



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.

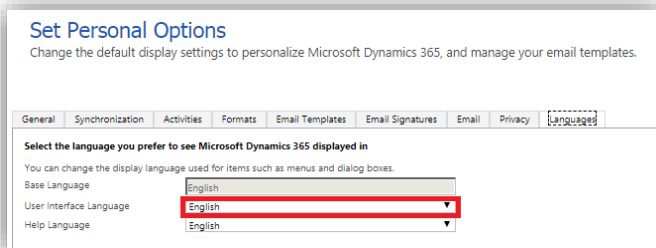
Maplytics is available for Microsoft Dynamics versions CRM 2013 and above and supports all deployment models of CRM On-Premise (IFD as well), CRM Online and Partner-hosted. It uses the API services provided by Bing maps. The following are the highlights of Maplytics:

- ✓ 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)

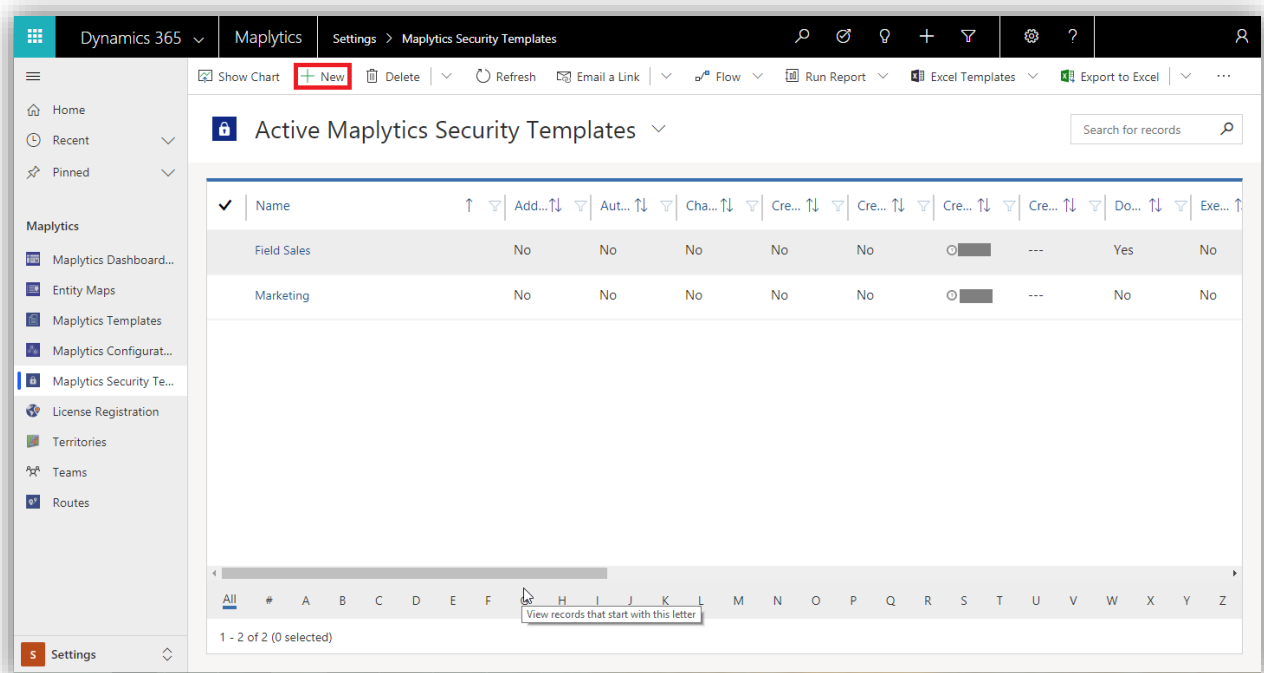
Each user of Maplytics can customize Maplytics configuration according to their preference. The user can configure Zoom level, Current Location, default origin and destination and a couple of other settings like Map more, default summary grouping, etc. Please go to **Settings > Maplytics Configuration 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.

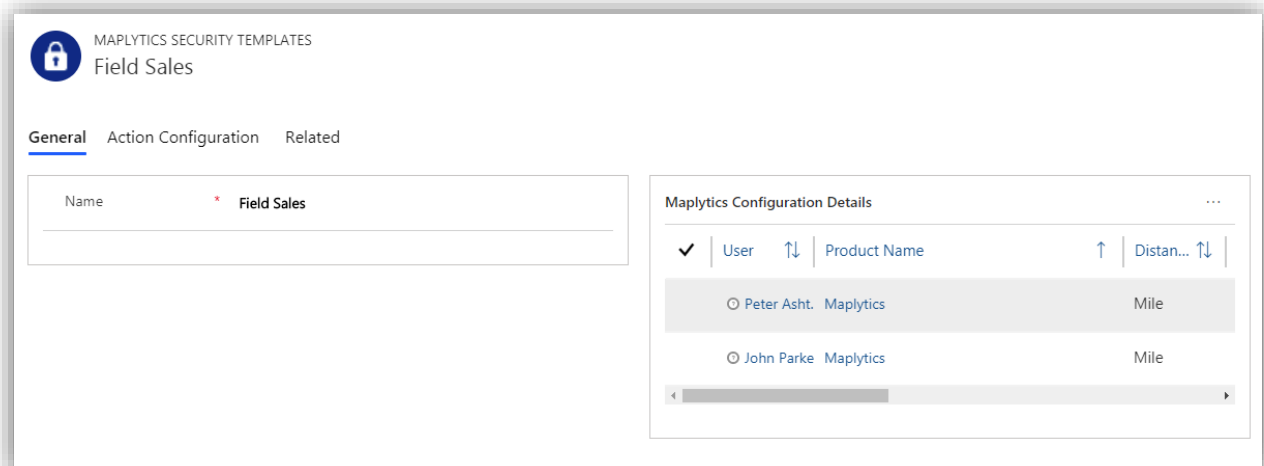
## Maplytics Security Template

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

The screenshot shows the 'Maplytics Security Templates' configuration page for the 'Field Sales' template. The page has three tabs: 'General', 'Action Configuration' (selected), and 'Related'. The 'Action Configuration' tab displays two sections: 'Mass Actions' and 'Actions'. Each section contains a list of actions with checkboxes to select them.

Mass Actions	Actions
Select All Mass Actions <input type="checkbox"/>	Select All Actions <input type="checkbox"/>
Change Owner <input type="checkbox"/>	Save Template - Public <input type="checkbox"/>
Manage Territory <input type="checkbox"/>	Create Route <input type="checkbox"/>
Execute Workflow <input type="checkbox"/>	Print Map <input checked="" type="checkbox"/>
Send Email <input checked="" type="checkbox"/>	Create New Record <input type="checkbox"/>
Auto Scheduling <input type="checkbox"/>	Related Records <input type="checkbox"/>
	Territory Management <input type="checkbox"/>
	Shape Files Configuration <input type="checkbox"/>
	Save Template - Personal <input type="checkbox"/>
	Update Route <input type="checkbox"/>
	Download Map <input checked="" type="checkbox"/>
	Send Route Email <input checked="" type="checkbox"/>
	Overlay Layer <input type="checkbox"/>
	Proximity With Travel Distance <input type="checkbox"/>

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'**

The screenshot shows the 'Maplytics' configuration page for the 'Field Sales' template. The page has three tabs: 'General' (selected), 'Auto Scheduling', and 'Related'. The 'General' tab displays a list of configuration items with their current values. The 'User' field is highlighted with a red box, showing the 'Maplytics Security Template' and the 'Field Sales' user.

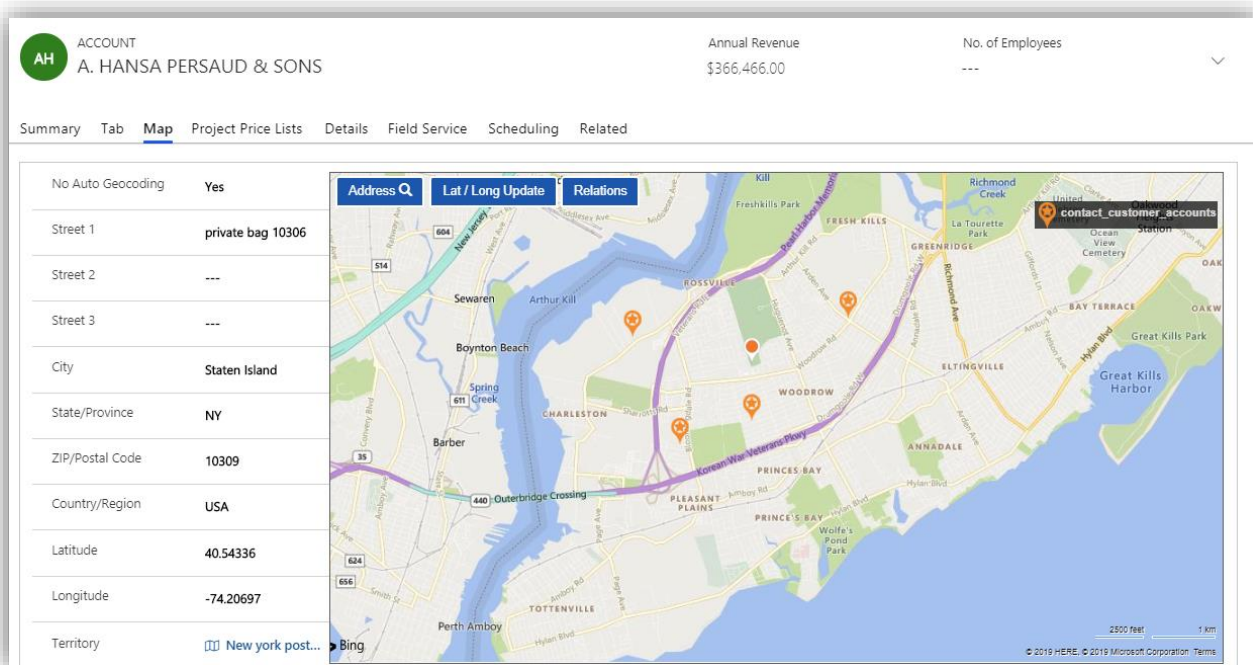
Configuration Item	Value
Distance Unit	Mile
Optimize Direction	No
Live Traffic	No
Route Option	Shortest Time
Map Center	---
Heat Map Type	Boundary
Summary Grouping	City
Default Template	---
Set As Origin	None
Along The Route Distance	5.00
Default Location	---
Records Per Page In Grid	50
Zoom Level	---
User	Peter Ashton
Maplytics Security Template	Field Sales
Set As Destination	None

**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**

## 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.

## Maplytics™ – User Manual

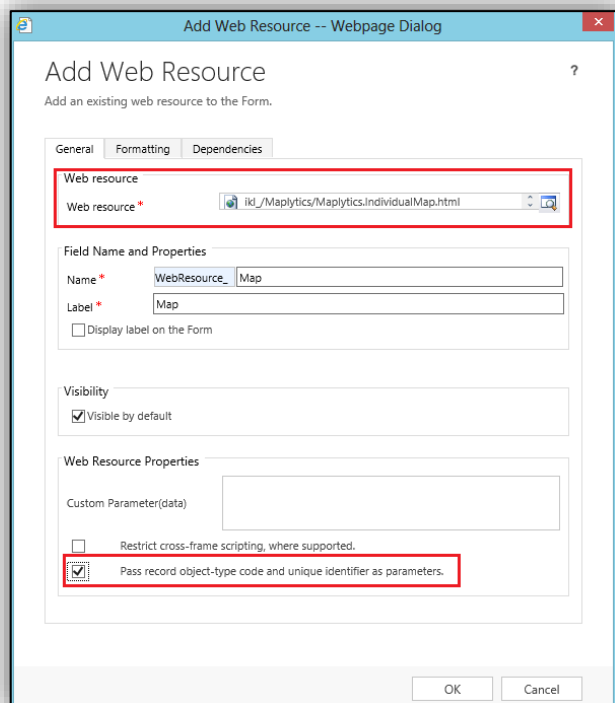
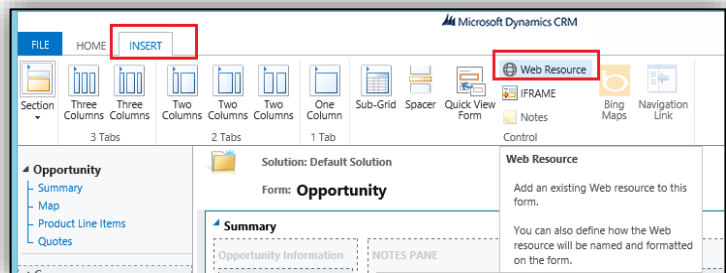
- Related Record Pushpin:

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 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.



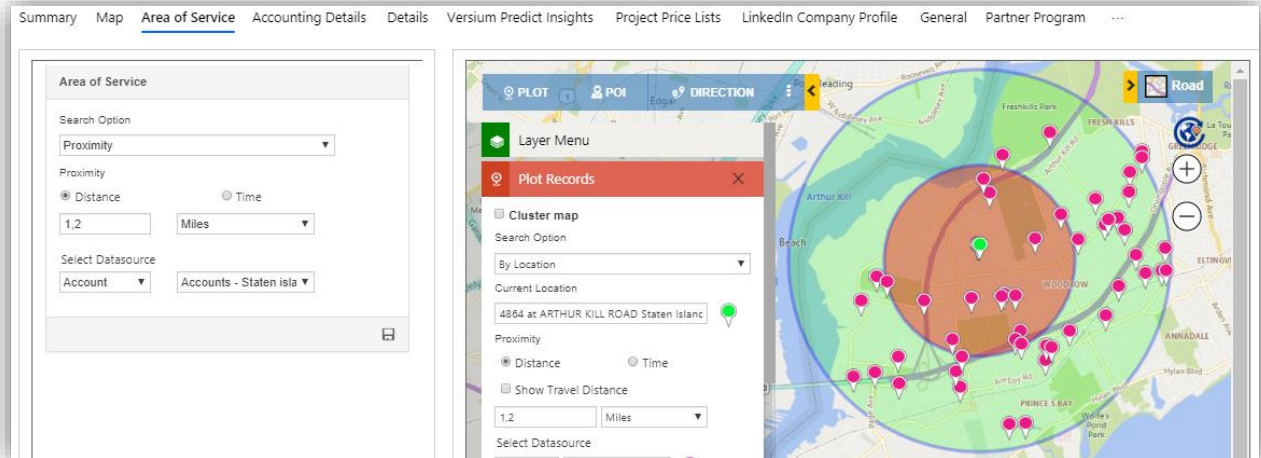
In the Add Web Resource dialog, select **"ikl\_/Maplytics/Maplytics.IndividualMap.html"** web resource and check the Pass record object-type checkbox as shown in the screenshot.

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.

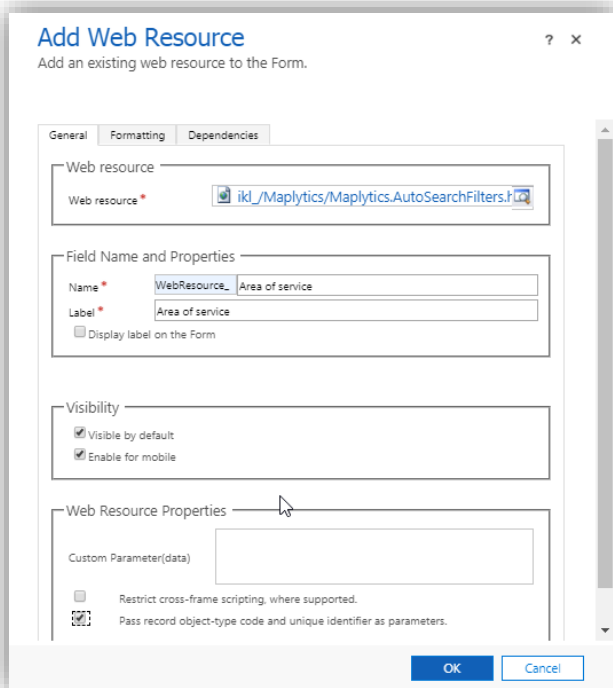
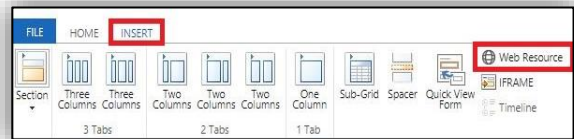
## Area of Service

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.



### 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' form with the 'Attribute Mappings' tab 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 table of account data. The 'Map' button is highlighted with a red box. The table has columns for 'ACCOUNT', 'Annual Revenue', and 'No. of Employees'.

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

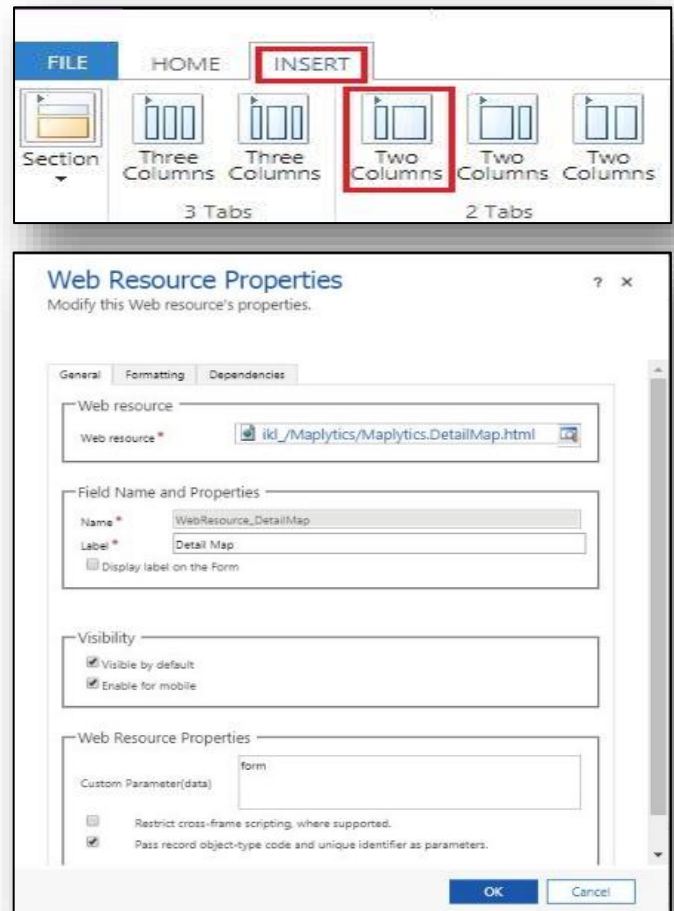
## Adding Detail map on form

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.

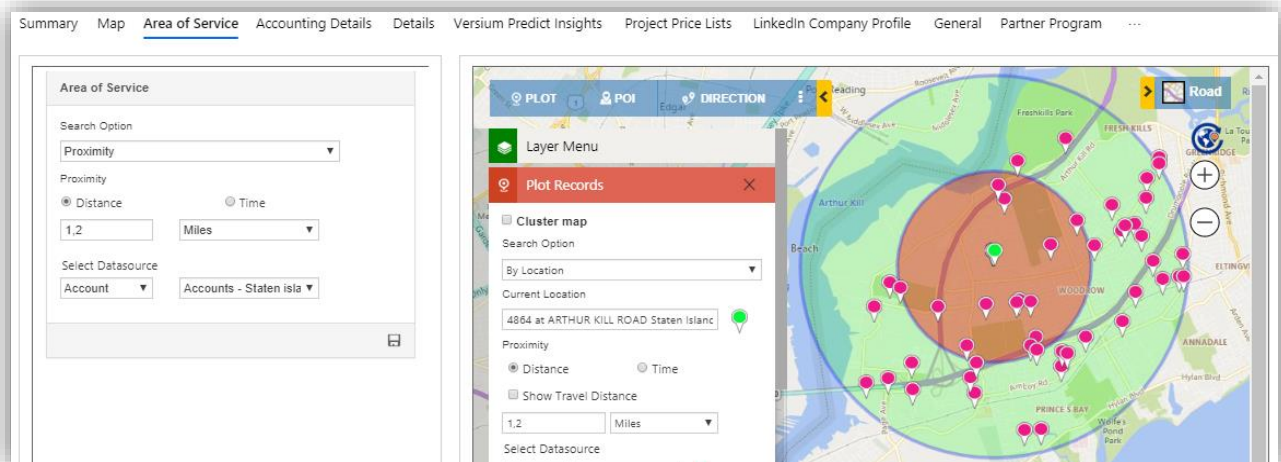
After adding Area of Service tab in the entity form as mentioned above, follow the steps mentioned below to add the Detail map on the entity form.

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.

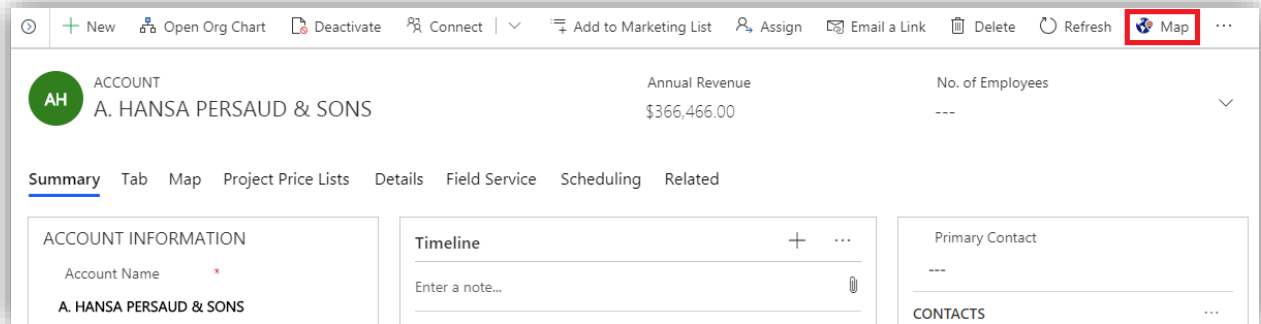


Enter the required values into Area of Service, save it and click on the refresh button on the Detail map to view the data plotted.

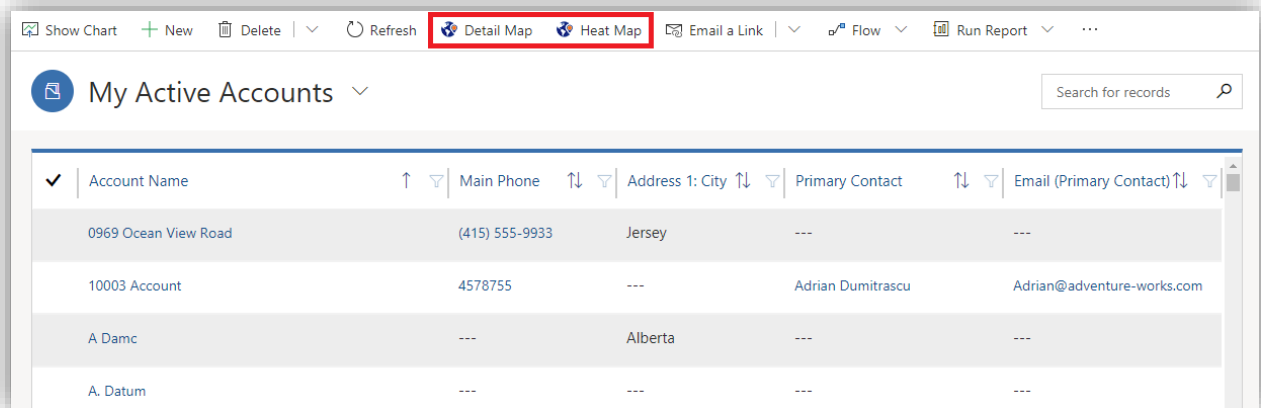


## Detail Map

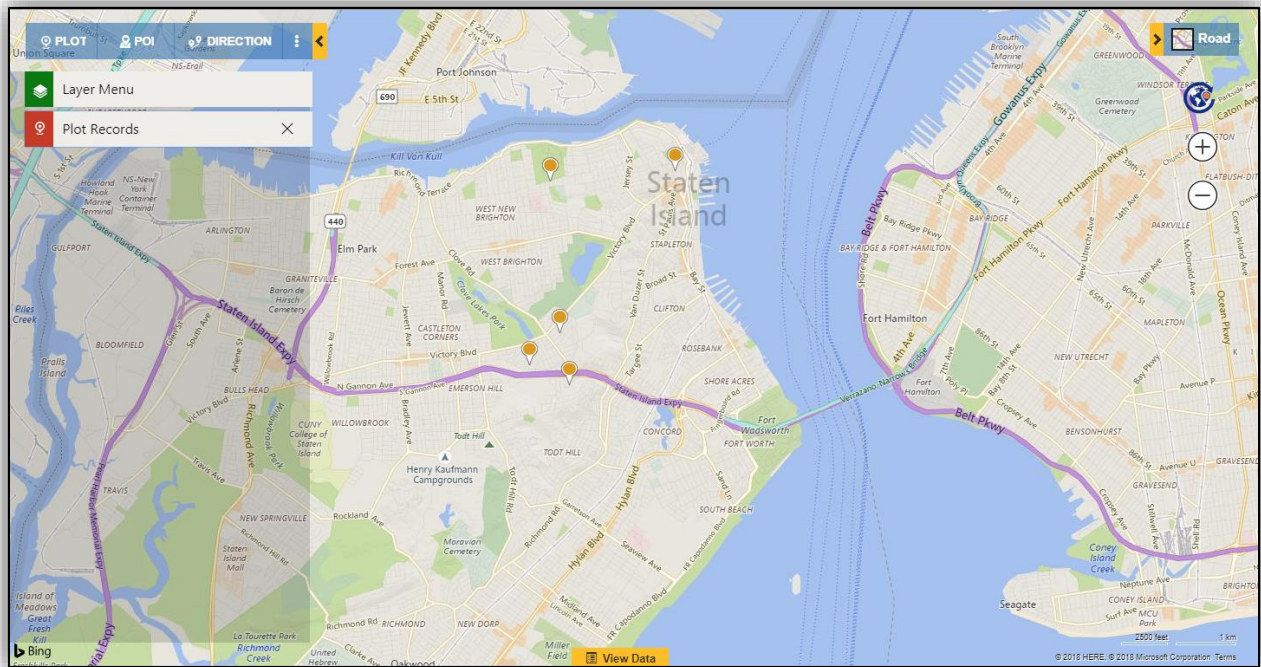
Maplytics buttons are added to the Entity forms as well as the Entity Homepages so that it can be easily accessed from anywhere.



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.



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.

**Plot Records**

☐ Cluster map

Search Option  
By Location

Current Location  
1073 Richmond Hill Rd, New York, NY 103

Proximity  
☒ Distance  
☐ Time

☐ Show Travel Distance

Select Datasource  
 Account Select View

+

Select Category  
 Account Select Category

Select Overlay  
 Select Overlay

+

Save Template

**Select View**

- System Views**
  - Active Accounts
  - All Accounts
  - My Active Accounts
  - Vendors
- Personal Views**
  - Accounts - Staten Island
  - Service providers - France
- Dashboards**
  - My New Accounts This Month
  - Sales By Postal Code
- Marketing Lists**
  - Campaign - Customer's list

**Plot Records**

☐ Cluster map

Search Option  
By Location

Current Location  
75 at RADFORD STREET Staten Island NY

Proximity  
☒ Distance  
☐ Time

☐ Show Travel Distance

Select Datasource  
 Account Select View

+

Select Category  
 Account Select Category

Select Overlay  
 Select Overlay

+

Save Template

Search

**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.

**Plot Records**

☐ Cluster map

Search Option  
By Location

Current Location  
75 at RADFORD STREET Staten Island NY 103

Proximity  
☒ Distance ☐ Time

☐ Show Travel Distance

Miles

Select Datasource

Account Active Accounts X

Lead Leads - NY X

Opportun All Opportunities X

Select Category

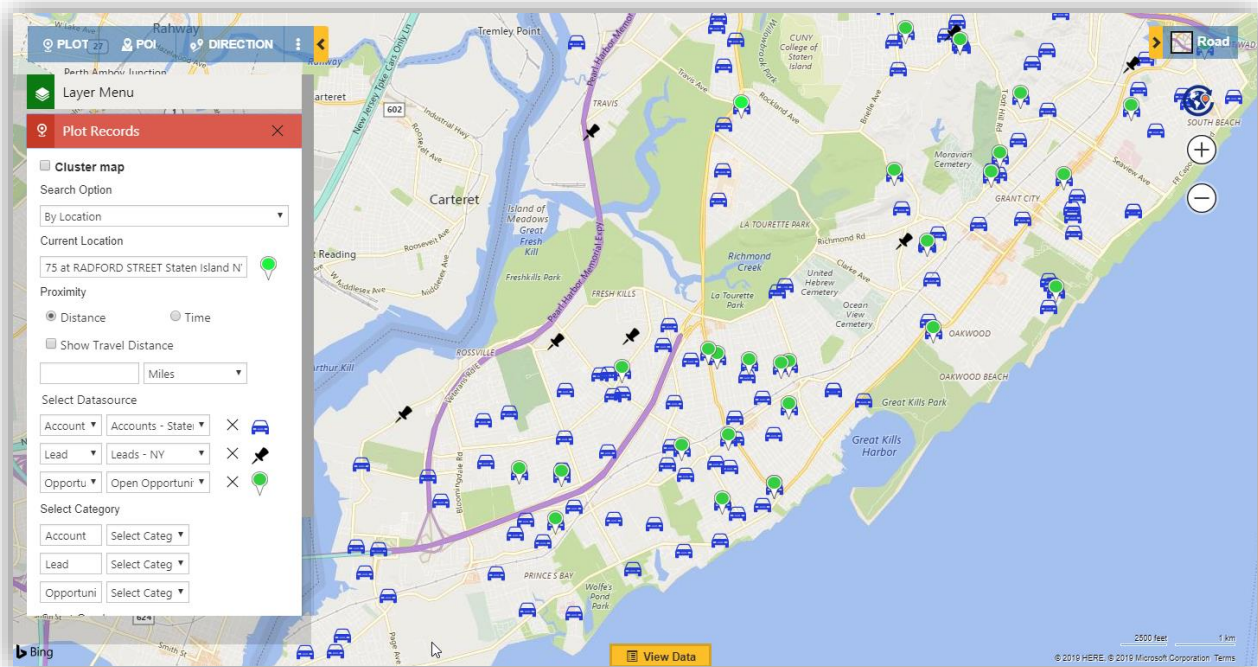
Account Select Category

Opportunity Select Category

Lead Select Category

Select Overlay  
Select Overlay

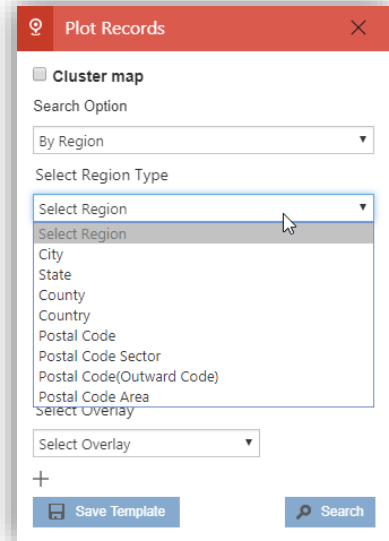
+ Save Template Search



## By Region

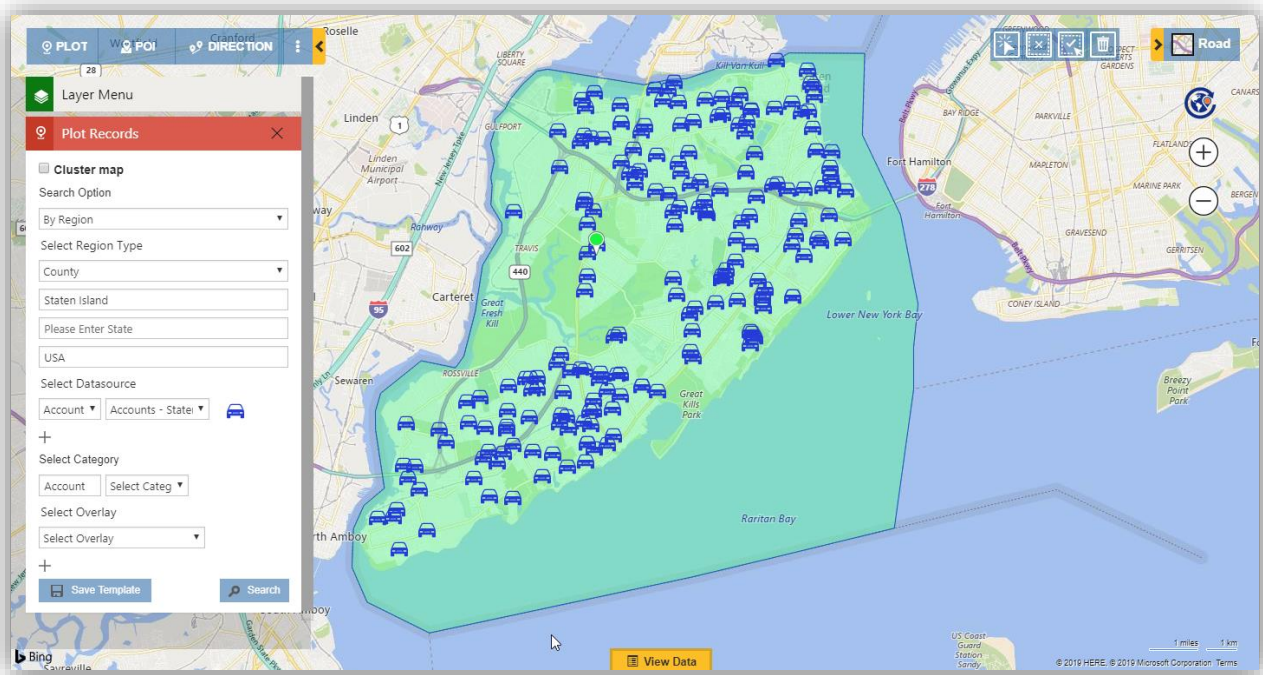
This helps the user to plot the data by the region of records, i.e., City, State, County, Country, PostalCode, PostalCode Sector, Postal Code(Outward Code), Postal Code Areas. The user can plot multiple regions under a particular region type.

