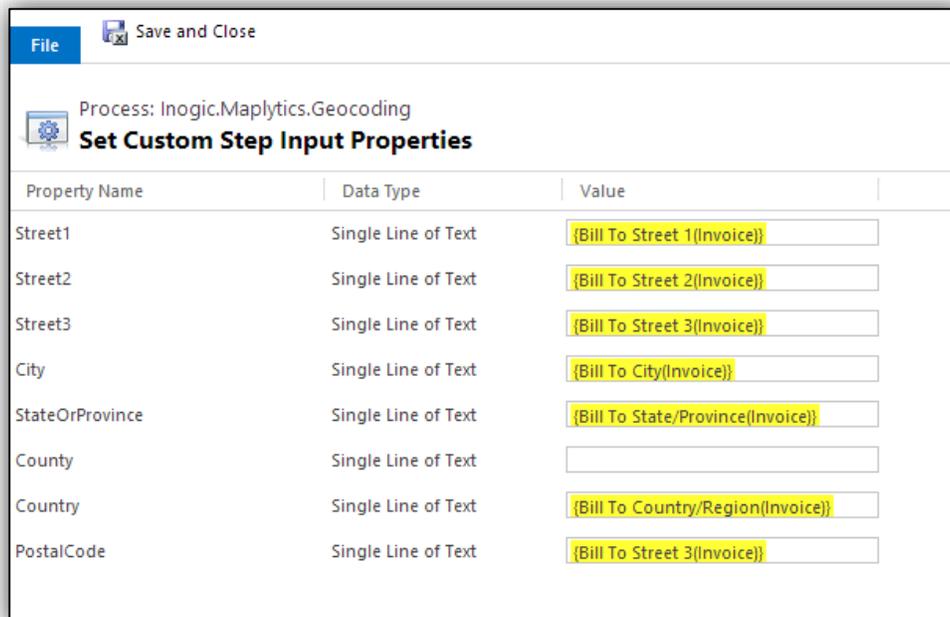
Maplytics™ – User Manual

- Select the **Inogic.Maplytics.Geocoding** workflow assembly from the Add step menu as shown below;



Note: For custom workflows, add an 'AND' condition, if the address fields are not blank as shown in the above screenshot. This will avoid the trigger of the workflow if the address fields do not have any value.

- Click on **'Set Properties'** and set the address parameter as shown in below screenshot for the workflow assembly;



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7. Choose 'Update Record' from 'Add Step' menu after selecting 'Set Properties' record and select same entity for which workflow is being created.
8. Click on 'Set Properties' of the new record and in the update window set the Latitude, Longitude and Rating to the output parameters returned by the workflow assembly as shown in the screenshot below;

Latitude	{Latitude(Set address i
Longitude	{Longitude(Set address:
Rating	{Rating(Set address inc

Geocoding Confidence Rating:

User can also check the geocoding confidence rating provided by Bing Maps. A 'Rating' field can be added that shows the confidence rating as High, Medium or Low. The 'Rating' field is set in the workflow as shown in the above screenshot.

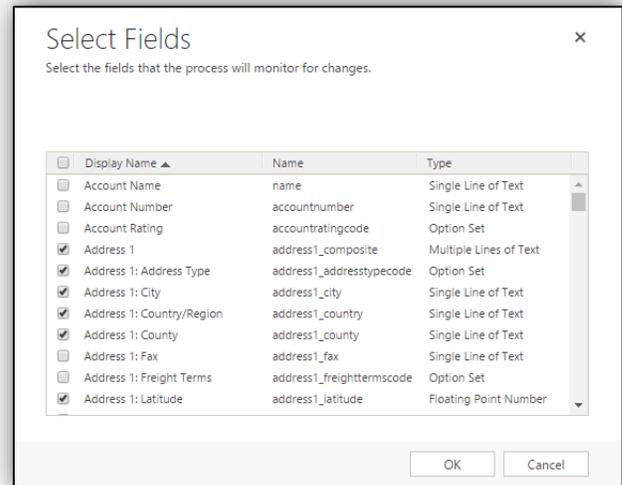
Map	
No Auto Geocoding	No
Street 1	3649 at HYLAN BLVD
Street 2	10308
Street 3	--
City	Staten Island
State/Province	NY
ZIP/Postal Code	--
Country/Region	USA
Latitude	40.54925
Longitude	-74.13826
Rating	Medium
Territory	--

Note:

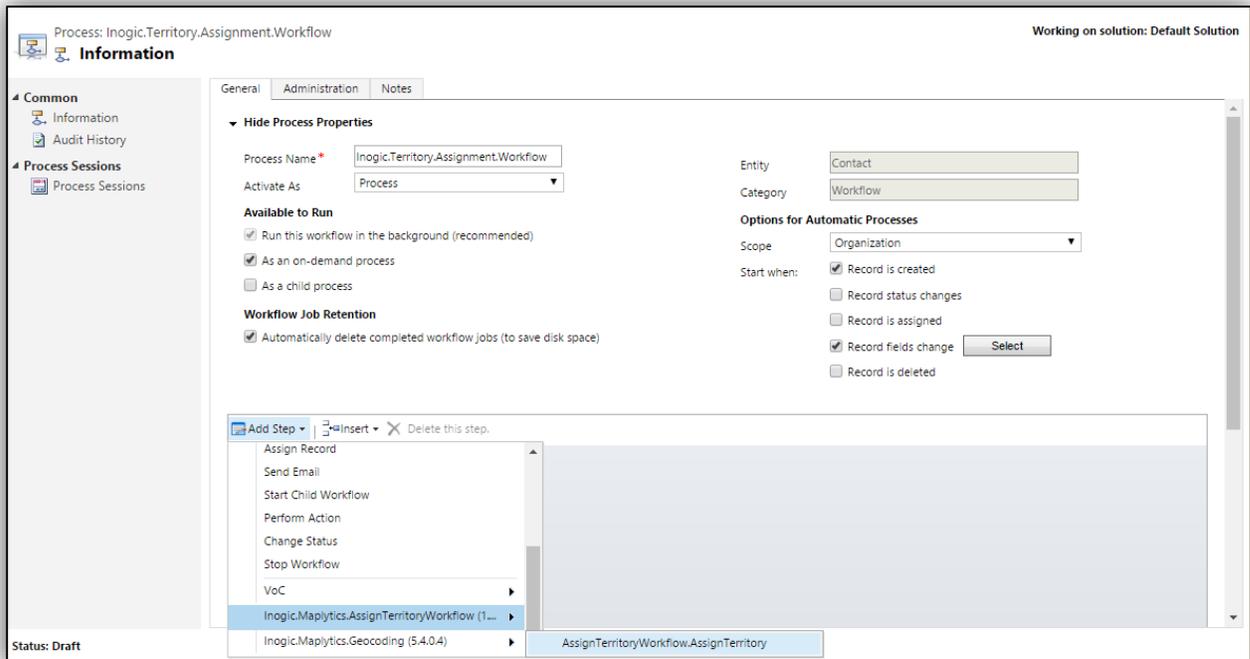
- **Latitude and Longitude fields should of data type: 'Floating Point Number' with precision set to 5. Add minimum to maximum range of fields respectively Latitude (+90 to -90), Longitude (-180 to +180).**
- **Geocoding Confidence Rating cannot be checked for Geocoding plugin**

Configure Territory Assignment workflow for custom entities:

1. Follow the Steps 1 – 3 from configuring geocoding workflow for custom entities. This will help you create a new workflow.
2. For the Record fields change option, select all of the address fields to ensure the territory is changed when any of the address fields is changed as shown below;

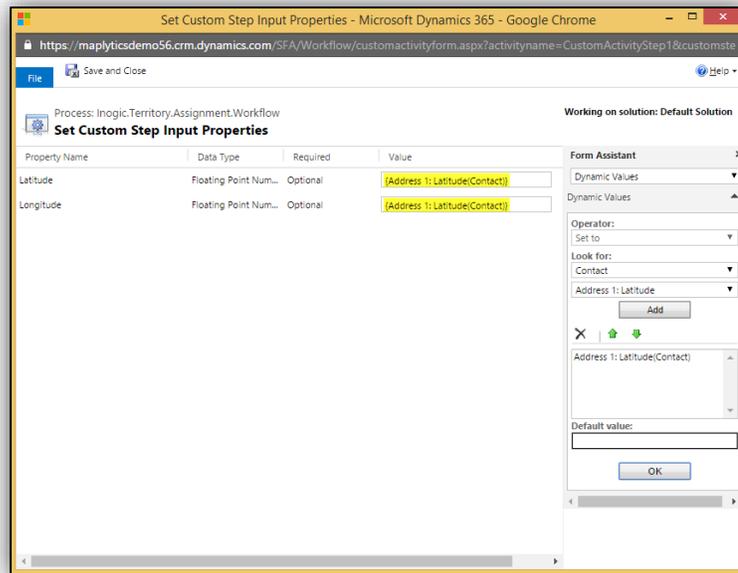


3. Click on **'Add Steps'** and add **'AssignTerritoryWorkflow.AssignTerritory'** assembly as shown below;



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4. Click on **'Set Properties'** and set the address parameter as shown below and Save this;



Configure Get Time Zone workflow

1. Go to Settings > Processes > Click on 'New' to design a new Workflow Process.
2. Write Process name, choose 'Workflow' under category section and select desired entity:

Create Process

Define a new process, or create one from an existing template. You can create four kinds of processes: business process flows, actions, dialogs, and workflows.

Process name: *

Category: * Entity: *

Run this workflow in the background (recommended)

We recommend using [Microsoft Flow](#) instead of background workflows. [Click here](#) to start building Flows!

Type: New blank process New process from an existing template (select from list):

Template Name ↑	Primary Entity	Owne
-----------------	----------------	------

Maplytics™ – User Manual

3. Select 'Organization' under 'Scope' dropdown. Select 'Record is created' and 'Record fields change' options.

Process: Inogic.Maplytics.GeoCoding

Information

General Administration Notes

Hide Process Properties

Process Name: [Redacted]

Activate As: Process

Entity: Account

Category: Workflow

Options for Automatic Processes

Scope: Organization

Start when:

- Record is created
- Record status changes
- Record is assigned
- Record fields change [View](#)
- Record is deleted

4. For the 'Record fields Change' option, select all of the address fields to ensure the address is retrieved when any of the address fields is changed.

Select Fields

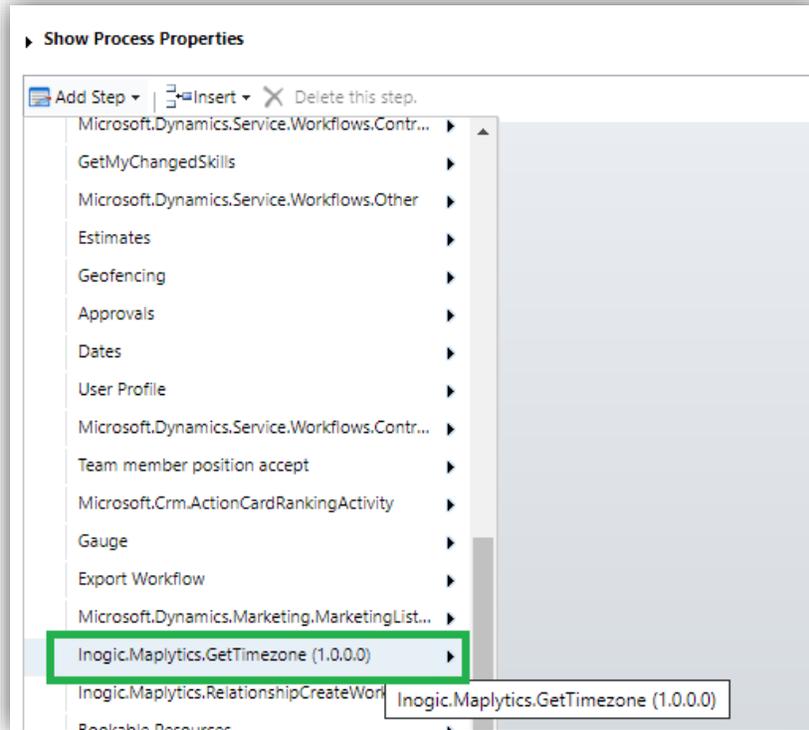
Select the fields that the process will monitor for changes.

<input type="checkbox"/>	Display Name ▲	Name	Type
<input type="checkbox"/>	Address 1: Shipping Method	address1_shippingmethod...	Option Set
<input checked="" type="checkbox"/>	Address 1: State/Province	address1_stateorprovince	Single Line of Text
<input checked="" type="checkbox"/>	Address 1: Street 1	address1_line1	Single Line of Text
<input checked="" type="checkbox"/>	Address 1: Street 2	address1_line2	Single Line of Text
<input checked="" type="checkbox"/>	Address 1: Street 3	address1_line3	Single Line of Text
<input type="checkbox"/>	Address 1: Telephone 2	address1_telephone2	Single Line of Text
<input type="checkbox"/>	Address 1: Telephone 3	address1_telephone3	Single Line of Text
<input type="checkbox"/>	Address 1: UPS Zone	address1_upszone	Single Line of Text
<input type="checkbox"/>	Address 1: UTC Offset	address1_utcoffset	Whole Number
<input checked="" type="checkbox"/>	Address 1: ZIP/Postal Code	address1_postalcode	Single Line of Text
<input type="checkbox"/>	Address 2	address2_composite	Multiple Lines of Text

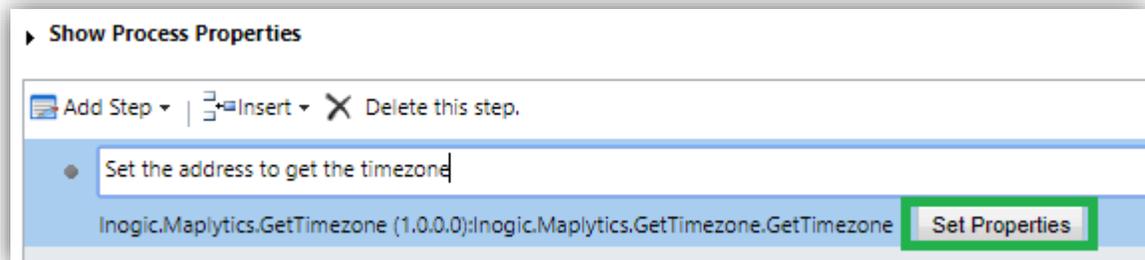
OK Cancel

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5. Select the *Inogic.Maplytics.GetTimezone* workflow assembly from the Add step menu.



6. Click on **'Set Properties'** and set the address parameter as shown in below screenshot for the workflow assembly.



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Process: Get Timezone Working on solution: Default Solution

Set Custom Step Input Properties

Property Name	Data Type	Required	Value
Street1	Single Line of Text	Optional	{Address 1: Street 1(Account)}
Street2	Single Line of Text	Optional	{Address 1: Street 2(Account)}
Street3	Single Line of Text	Optional	
City	Single Line of Text	Optional	{Address 1: City(Account)}
StateOrProvince	Single Line of Text	Optional	{Address 1: State/Province(Acc)}
County	Single Line of Text	Optional	
Country	Single Line of Text	Optional	{Address 1: Country/Region(Ac)}
Zip/PostalCode	Single Line of Text	Optional	{Address 1: ZIP/Postal Code(Ac)}

Form Assistant

Dynamic Values

Operator: Set to

Look for: Account

(Deprecated) Traversed Path

Add

Default value:

Here, user needs to specify the address fields on the basis of which user wants to get the time zone. After this user needs to set the time zone in field (string type). Please follow below steps for the same:

1. Choose 'Update Record' from 'Add Step' menu after selecting 'Set Properties' record and select same entity for which workflow is being created.
2. Click on 'Set Properties' of the new record and in the update window set the TimezoneName, TimezoneAbbreviation to the output parameters returned by the workflow assembly.

Once user finishes all the above steps and activates the workflow, user can run it on any record of the respective entity which has address data. This will provide set the time zone set for the record as shown below.

Configure Driving Instructions workflow

7. Go to Setting > Processes > Click on 'New' to design a new Workflow Process.
8. Write Process name, choose 'Workflow' under category section and select desired entity as shown below;

Create Process
Define a new process, or create one from an existing template. You can create four kinds of processes: business process flows, actions, dialogs, and workflows.

Process name: *

Category: * Entity: *

Run this workflow in the background (recommended)

Type: New blank process New process from an existing template (select from list):

Template Name ↑ Primary Entity

- Account
- Account Project Price List
- Actual Account
- Actual Data Export (Deprecated)
- Address
- Agreement
- Agreement Booking Date
- Agreement Booking Incident
- Agreement Booking Product

9. Select 'Organization' under 'Scope' dropdown. Select 'Record is created' and 'Record fields change' options as shown below;

Process: Inogic.Maplytics.GeoCoding Working on solution:

Information

General Administration Notes

Hide Process Properties

Process Name *

Activate As

Entity

Category

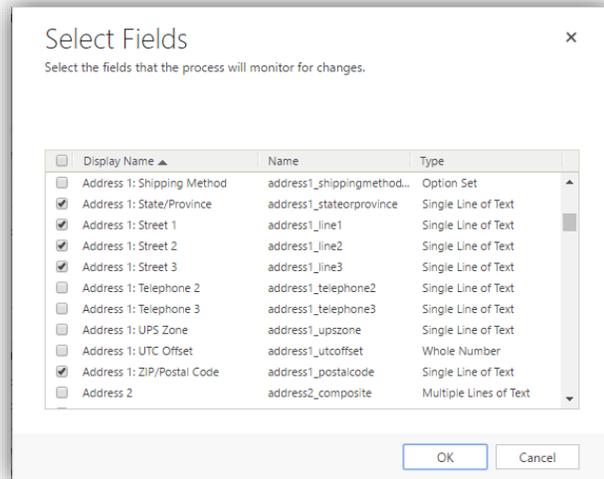
Options for Automatic Processes

Scope

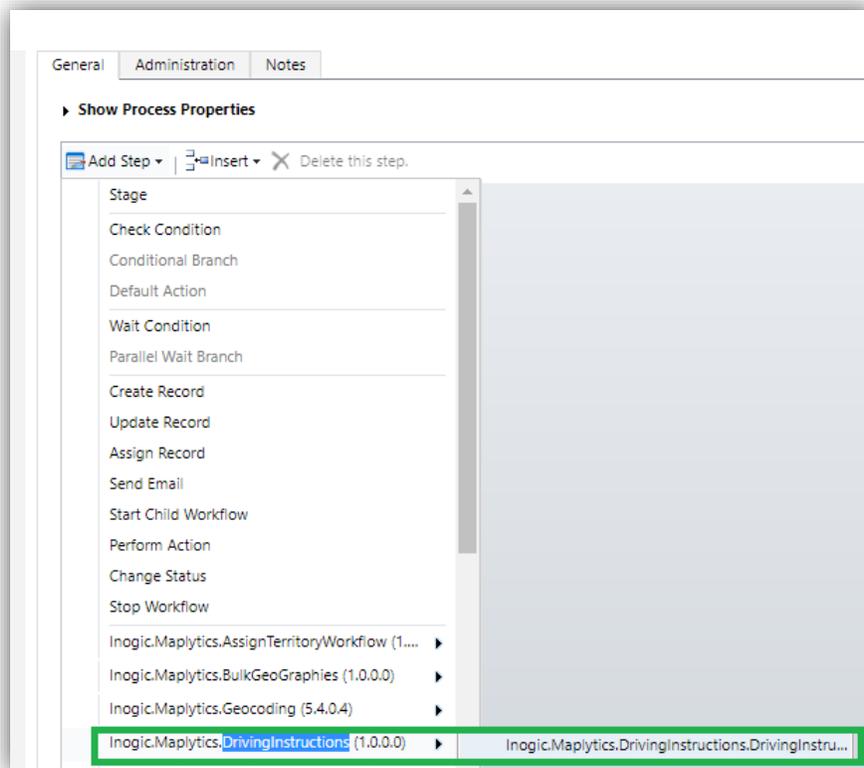
Start when: Record is created Record status changes Record is assigned Record fields change [View](#) Record is deleted

Maplytics™ – User Manual

10. For the 'Record fields Change' option, select all of the address fields to ensure the address is retrieved when any of the address fields is changed as shown below;

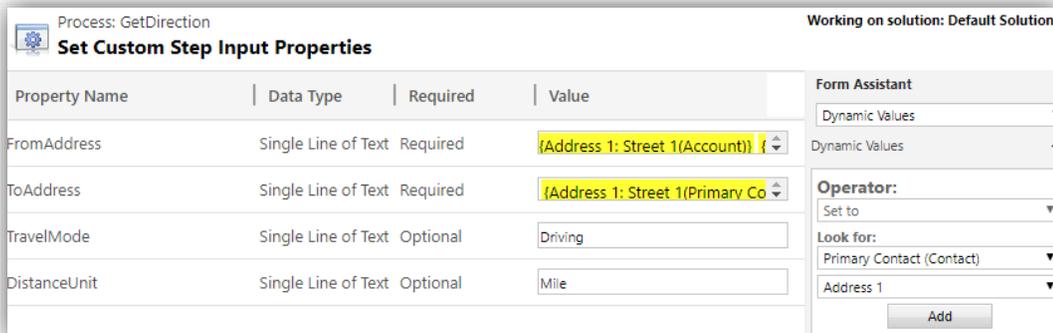
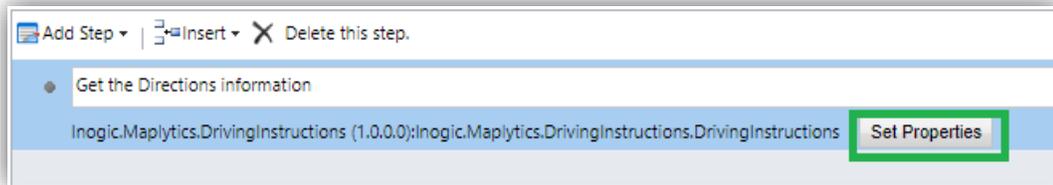


11. Select the **Inogic.Maplytics.DrivingInstructions** workflow assembly from the Add step menu as shown below;



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- Click on **'Set Properties'** and set the address parameter as shown in below screenshot for the workflow assembly;



The screenshot shows the 'Set Custom Step Input Properties' dialog box for the 'GetDirection' process. The dialog is titled 'Set Custom Step Input Properties' and is working on the 'Default Solution'. It contains a table with the following columns: Property Name, Data Type, Required, and Value. The 'Form Assistant' panel on the right shows 'Dynamic Values' and 'Operator' sections.

Property Name	Data Type	Required	Value
FromAddress	Single Line of Text	Required	{Address 1: Street 1(Account)}
ToAddress	Single Line of Text	Required	{Address 1: Street 1(Primary Co}
TravelMode	Single Line of Text	Optional	Driving
DistanceUnit	Single Line of Text	Optional	Mile

Form Assistant

Dynamic Values

Dynamic Values

Operator:

Set to

Look for:

Primary Contact (Contact)

Address 1

Add

In **'FromAddress'**: Select the address fields of the entity that you want the direction **'From'**. Select the all address field i.e. Street1, Street2, and City etc. and ensure sure you keep space between two fields.
{Address 1: Street 1(Account)} {Address 1: Street 2(Account)} {Address 1: City(Account)} {Address 1: State/Province(Account)}

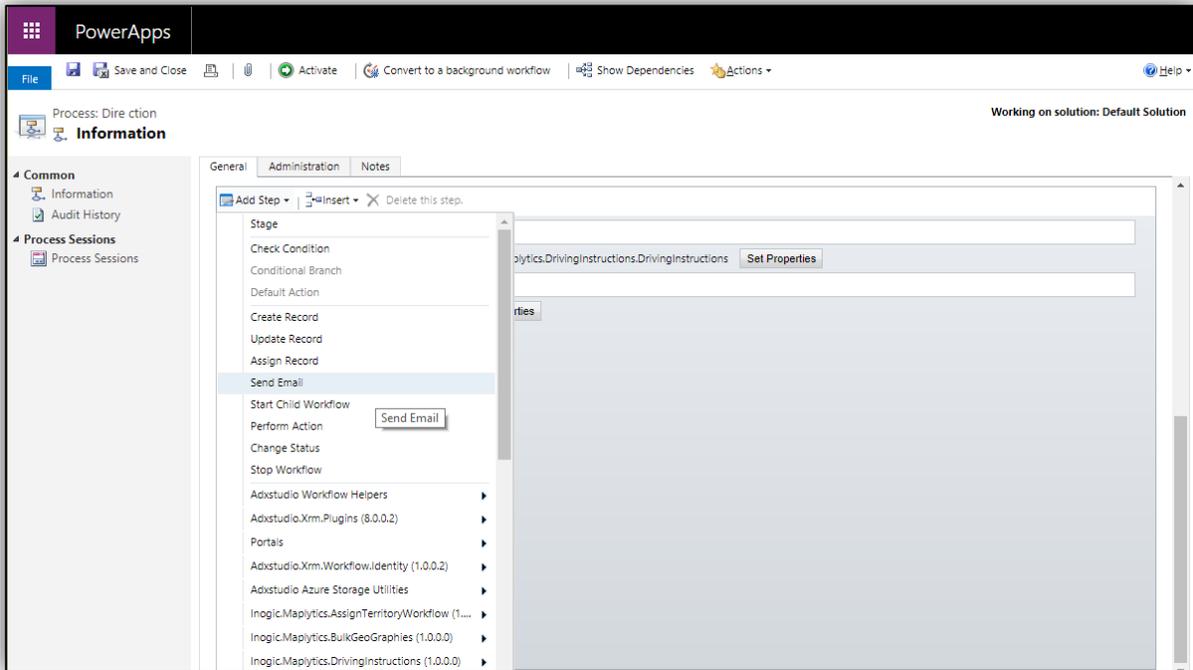
In **ToAddress**: Select the address fields of the entity that you want the directions **'To'**. Select the all address field i.e. Street1, Street2, and City etc. and ensure to keep space between two fields.

Travel Mode: Select the Travel mode. For example (Driving, Walking, Transit). If you do not specify the Travel mode then it will take Driving mode by default.

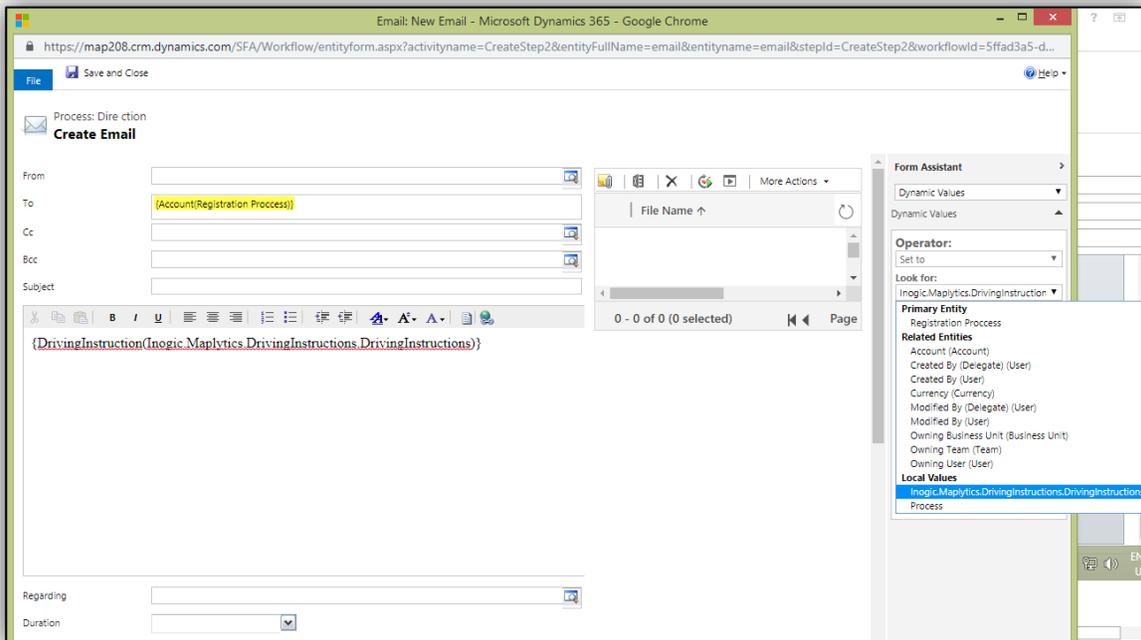
Distance Unit: Select the Distance unit. For example (Mile or mi, Kilometer or km). If you do not specify the unit then it will take Kilometer as default unit.

- Click on add step -> Send Email -> Click on set property

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Click on Email body -> Select Look for -> local value "inogic.Maplytics.DrivingInstructions.DrivingInstruction"



Select DrivingInstruction for plan text or DrivingInstructionHTML for html page. Click on save and close.

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14. The driving instructions will be returned both in HTML and Plain Text format as an output parameter to this workflow. User can use either of them. For example we have used HTML formatted direction instruction in Email here.