- **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.*



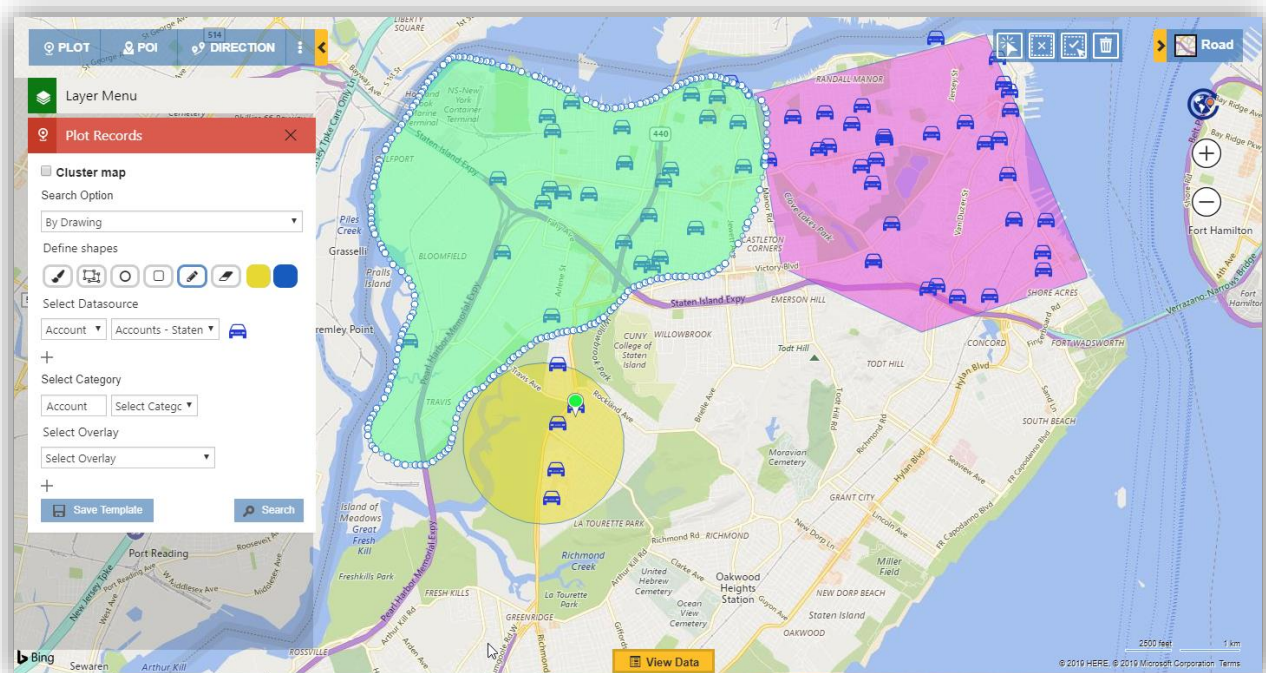
### By Drawing

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.

Plot Records

☐ Cluster map

Search Option

By Territory

Select Territory

10301 - Staten Island

x

10302 - Staten Island

x

Select Datasource

Account

Accounts - Staten Isl

+

Select Category

Account

Select Category

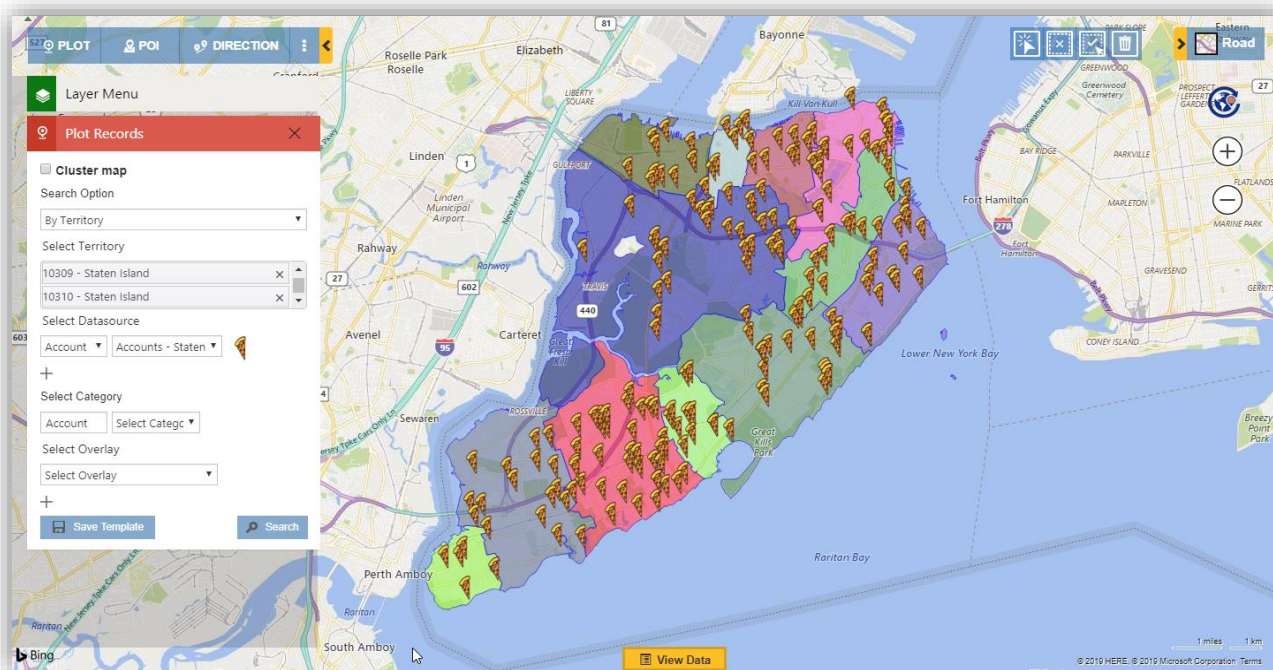
Select Overlay

Select Overlay

+

Save Template

Search



### 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:

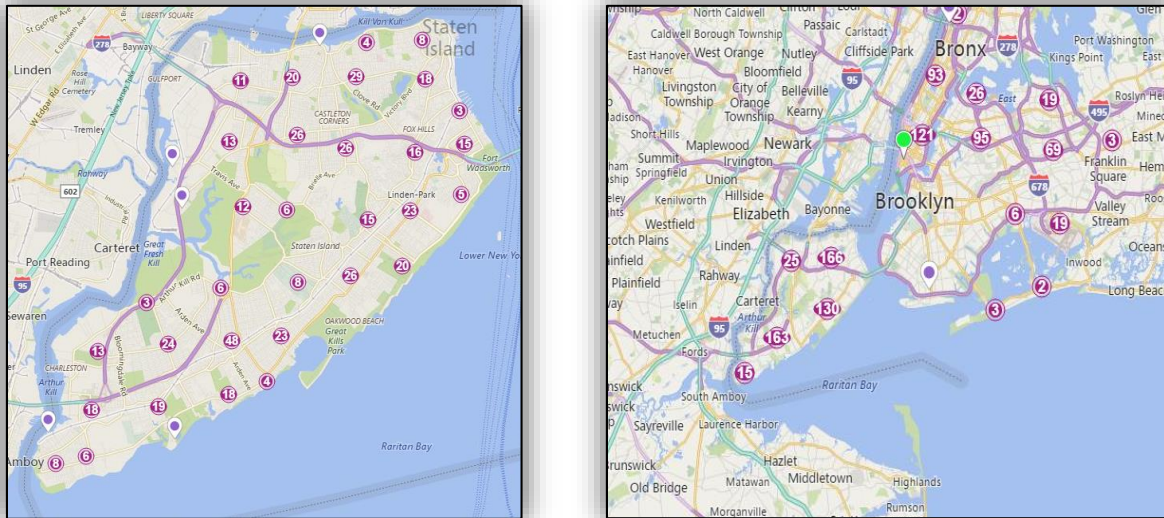
- **Personal** – The users can limit the usage of this template to themselves
- **Public** – Anyone in the organization can use this template

*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.

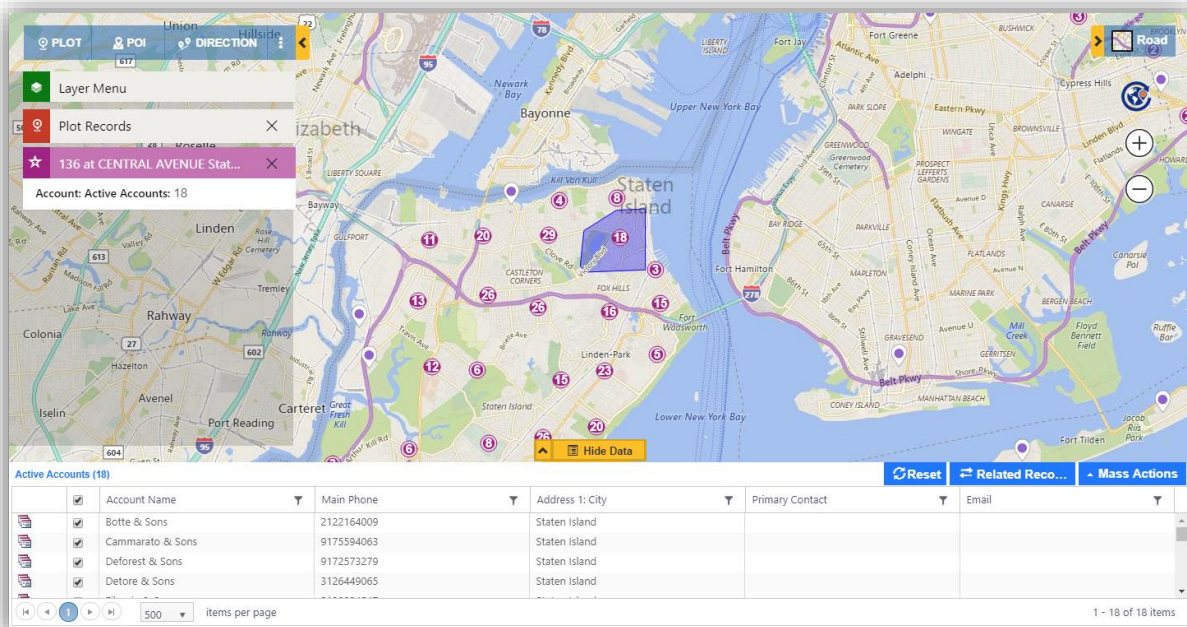
## Cluster map

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

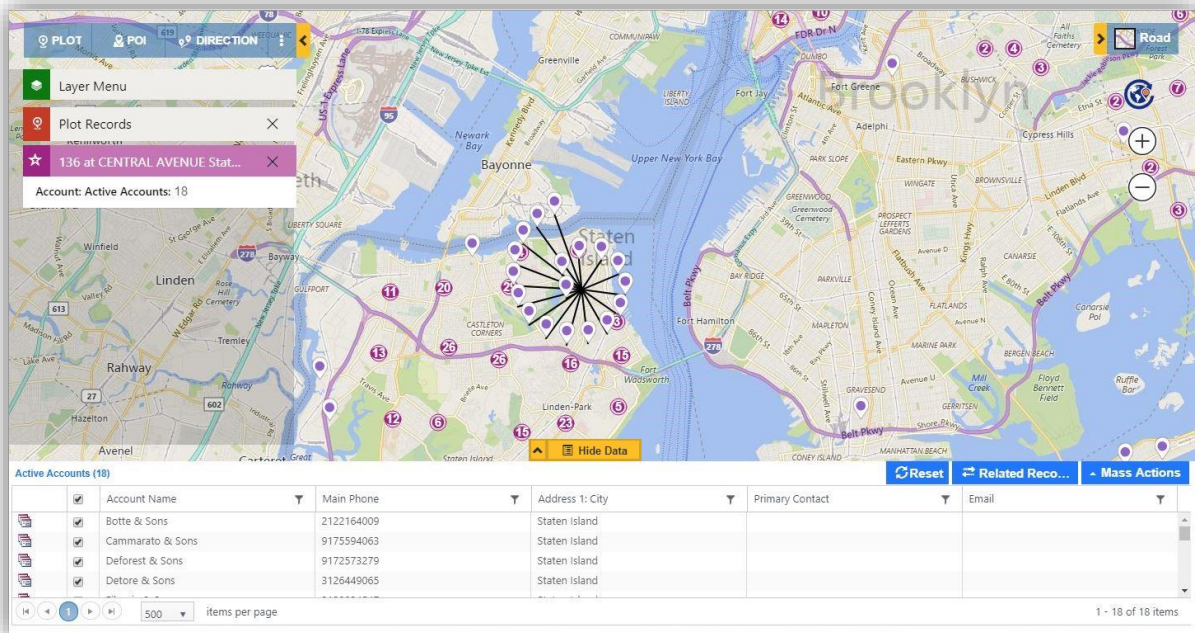
The user can hover on any cluster to see the 'Cluster area' which shows the data spread. The data spread is based on the area covered by the pushpins existing in the cluster.





## Spider cluster

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



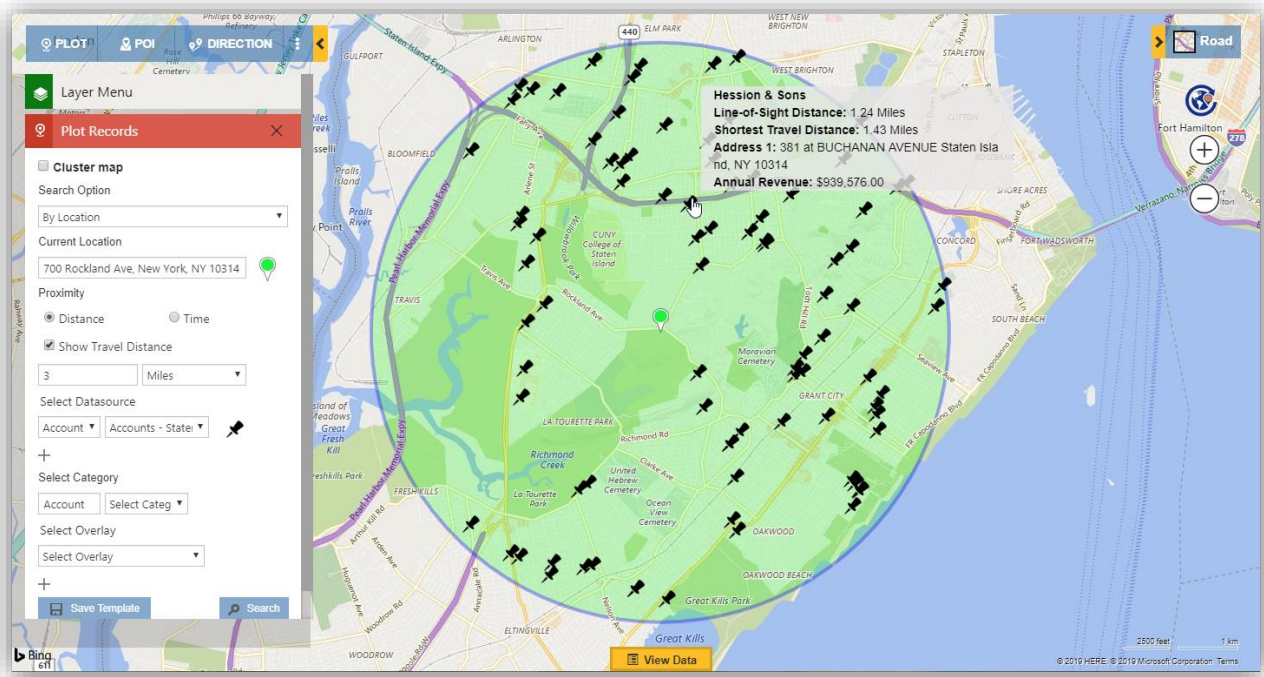
**Note: Spider clusters can be visualized only for records less than or equal to 50.**

## Proximity Search

There are two different options to perform a Proximity Search.

### Distance-based Proximity

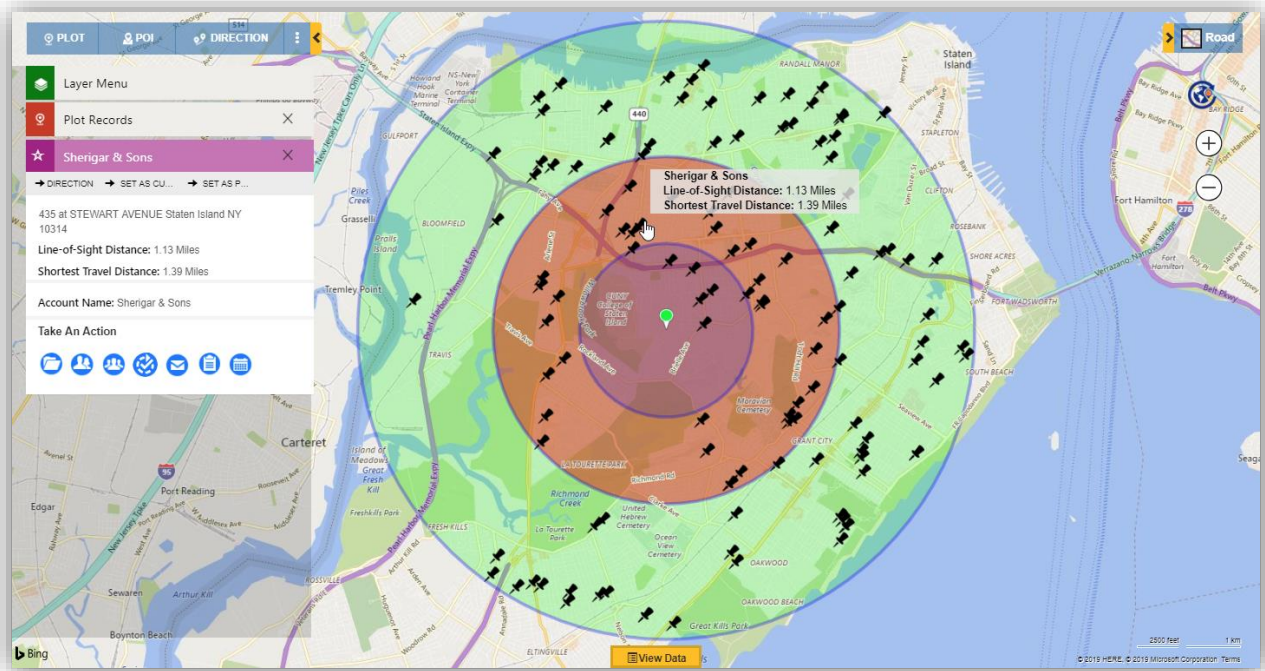
This option will calculate the straight line distance between the current location and all the points which fall in the proximity parameter as shown below:



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.

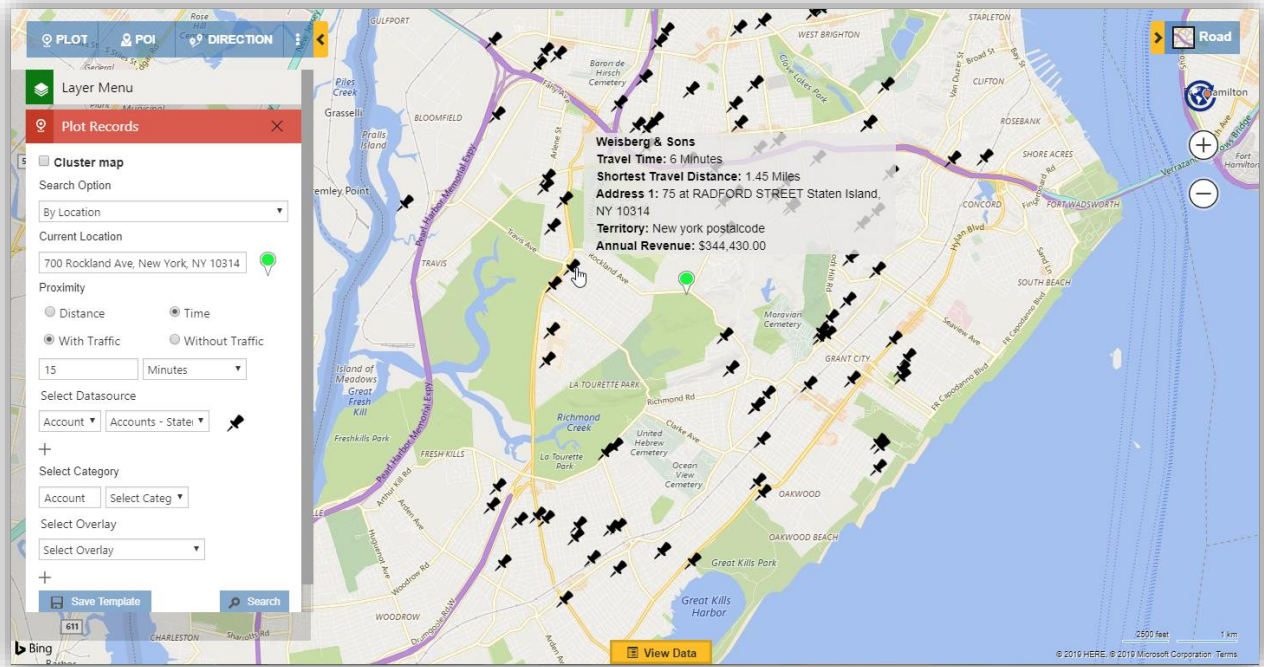
Accounts - Staten Island (130)						Reset	Related Records	Mass Actions
	Account Name	Primary Contact	Main Phone	Shortest Travel Distance	Line-of-Sight Distance	Proximity Zone		
<input checked="" type="checkbox"/>	Abbas & Sons		7188520069	2.5	1.84	2		
<input checked="" type="checkbox"/>	Abdelmessih & 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.

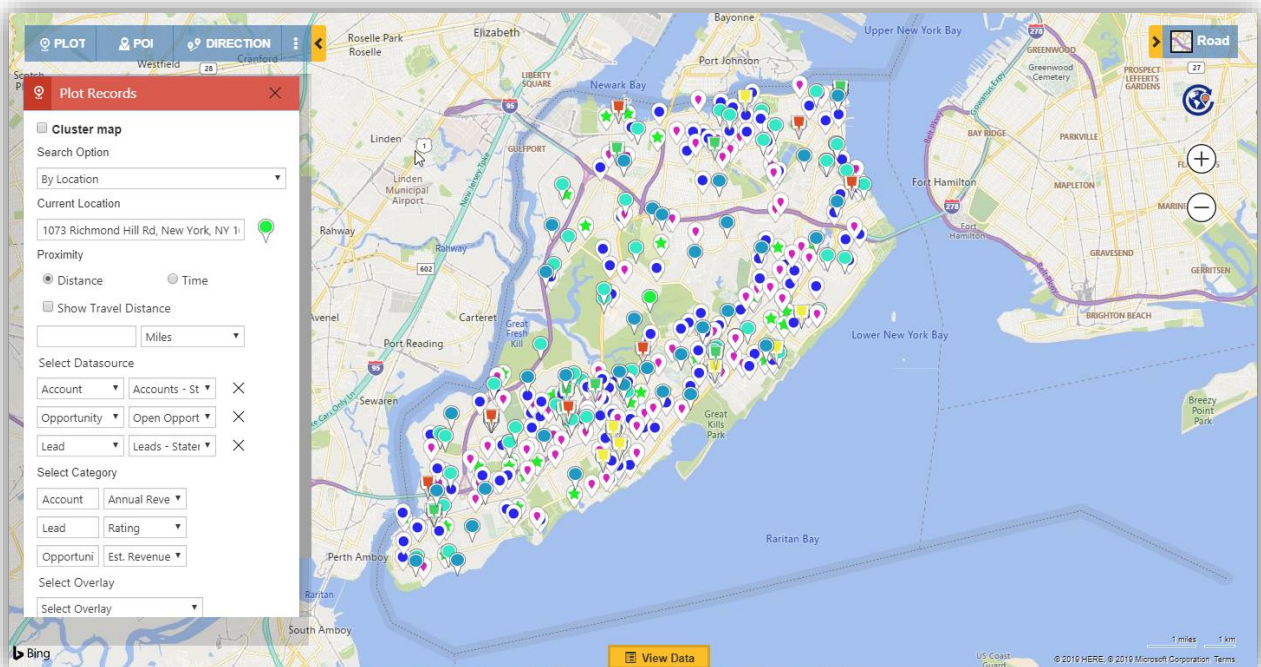
Accounts - Staten Island (103)					Reset	Related Records	Mass Actions
<input checked="" type="checkbox"/>	Account Name	Primary Contact	Main Phone	Shortest Travel Distance	Line-of-Sight Distance	Proximity Zone	
<input checked="" type="checkbox"/>	Abbas & Sons		7188520069	2.5	1.84		3
<input checked="" 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.

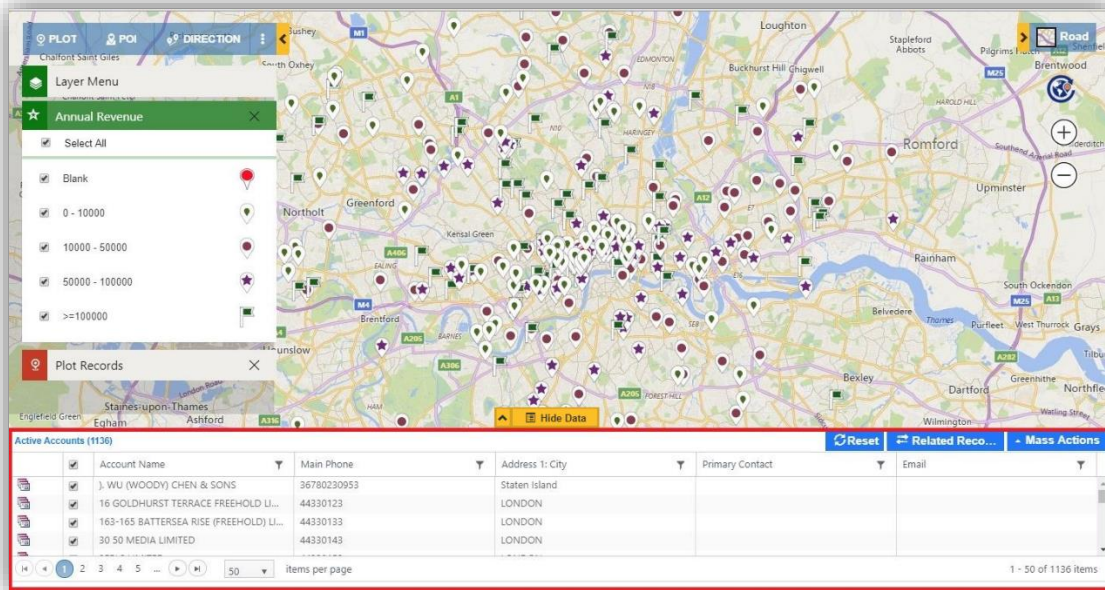


## Data Grid

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.

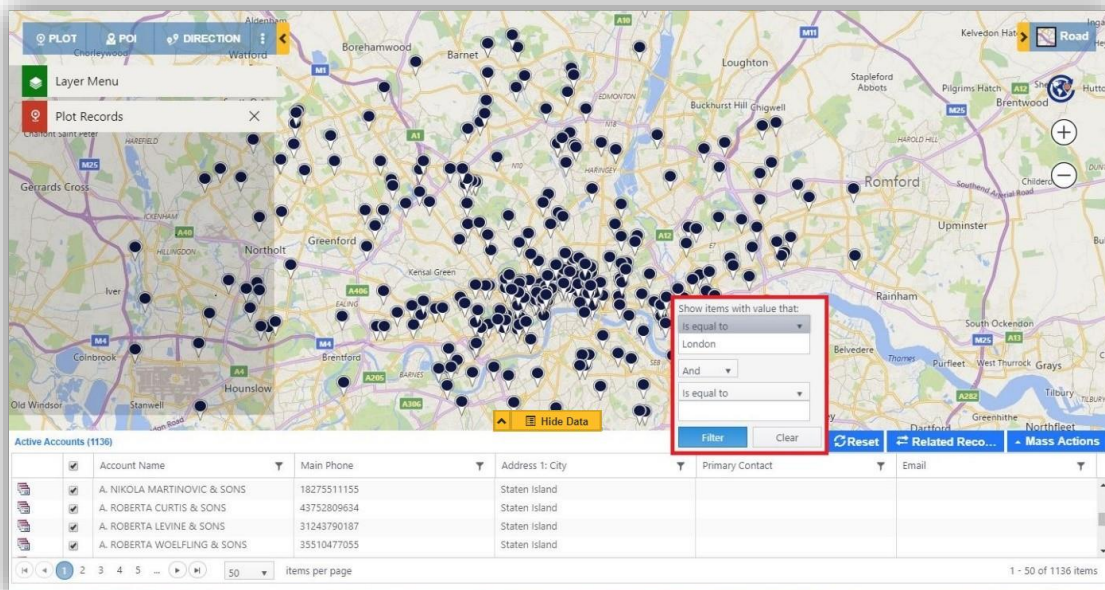


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### Filter Data:

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.



### Reset:



This will reset the grid to the initial search.

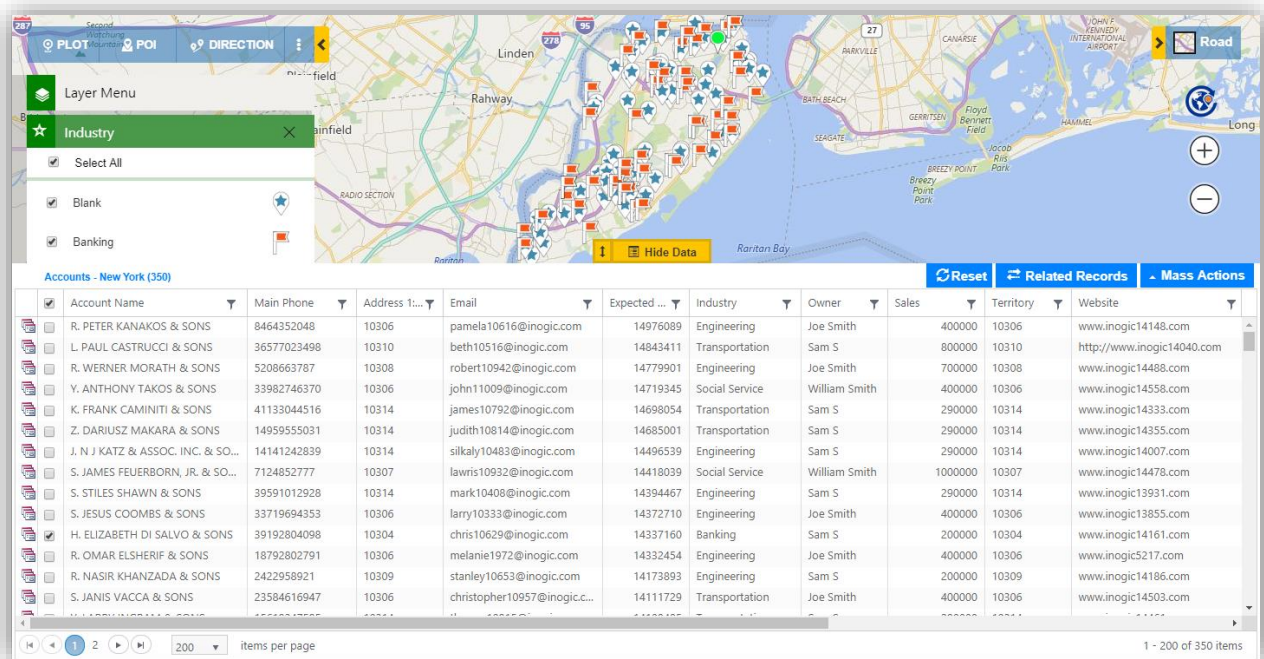
## Maplytics™ – User Manual

### 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.

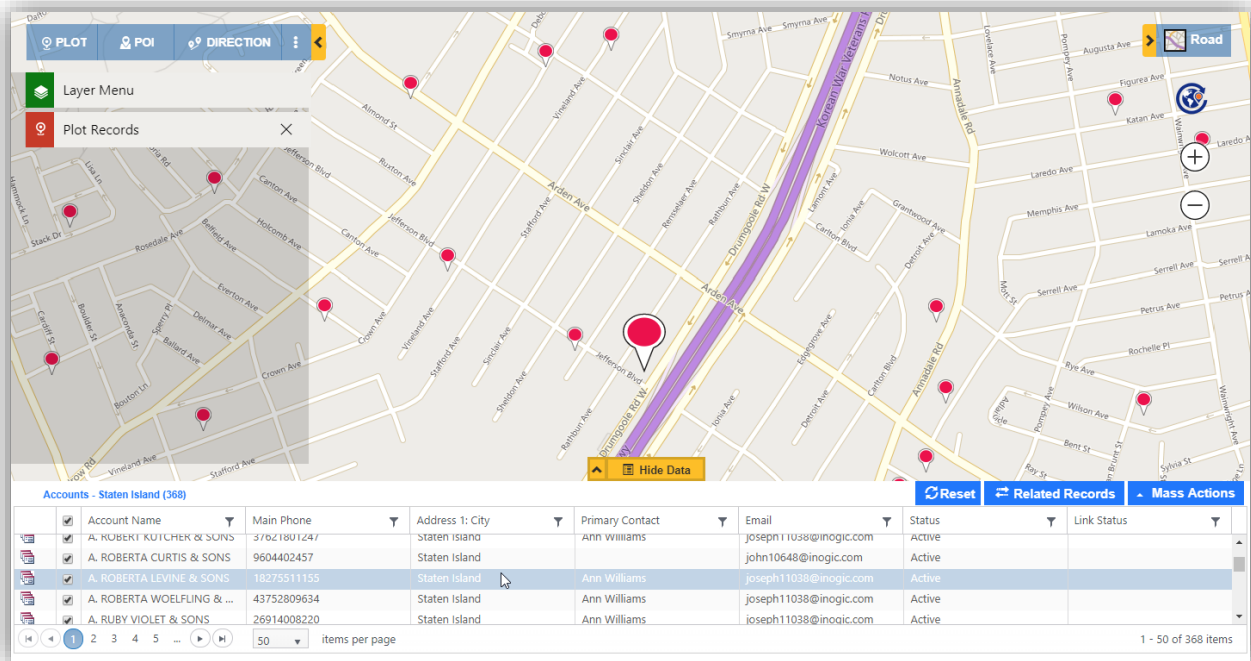


The screenshot displays the Maplytics application interface. At the top, there's a map of Long Island Sound with various markers. Below the map is a data grid titled "Accounts - New York (350)". The grid has columns for Account Name, Main Phone, Address 1..., Email, Expected ..., Industry, Owner, Sales, Territory, and Website. The grid is currently showing 200 items per page, and the total number of items is 350. The interface also includes a Layer Menu on the left, a Direction button at the top, and a Mass Actions button on the right.

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	silka10483@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.



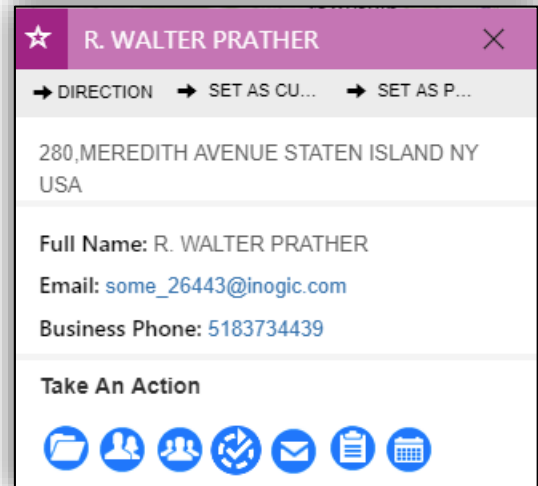
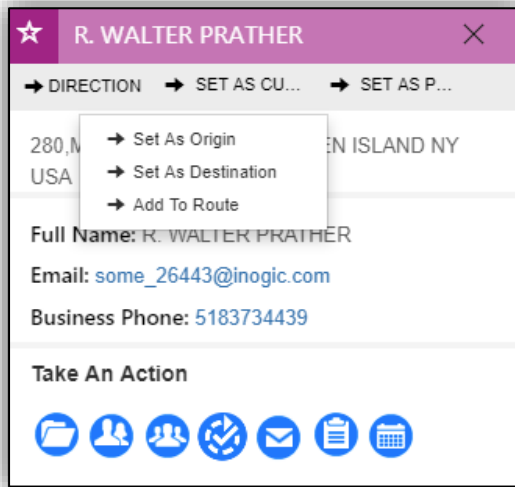
## Mass Action Buttons

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 related 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.

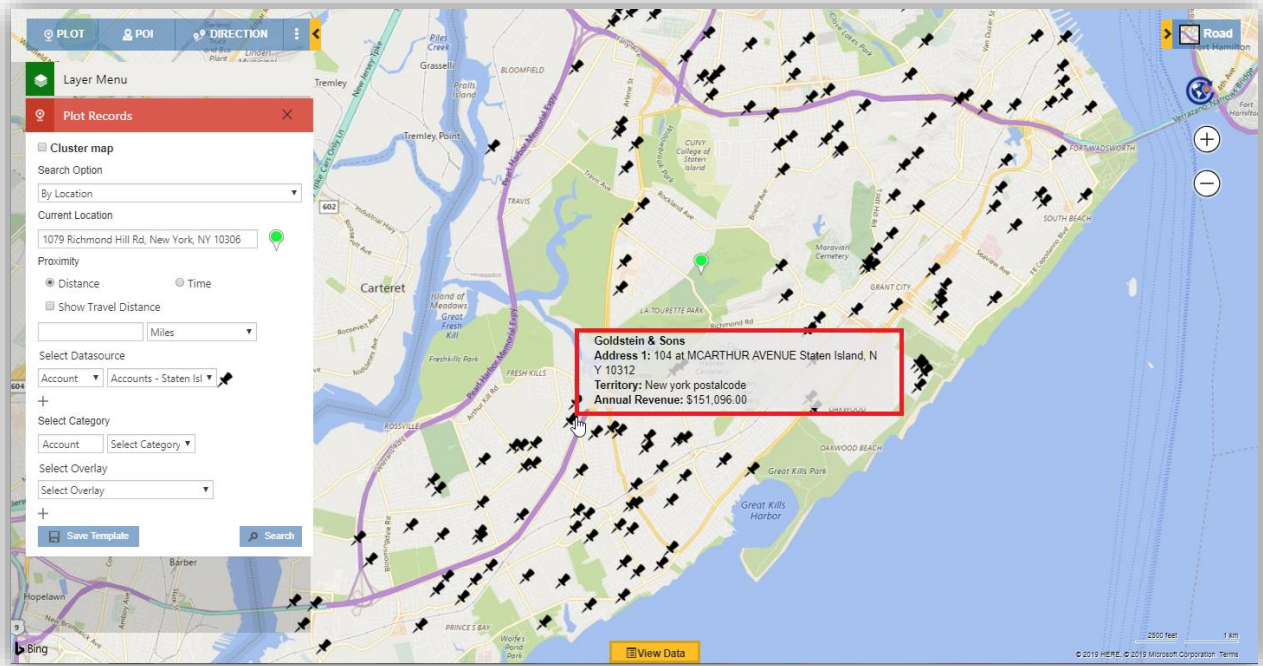


User can also set a particular record as 'Origin', 'Destination', 'Add to Route' under Direction, 'Set as Current Location' and 'POI location' from the Tooltip card.



### Hover:




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



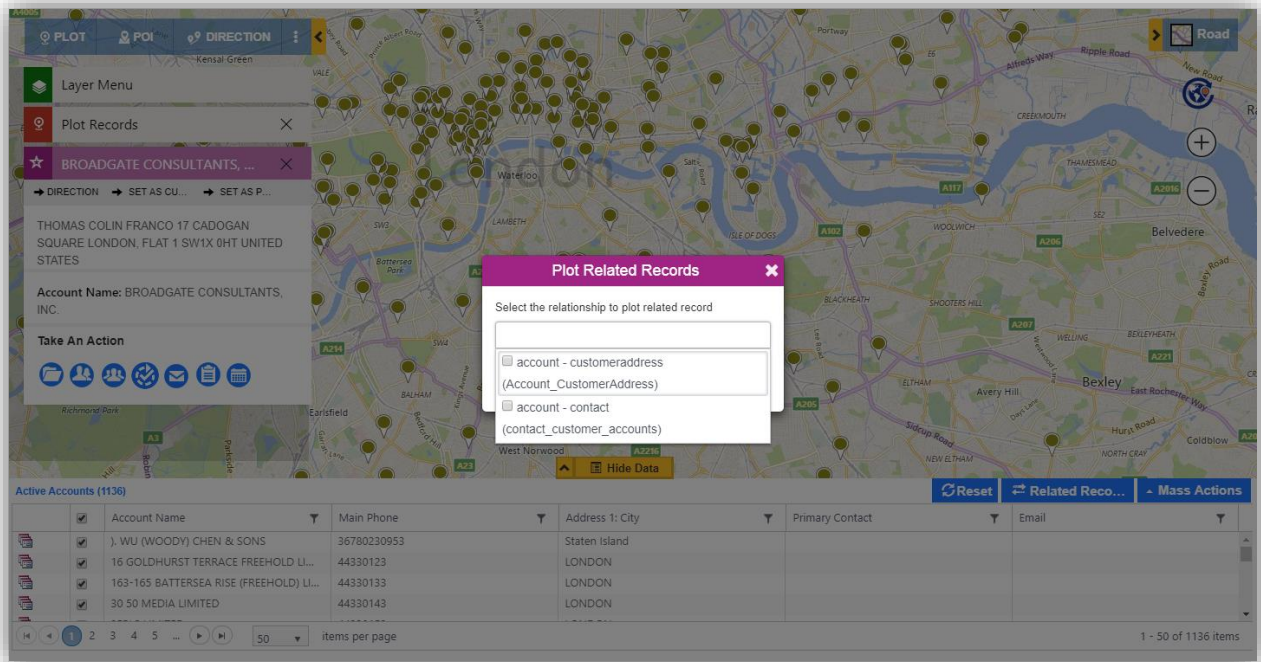
The user can have a maximum 6 different attributes here apart from the title attribute. Refer to the 'Setup Entity Map' section of Installation Manual for further instruction.

### Quick Call to Action Buttons:

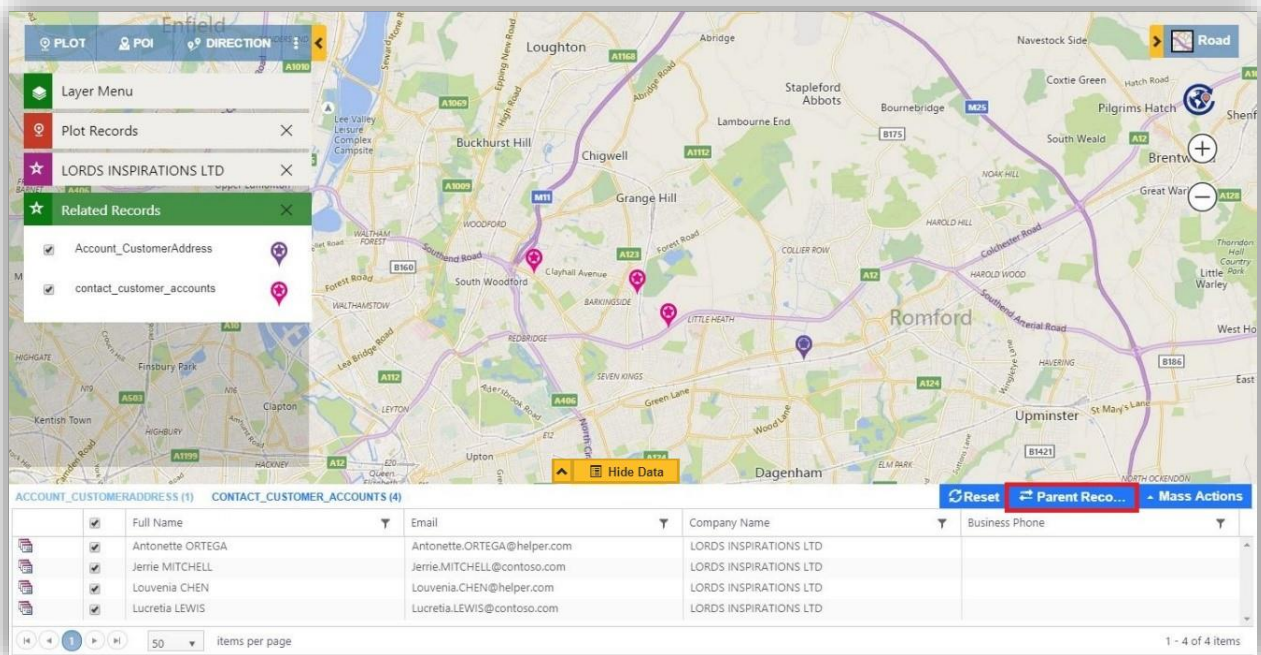
User can associate quick action buttons. This helps in saving time while switching between screens to take actions. First four actions are the default actions and cannot be changed by the user, but they can modify the rest of the actions. The default records are as follows:


- **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:

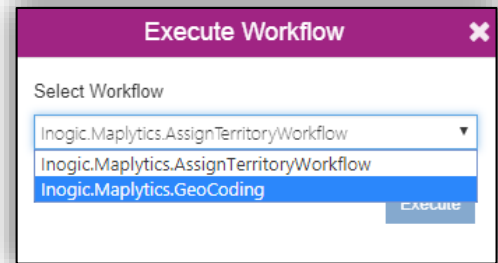
## Maplytics™ – User Manual






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.



- **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

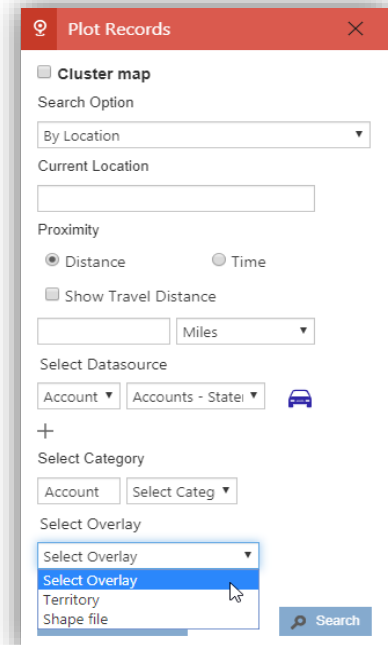


## Overlay

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:

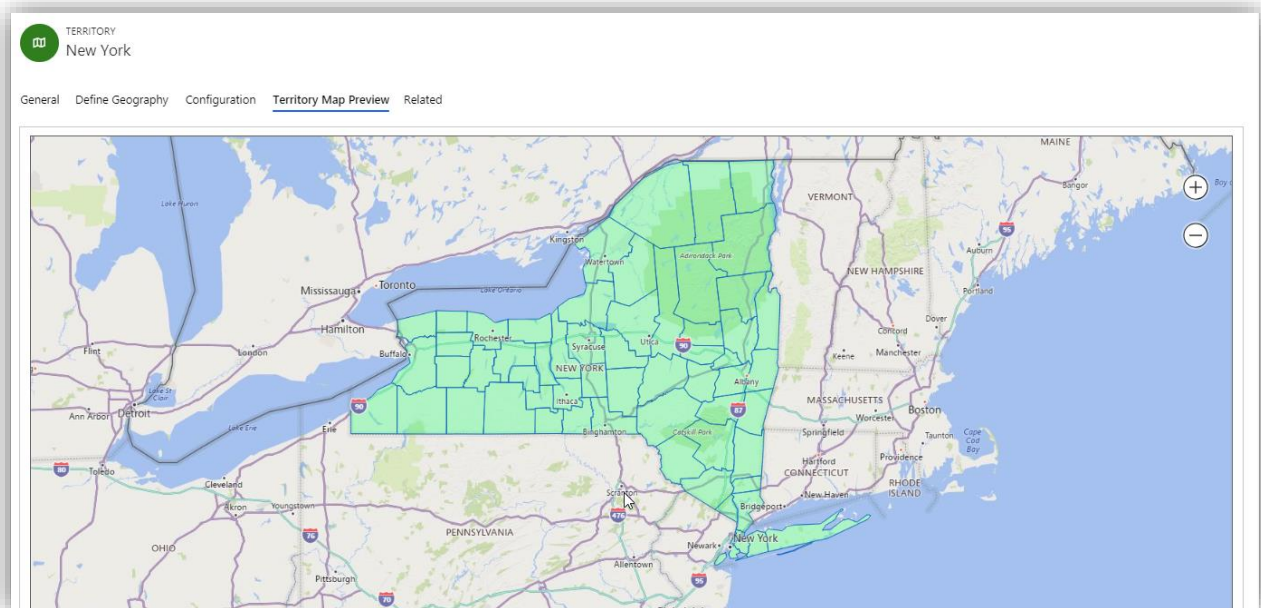
- Territory – This option helps the user to select among the list of existing territories
- Shape file – This option helps the user to select among the list of shape files



## 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**

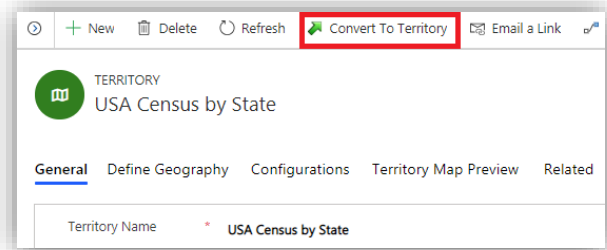




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### Convert overlay to territory

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.

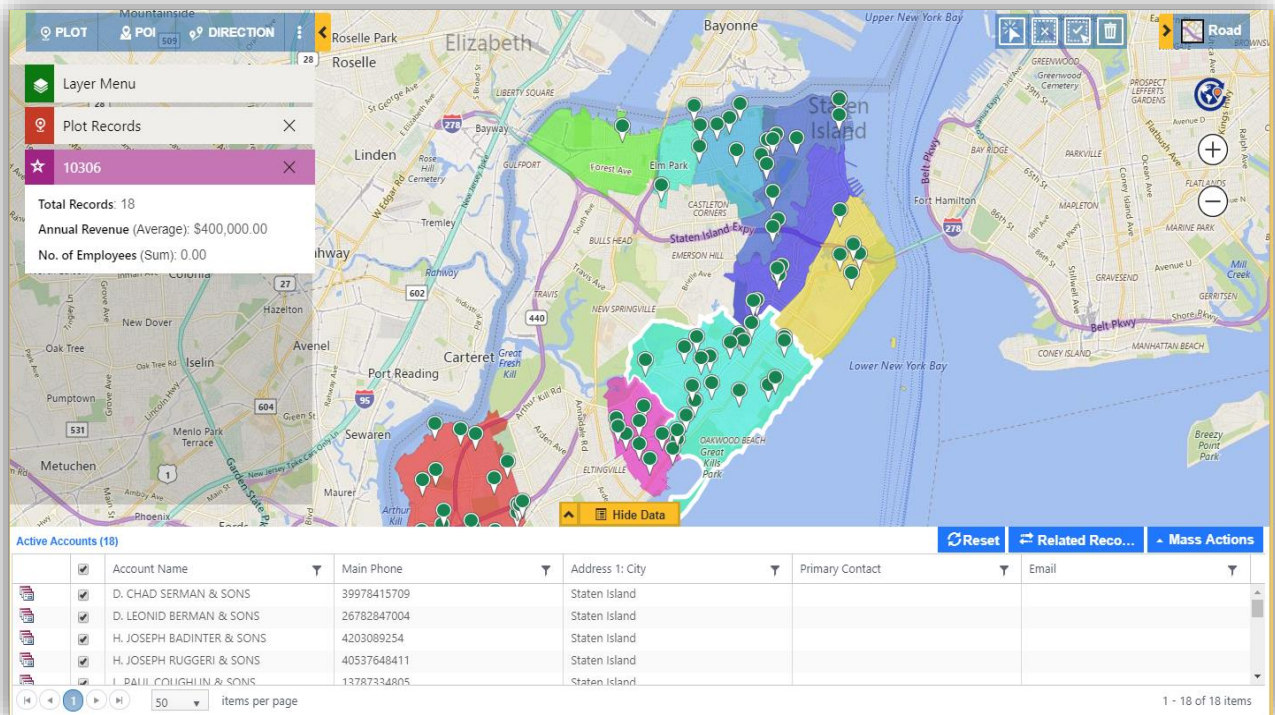


#### Note:

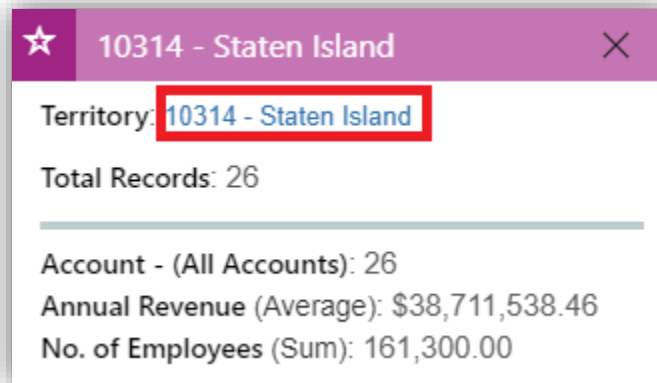
- **Supported file types for shape files are .shp, .kml and .geojson**
- **In a territory, either a shape file can be saved or geographies can be created**
- **Only one shape file can be saved in one Territory**

### 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 under the Summary card section in the respective 'Entity Maps'. Refer to 'Setup Entity Map' section of Installation Manual for further details.

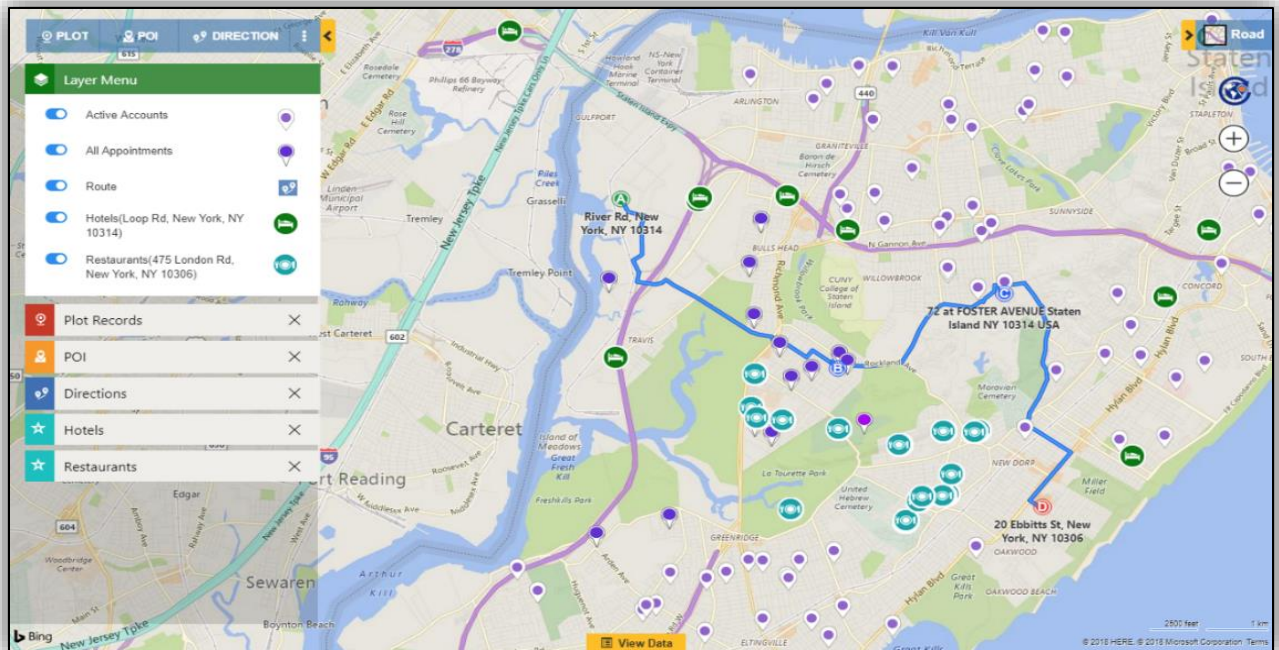


With territories plotted on the map, Summary card also shows the link to open the respective territory from the card itself.

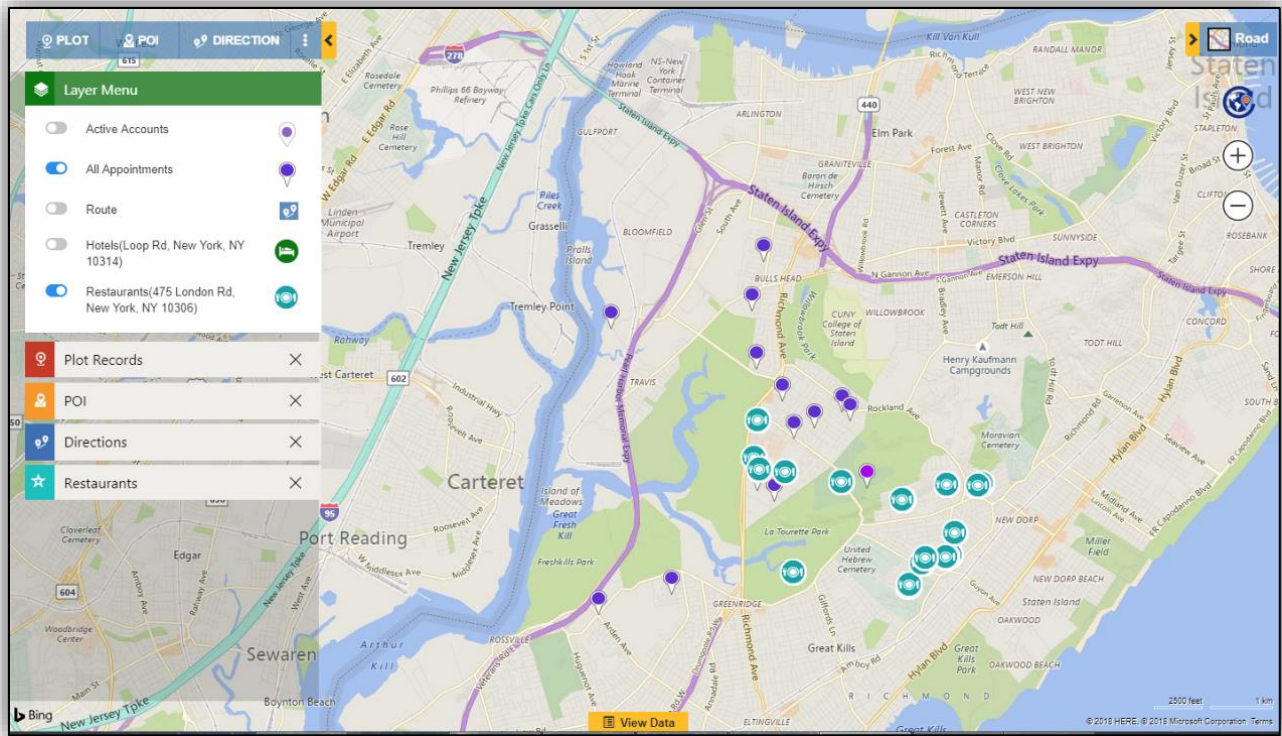


## Layer Menu

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.



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

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	

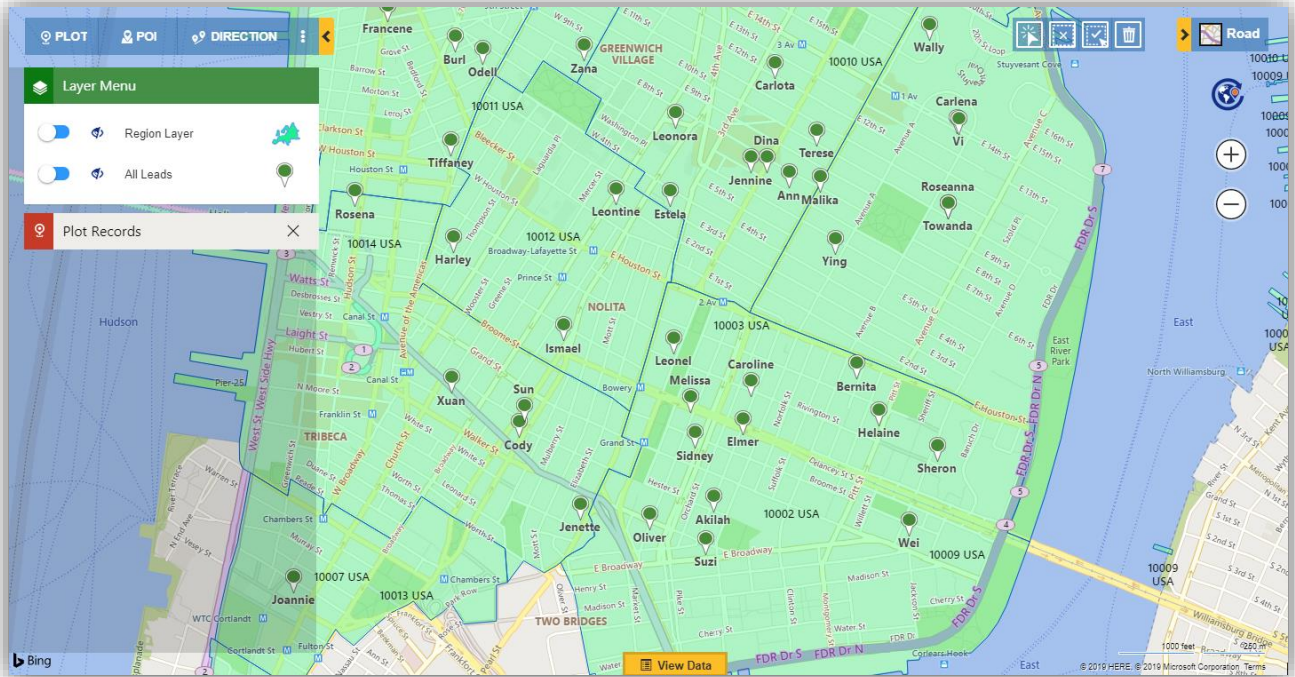
**Note:**

- 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

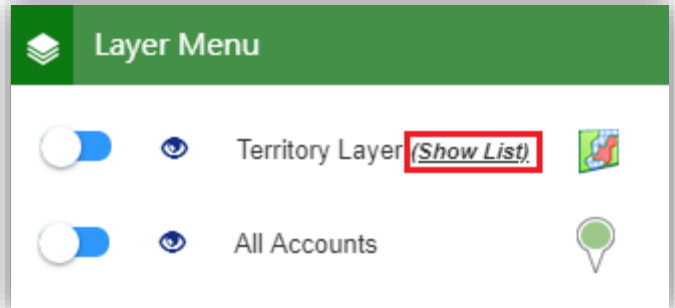
User can click on the 'Show label' button to view the labels for the pushpins, regions as well as territories plotted on the map. User can again click on 'Hide Label' to hide the labels showing on the map. The option for showing/hiding labels is available for every individual layer of data plotted on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

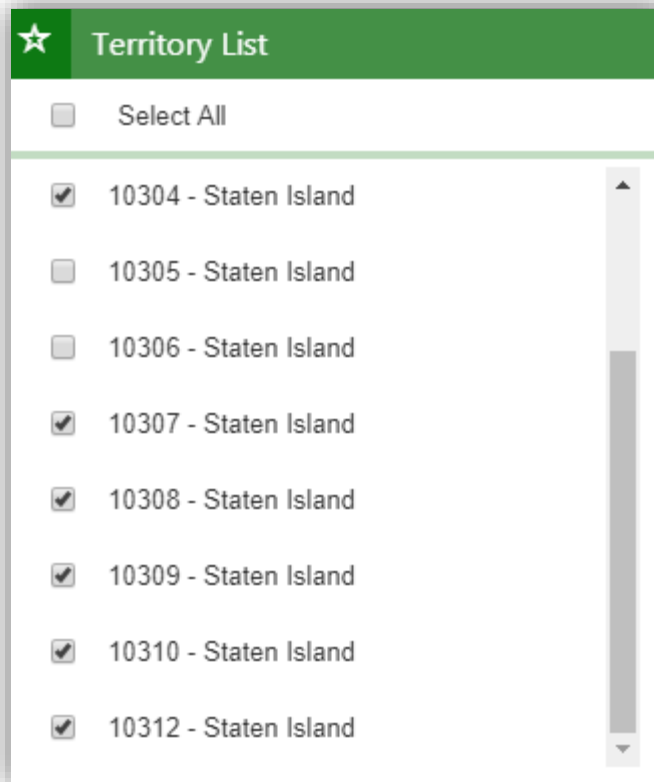


**Note: Show Labels is available for less than 5k records.**

## Show/Hide Territory List

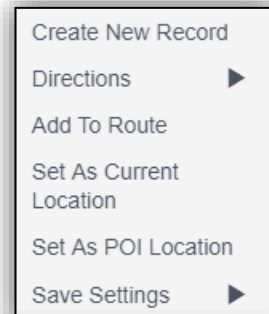
With territories plotted on the map, layer menu will also show an option of Show/Hide List for the layer of territories. User can click on this option to open the list of territories plotted on the map. User can further select or deselect the territories which are required to be plotted on map.