From Address: 1 NW 50th Ln Ocala FL 34482 USA	
To Address: 4350 US-98 Frostproof FL 33843 USA	
Total Travel Distance: 208.45 miles	
Total Travel Duration: 3 hrs 25 min	
Instruction	Distance
Depart NW 50th Ln toward NW 115th Ave	0.707
Turn right onto NW 115th Ave	0.613
Turn right onto NW Highway 464B / CR-464B	1.692
Keep straight onto NW 110th Ave	0.127
Turn right onto US-27 S / SR-500 S	11.539
Take ramp right for I-75 South toward Tampa	40.409
At exit 328, take ramp left for Florida's Turnpike South toward Orlando / Turnpike	30.912
At exit 289, take ramp right for US-27 toward Cleremont / Taveres	70.493
Turn left onto W Main St / CR-17	2.715
Turn right onto 10th St N	0.163
Road name changes to US-27 ALT / SR-17 / 10th St S	9.455
Turn left to stay on US-27 ALT / SR-17 / E Main St	18.945
At roundabout, take 2nd exit	16.91
Bear right onto McLeod Rd	0.353
Keep straight onto N Palm Ave	1.992
Turn left onto W 1st St	0.202
Arrive at Frostproof, FL	0

Maplytics Batch Processing Tool

The workflows for Geocoding and Territory Assignment designed can be used on a day-to-day basis for addresses that are changed or added occasionally. However, for bulk geocoding/territory assignment on data, we recommend using the Batch Processing tool. This tool ensures that the bulk geocoding on records is handled in single batch. While in the territory assignment, this tool helps to assign the respective territories to all the selected records based on their Latitude and Longitude values.

Note: To run this tool, the user needs to make sure that machine has Microsoft .net framework 4.0 and Maplytics installed in Dynamics CRM.

To run the tool, Extract the Batch Processing tool .zip file and run the **BatchProcessingTool** application.

Name	Type	Compressed size
 BatchProcessingTool	Application	104 KB
 BatchProcessingTool.exe	XML Configuration File	1 KB
 Microsoft.Crm.Sdk.Proxy.dll	Application extension	58 KB
 Microsoft.IdentityModel.dll	Application extension	360 KB
 Microsoft.Xrm.Sdk.dll	Application extension	146 KB

Executing Batch Processing Tool:

Connection Details:

Please enter the CRM details on this screen. The users have to enter the following details:

Deployment model: The user can select either of the options given in below screenshot depending on their deployment.

CRM Server: Please enter the serverurl of CRM. For example, ***http://<servername>:<port>*** or ***https://<orgname>.crm.dynamics.com***

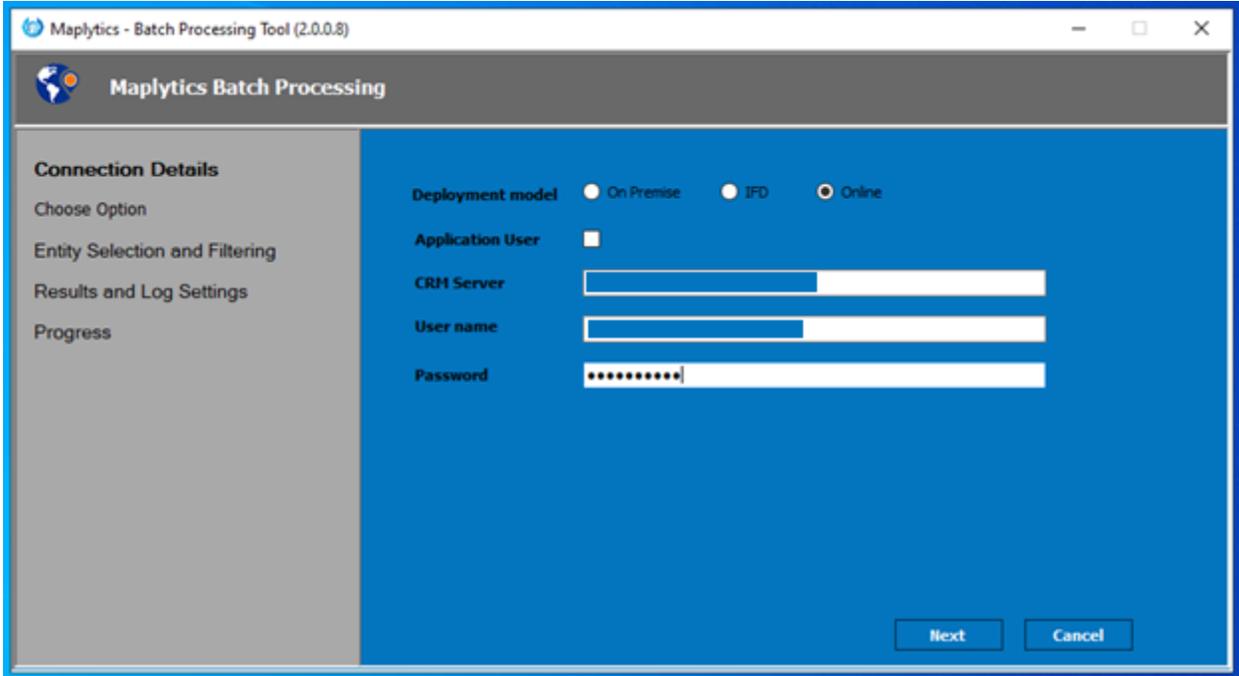
Organization: If the deployment model is '**OnPremise**' then the user has to specify the organization name. For other deployment models leave this blank.

When the user enters the server URL in case of On-Premise deployment model, the organization list will be auto-populated with the organizations available in CRM. Select the organization for which Maplytics is to be or already has been installed.

Username: Username of a valid CRM user. For example: ***mollyc@CRM166504.onmicrosoft.com***
In case of On-Premise deployment model, the organization list will be auto-populated with the organizations available in CRM. Select the organization for which Maplytics is to be or already has been installed.

Password: Password of CRM user.

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Maplytics - Batch Processing Tool (2.0.0.8)

Maplytics Batch Processing

Connection Details

Choose Option

Entity Selection and Filtering

Results and Log Settings

Progress

Deployment model On Premise IFD Online

Application User

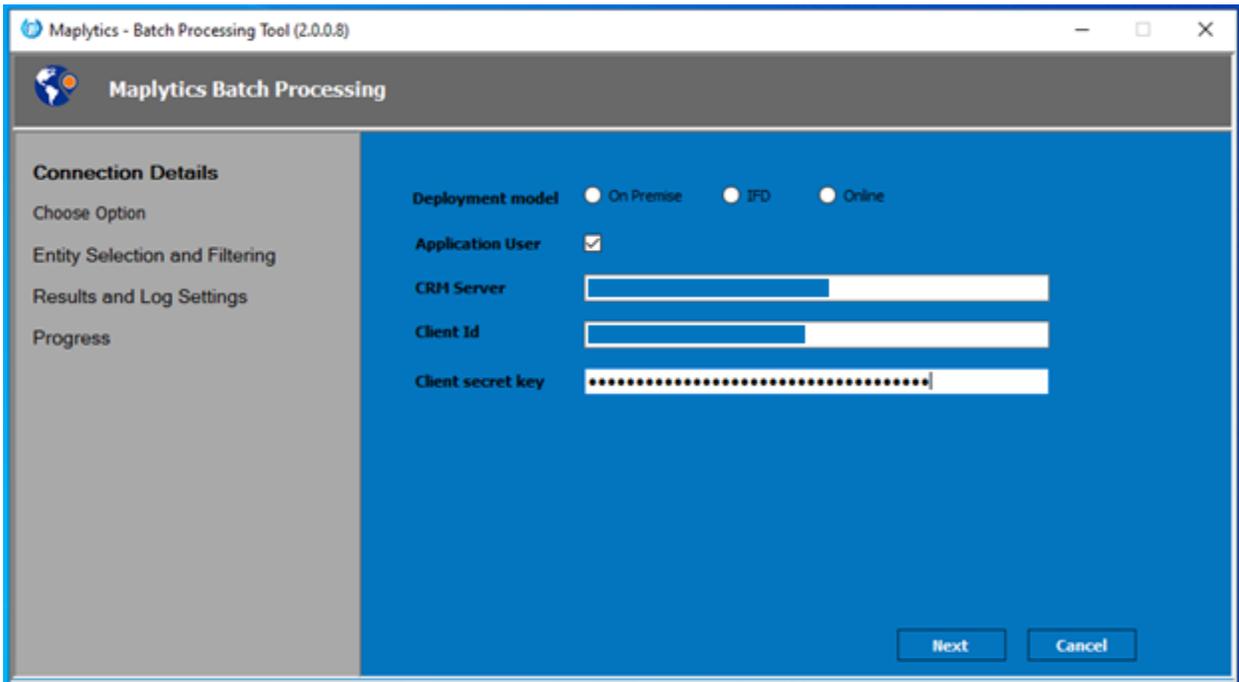
CRM Server

User name

Password

Next Cancel

User can also use their Client Id and Client secret key to log in for their respective CRM using Application user.



Maplytics - Batch Processing Tool (2.0.0.8)

Maplytics Batch Processing

Connection Details

Choose Option

Entity Selection and Filtering

Results and Log Settings

Progress

Deployment model On Premise IFD Online

Application User

CRM Server

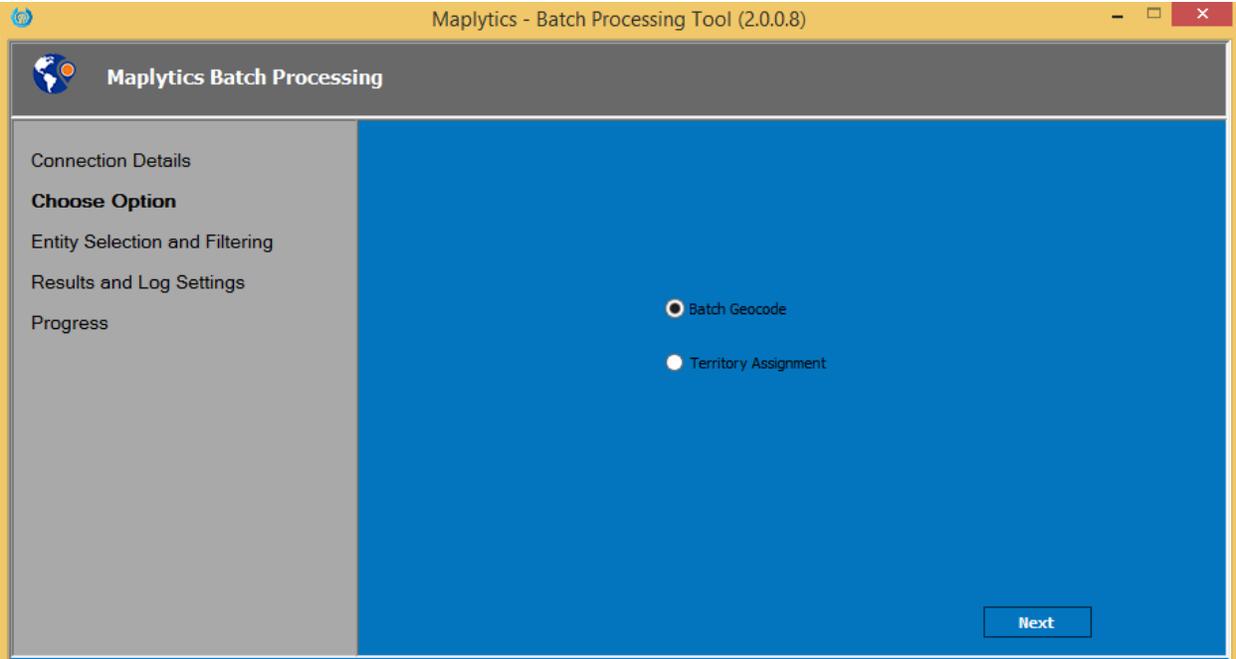
Client Id

Client secret key

Next Cancel

Choose Option: Here, the user can make selection whether they would like to run this tool for Geocoding (Batch Geocode) or Territory Assignment. In this example, we have chosen Batch Geocode as shown below:

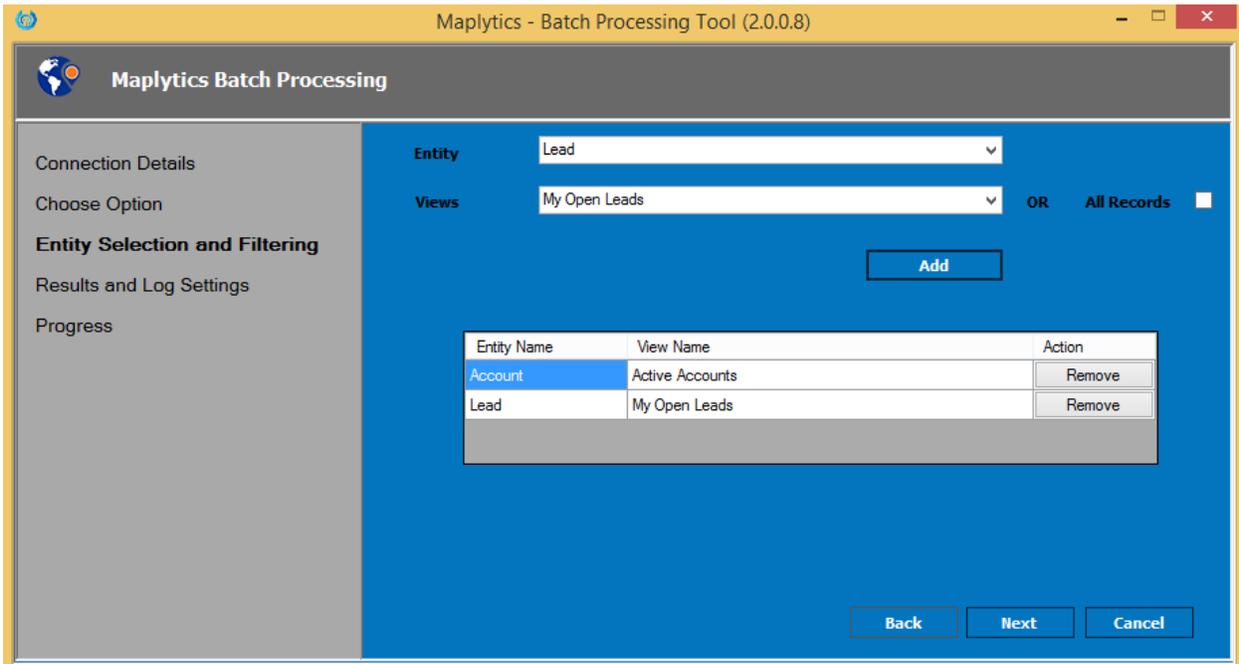
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Entity Selection and Filtering:

Please find the details of the same below:

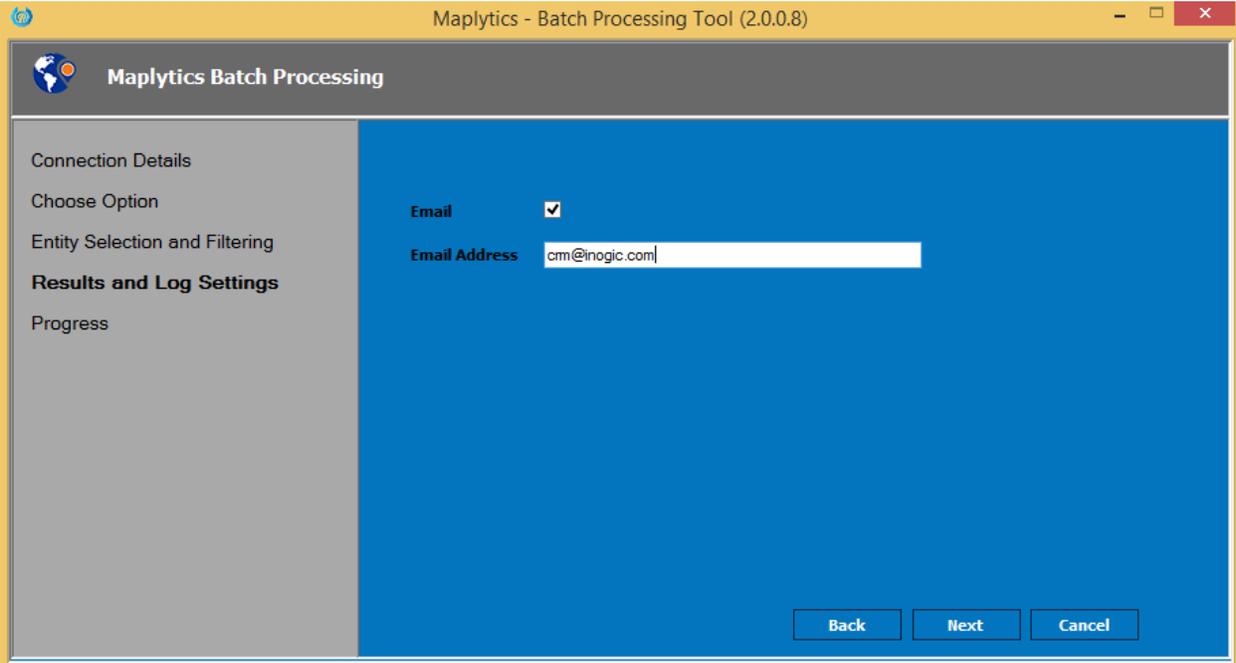
- **Entity:** Select the entities on which the user would like to run this tool.
- **Views:** Once the user selects the entity, all the views defined for this entity are populated in the list of views. Select the required view.