## Contextual Menu

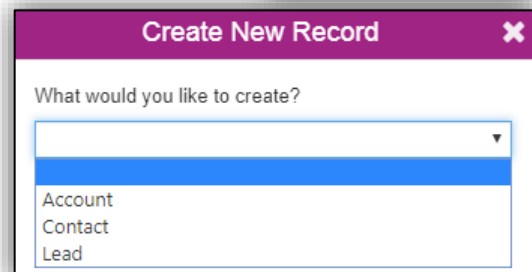
User can right click on the map to open Contextual menu. It provides commonly used features in Dynamics CRM like creating a new record, set origin/destination or selecting map zoom level on the map. The contextual menu provides the following options:



### 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:

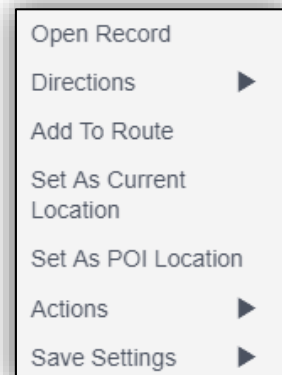
- **Current location:** This will save the location as the default current location.
- **Map zoom level:** This sets the zoom level and map center for the Map. After this setting is done, whenever the user will open the Detail Map, it will be zoomed down to the location set here.
- **Origin:** This sets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

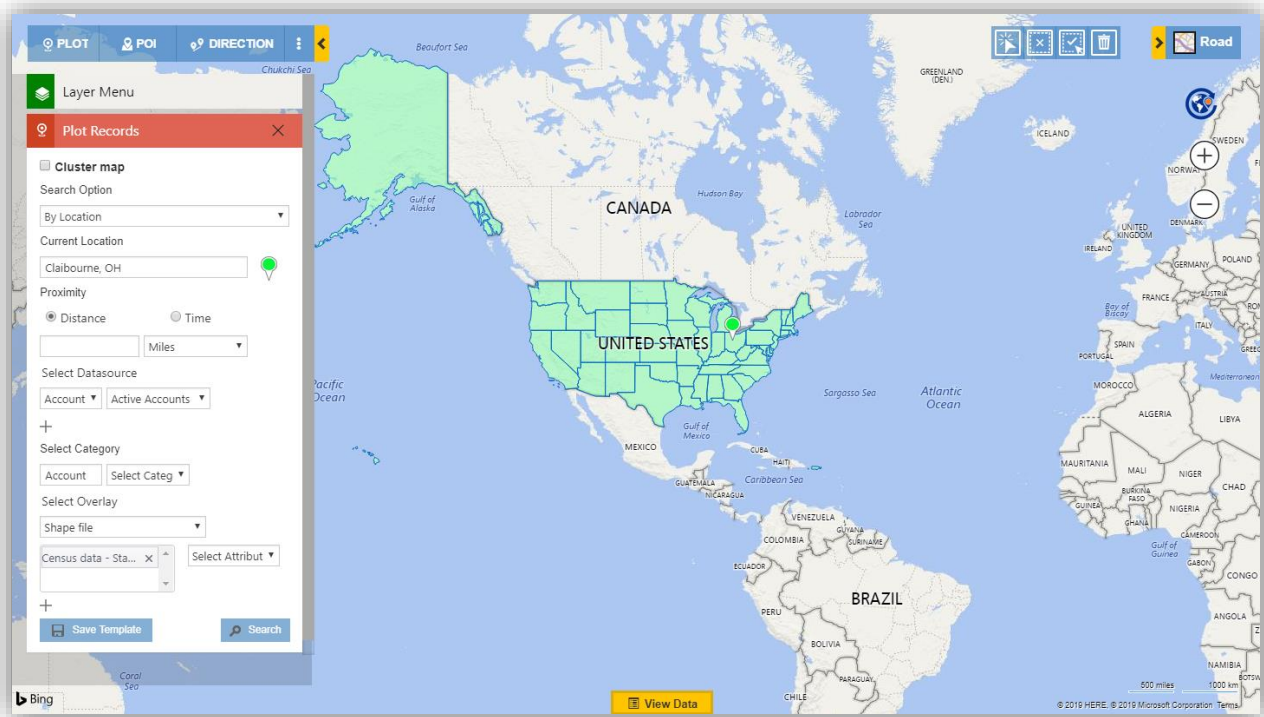
- **Add Task:** This option helps the user to create a new task in Dynamics CRM regarding the selected record.
- **Schedule Appointment:** The user can use this option to create a new appointment for the selected record.
- **Manage Territory:** The user can assign/re-assign a territory to the selected 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
Select Summary Attribute(s)	+
Name	🗑️
Population	🗑️
Area_Land	🗑️
Hover Attributes	Actions
Select Hover Attribute(s)	+
Name	🗑️
Population	🗑️
StateCode	🗑️
Data Grid Attributes	Actions
Select Grid Attribute(s)	+
Name	🗑️
Population	🗑️
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	✎ 🗑️

## Maplytics™ – User Manual

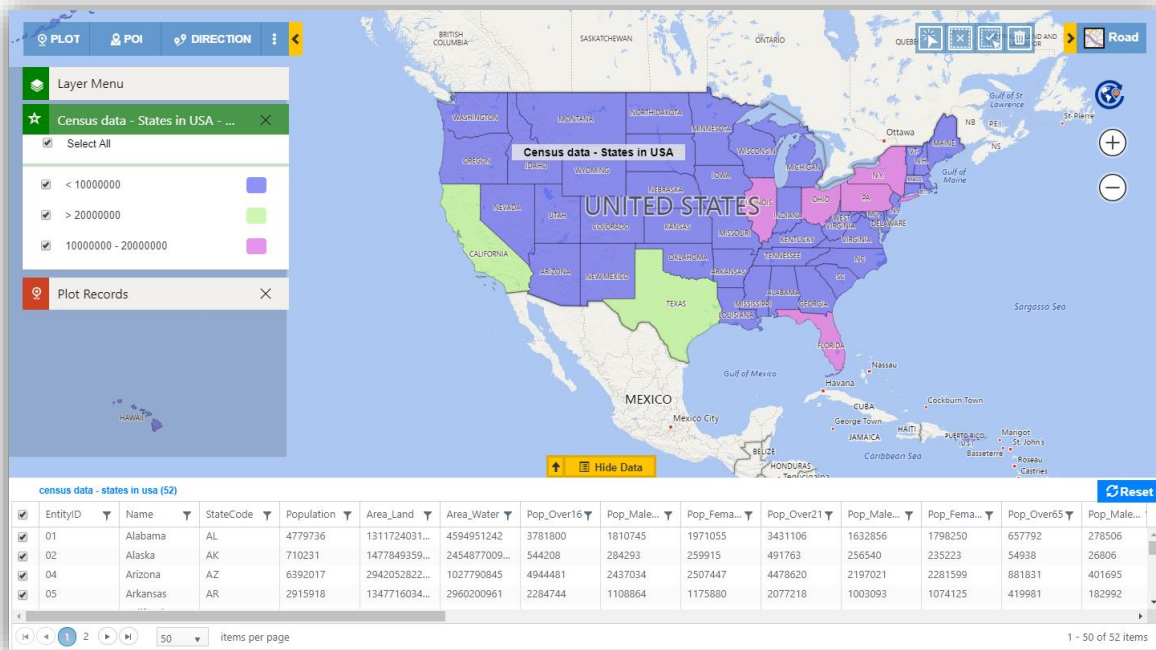
### ■ Create filters and define colors

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	Pop_Female_Over16	Display Name	Pop_Female_Over16			
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:

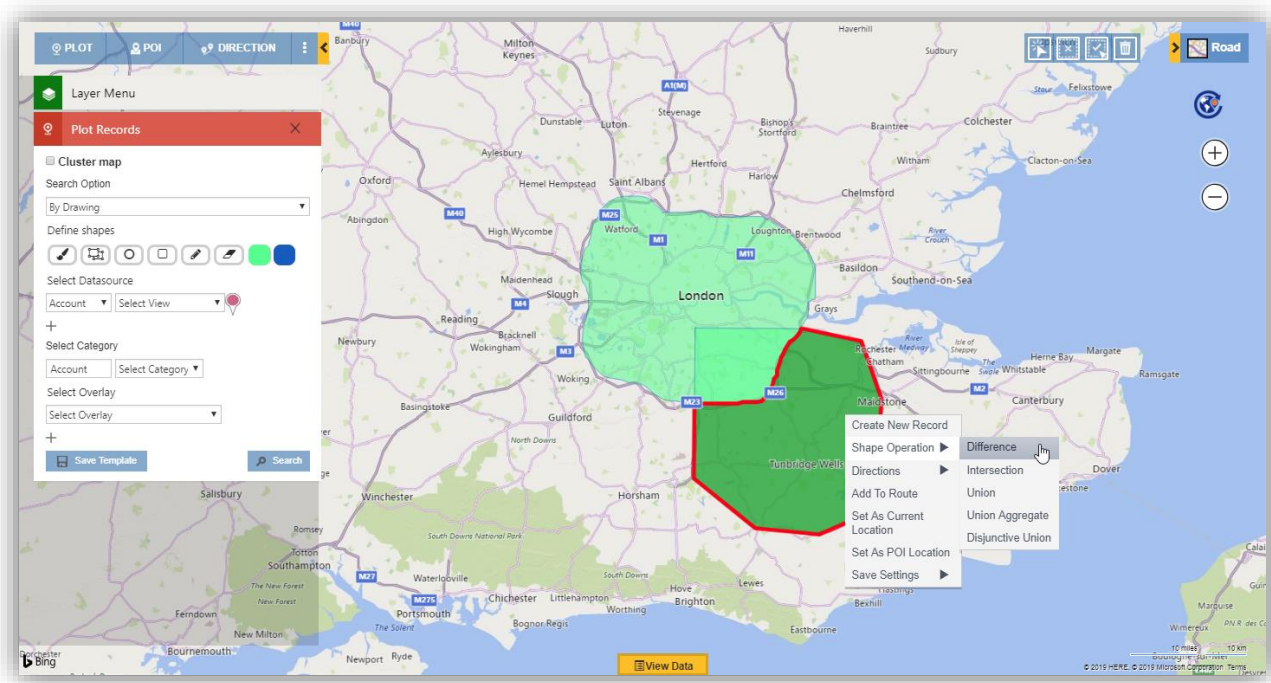


## Shape Operations

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.

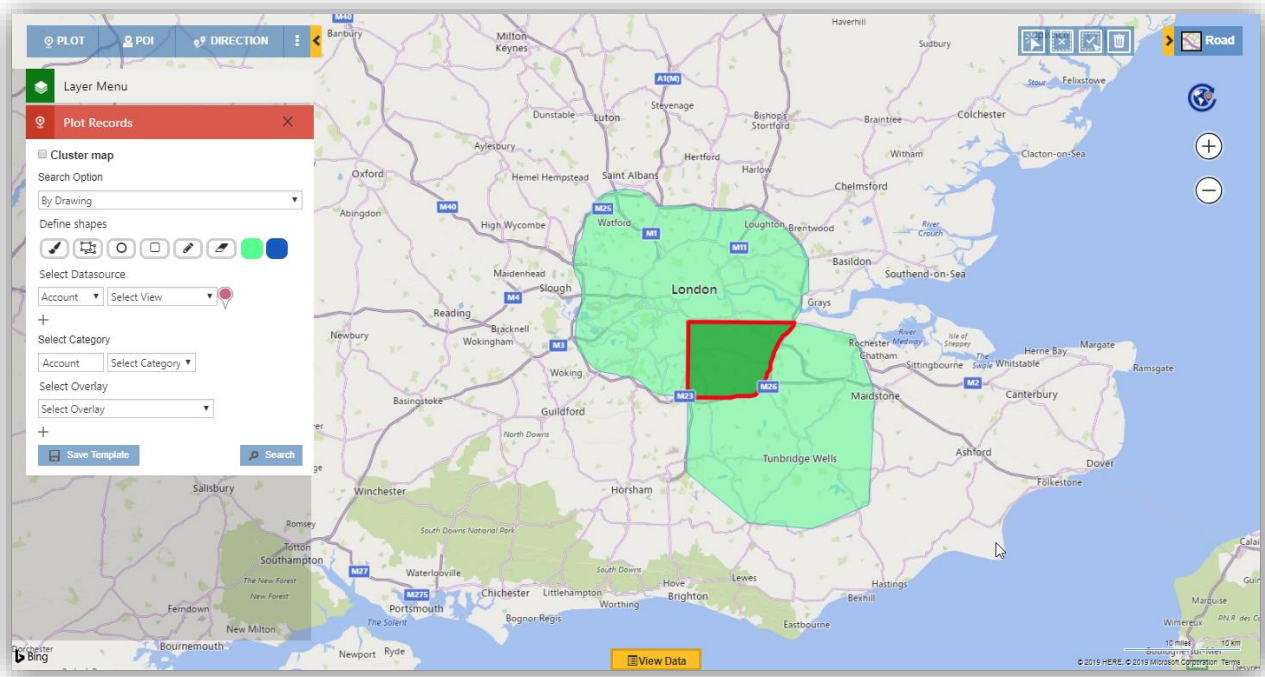
User can open the 'by drawing' search option and right click on the shapes and can choose the option of 'Shape operations'. The following five operations can be performed on the shapes:

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

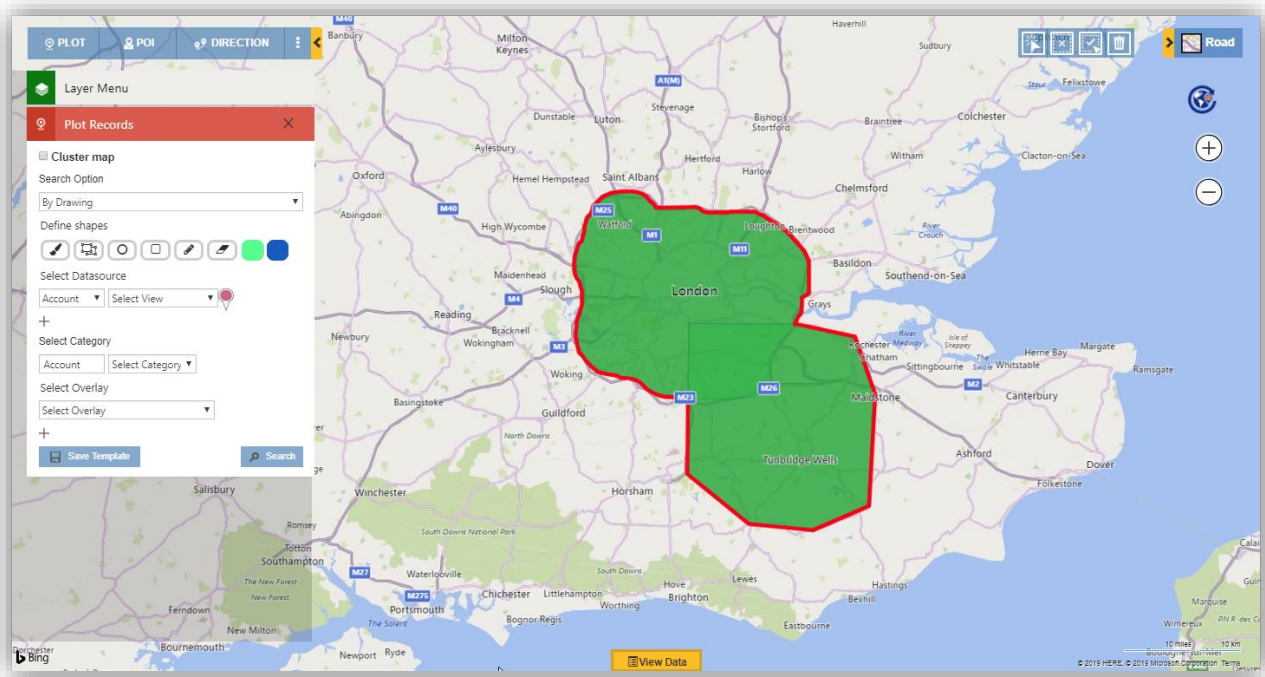


- **Intersection:** This highlights the shape(s) where the selected shape and other shapes overlap.

## Maplytics™ – User Manual



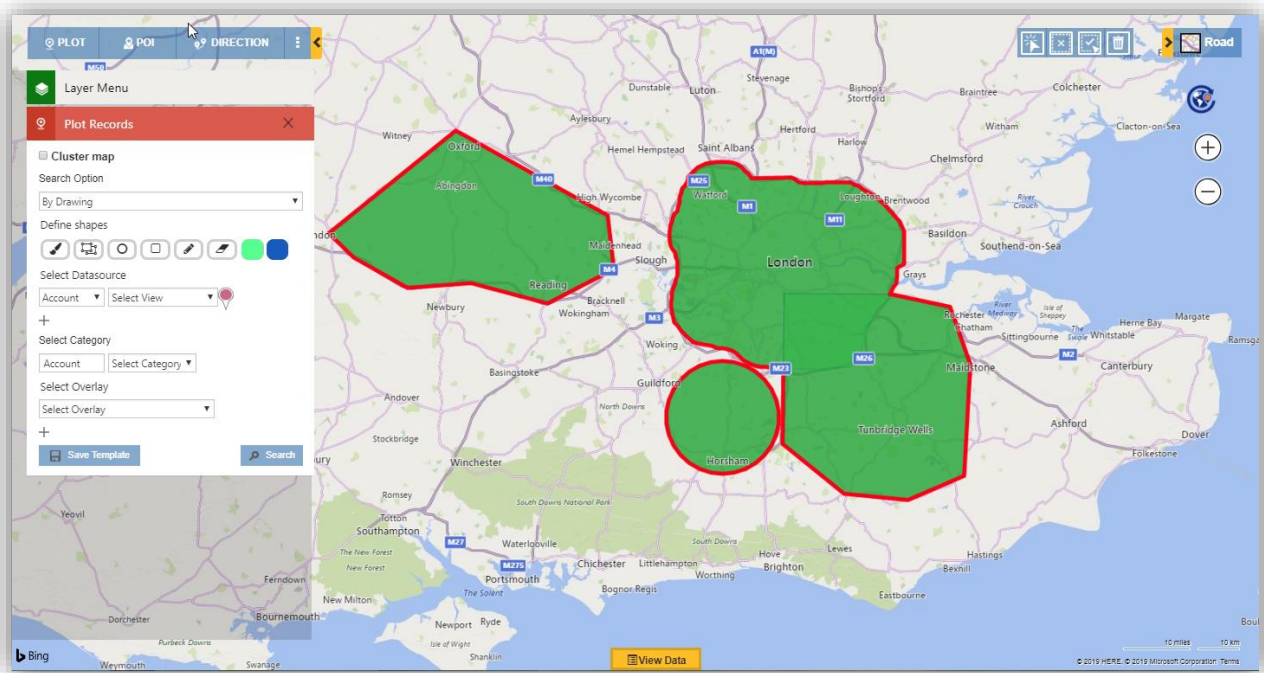
- **Union:** This adds all the shapes overlapped on the selected shape



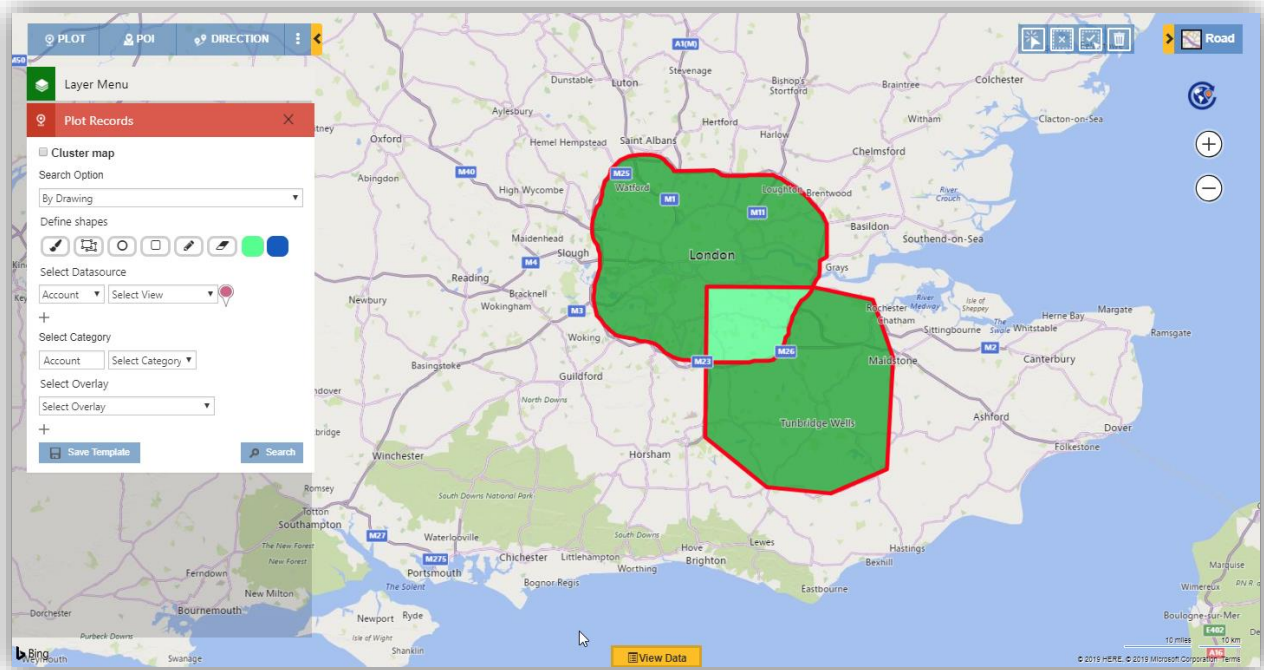
- **Union Aggregate:** This performs union operation on all the shapes that are drawn on the map. If a shape does not overlap with any other shapes, it highlights such shapes and the union of the rest of the overlapping shapes.



## Maplytics™ – User Manual



- **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



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**

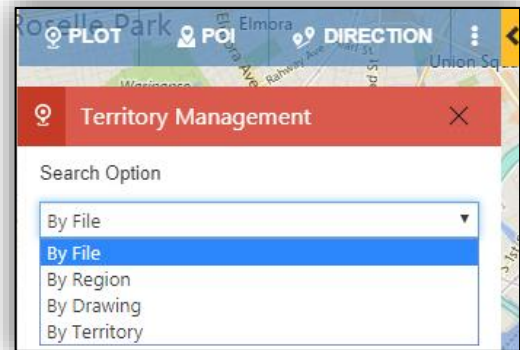


**Note:** Users other than System Admin, can use Territory management only if they are given the role of Maplytics Territory Manager

## Maplytics™ – User Manual

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:

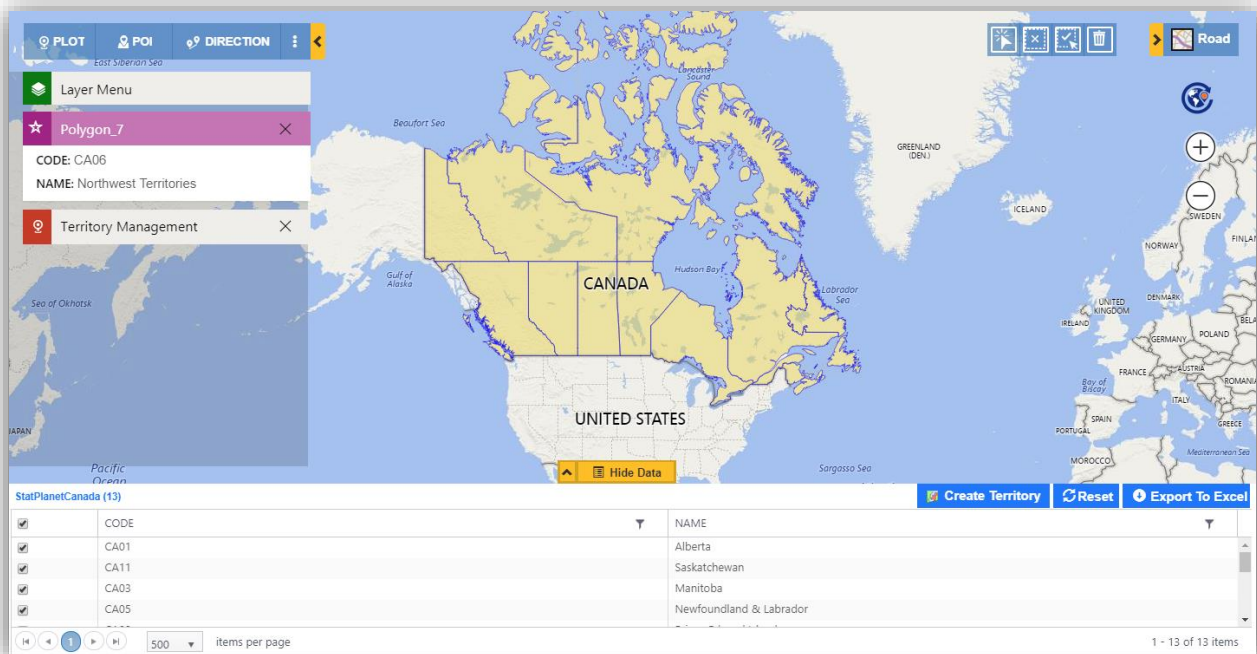
- By File
- By Region
- By Drawing
- By Territory



### By File:

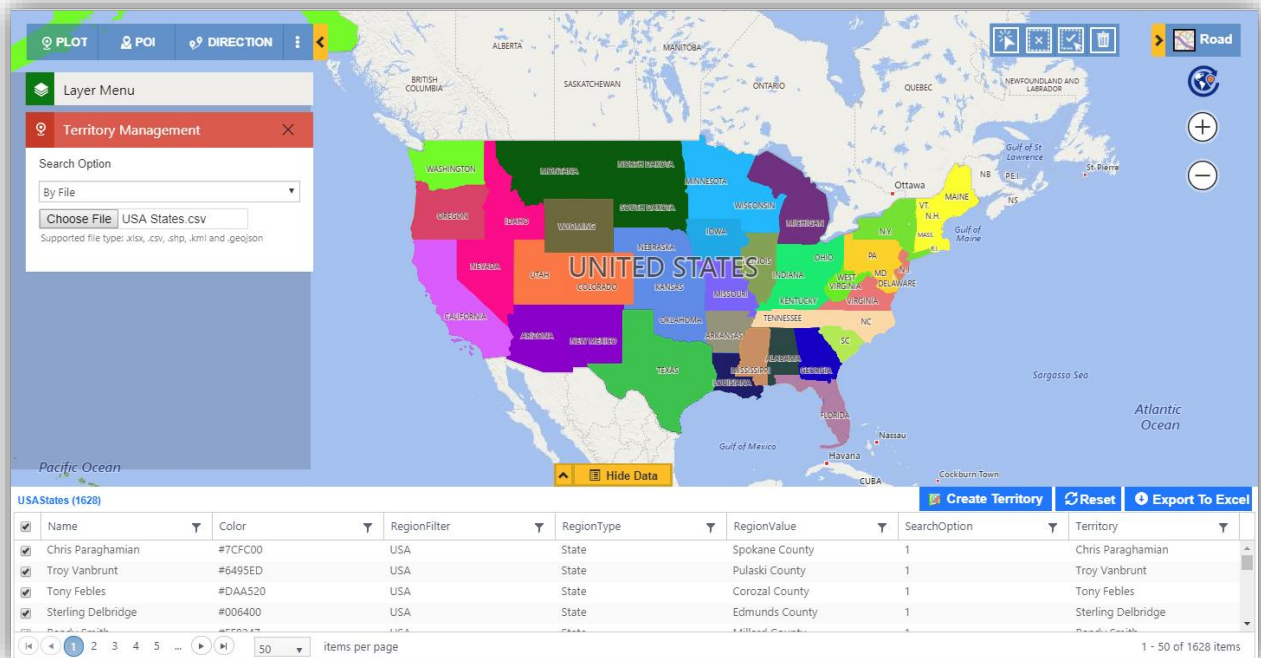
This helps user to plot the shape files and excel files on the map that store geographical information and attributes of the geographic features. User can plot the following two types of files:

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



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

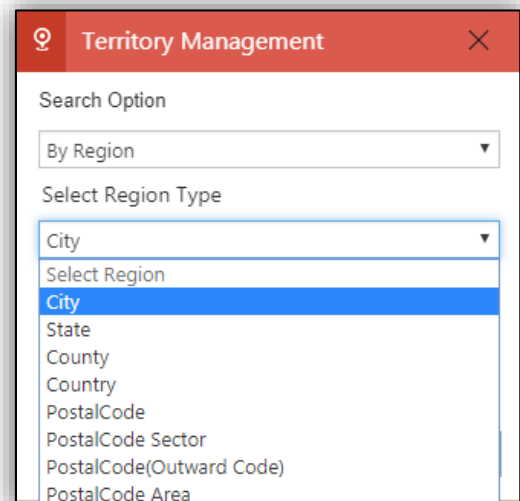
## Maplytics™ – User Manual



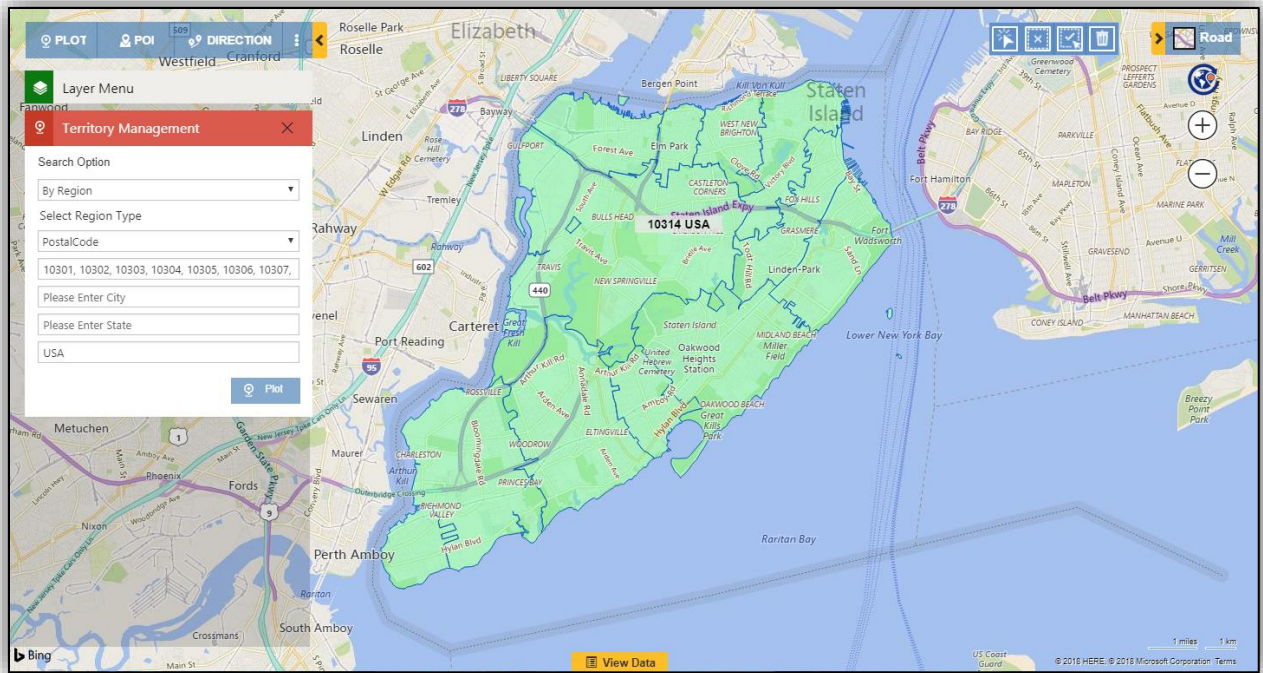
**Note: The excel files should be in a predefined format so as to get supported by Territory Management. Please refer to the section of Bulk Geographies by uploading an Excel file**