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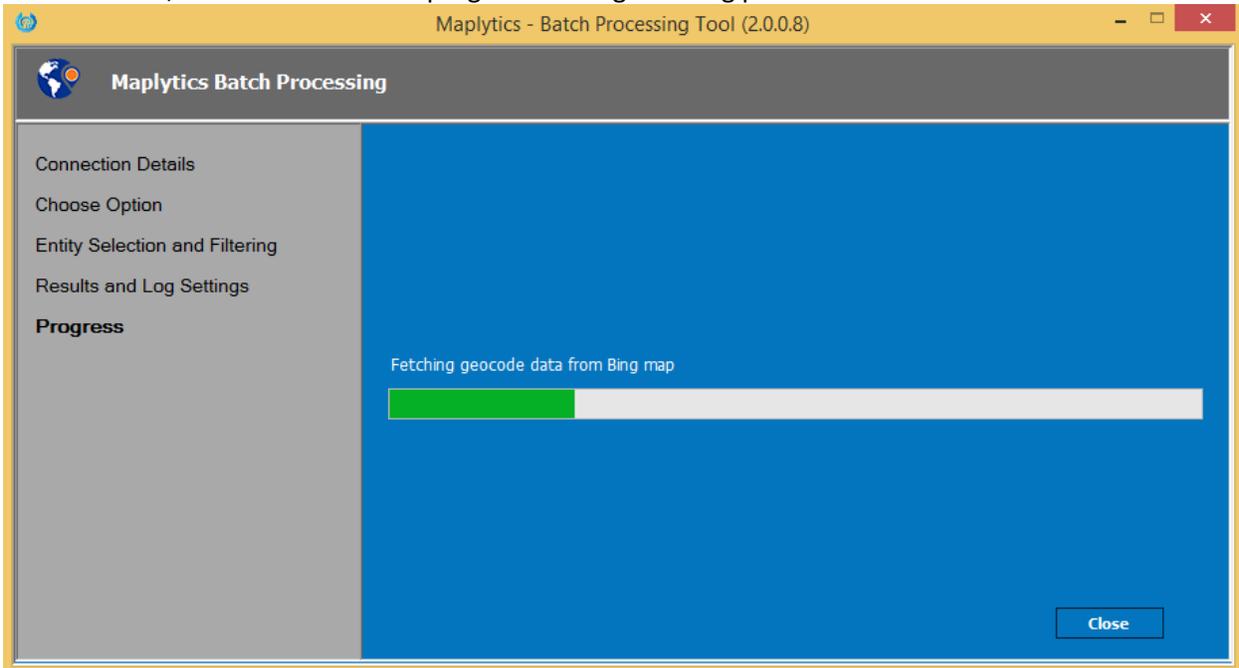
Results and Log Settings:

Since this is executed as a batch process in the background, enter the email address, if the users would like the job results to be mailed to them.



Progress :

In this section, the user can see the progress of the geocoding process.



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Record Summary:

Geocoding:

Bing Status: This shows the number of the records for which the geocoding from Bing maps were successful or failed.

CRM Status: This shows the number of the records for which the updation of geocoordinates (Latitude & Longitude) to the respective CRM records were successful or failed.

After completing the geocoding process, the user can download the results. The results will be downloaded in CSV format. User can check the columns of CRMDescription and BingDescription in the result to check the reason for failure of processes on the records.

Maplytics - Batch Processing Tool (2.0.0.8)

Maplytics Batch Processing

Connection Details
Choose Option
Entity Selection and Filtering
Results and Log Settings
Progress

Records Summary

Total processed records: 2088

Bing Status

Succeeded: 2088 Failed: 0

Entity	View Name	Succeeded	Failed
Account	Active Accounts	1044	0
Lead	My Open Leads	1044	0

CRM Status

Succeeded: 2088 Failed: 0

Entity	View Name	Succeeded	Failed
Account	Active Accounts	1044	0
Lead	My Open Leads	1044	0

[Go to Home](#) [Download the results](#) [Finish](#)

Maplytics™ – User Manual

Territory assignment:

CRM Status: This shows the number of the records for which the updation of Territories for the respective CRM records were successful or failed.

Entity	View Name	Succeeded	Failed
Lead	My Open Leads	1088	0
Account	Active Accounts	1088	0

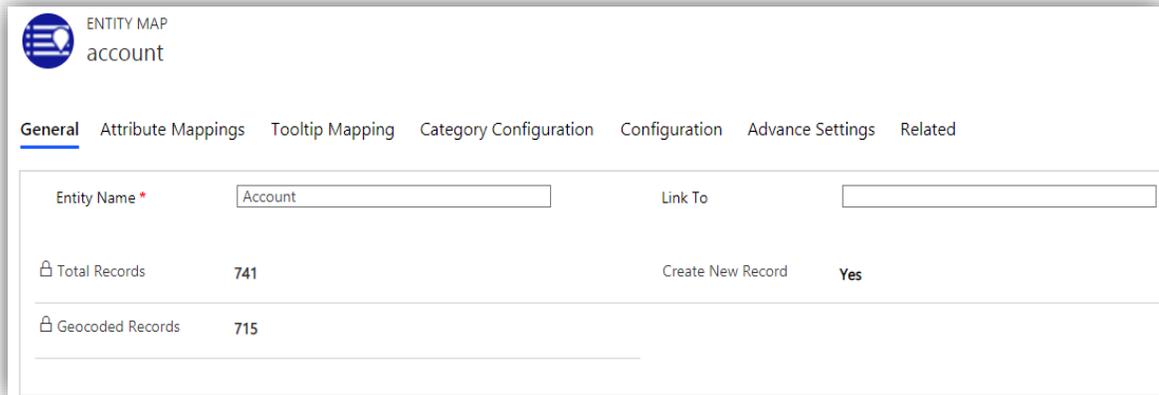
Note:

1. If a user selects 'All records' for an entity, then a view for that entity cannot be selected.
2. A user cannot select an entity with a same view twice.
3. If the user adds an entity with a view and then selects 'All Records' for the same entity, it will remove all the views selected for that entity with the user's permission.
4. All of the above instructions apply for running Batch processing tool for Territory Assignment.

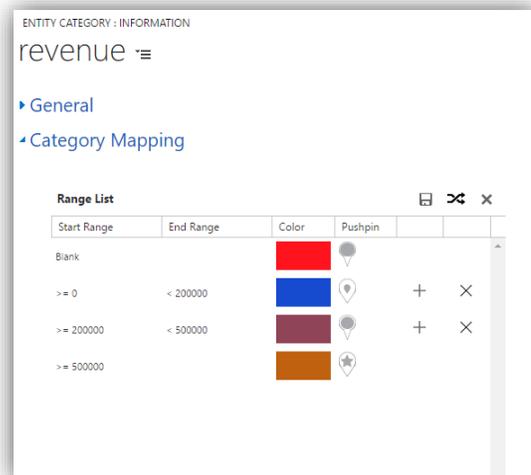
Pre-defined colors for Categories

The users now have the ability to define colors for the categories of the plotted records. To define the color of the category attribute, the users have to follow the below steps:

- Go to **Settings > Entity Maps** and select the entity map of the entity for which the user needs to define the color.

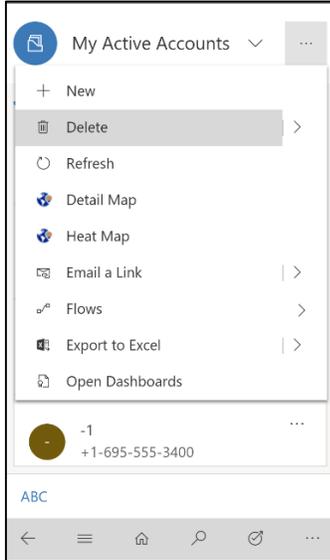


- Click on the plus (+) icon of the Category Configuration subgrid to open the new Entity Category form. Select the name of the category attribute in the Category text box and save the form.
- The user can select only OptionSet, Two options, Numeric, String, Lookup and Money attributes to define category colors.
- Colors and shapes will be auto-populated, the user can set their own preference.
- The user can click on the  AutoSet button to set random colors as well as shapes for all the values, or the user can click on the Discard button to cancel the changes.

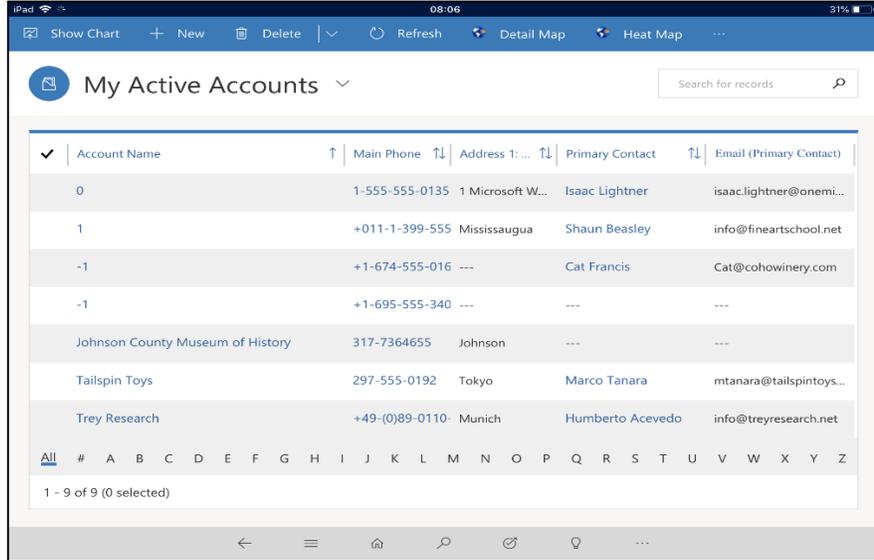


Maplytics – Tablet / Mobile

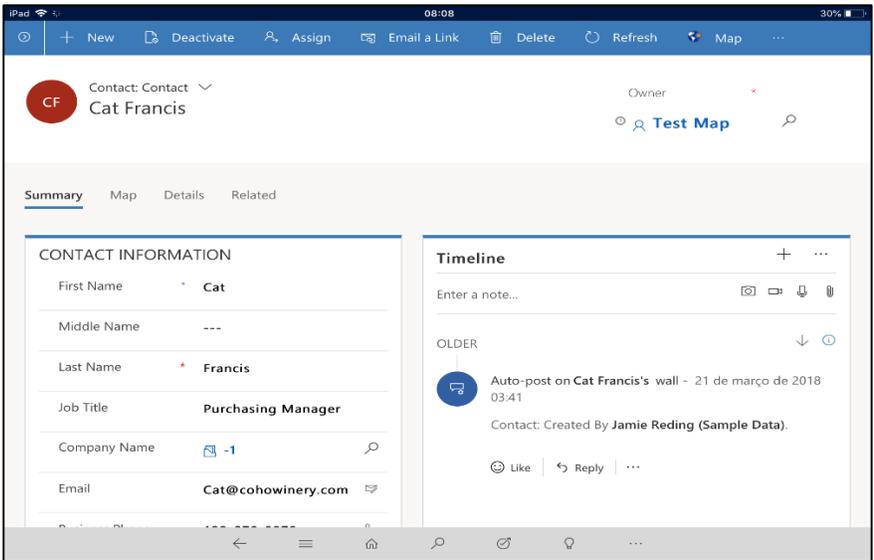
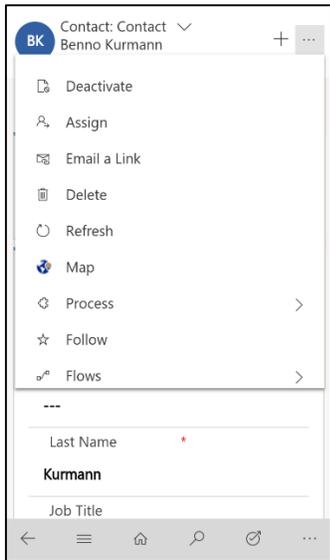
For Dynamics 365 v9.x, Maplytics can be accessed from the Entity homepage and entity form using the 'Detail Map', 'Heat Map' and 'Map' button respectively.