### 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.

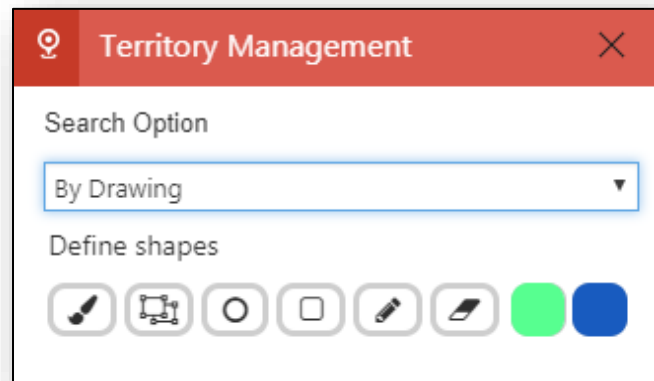


## Maplytics™ – User Manual



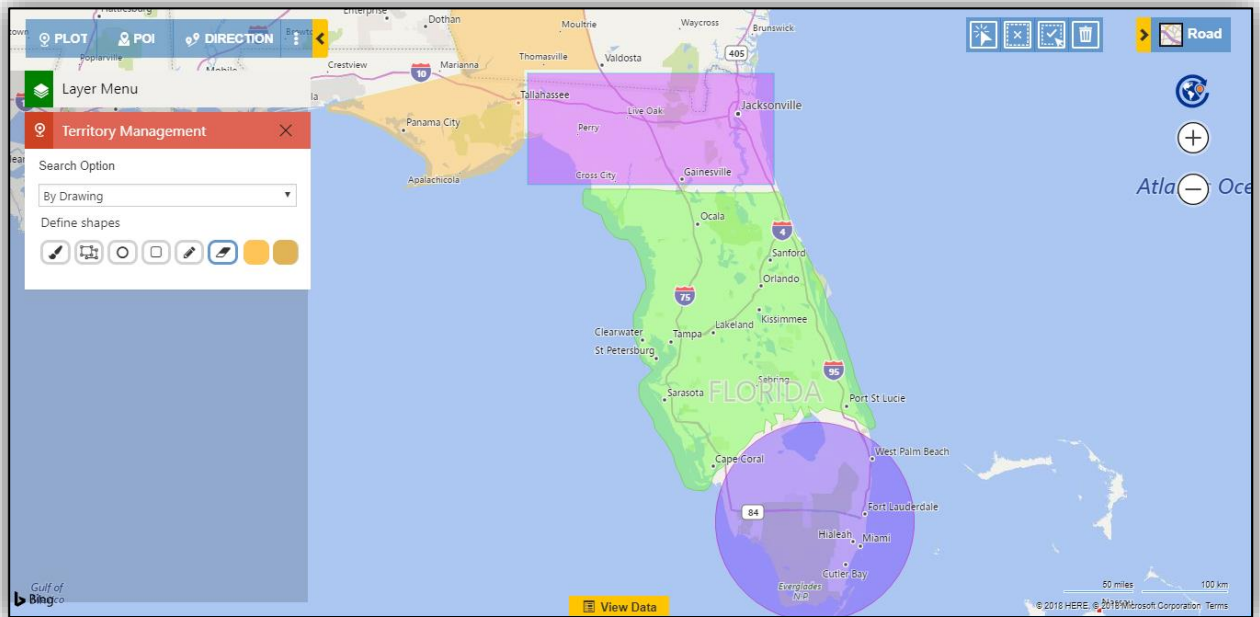
### By Drawing

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



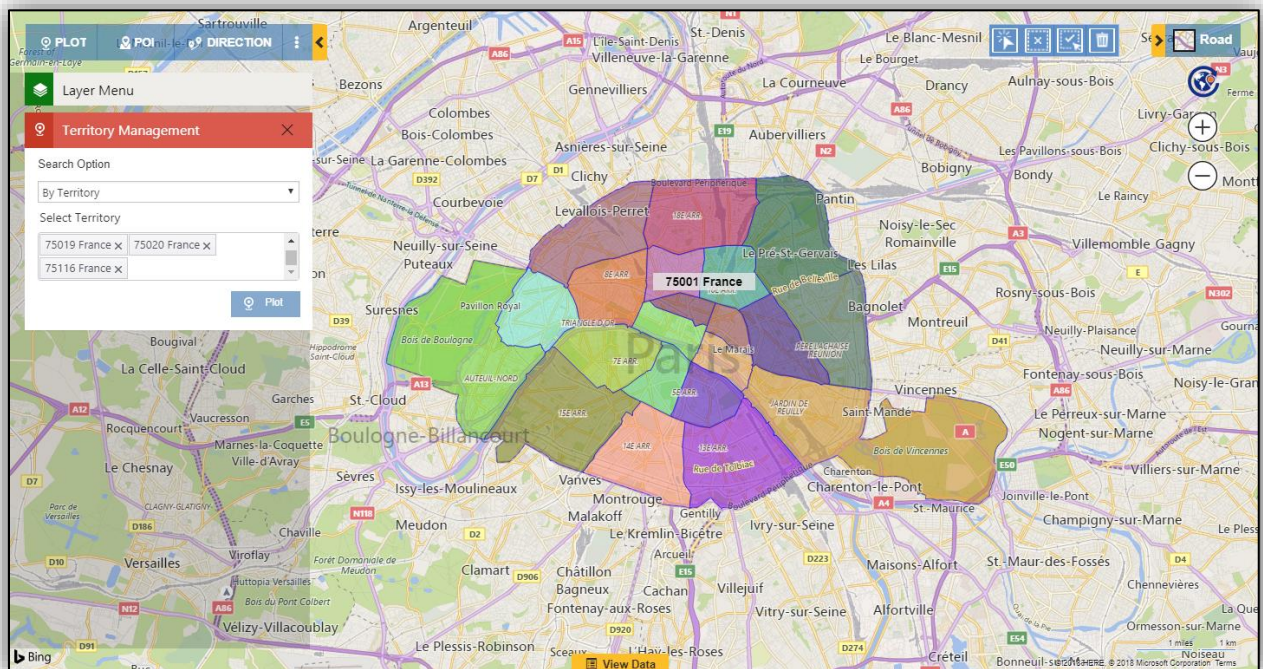


## Maplytics™ – User Manual



### By Territory

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

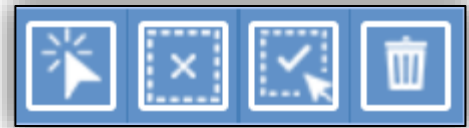




## Territory Alignment Tool

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



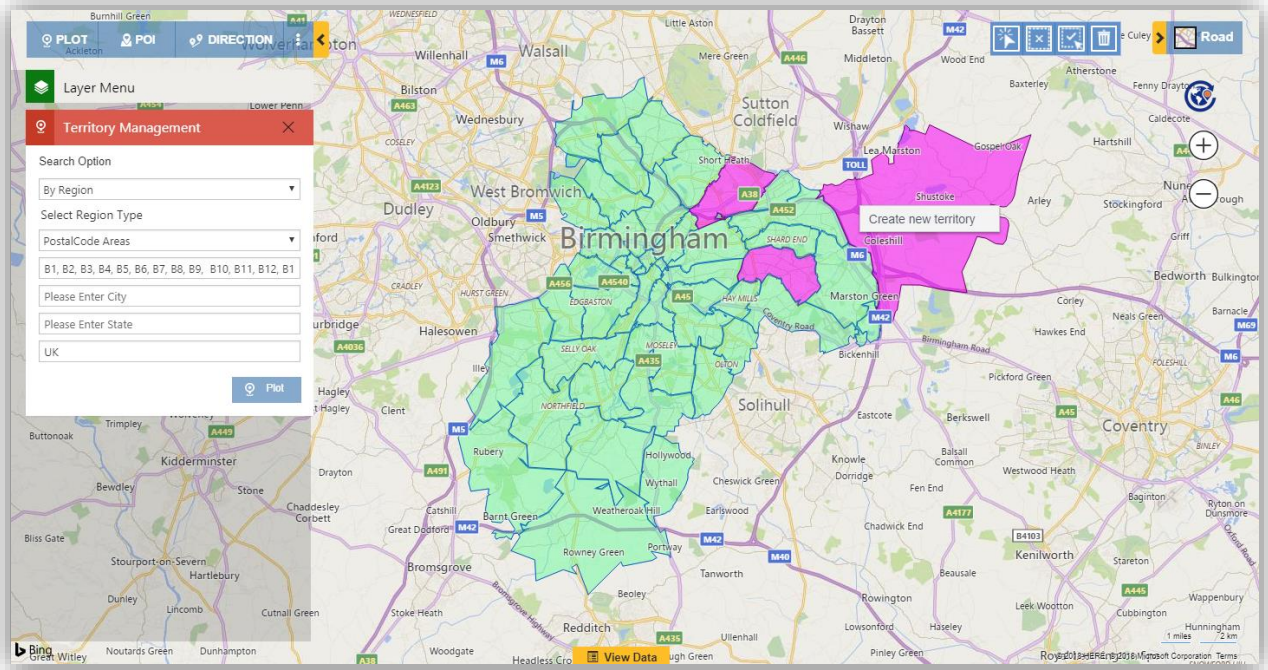
**Note: If the delete option is used on the existing territories, it will delete the selected geographies from the existing territories.**

**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

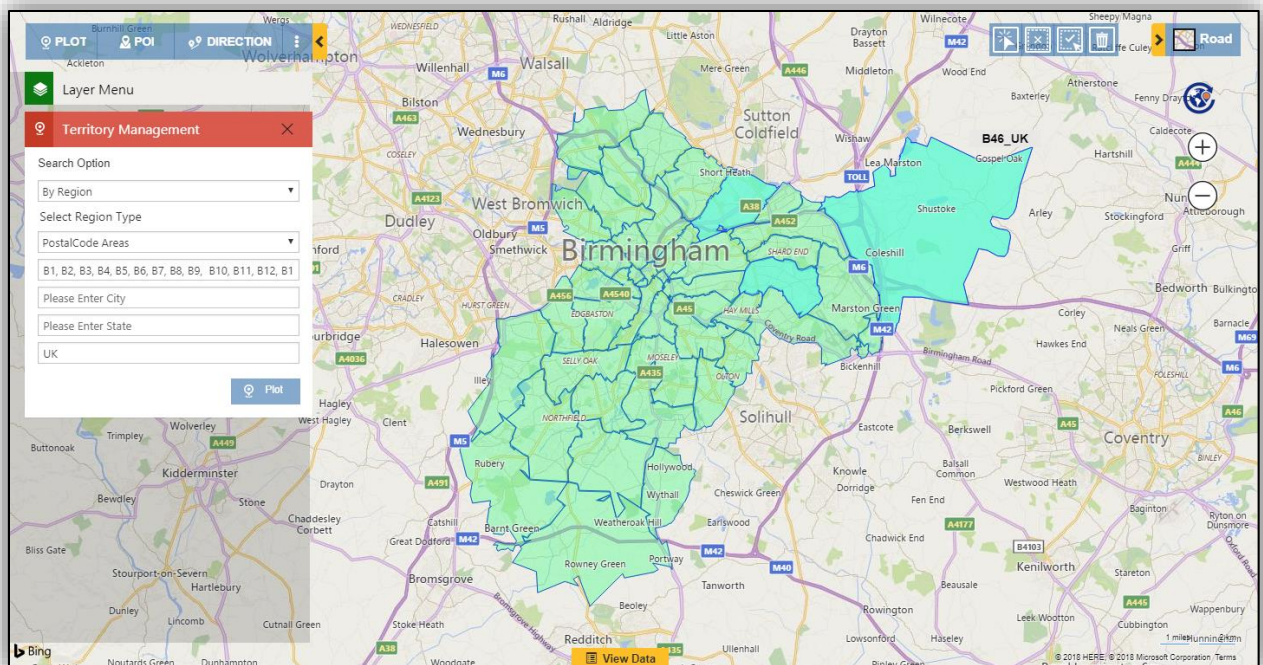
☐ Add to existing territory

☒ Create new territory

Select Manager

Select Manager

Save



### Create territory on one click

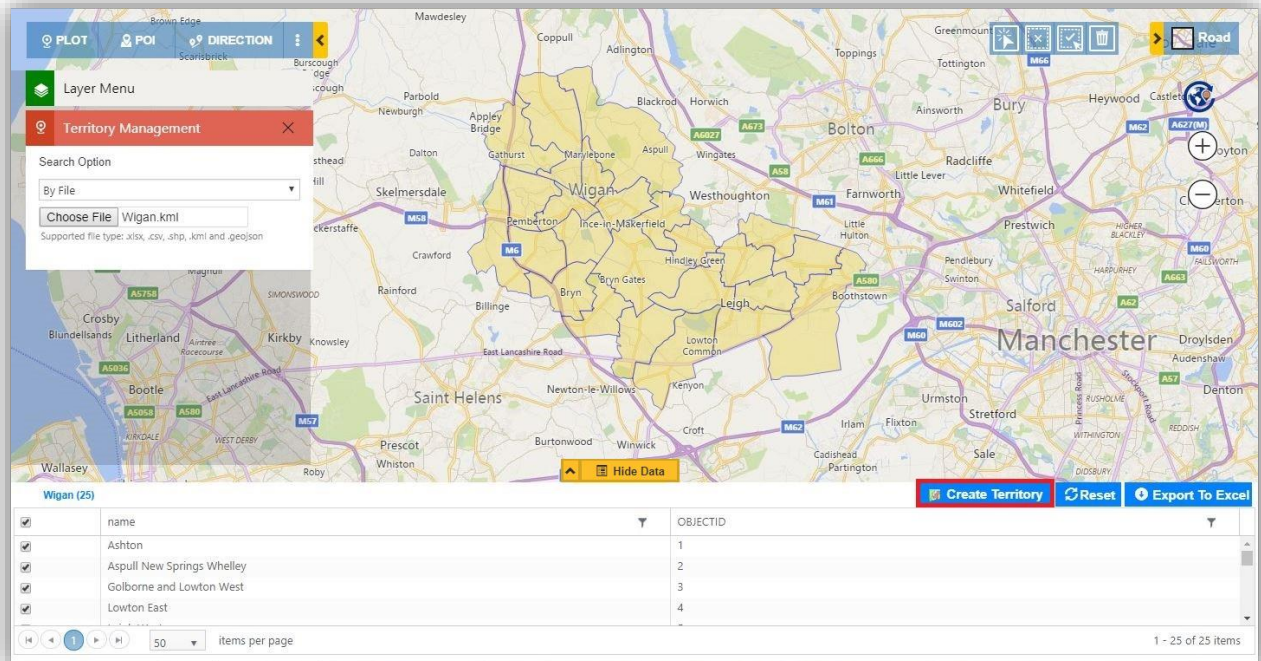
User can create territory(ies) with a single click on 'Create Territory' button. User can plot shape files or excel files on the map to view the shapes required as geographies and follow the steps mentioned below to create territory(ies):



## Maplytics™ – User Manual

### 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

Select Geography Name

Select Manager

Save

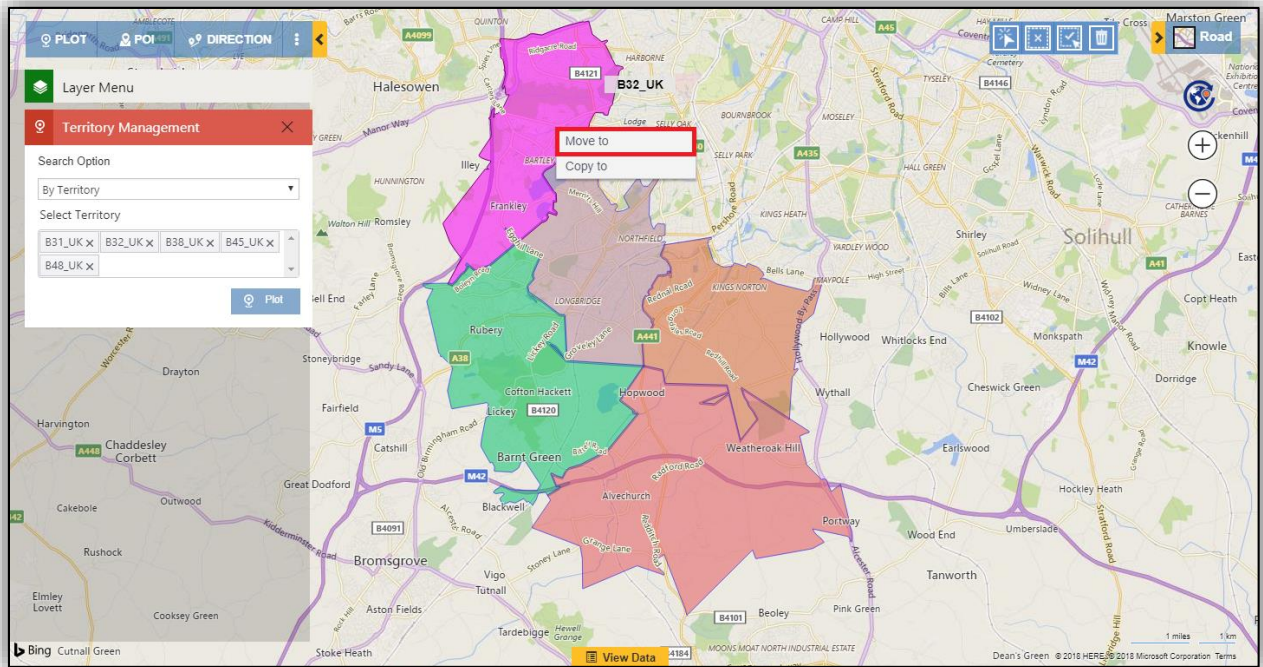
User can provide the name for the new/existing Territory to be created and the respective names of geographies will be fetched from the file.

### 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.

### 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.



### Move to

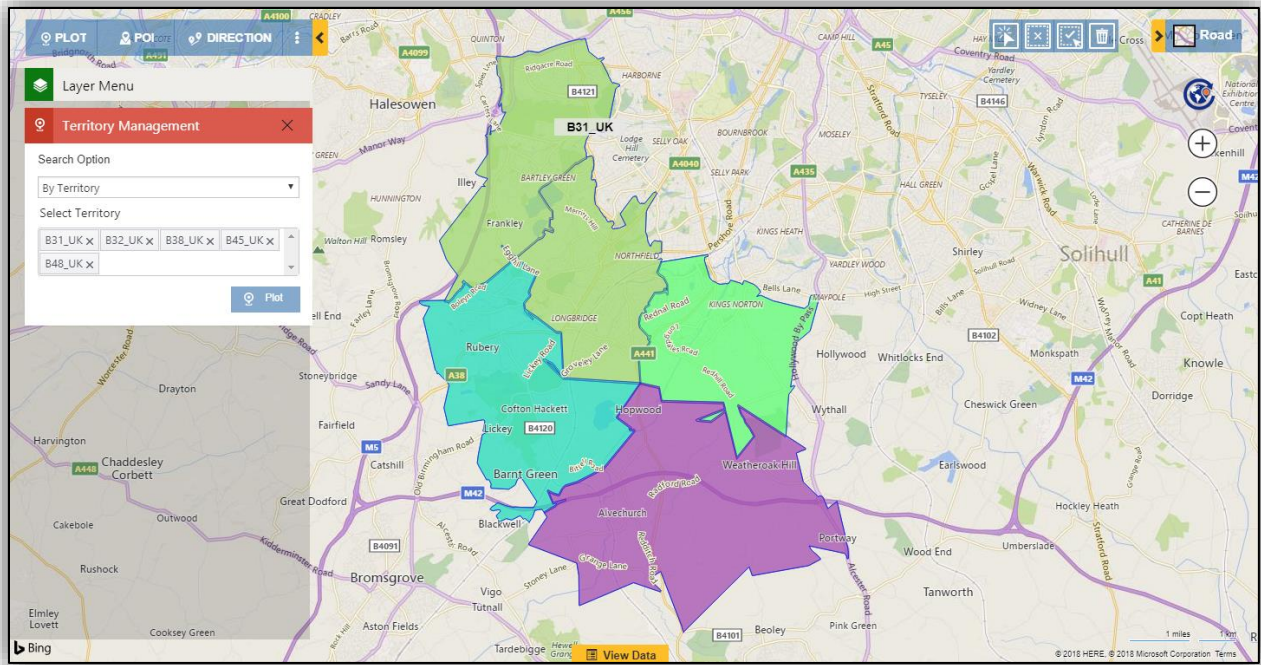
☒ Move to existing territory

☐ Create new territory

Save

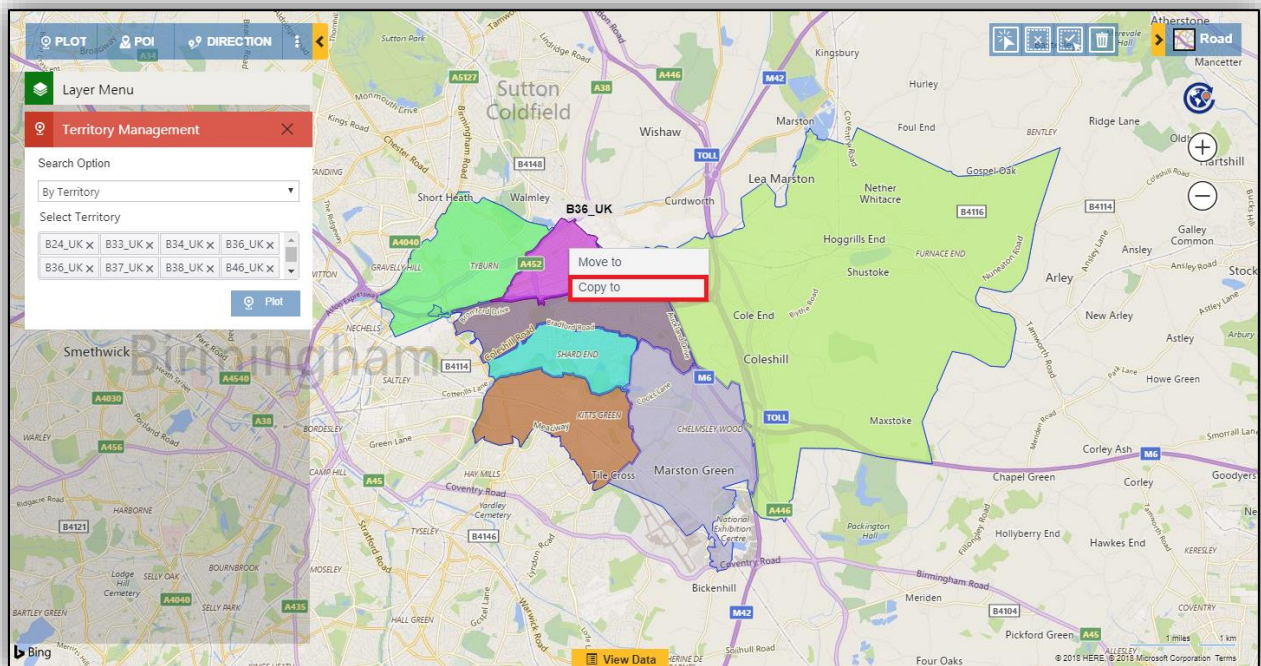


## Maplytics™ – User Manual

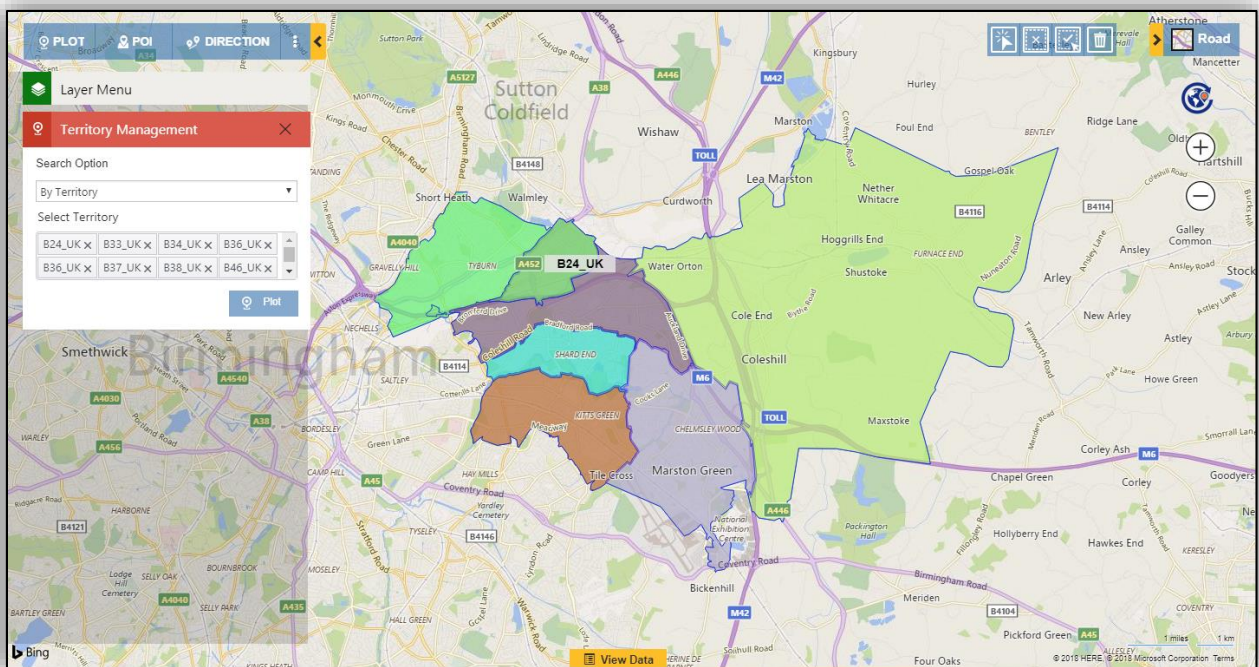
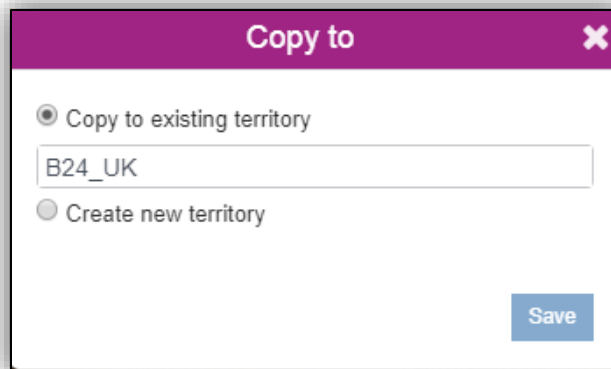


### Copy to

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'.

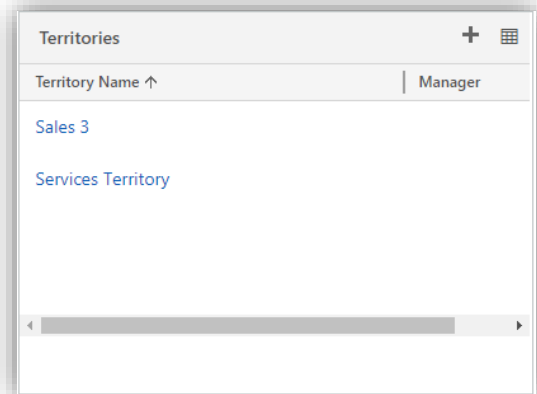
**Note: User cannot undo this option, once selected and saved.**

### **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.



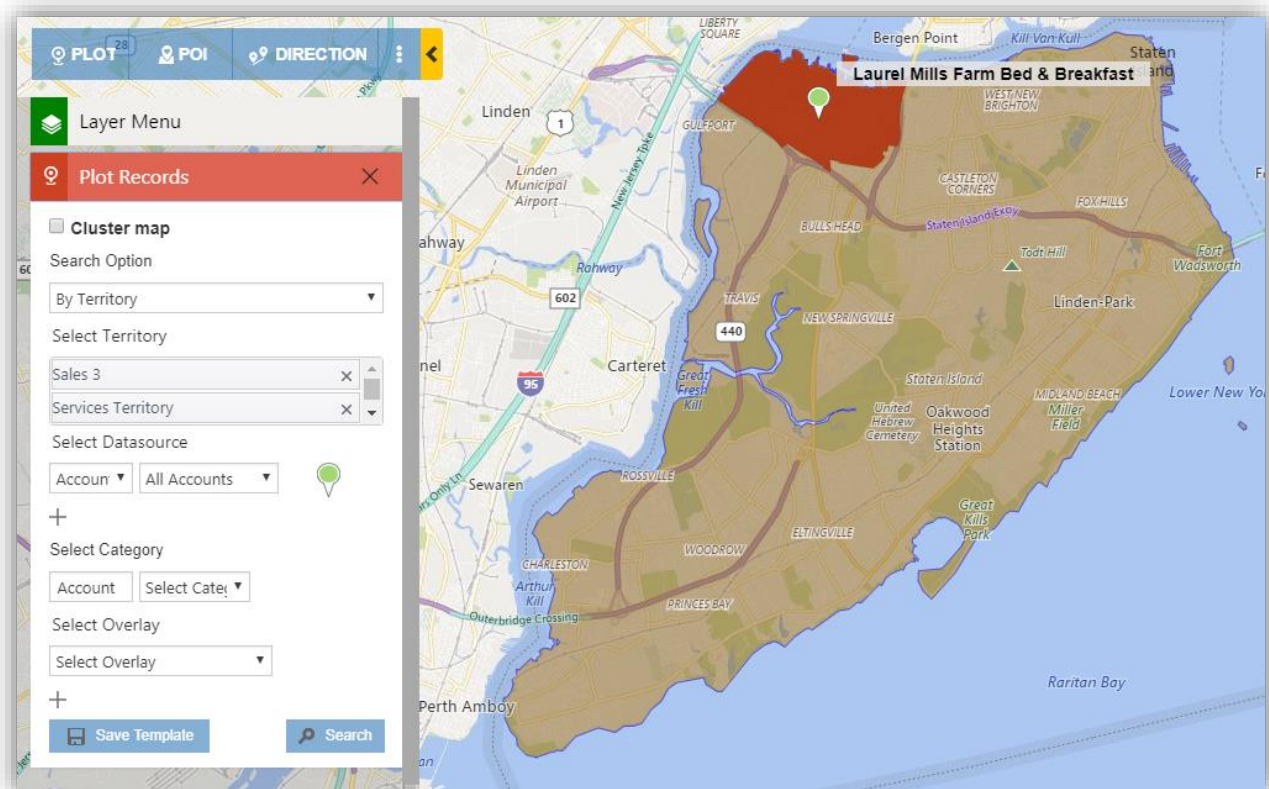
### **Step 4: Select relationship for the field 'Territory Relationship' in Attribute mapping section of Entity map.**

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

### 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.

**Add Web Resource**

Add an existing web resource to the Form.

General Formatting Dependencies

Web resource

Web resource \*

Field Name and Properties

Name \*

Label \*

☐ Display label on the Form

Visibility

☒ Visible by default

Web Resource Properties

Custom Parameter(data)

☐ Restrict cross-frame scripting, where supported.

☐ Pass record object-type code and unique identifier as parameters.

☒ Enable for tablet

OK Cancel

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.

The screenshot shows the 'ENTITY MAP' configuration for an 'account' entity. The 'Attribute Mappings' tab is active. A red box highlights the 'Template' field, which has the value 'Land Area' entered. Other fields visible include 'Title \*' with 'Account Name' and 'Contextual Search' with 'Tax Exempt Numb'.