Mobile

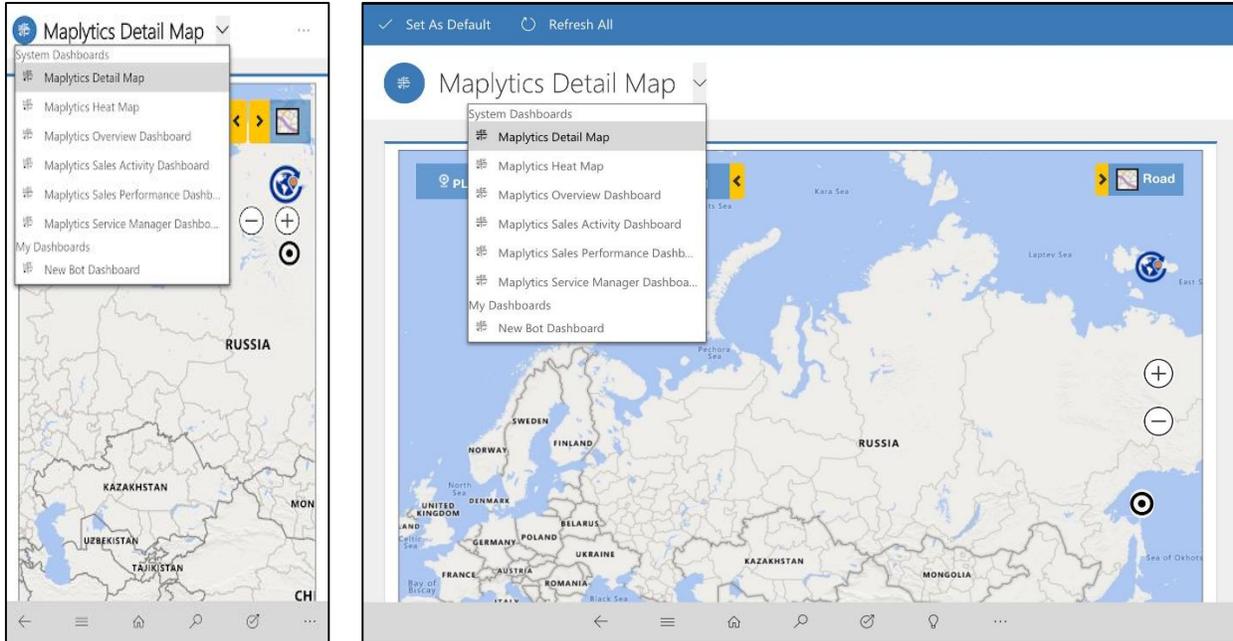


Tablet



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Maplytics can also be accessed from the Dynamics 365 App for Phones and Tablets (both on Dynamics 365 v8.2 and v9.x) using a dashboard for detail map. To open Detail map; **Go to Dashboard > Maplytics Detail Map** as shown below:



Detail Map: The Detail map consists of the following components.

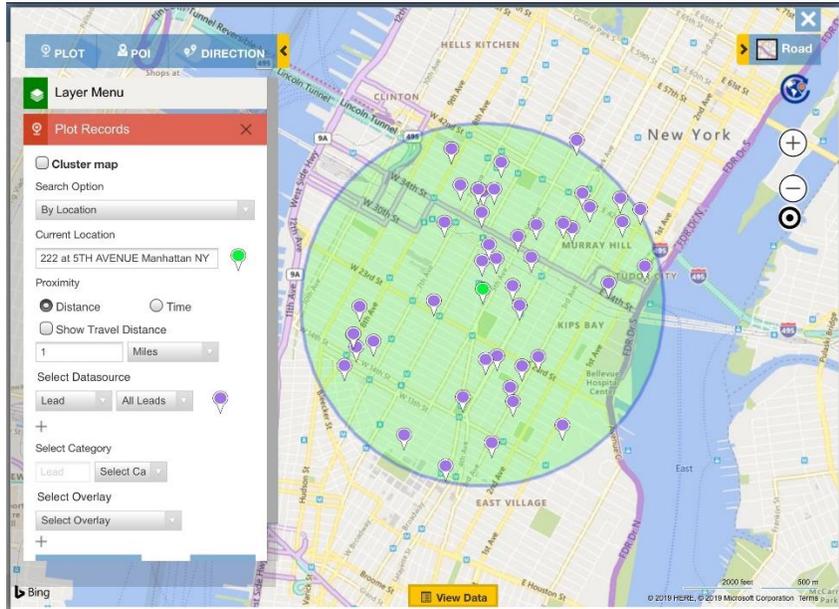
Plot: There are five ways to plot the data on Map, similar to the Detail Map on browser;

- By Location
- By Region
- By Drawing
- By Territory
- By Template

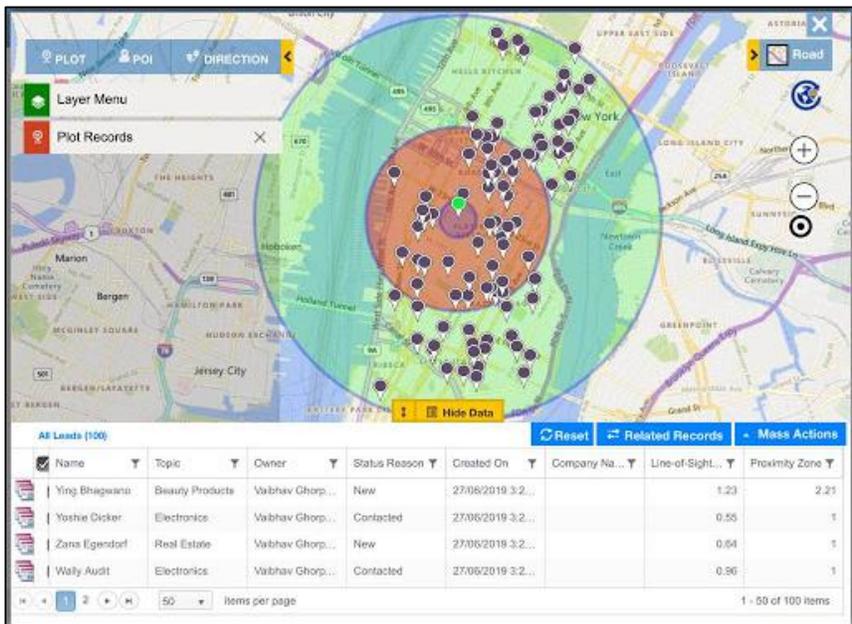
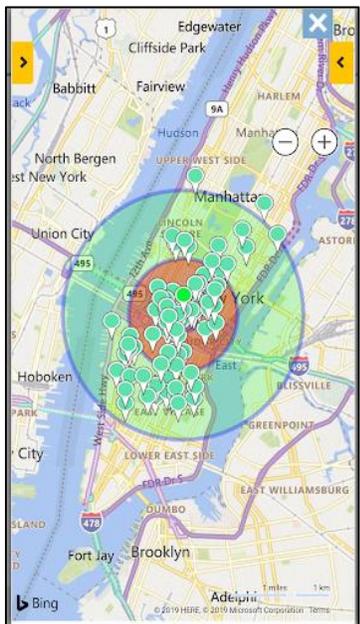
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Proximity:

Enter the radius for the proximity search. The Proximity can be provided in either Miles or Kilometers.



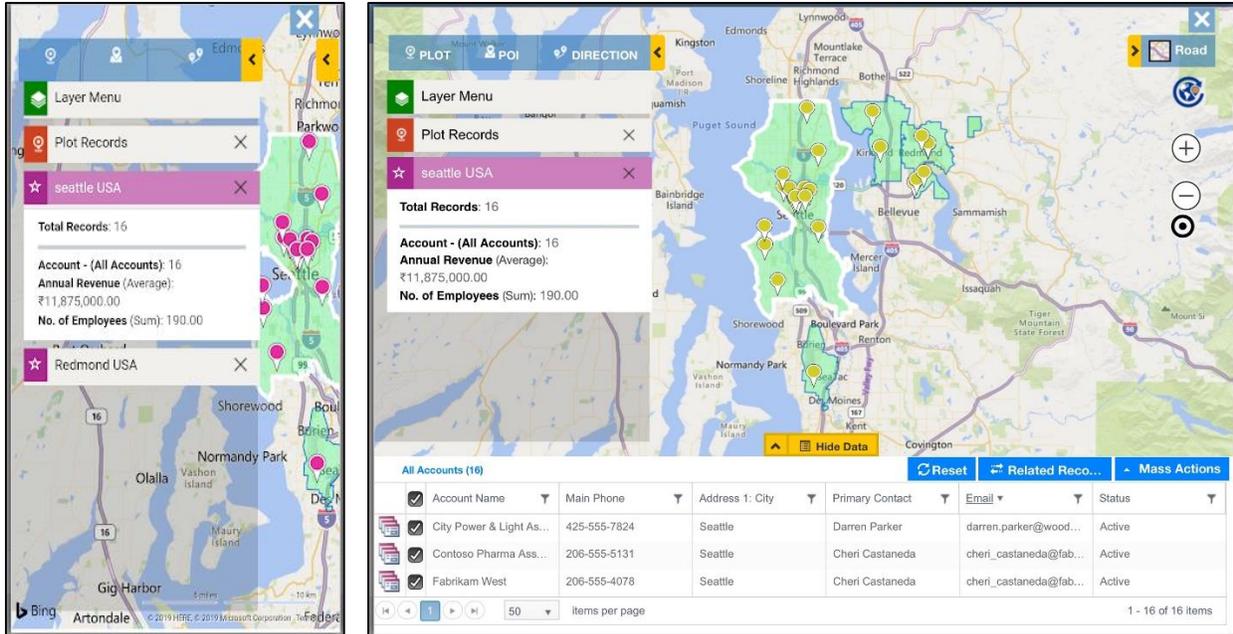
Concentric Proximity Search:



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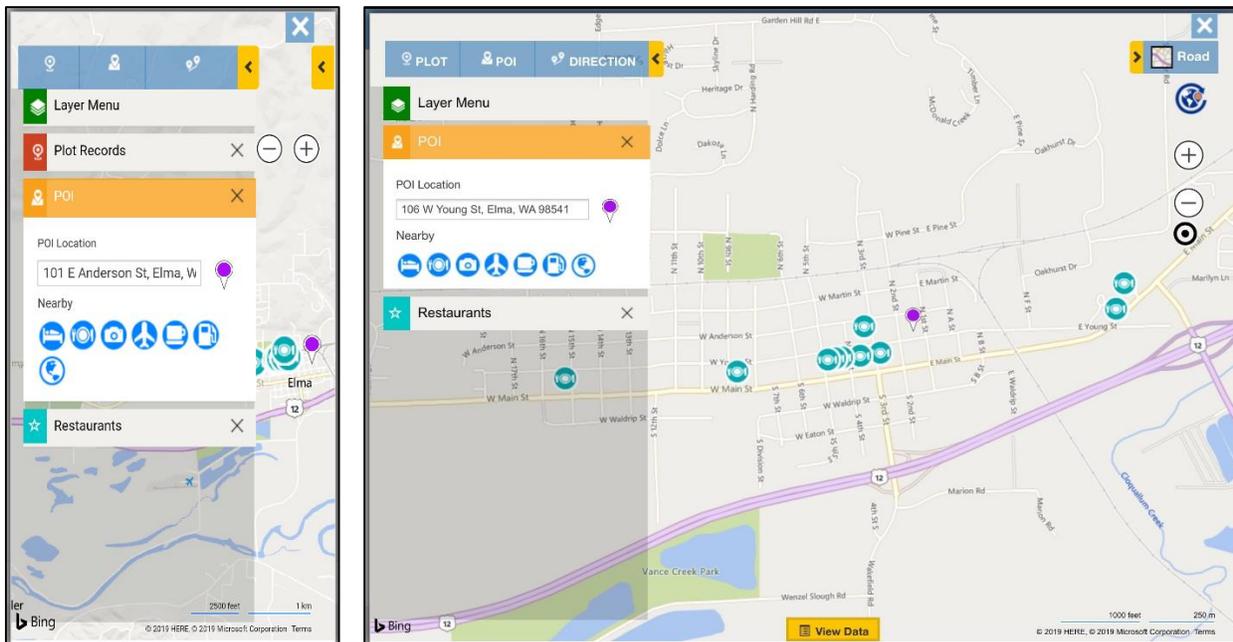
Summary Card:

Now users can also get the aggregated information for a particular closed shape on the map with Summary Card.

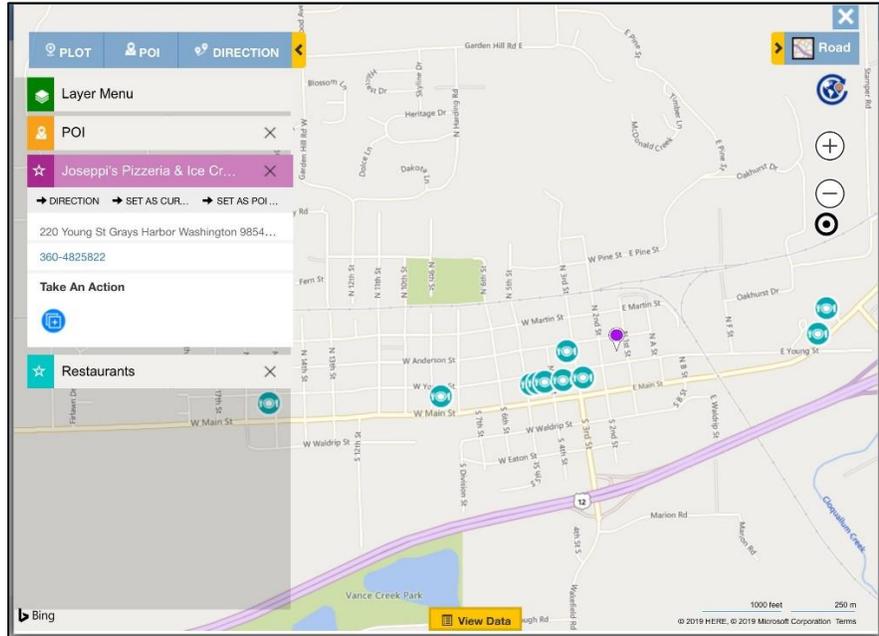
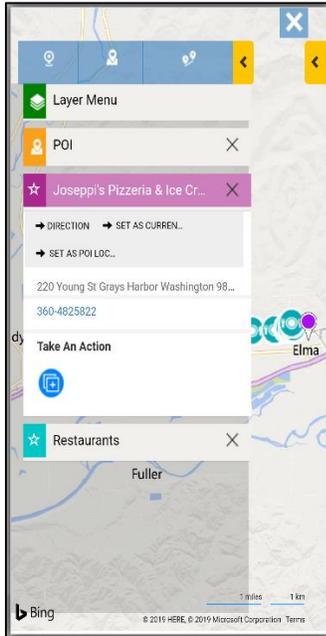


Search POI:

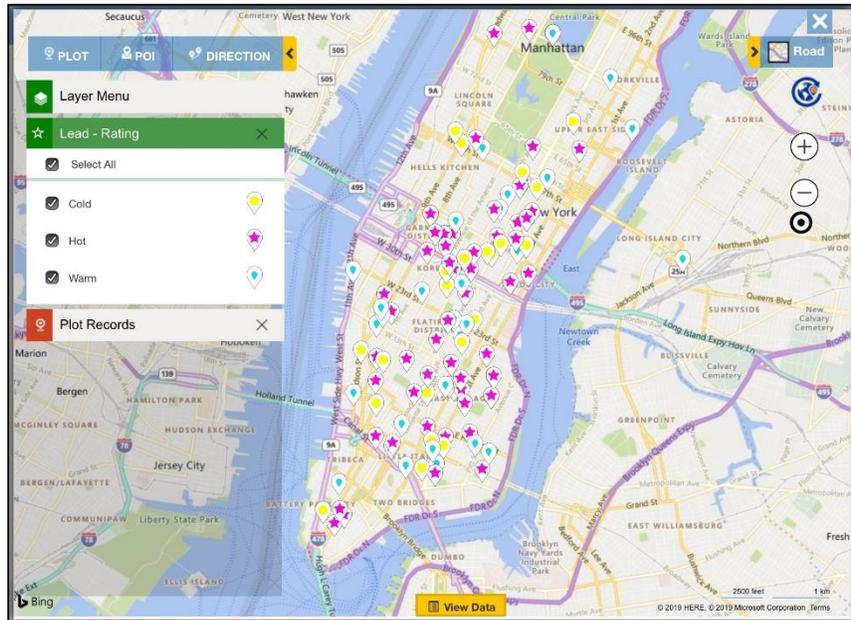
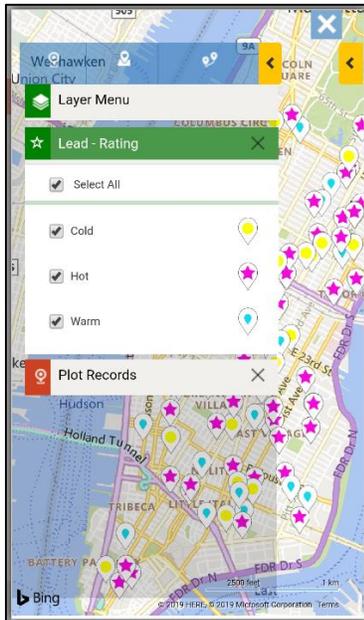
Ability to search for any Points of Interest (POI) like ATMs, restaurants, hotels, coffee shops, etc. in the vicinity. This will be plotted alongside the CRM data.