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**

The screenshot shows the 'Web Resource Properties' dialog box. The 'General' tab is selected. The 'Web resource' field contains the path 'ikl\_/Maplytics/Maplytics.DetailMap.html'. The 'Field Name and Properties' section shows 'Name' as 'WebResource\_template' and 'Label' as 'template'. The 'Web Resource Properties' section shows 'Custom Parameter(data)' as 'savetemplate'. There are also checkboxes for 'Visible by default', 'Restrict cross-frame scripting, where supported.', 'Pass record object-type code and unique identifier as parameters.', and 'Enable for tablet'.

## Maplytics™ – User Manual

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

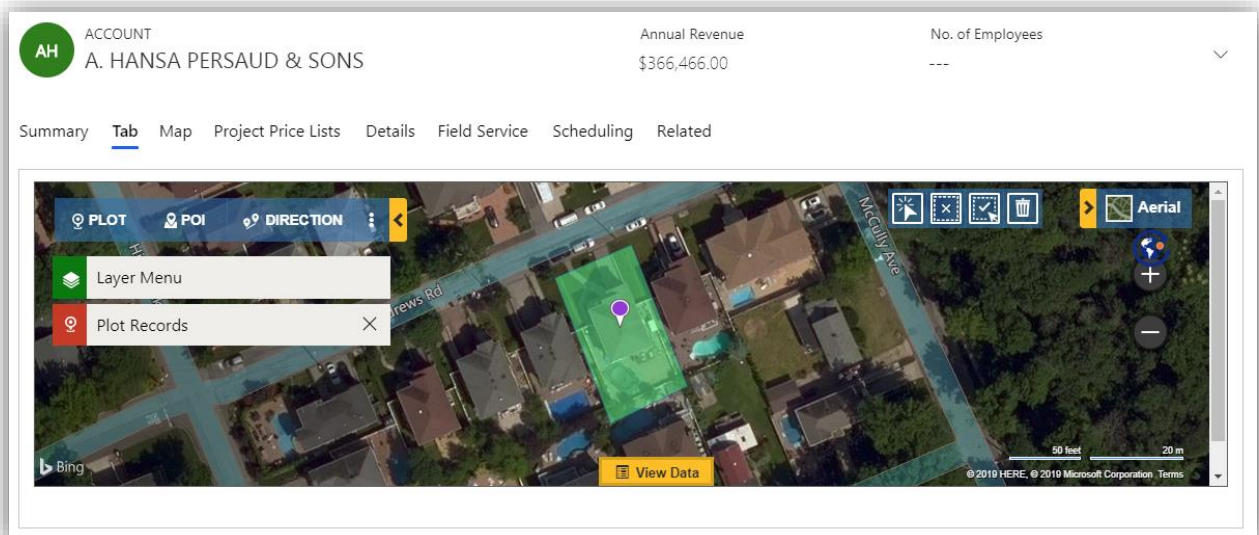
Summary Map Project Price Lists Details Field Service Scheduling Related

Ticker Symbol  
---

Relationship Type  
---

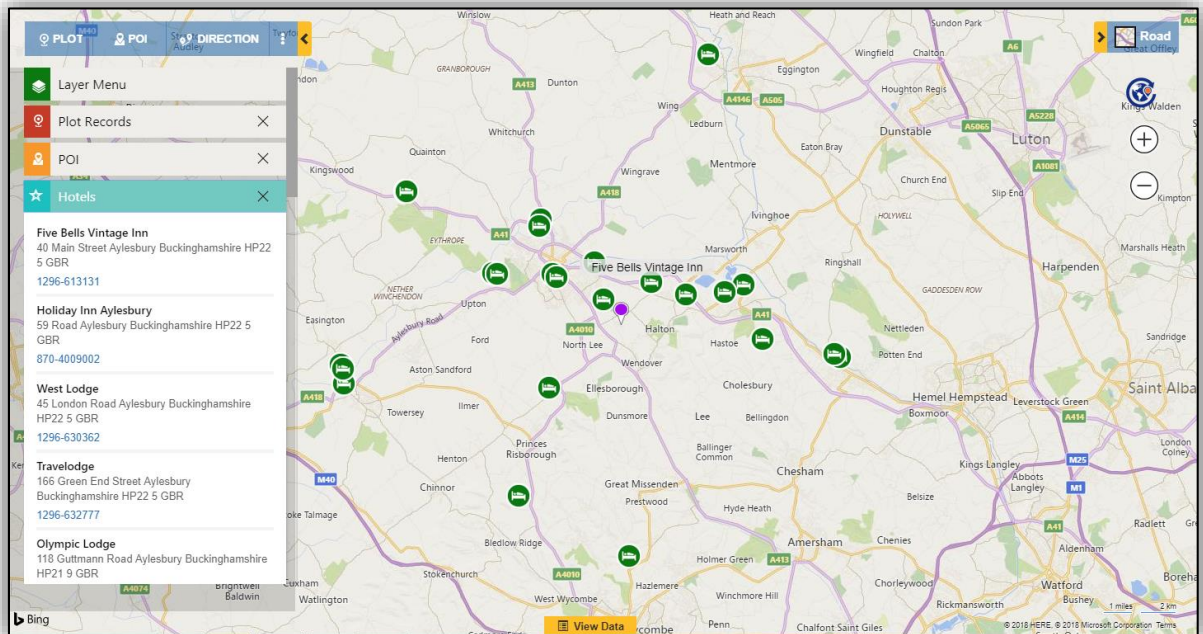
Product Price List  
---

Template  
Land Area

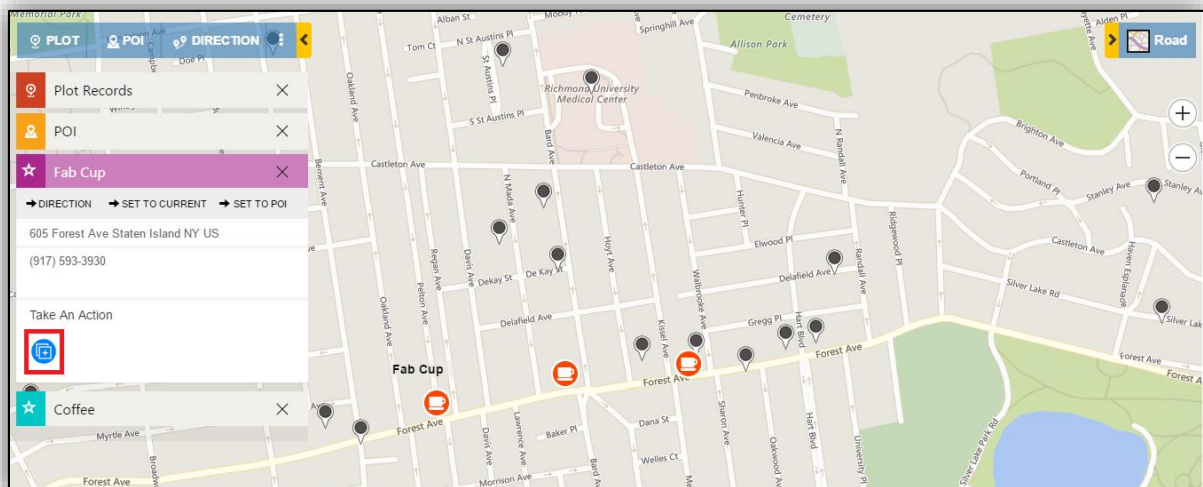


## Point of Interest (POI) Locations

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)

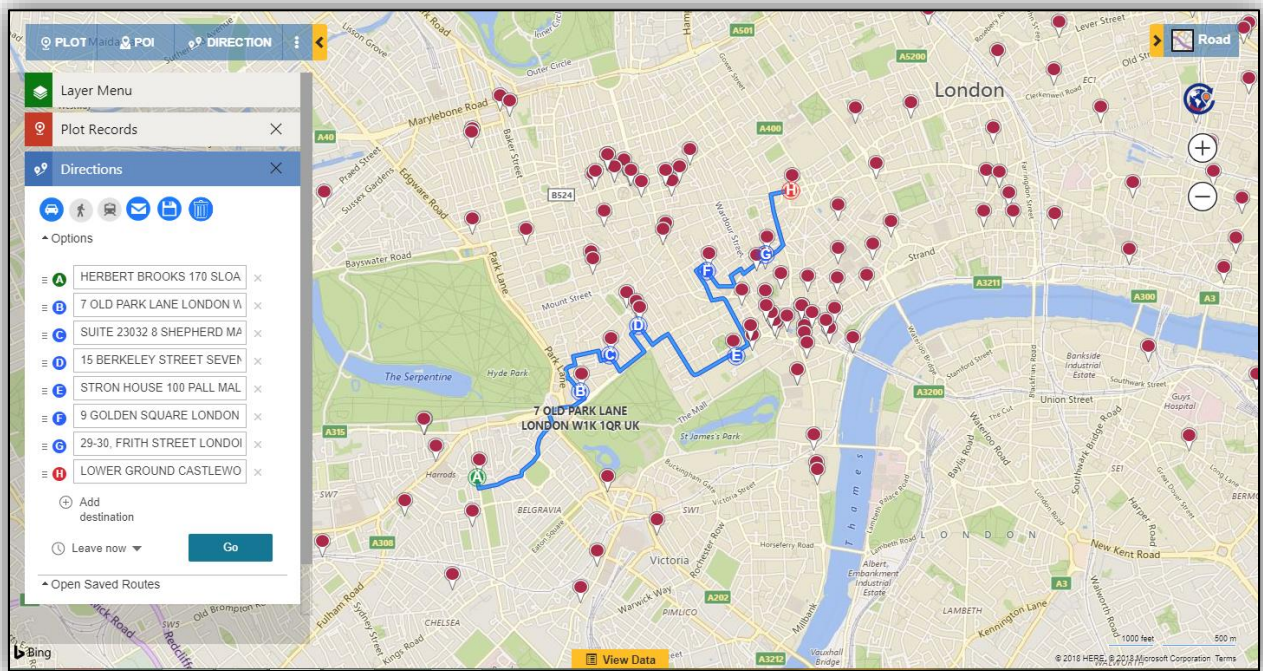


## Routing Management

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.



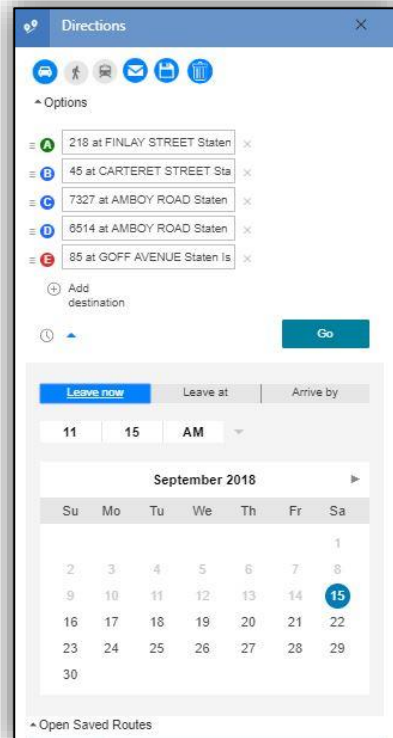
**Note: The route will remain on the map unless the user clicks on the 'Clear Route' button or closes the Directions Card**



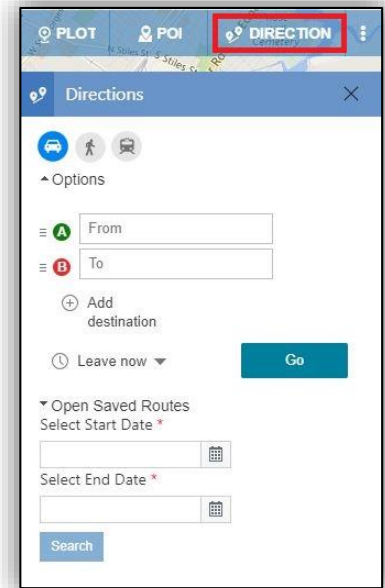
## Directions Card

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.

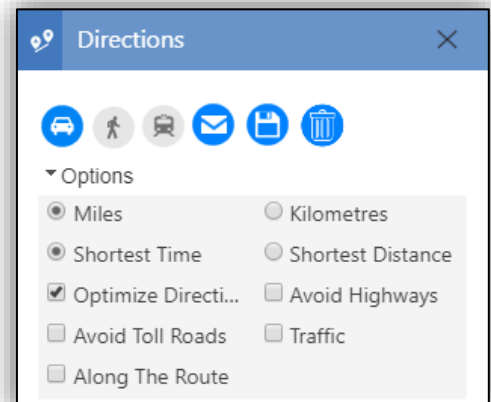


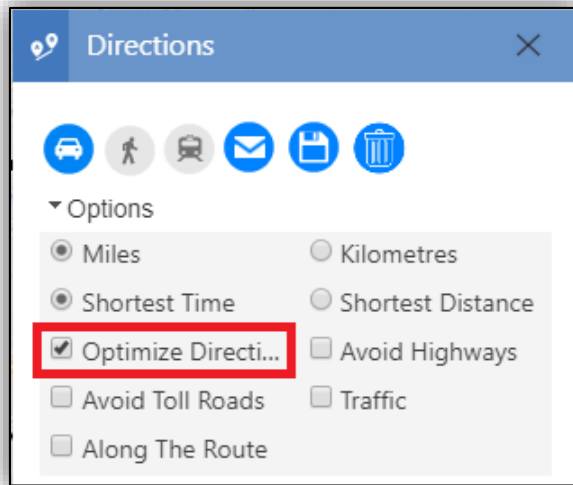
Once the user clicks on 'Go' the route will be plotted and the directions will be available on the Directions Card.



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

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.





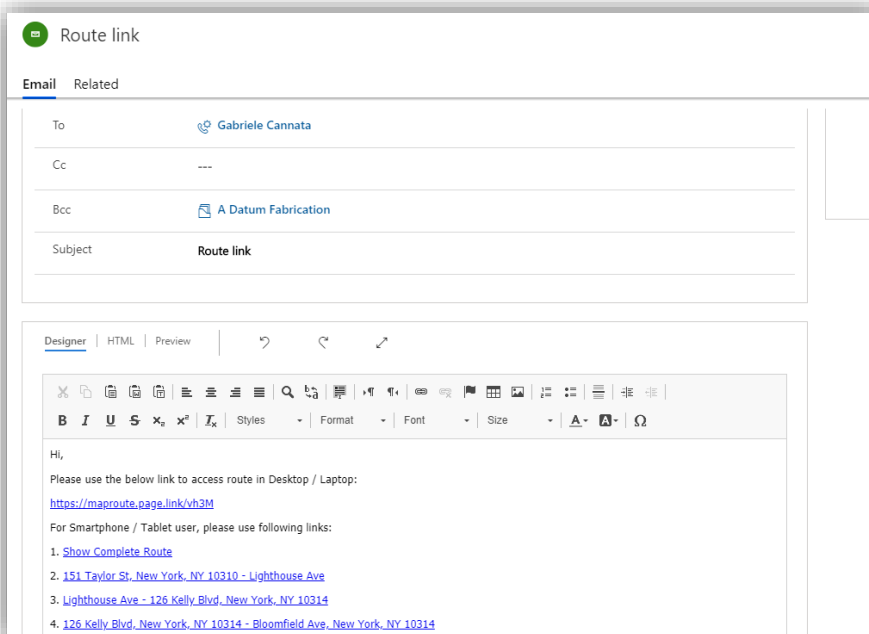
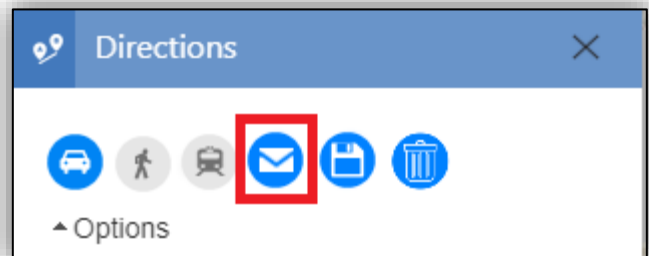
## Optimize Direction

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.

## Route Sharing

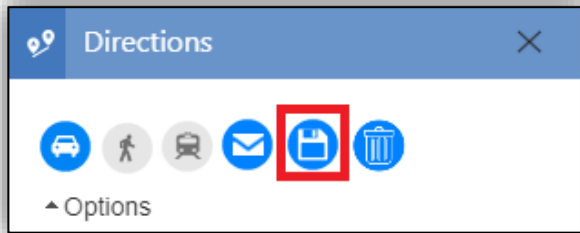
Maplytics also helps the user to share a route in different ways.

### Email Route:

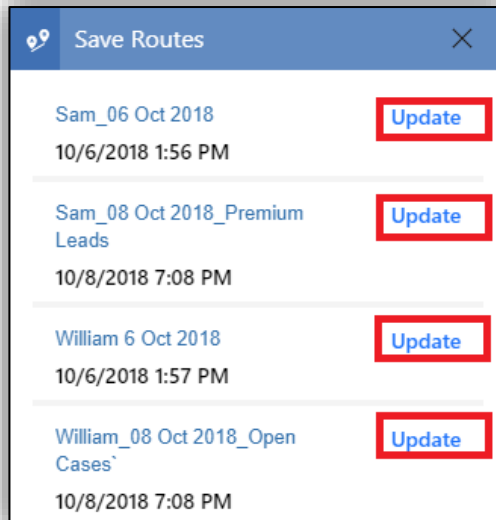
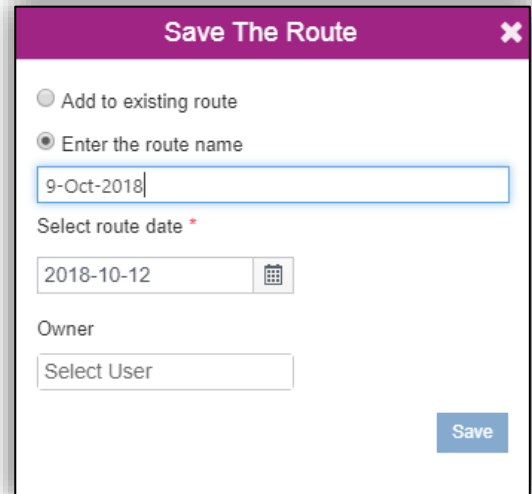


The user can email the route to any of the Dynamics CRM records using email route option.

## Save Route:



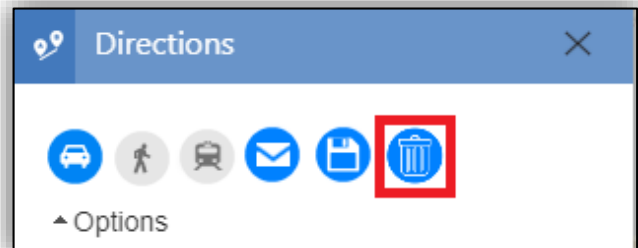
Users can also save their route plotted. The route record will also save the information like number of waypoints, total distance and time for the route. User can add the route to an existing route or save the route with a name & owner as a new route.



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.



## 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**

## Maplytics™ – User Manual

MA Maplytics

General Auto Scheduling Related

Defaults

Map Mode	Road	Plot Data	Non Cluster
Distance Unit	Mile	Along The Route Distance	5.00
Optimize Direction	No	Default Location	50 Perkiomen Ave, New York, NY 10312
Live Traffic	No	Records Per Page In Grid	50
Route Option	Shortest Time	Zoom Level	---
Map Center	---	User	Peter Ashton
Heat Map Type	Boundary	Maplytics Security Template	Field Sales
Summary Grouping	City	Set As Destination	Other
Default Template	Proximity - 3 Miles	Other - Set As Destination	382 Arthur Kill Rd, New York, NY 10308
Set As Origin	Other	Other - Set As Origin	10 Venus Pl, New York, NY 10312

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

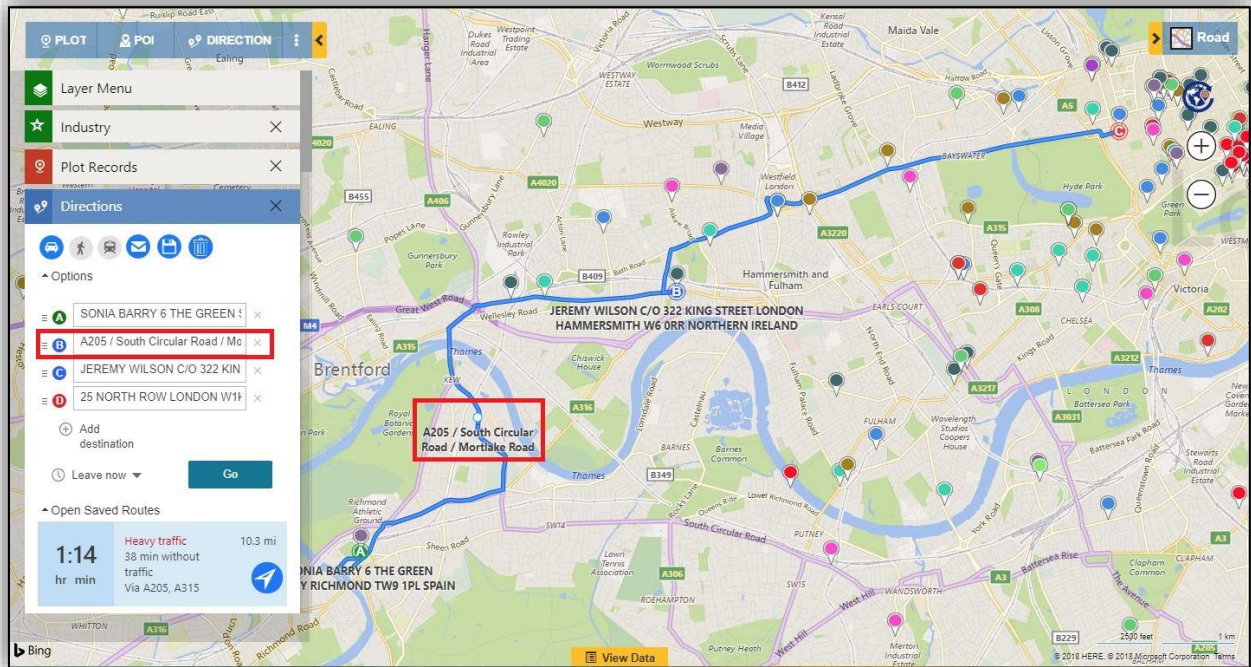
**Note:** If a user uses the "Plot route" button to plot a "Route" activity record on the Detail map, the Default origin/destination will not be set in the Direction card

### Snap waypoint

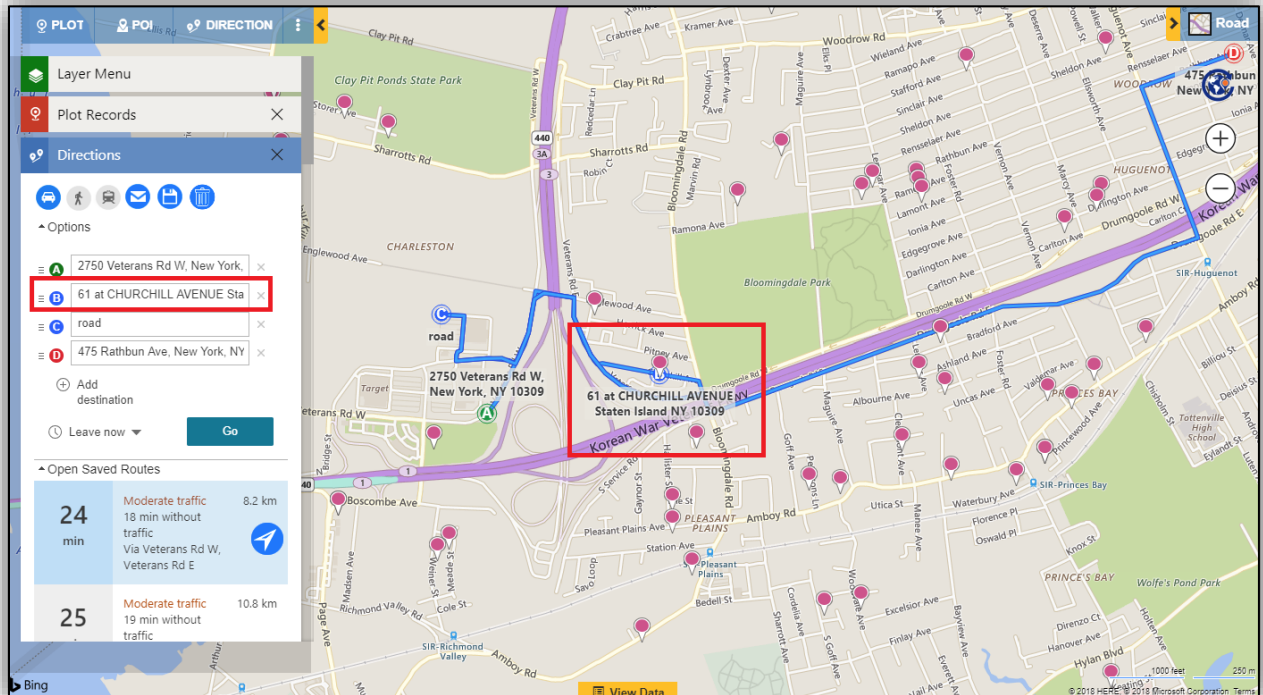
This helps the user to edit a plotted route just by dragging the route to the required point on the map.

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.



## 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.

Options

☒ Miles
☐ Kilometres

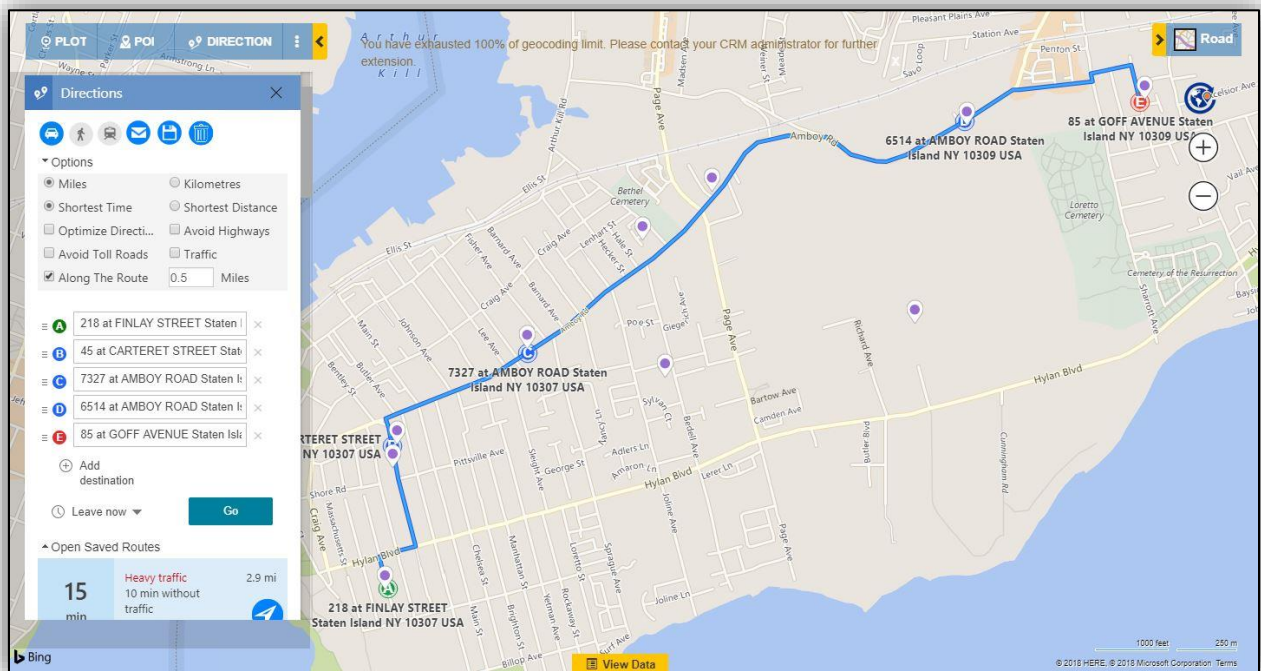
☒ Shortest Time
☐ Shortest Distance

☒ Optimize Directi...
☐ Avoid Highways

☐ Avoid Toll Roads
☐ Traffic

☒ Along The Route
5 Miles

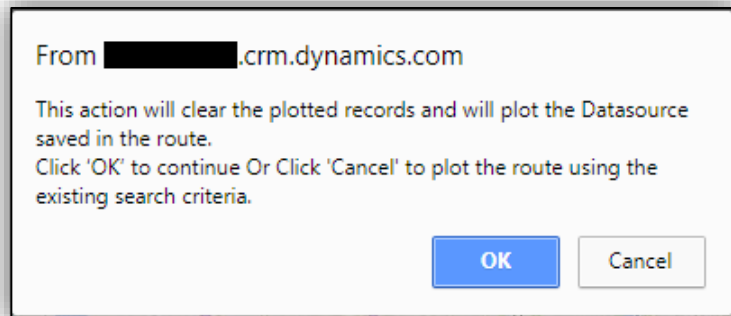
**Note:** The user can add the value between 0 – 25. The user can also add a decimal values with a scale of 2 for the radius.



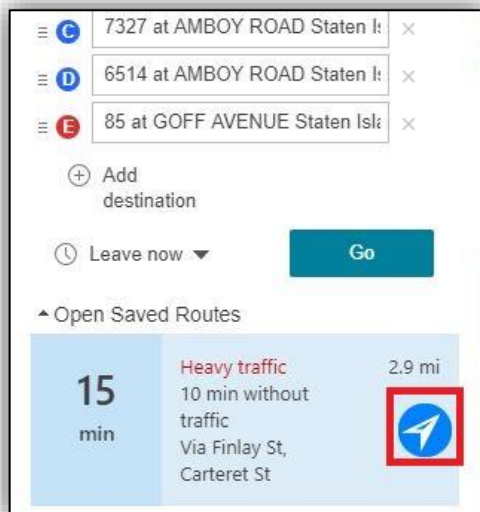
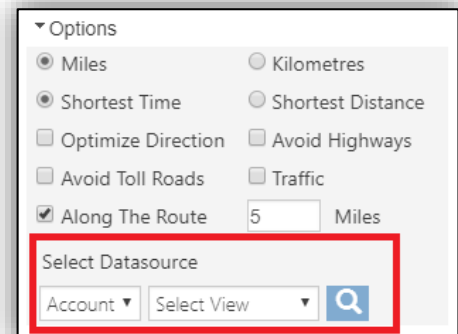
The Along the route records is also saved when the user saves the route. However, if the user has selected multiple Datasources on the Plot Card, only the first Entity and View combination in the Select Datasource will be saved for along the route search in the saved route.

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 'OK' 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.



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.



### Route Redirect and Copy Route Links

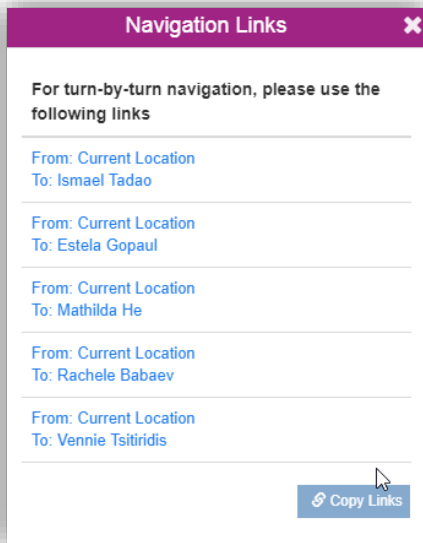
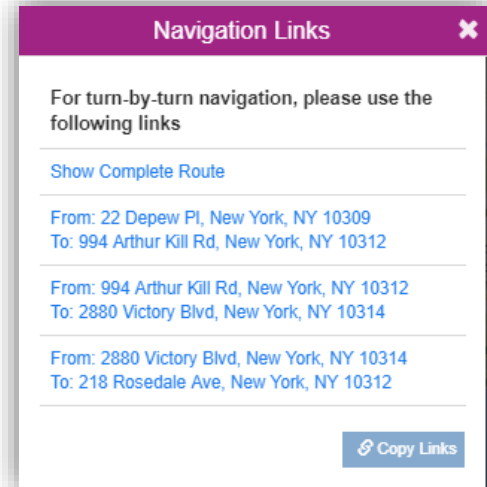
After plotting the route, user can use the 'Redirect' button to open the 'Navigation Links' popup on the browser as well as the Dynamics 365 App for Phones and Tablets.