Maplytics™ – User Manual



Category Filter: User can categorize the data on the basis of an attribute of the Entity



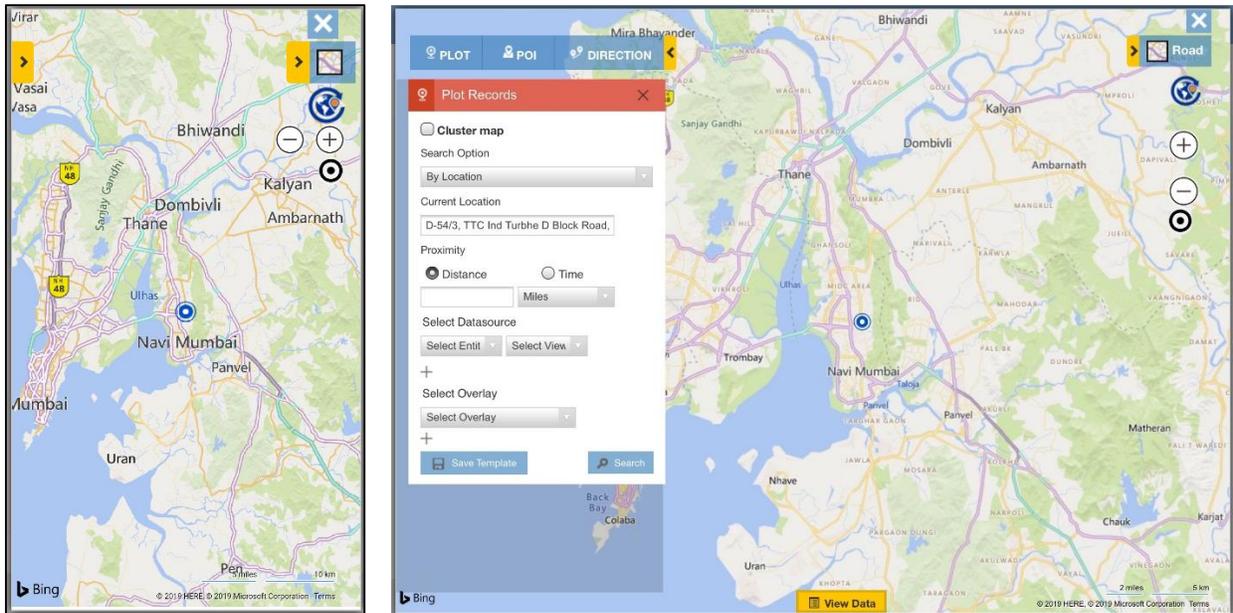
Maplytics™ – User Manual

Current Location:

This is used in combination with Proximity to specify the center point for the proximity search. By default, this field displays the address stored in the Maplytics Personalized record of the logged in user.

Set GPS Location as the current location:

The user can also locate the GPS location of phone/tablet devices using  button.



GPS location is represented by 'Blue' circle on the map. It will automatically update the user's current location, making it easier to perform proximity (Near-Me) searches.

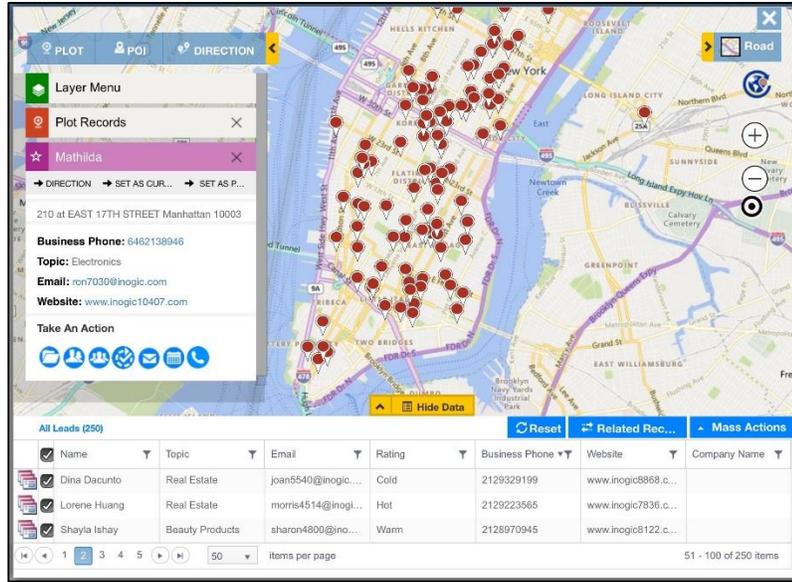
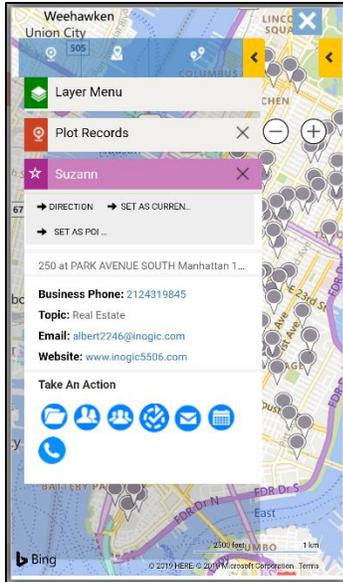
Note: Please ensure the following points for the GPS functionality to work:

- **Provide 'Location' permission to Dynamics 365 App in phone / tablet device**
- **GPS location is turned ON of respective devices**
- **'User Content and Location' is tuned ON in Dynamics 365 App**

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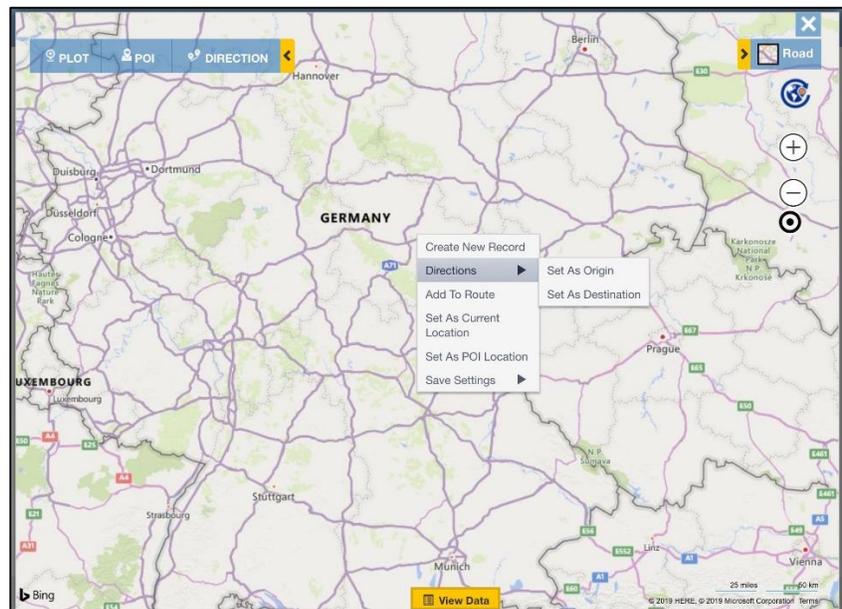
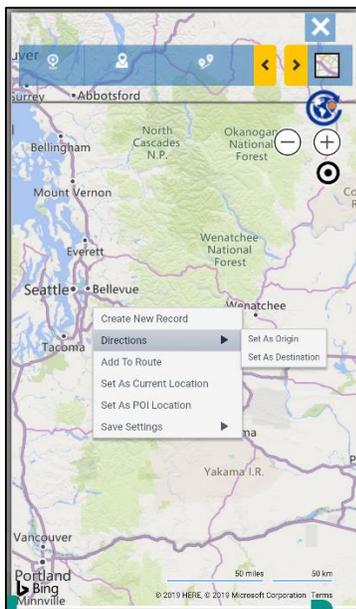
Tooltip:

Every Pushpin will display the record name, address, as well as the contextual data defined in the tooltip section of the Maplytics Configuration. The user can open the record, change owner and run workflow using the available quick actions button.



Contextual Menu:

To get a contextual menu on the map, long press anywhere on the map. Pushpin Contextual menu provides the following additional options. These option provides commonly used features in Maplytics like Set as Current Location, Origin, and Adding to Route, etc.



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Set As Origin:

Selecting this option will set the address of the pushpin as the start location of the route.

Set As Destination:

Selecting this option will set the address of the pushpin as the end location of the route.

Add to Route:

This option will set the address of the pushpin as a middle waypoint of the selected route. For example, if the users already have Point A and Point B selected as their route, and click on the **Add To Route** option, then the Point B will become Point C, and the address of the selected pushpin will become the Point B of their route.

Set As Current Location:

This option is used to set the address of the pushpin as the current location, which can be used for proximity search. For example, if the user wants to plot all the leads that are within a radius of 100 miles from a particular record then the user can click on the **Set As Current Location** option to set the address as the current location and then the user can plot the records around this location.

This option also removes the additional step to type the current location manually for the proximity search.

Set As POI Location:

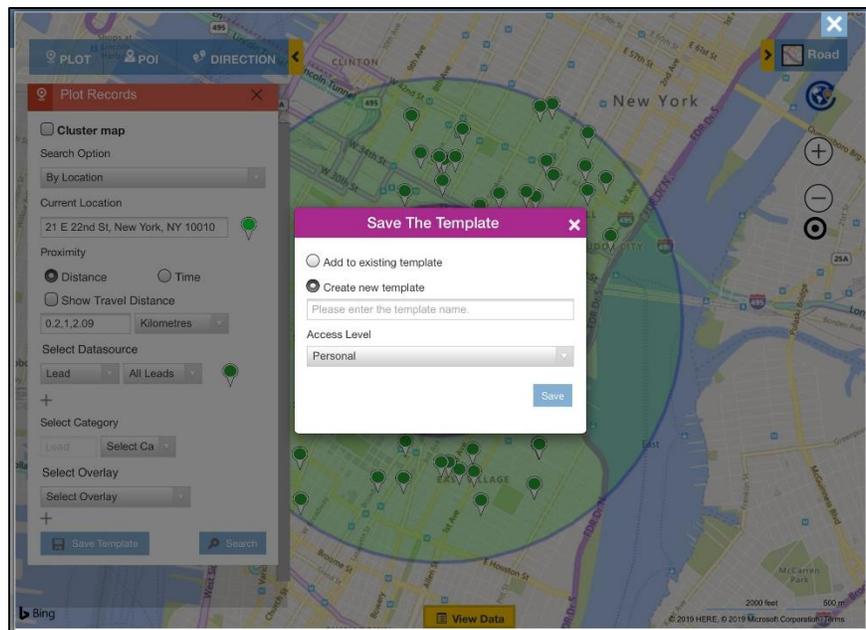
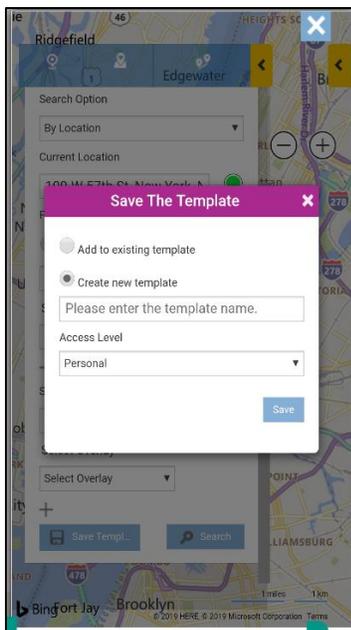
This option helps the user to set the center point for the Point of Interest (POI) searches like ATMs, restaurants, Airports, etc. Once this location is set as the POI location, the user can search for different POI around this location.

Manage Territory:

The user can manage the territory, i.e., assign/re-assign territory from the map using this option.

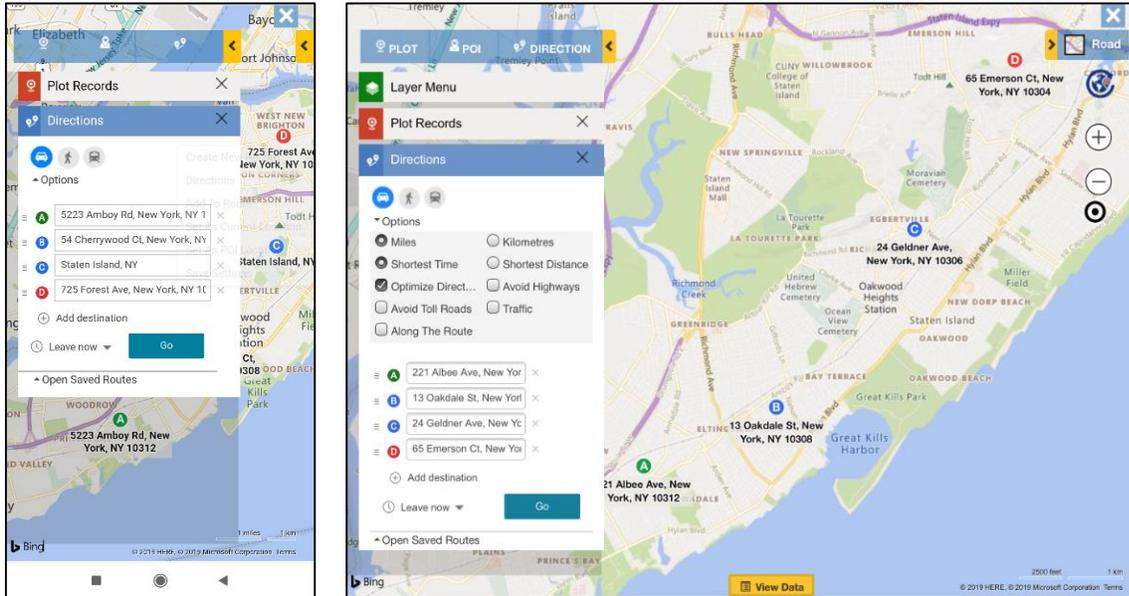
Save Template:

User can save the plotted search criteria as a template, so as to open the template directly instead of searching on the map again.

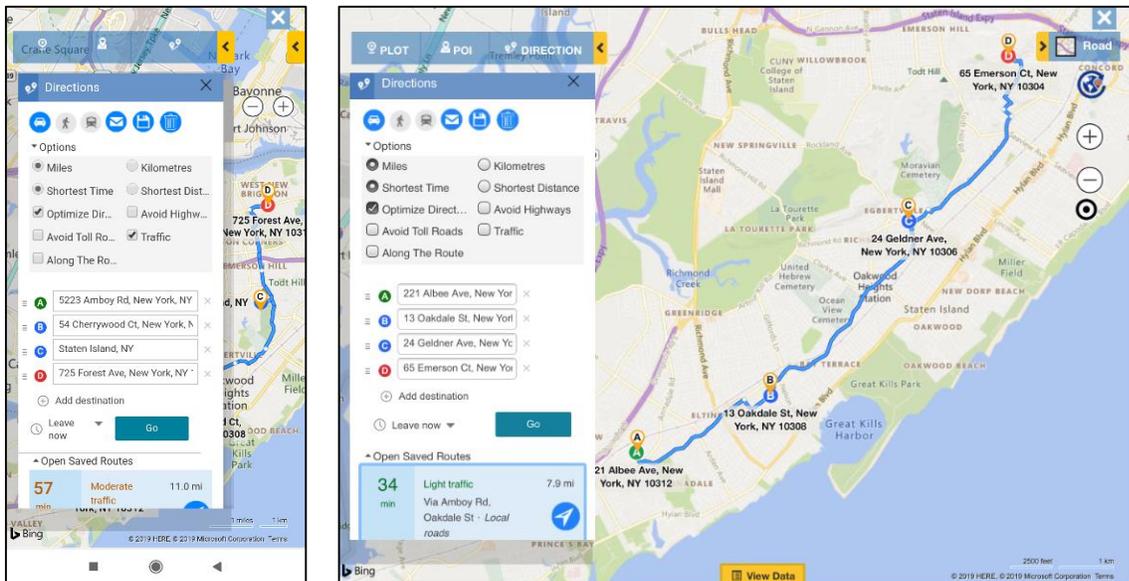


Routing – Tablet / Mobile

Another essential feature of Maplytics is Routing across multiple waypoints. Using the Contextual Menu options explained above, the users can add multiple waypoints to their journey. At given point in time, the users can add **maximum 25 waypoints in direction**.



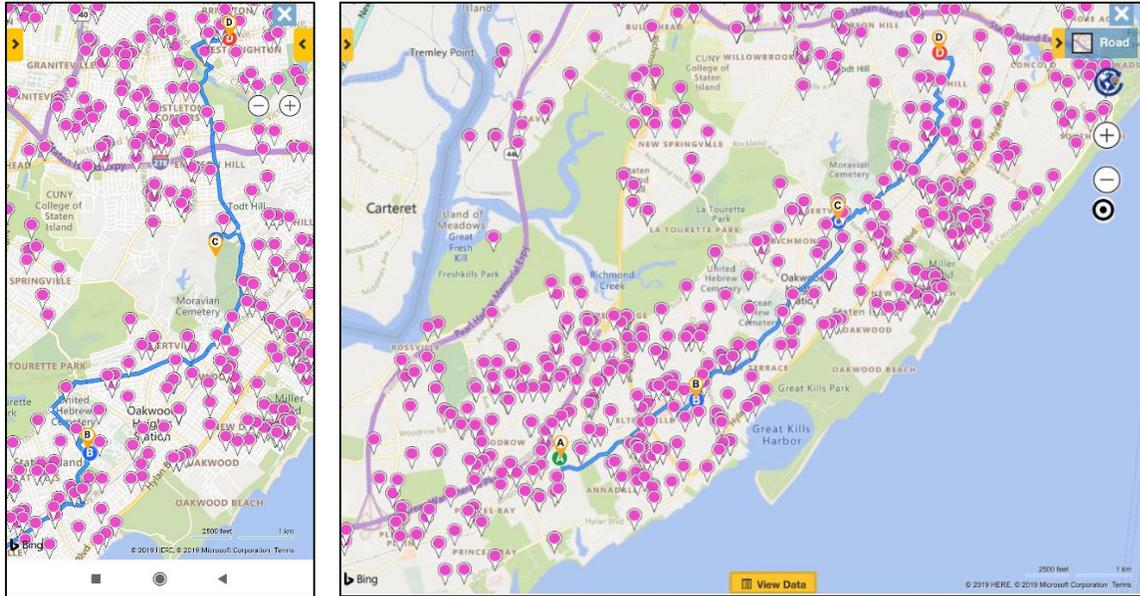
Once multiple waypoints have been added, click on **Go** button to bring up the Routing Screen shown below.



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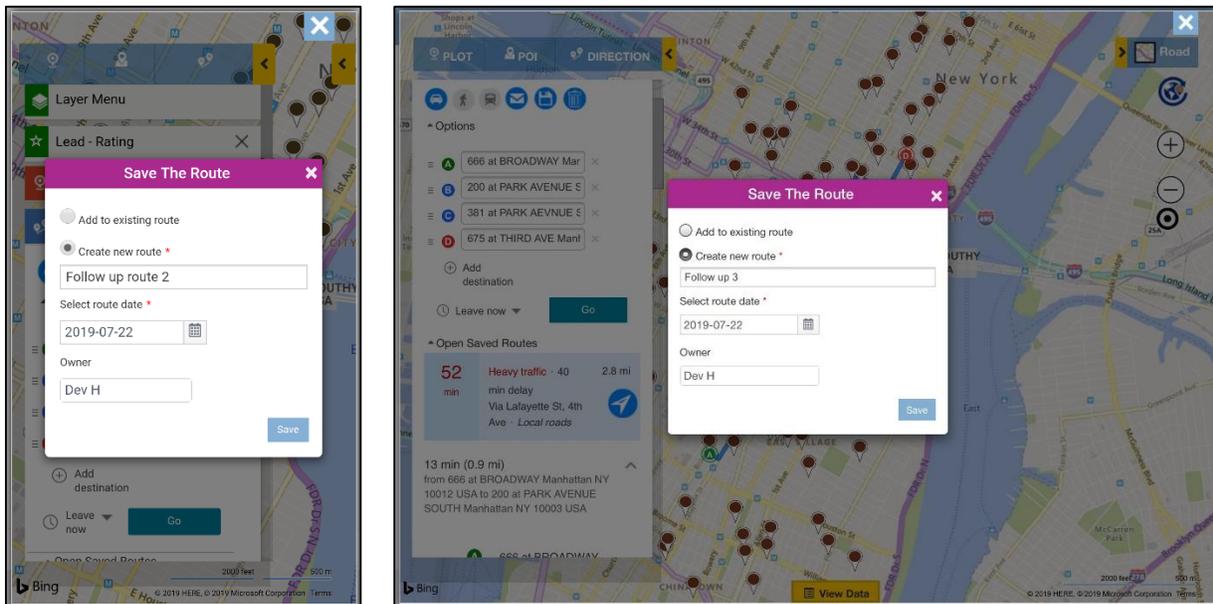
Merged Route and Plot View:

When the user plots the data and then creates a route, both the plotted data and the route will stay on the map. This makes it easy for the user to add more waypoints to the route without switching between Plot and Directions card. The route can be cleared using the 'Clear Route' button.

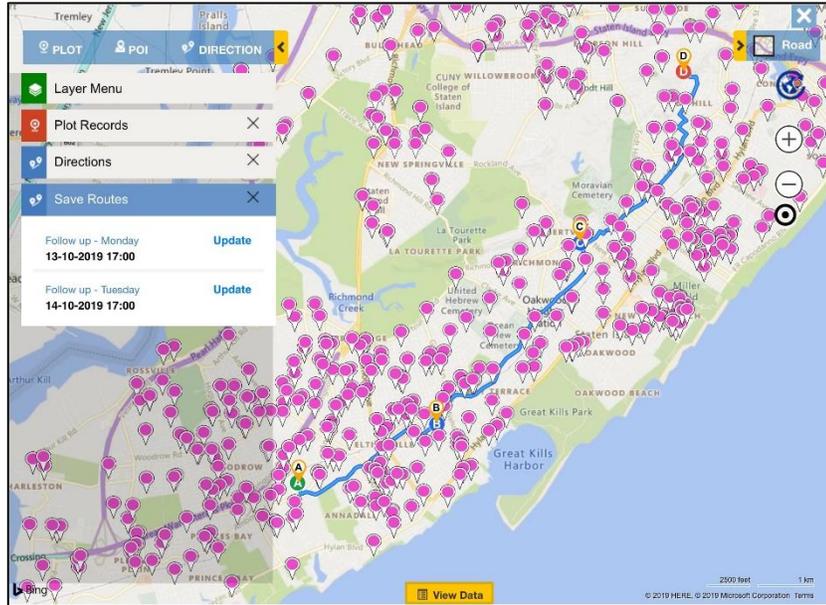
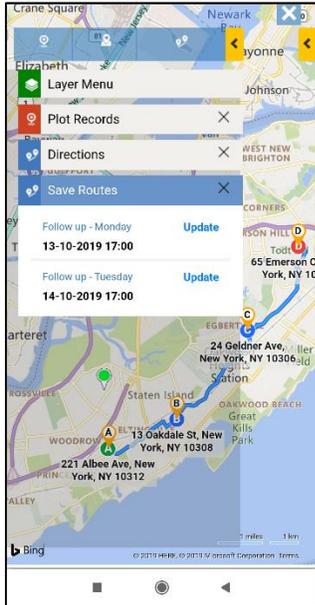


Save Route and Plot Saved Routes:

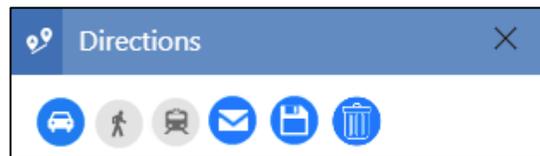
Users can now save the route from the Dynamics 365 App for Phones and Tablets and later use the 'Open Saved Route' feature to plot the saved routes.



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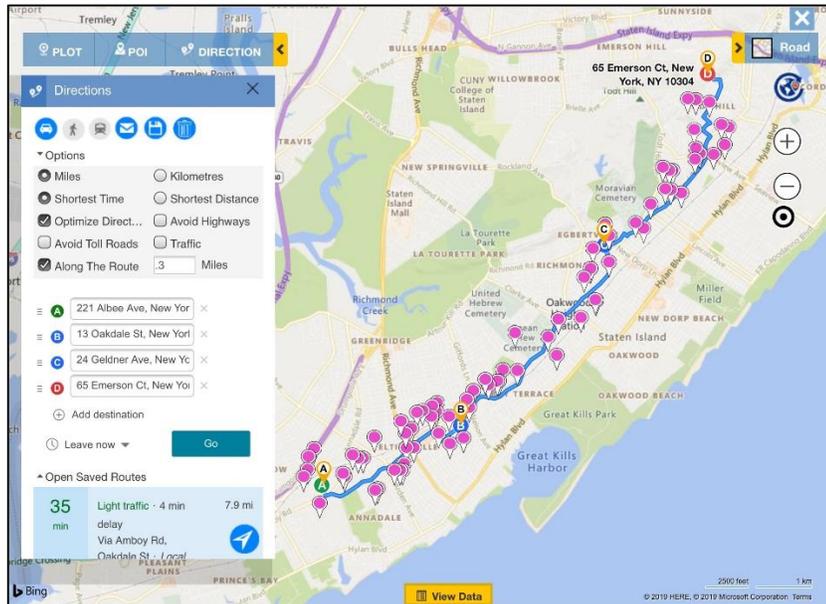
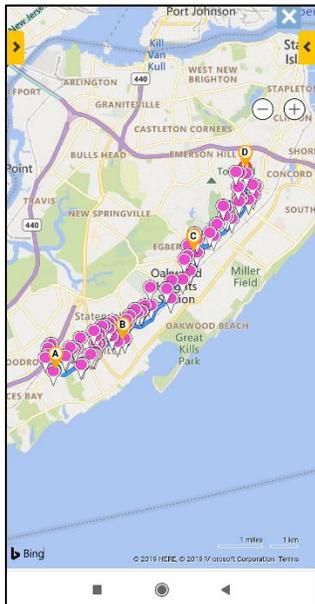


Email route - The user can email route to any of the Dynamics CRM records using email route option.



Along the Route Search:

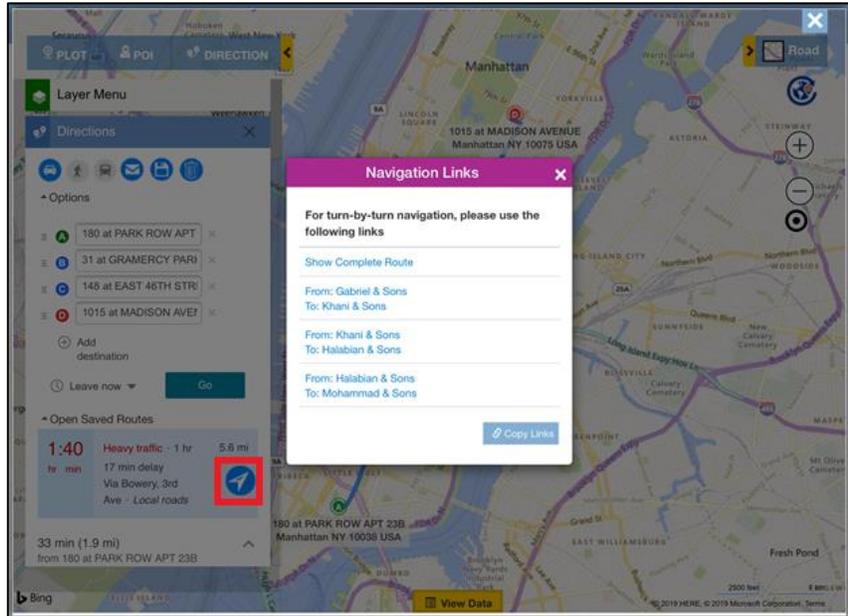
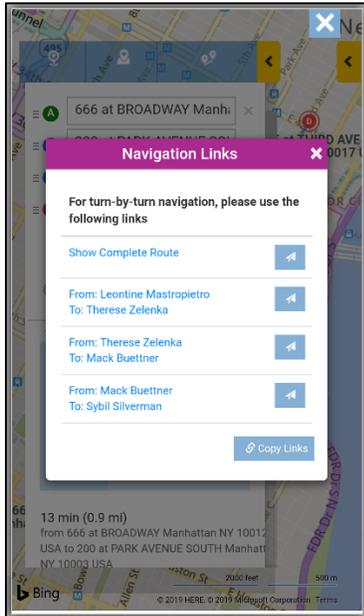
The user can also search the along the route records the same way as on the Browser.