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.**



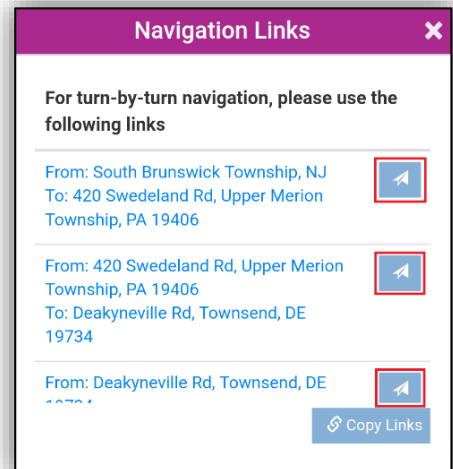
### Redirect with Waze

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.



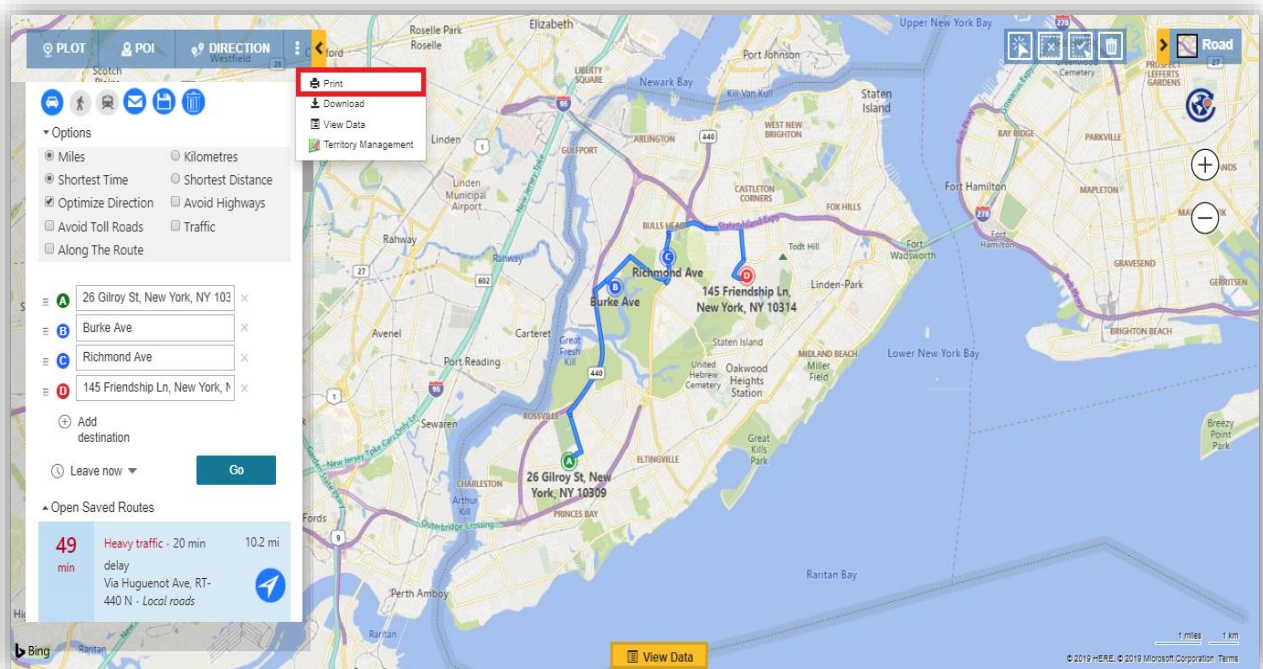


**Note:**

- **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.



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:

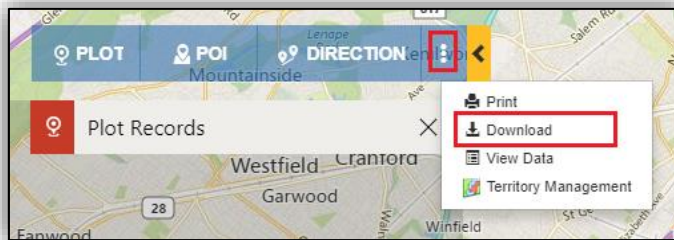
Click on the **Print Icon** to print the map and route instructions.

**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

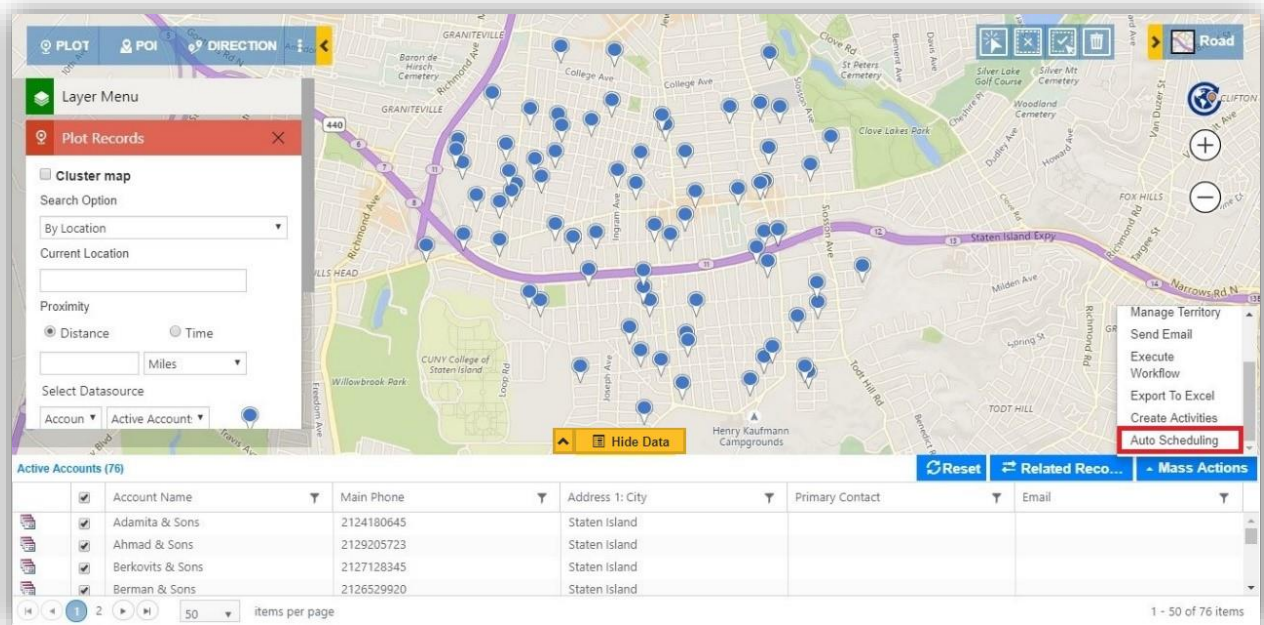
Auto Scheduling helps users to plan an optimized schedule to follow on the field. The user can decide the required set of customers to meet, the preferred date and time to cover all the meetings and the number of working days. Auto scheduling will provide an optimized schedule which includes the routes 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.

## Maplytics™ – User Manual



**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.

**Auto Scheduling**

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
- 20 Minutes
- 30 Minutes
- 45 Minutes



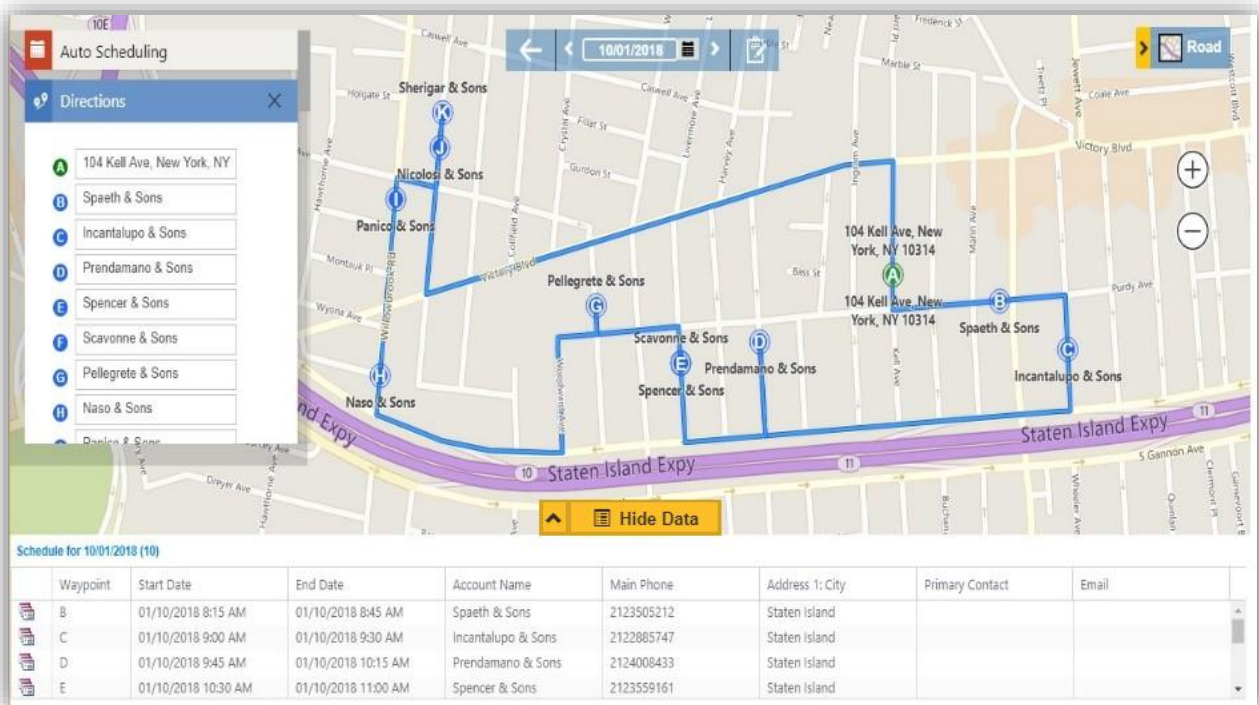
## Maplytics™ – User Manual

- 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

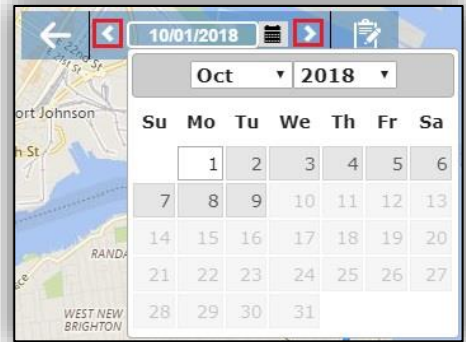
**Working days:** User can select the days that will be working and should be considered in the plan of Auto scheduling. User can select any day between Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. *At least one day should be selected.*



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

## Maplytics™ – User Manual

**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.

**Create Activities**

Select Activity \*

Bookable Resource Booking

Name

Premium Clients

Start Date \*

2018-10-01

End Date \*

2018-10-09

Resource \*

Sam

Booking Status \*

In Progress

Booking Type \*

Solid

☒ Create Route(s)

Create

**Create Activities**

Select Activity \*

Appointment

Subject \*

Premium clients

Start Date \*

2018-10-01

End Date \*

2018-10-09

Owner

Sam

Priority

High

☒ Create Route(s)

Create

**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.

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**

- 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**

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"/>
-----------	-------------------------------------	------------	-------------------------------------	--------------	-------------------------------------	-------------	-------------------------------------

Proxy Settings

Proxy Url

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

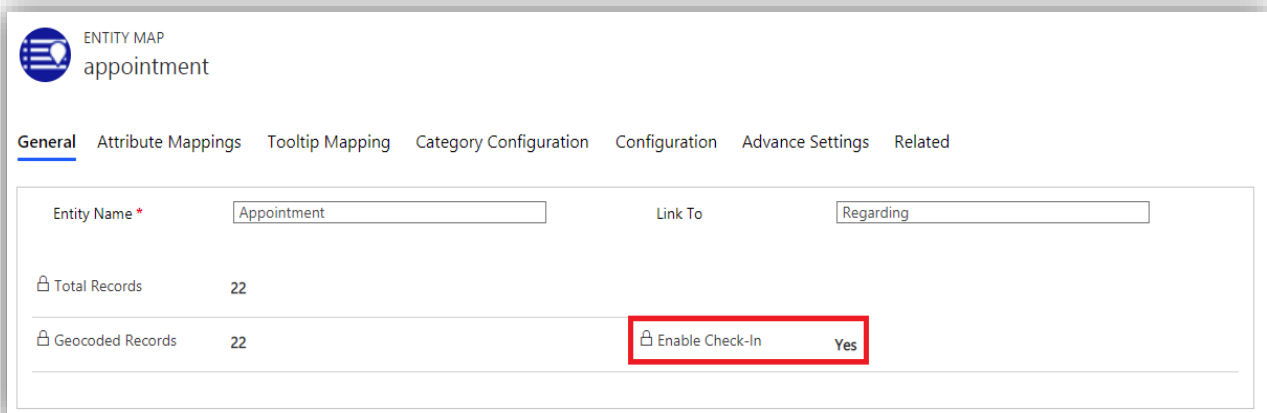
Check-In feature enables users to register their arrival and departure time for the Check Points while navigating on field with the help of Check-in and Check-Out buttons. These buttons will help to tag the geo-coordinates of the location while a user is visiting a meeting. This will also help the management 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'.**



ENTITY MAP	
appointment	
General	Attribute Mappings   Tooltip Mapping   Category Configuration   Configuration   Advance Settings   Related
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.**

#### View Related Check-In/Check-Out records:

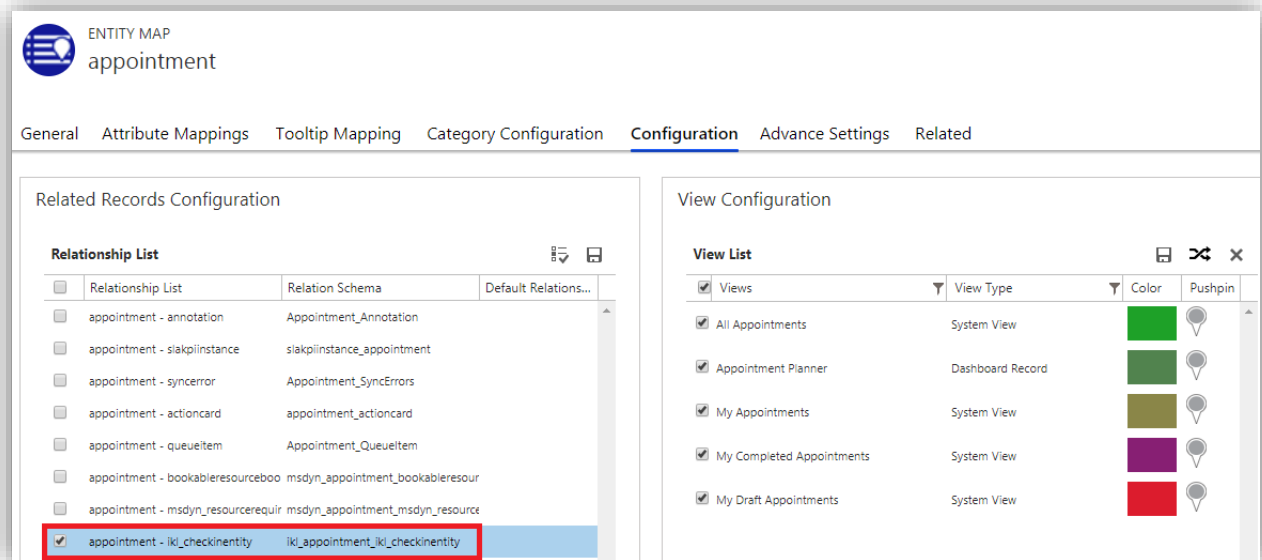
User can choose to view the related Check-In/Check-Out records for the plotted records (Appointments, Accounts, etc.) using the feature of 'Plot Related Records'. To plot related Check-In/Check-Out records,

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 - ikl\_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.

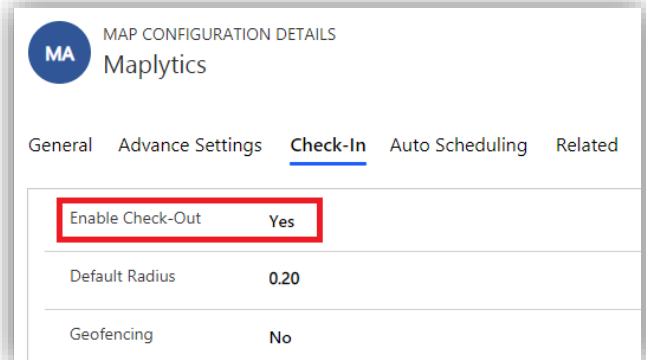


### Check-Out

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.

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'.**




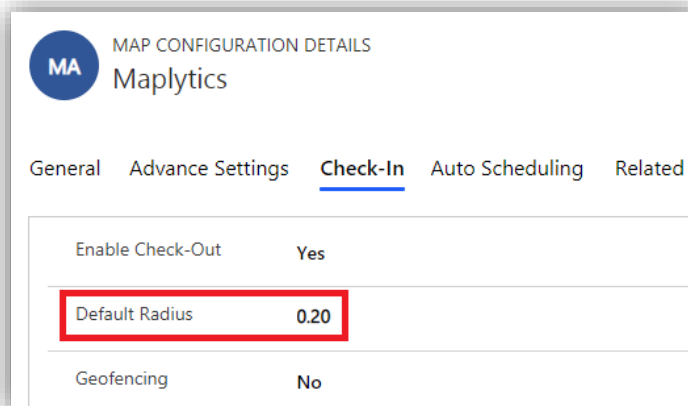
The screenshot shows the 'MAP CONFIGURATION DETAILS' page for Maplytics, specifically the 'Check-In' tab. The 'Enable Check-Out' option is highlighted with a red box and set to 'Yes'. Other visible options include 'Default Radius' set to '0.20' and 'Geofencing' set to 'No'.

MAP CONFIGURATION DETAILS				
Maplytics				
General	Advance Settings	Check-In	Auto Scheduling	Related
Enable Check-Out		Yes		
Default Radius		0.20		
Geofencing		No		

**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: 



The screenshot shows the 'MAP CONFIGURATION DETAILS' page for Maplytics, specifically the 'Check-In' tab. The 'Default Radius' option is highlighted with a red box and set to '0.20'. Other visible options include 'Enable Check-Out' set to 'Yes' and 'Geofencing' set to 'No'.

MAP CONFIGURATION DETAILS				
Maplytics				
General	Advance Settings	Check-In	Auto Scheduling	Related
Enable Check-Out		Yes		
Default Radius		0.20		
Geofencing		No		

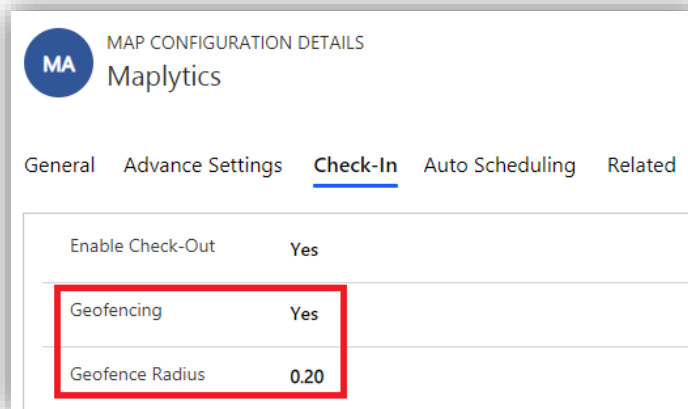
**Note:** By default, Geofence radius is 0.20 kilometers or miles depending on the unit set in User Configuration Detail record.

### 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'**



The screenshot shows the 'MAP CONFIGURATION DETAILS' page for 'Maplytics'. The 'Check-In' tab is selected. A table lists configuration settings, with 'Geofencing' and 'Geofence Radius' highlighted by a red box.

MAP CONFIGURATION DETAILS				
Maplytics				
General	Advance Settings	Check-In	Auto Scheduling	Related
Enable Check-Out	Yes			
Geofencing	Yes			
Geofence Radius	0.20			

### 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.**



### Creating Check-In/Check-Out records:

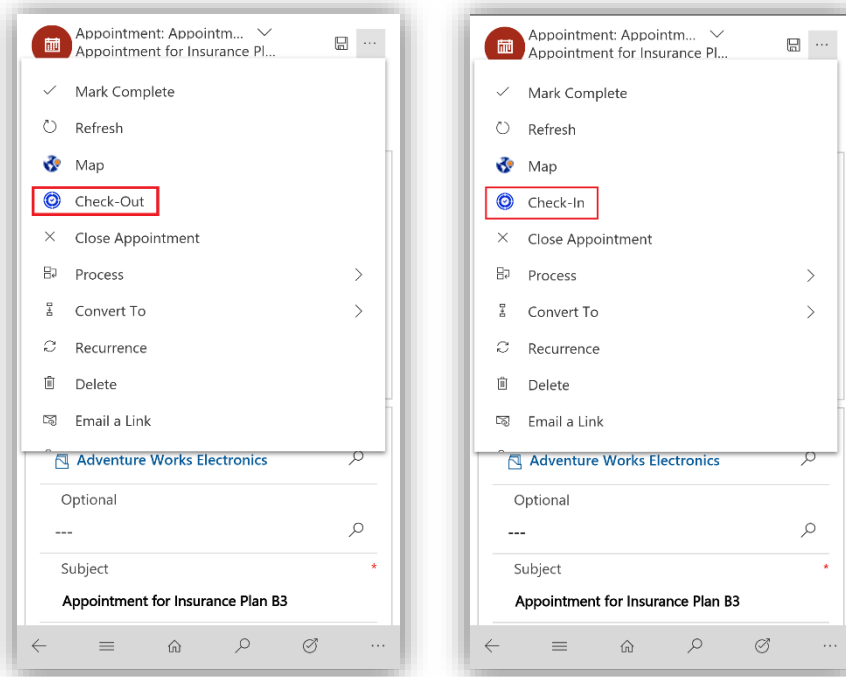
While navigating on field user can Check-In and Check-Out against any record. This can be done in the following two ways:

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

The screenshot shows the Maplytics interface for an appointment record titled "Appointment for Insurance Plan B3". The ribbon at the top includes buttons for "Save", "Mark Complete", "Refresh", "Map", "Check-In" (highlighted with a red box), "Close Appointment", "Process", "Convert To", and "Recurrence". The main content area displays the appointment details under the "Appointment" tab, including fields for "Required" (Adventure Works Electronics), "Optional" (---), "Subject" (Appointment for Insurance Plan B3), "Location" (---), and "Regarding" (Adventure Works Electronics).

The screenshot shows the Maplytics interface for the same appointment record. The ribbon at the top includes buttons for "Save", "Mark Complete", "Refresh", "Map", "Check-Out" (highlighted with a red box), "Close Appointment", "Process", "Convert To", and "Recurrence". The main content area displays the appointment details under the "Appointment" tab, including fields for "Required" (Adventure Works Electronics), "Optional" (---), "Subject" (Appointment for Insurance Plan B3), "Location" (---), and "Regarding" (Adventure Works Electronics).

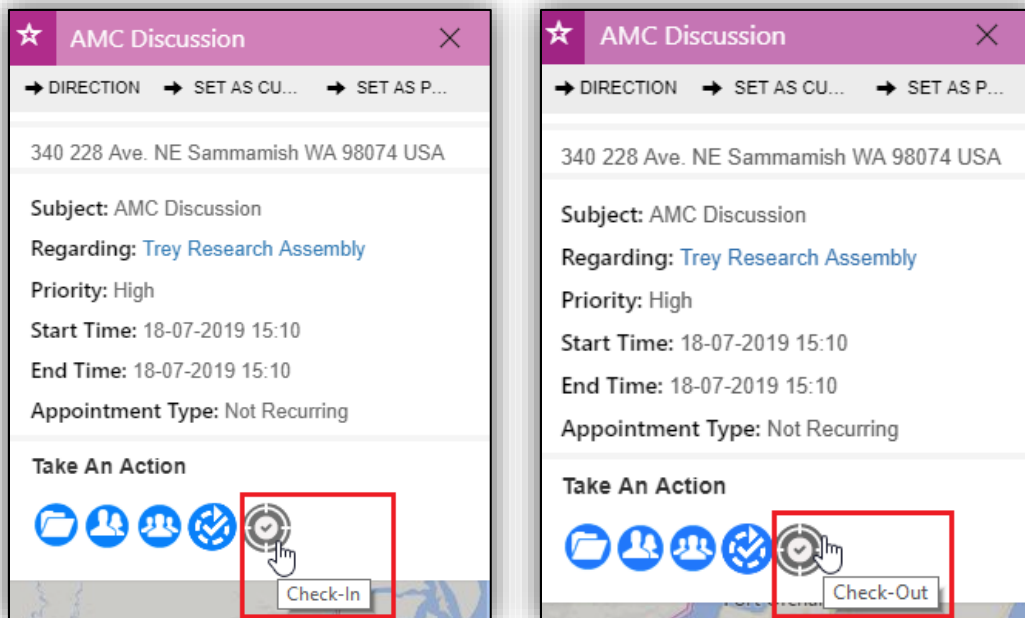
## Maplytics™ – User Manual

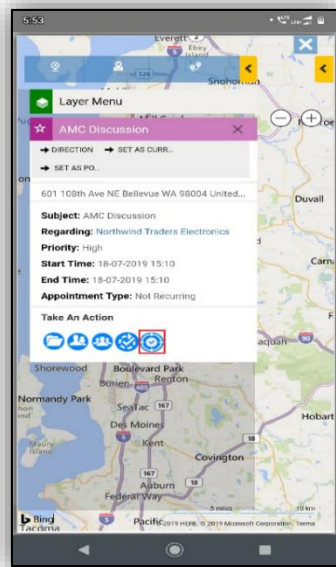


### Note:

- **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.**

- 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.

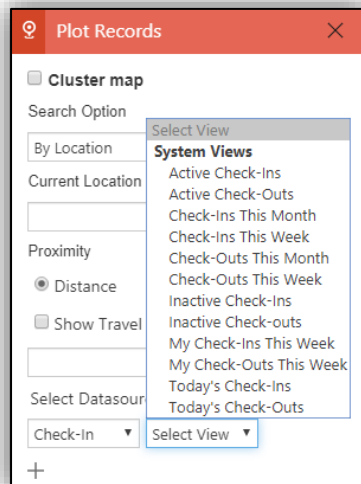


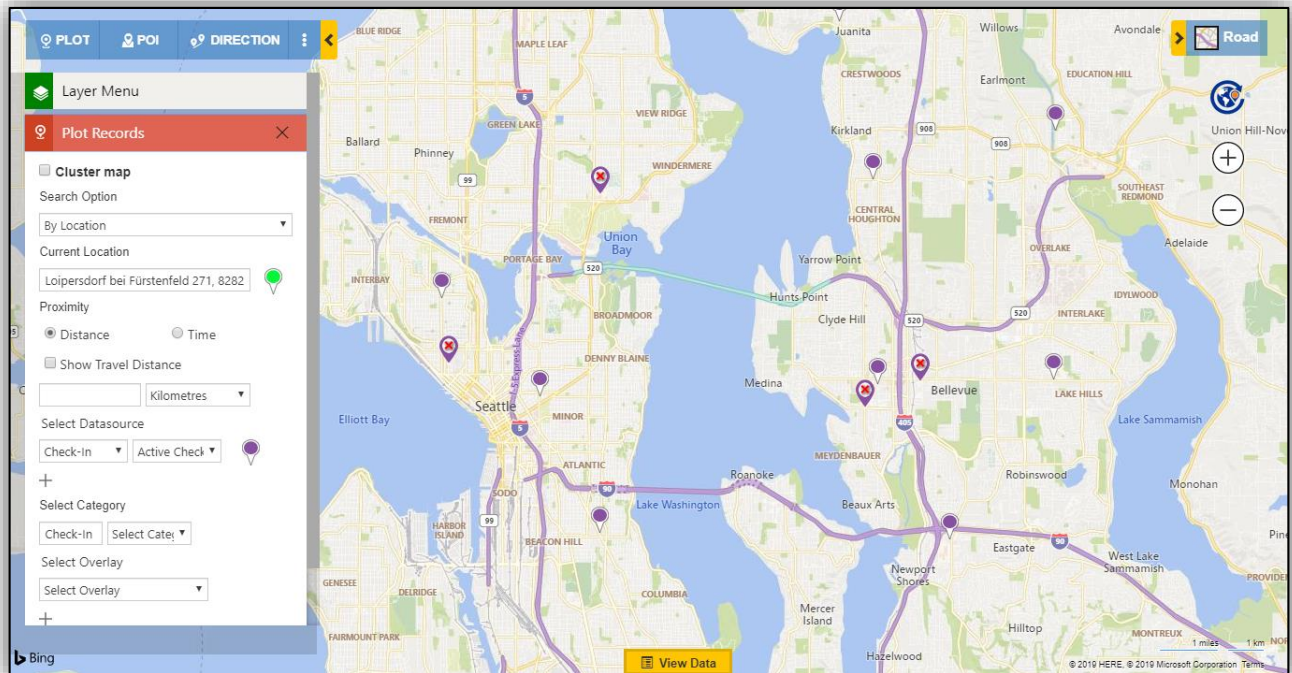


**Note: Multiple Check-In/Check-Out records can be created for any record (Appointments, Accounts, etc.)**

### 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.

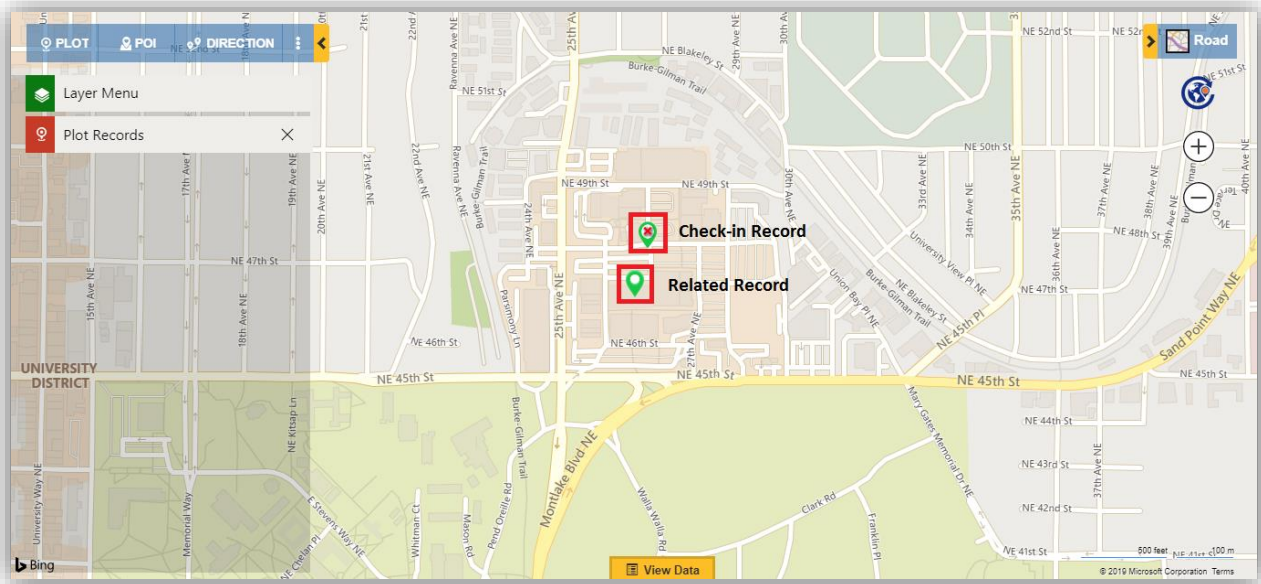
## Visualizing Related Records

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:*

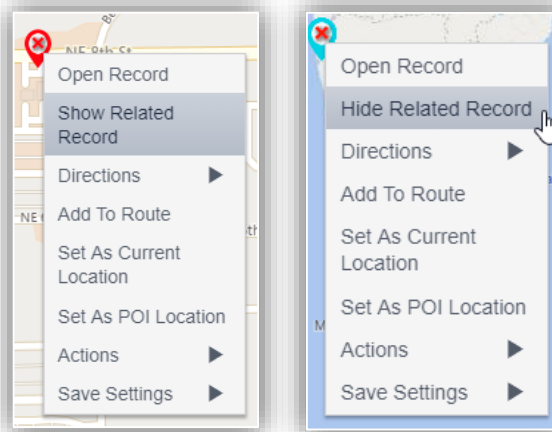
After selecting the relationship, user can choose to view the related record for any Check-in and Check-Out record plotted on the map.