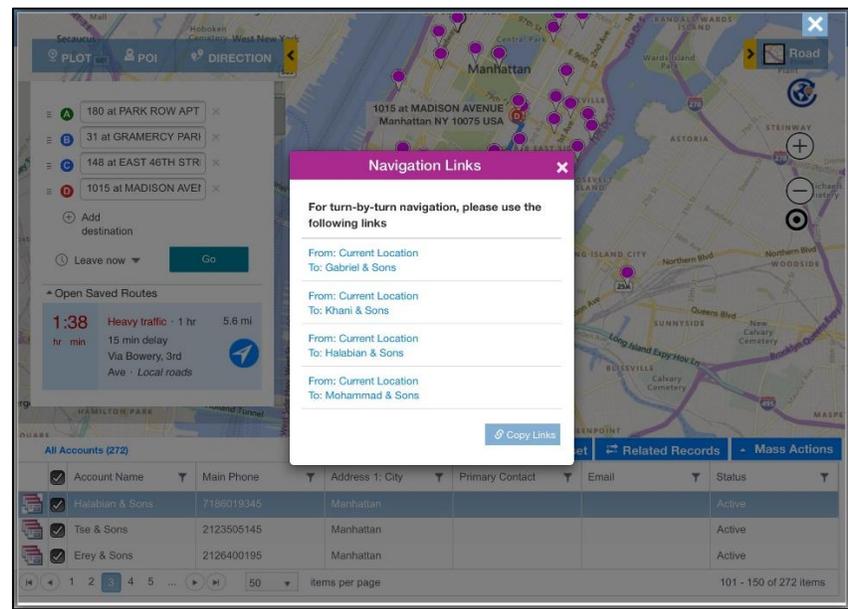
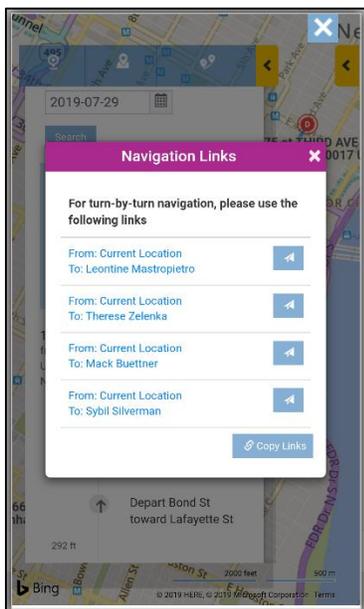
Maplytics™ – User Manual

Route Redirect and Copy Navigation Links:

Redirect with Google Maps

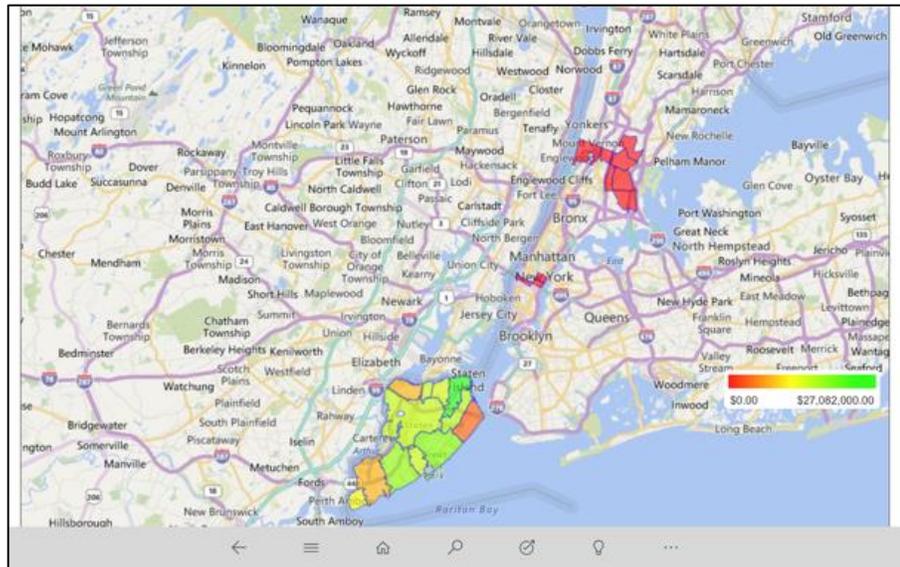
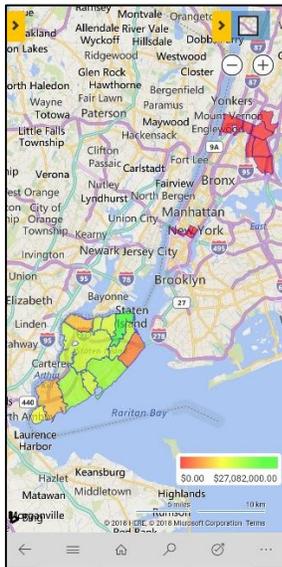


Redirect with Waze

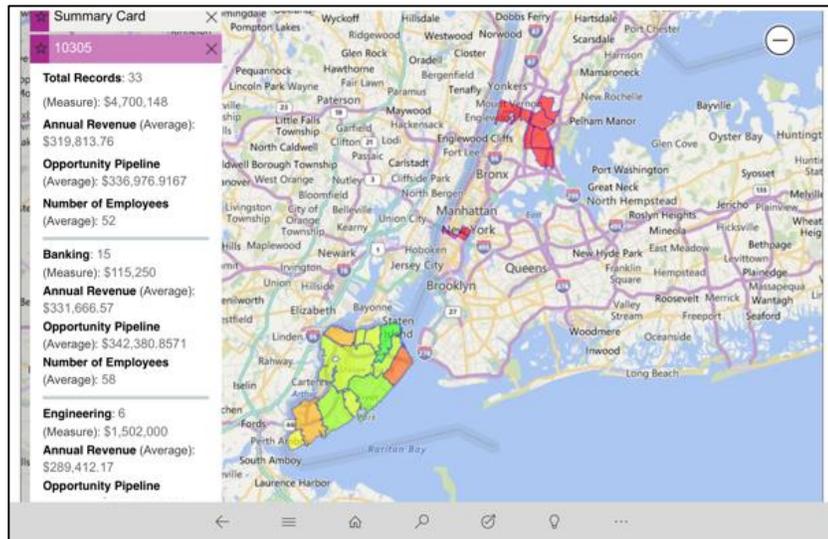


Heat Map – Tablet / Mobile

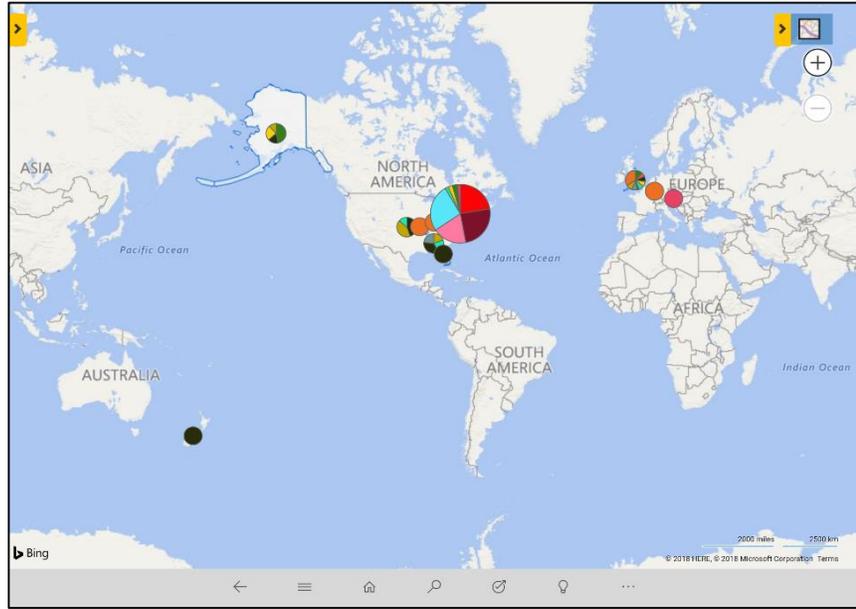
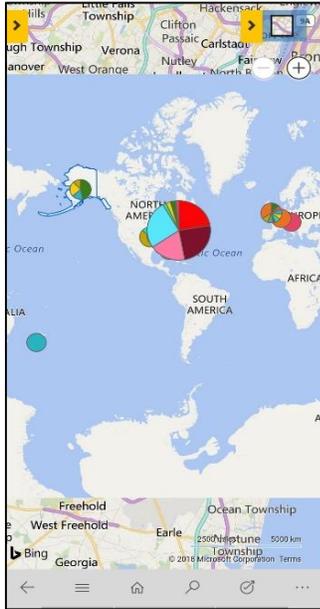
For Dynamics 365 v9.x, Maplytics can also be accessed from the Entity homepage and entity form using ‘Heat Map’. When clicked on Heat Map button, it opens the heat map.



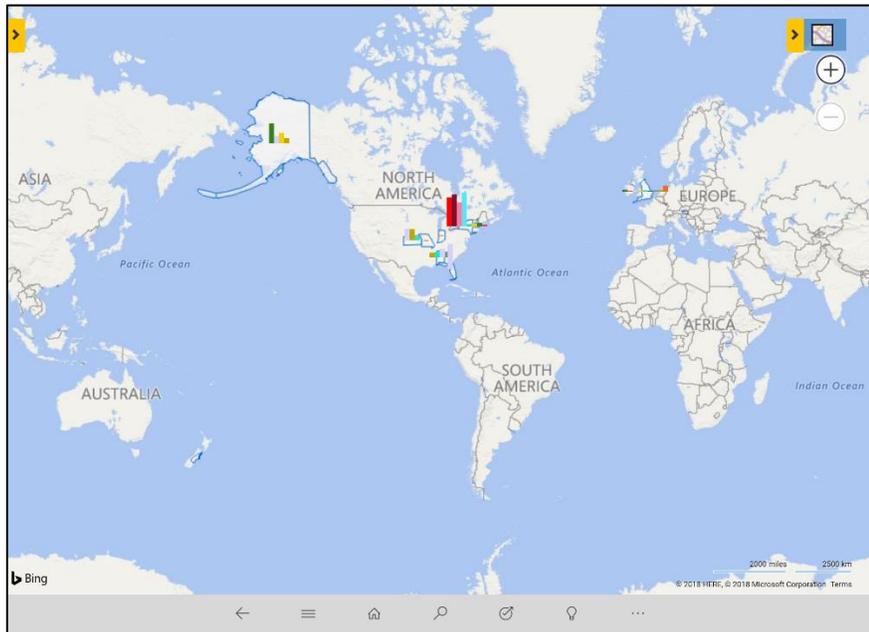
Summary card:



Pie chart in Heat Map

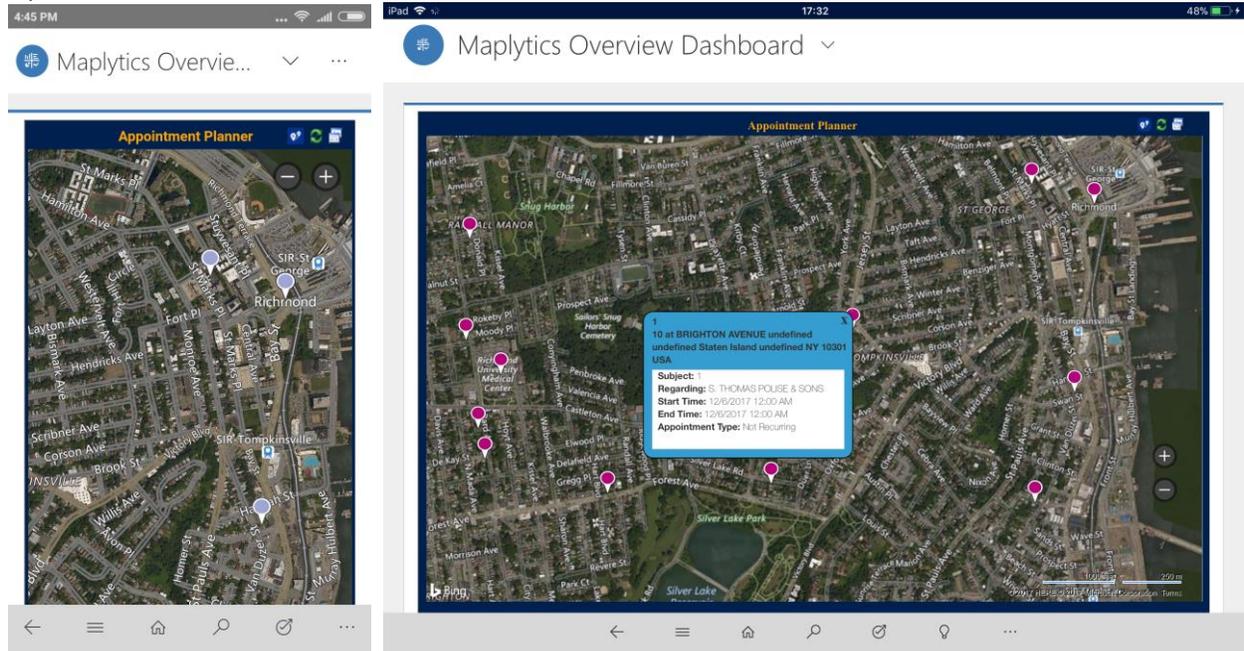


Column chart in Heat Map



Dashboards – Tablet / Mobile

The users can define their Dashboard views for Maplytics and include them as web resources in standard Dynamics CRM Dashboards.



Maplytics ships with 6 pre-defined Dashboards for various Sales and Service Modules for different user roles.

Contact Us

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Facebook: [@Maplytics](https://www.facebook.com/Maplytics); [@Inogic](https://www.facebook.com/Inogic)

Website: <http://www.maplytics.com/>; <http://www.inogic.com/>