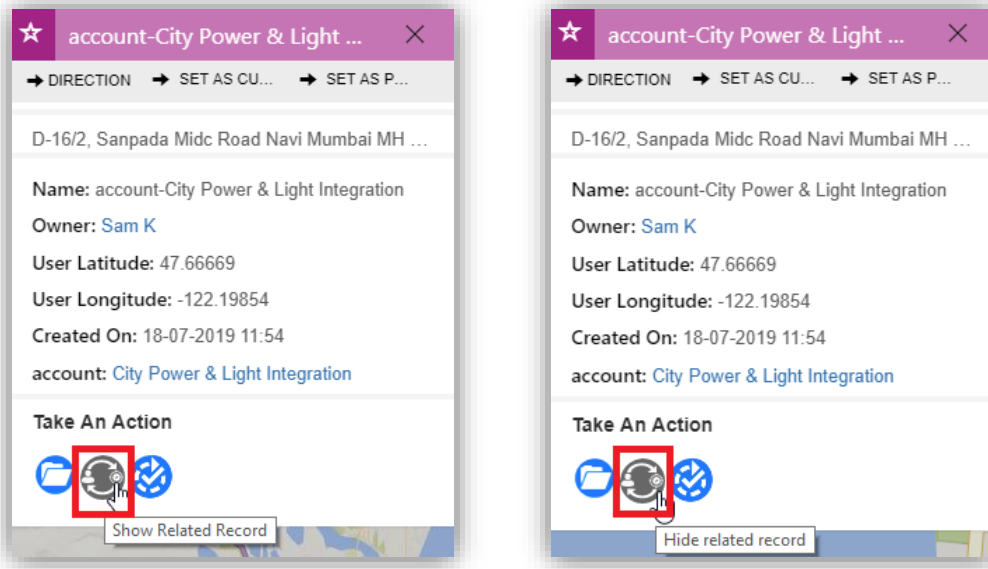


The related record can be visualized in the following two ways:

- 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'.

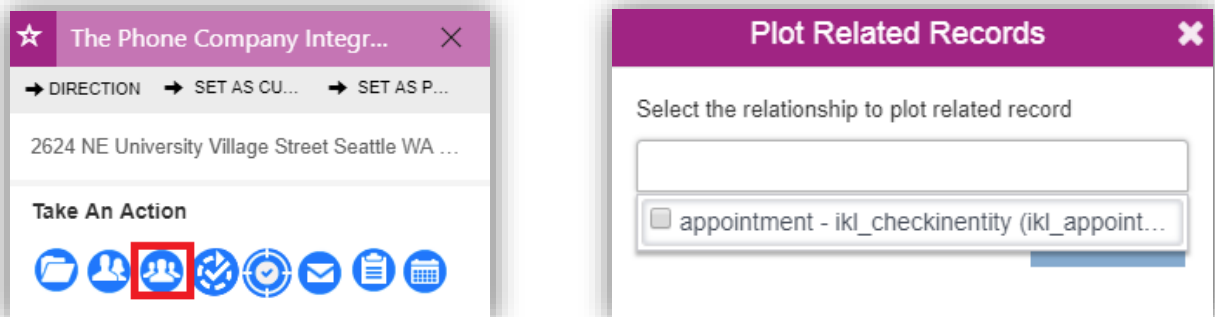


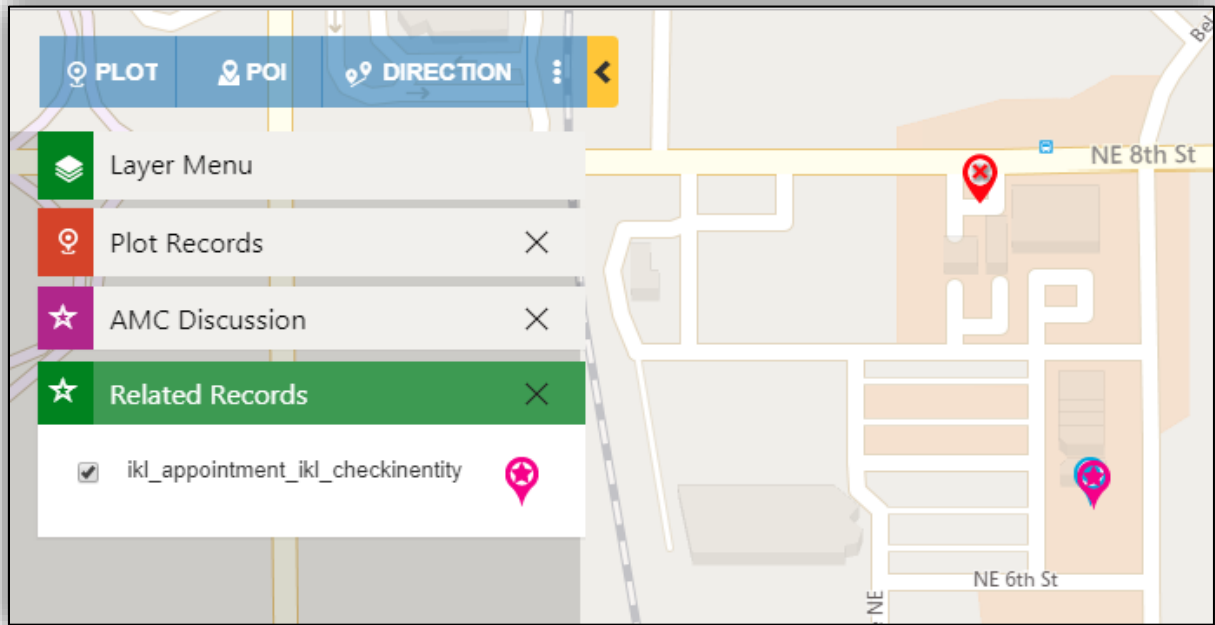
- By Tooltip Card: User can click on the Check-In/Check-Out pushpin to open the Tooltip Card and click on 'Show Related Record' from the 'Tooltip Card Actions'. To hide the related record, user can again click on same Check-In/Check-Out pushpin to open the Tooltip Card and click on 'Hide Related Record'.



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

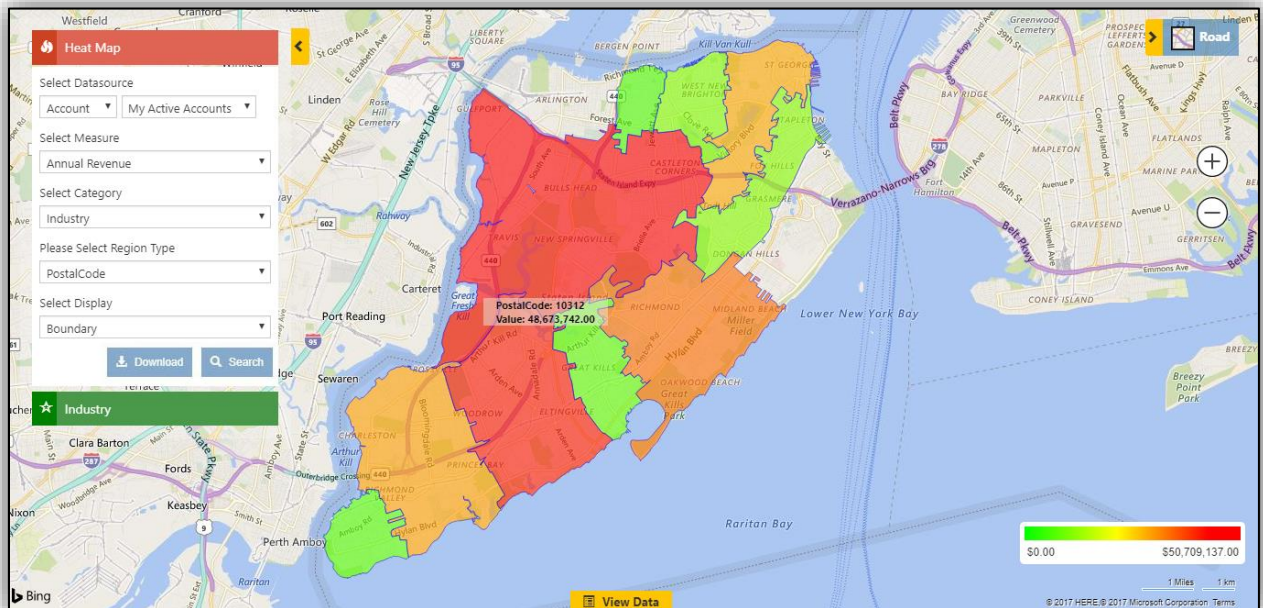
After selecting the relationship for the required entity within the entity map as suggested above, user can click on any plotted record to open the Tooltip card and click on 'Plot related record' to plot the related Check-In/Check-Out records.





## Heat Map

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



### Select Datasource:

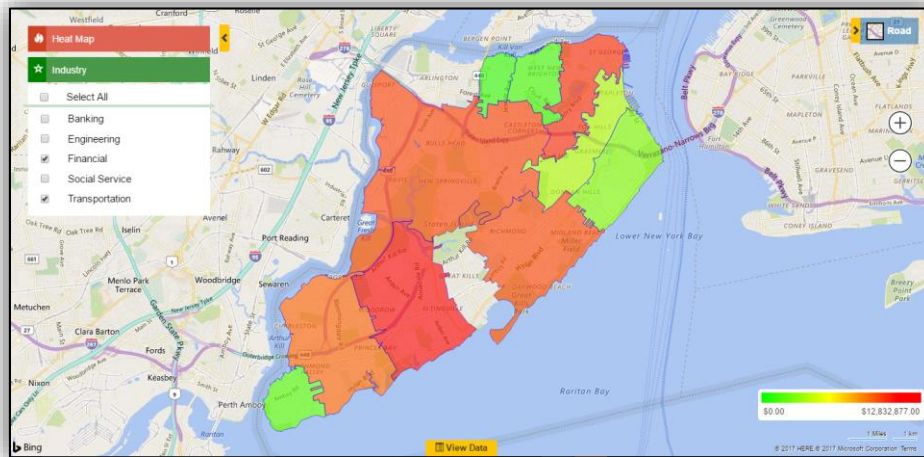
This option helps the user to choose the Entity and view combination to analyze the data.

### 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.



### 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.*



## Maplytics™ – User Manual

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:

The screenshot shows the Maplytics configuration interface with the following settings:

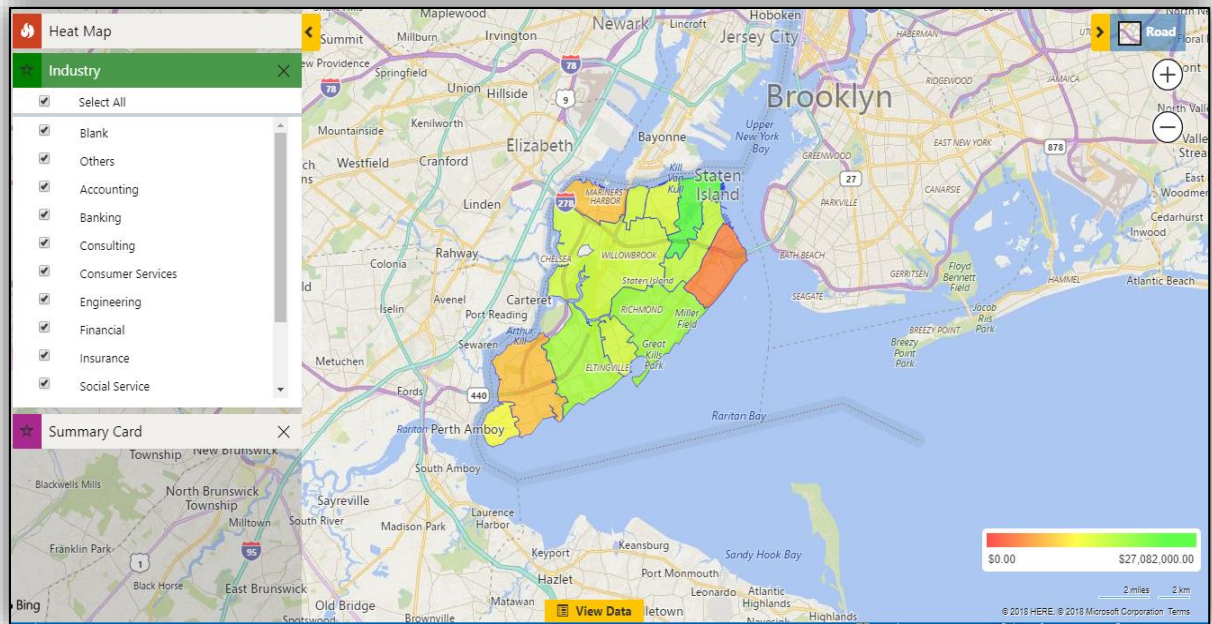
General		Advance Settings	Check-In	Auto Scheduling	Related
Optimize Direction	No	Default Location	Loipersdorf bei Fürstenfeld 271, 8282 Loipersdorf bei Fürstenfeld, Austria		
Live Traffic	No	Navigate Within	Waze		
Route Option	Shortest Time	Records Per Page In Grid	50		
Map Center	---	Zoom Level	---		
Heat Map Type	Boundary	User	---		
Summary Grouping	City	Maplytics Security Template	---		
Default Template	---	Set As Destination	Other		
Set As Origin	Other	Other - Set As Destination	Mont-devant-Sassey, Meuse, France		
Other - Set As Origin	10 Voie des Vaches, 08450 Angecourt				

### Select Display

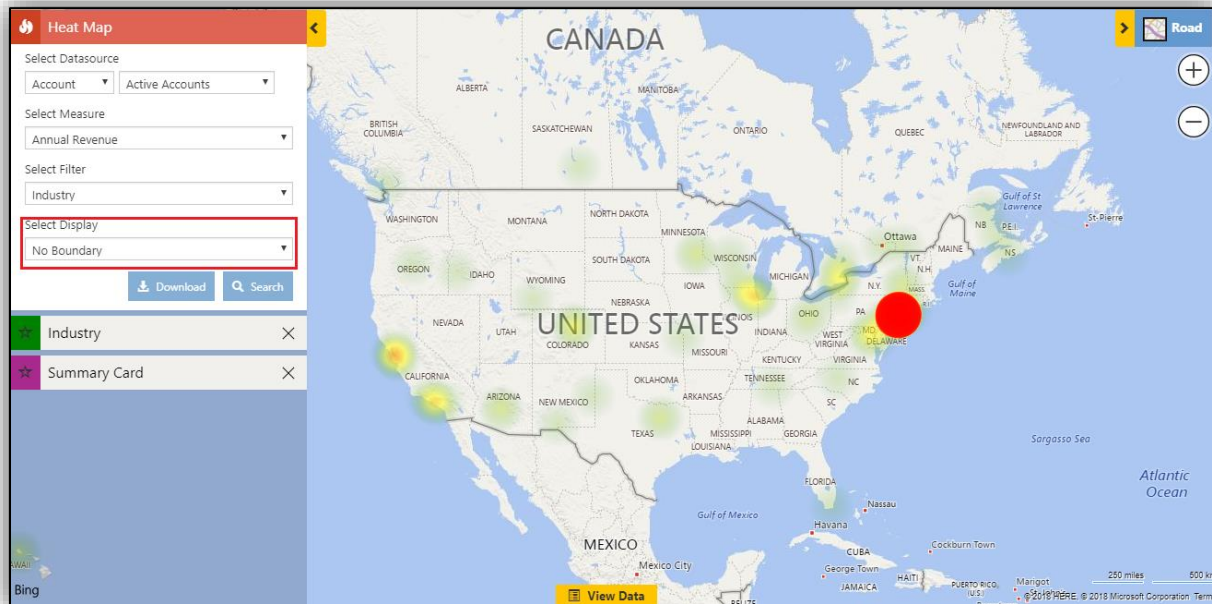
There are four options available to analyze data on Heat Map. Default Heat map display can be selected using Maplytics Configuration Settings.

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

## Maplytics™ – User Manual

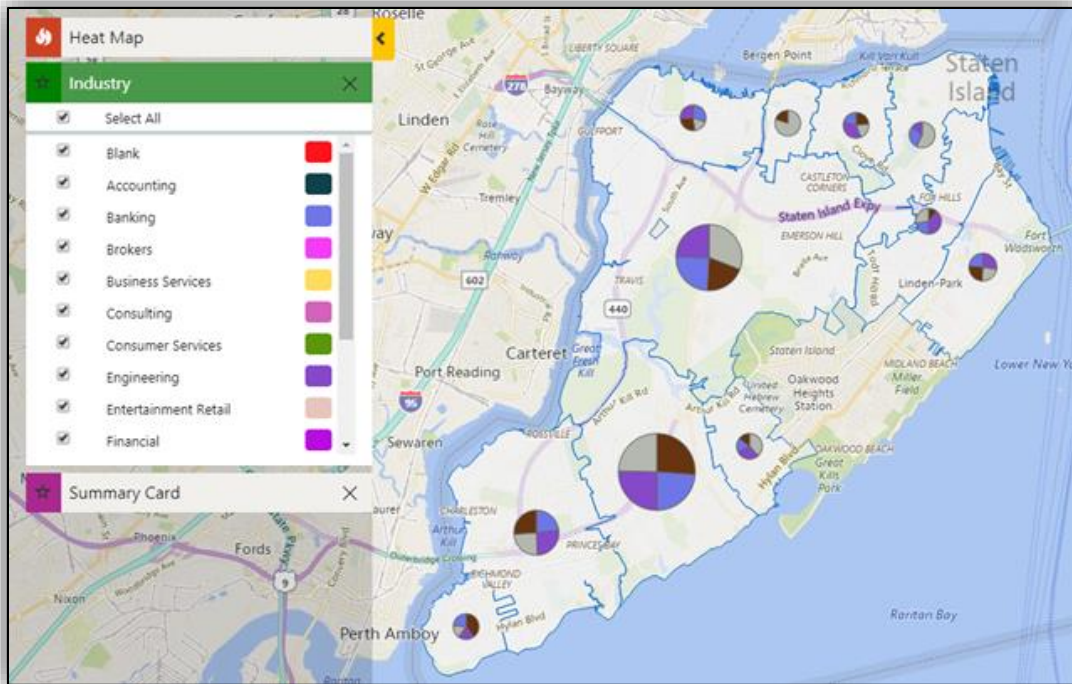


- **No Boundary:** This option does not consider the region type. It simply creates a Heat Map by the density of the measure selected without geographical boundaries.

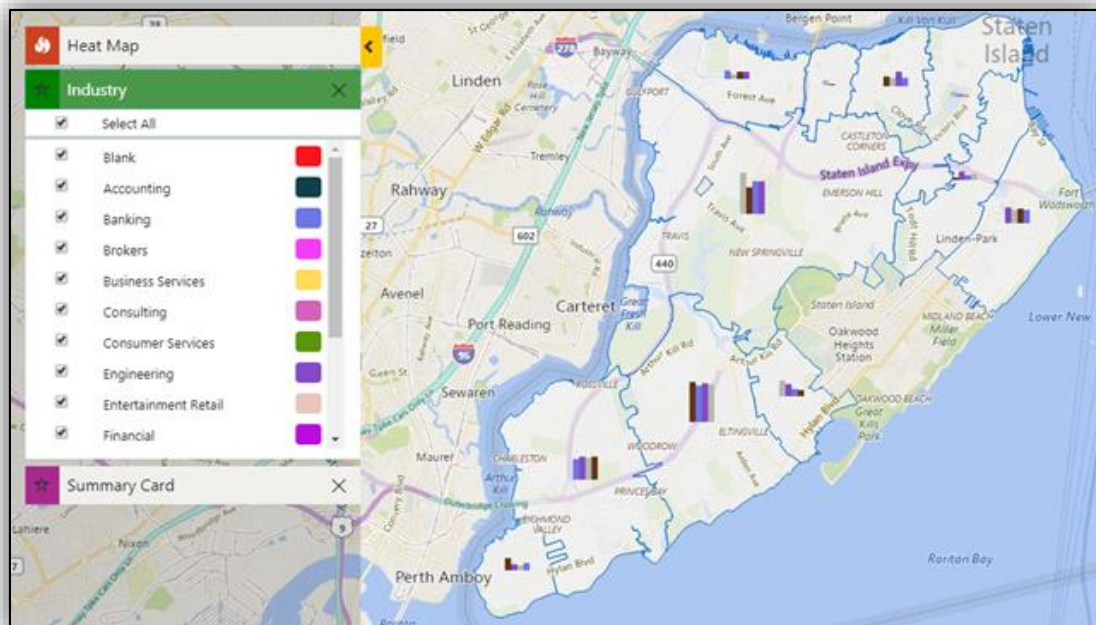


- **Pie chart:** Users can view the data in the form of Pie charts based on the heat of the attribute selected in the Measure and Filter. Pie charts help the users to analyze the data on the basis of comparative data shown by the Pie charts on the map.

## Maplytics™ – User Manual



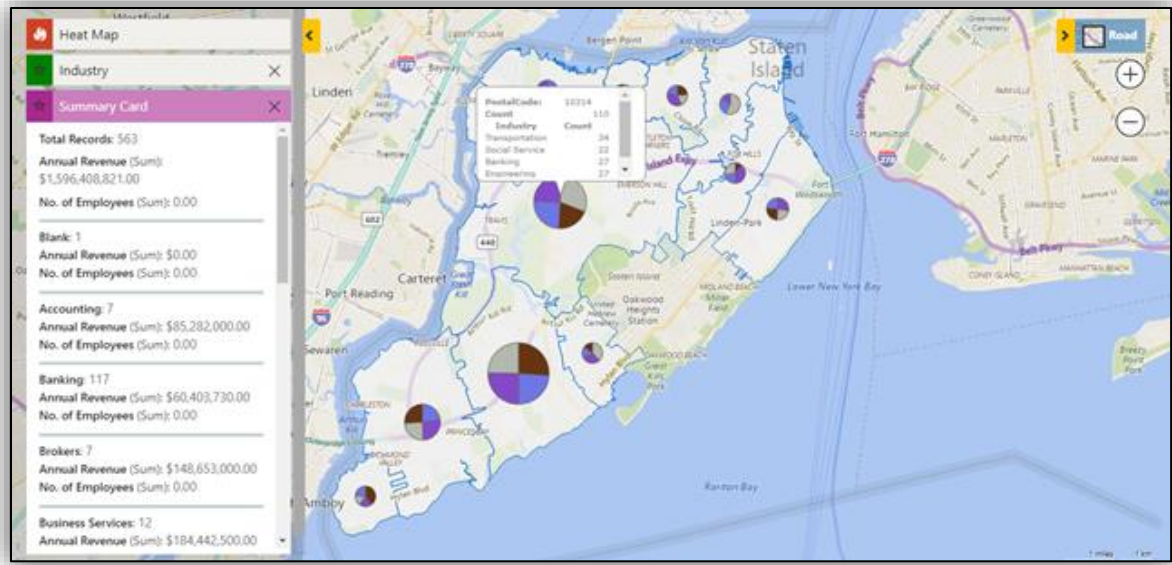
- Column chart:** Users can view the data in the form of column charts plotted on the basis of the heat of the attribute selected in the Measure and Filter. User can easily analyze the plotted data on the basis of the proportions shown by the respective columns.



- **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.



## Maplytics™ – User Manual



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

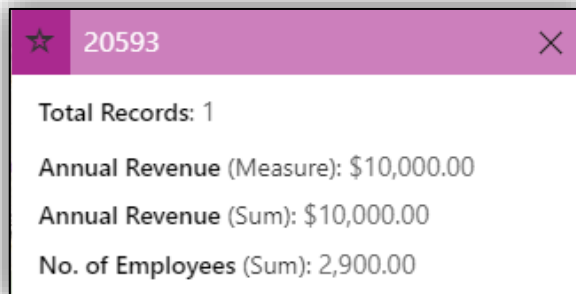
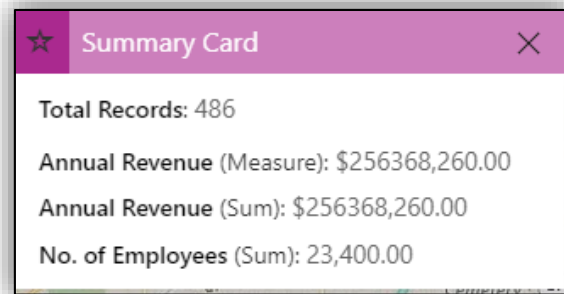
### Search:

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:

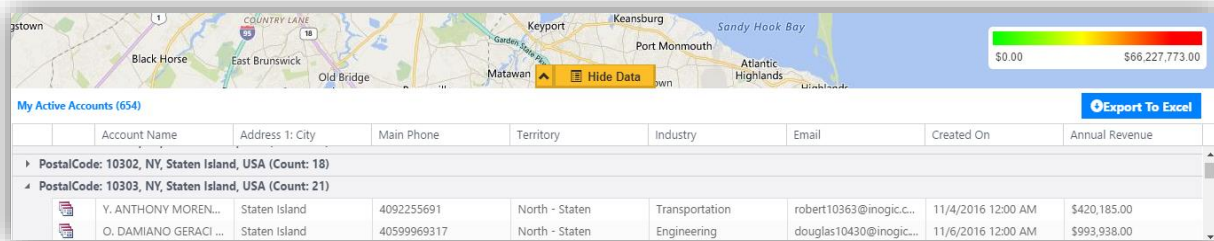
Every time the users create a heat map visualization, a 'Summary Card' summarizing the aggregate information for the complete heat map will open up. This gives the users a brief summary of the heat map they created. The measure is also summarized by default.



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;

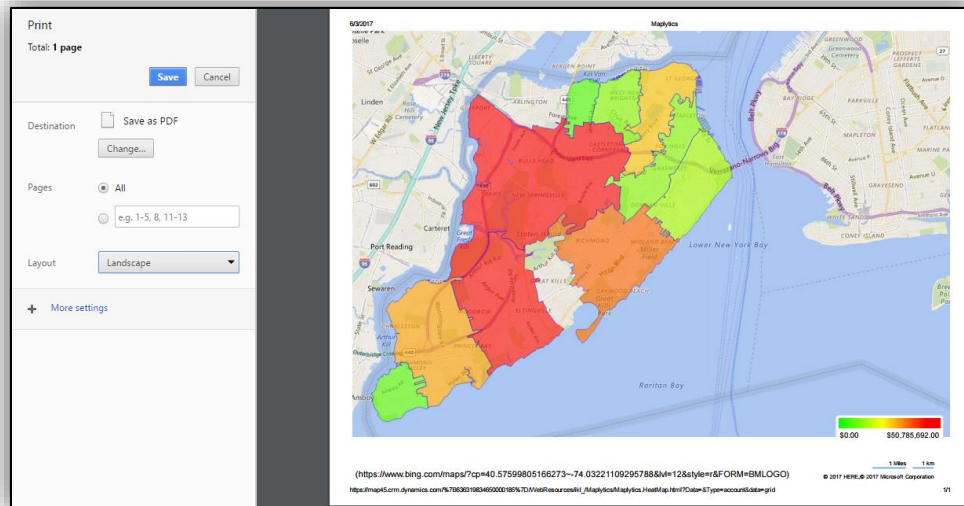


This functionality adhere to CRM security roles, if the user does not have permission to 'Export Data to Excel' in CRM, then he/she will not be able to export data from Maplytics.

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:

## Maplytics™ – User Manual



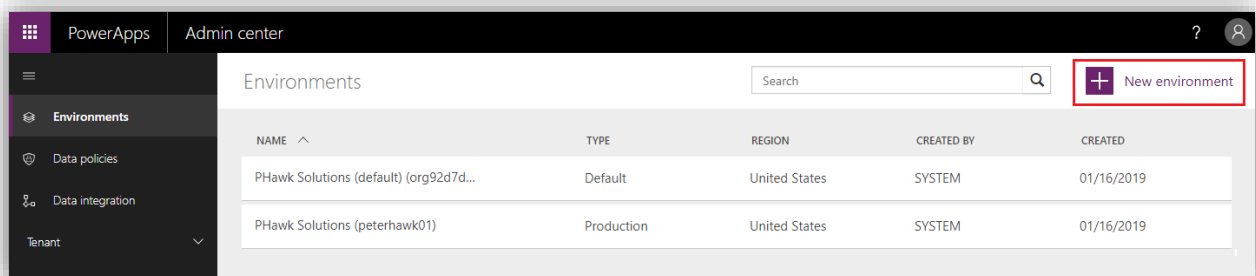
**Note: A4 size paper with landscape mode is recommended while printing.**

### Support for CDS

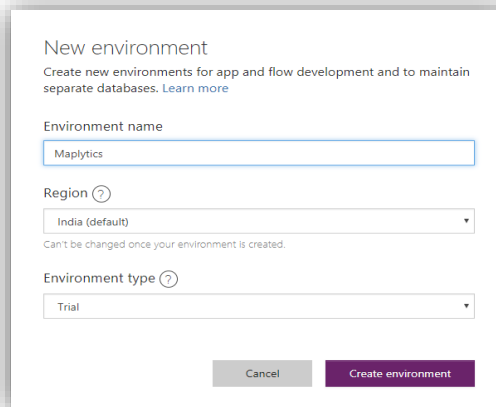
If user does not have Dynamics CRM, they can still use Maplytics by subscribing for the PowerApps platform. This platform comes packaged with some base entities that includes Accounts and Contacts along with other platform entities to provide support for it security and other infrastructure.

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

1. Go to [admin.powerapps.com](https://admin.powerapps.com) > log in using PowerApps credentials.
2. Click on 'New environment' > Enter the details > Create an environment



## Maplytics™ – User Manual



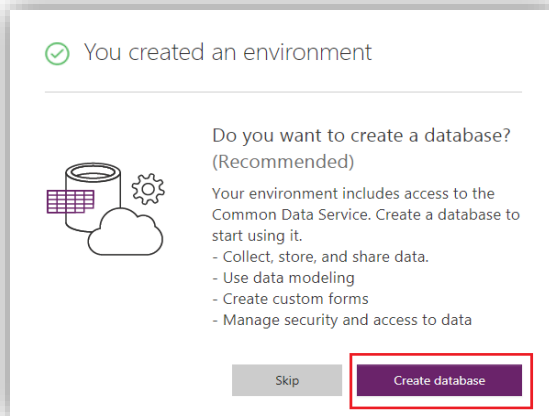
**New environment**  
Create new environments for app and flow development and to maintain separate databases. [Learn more](#)

Environment name

Region <sup>?</sup>  
  
Can't be changed once your environment is created.

Environment type <sup>?</sup>

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

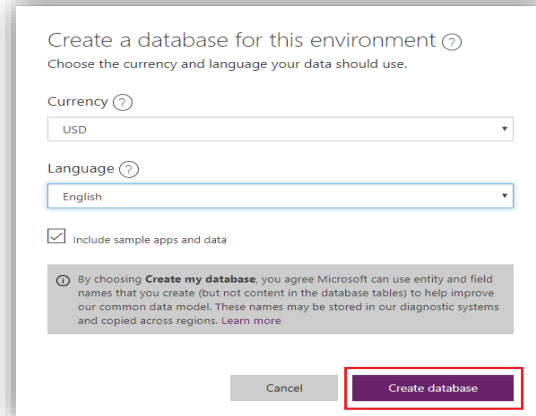


✓ You created an environment

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 <sup>?</sup>  
Choose the currency and language your data should use.

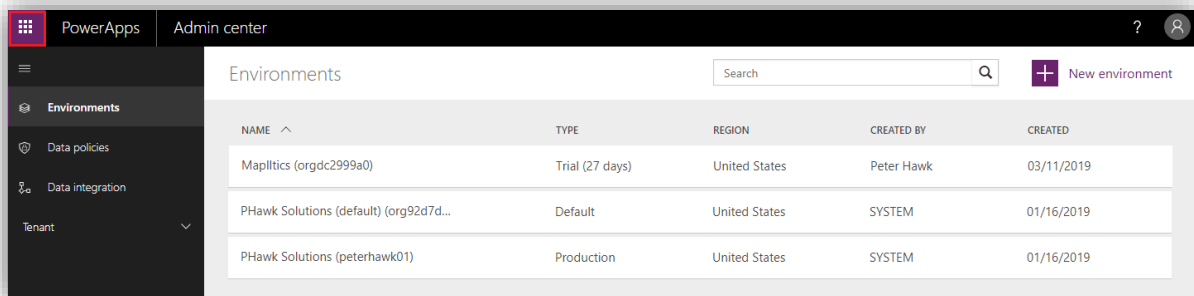
Currency <sup>?</sup>

Language <sup>?</sup>

☒ 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

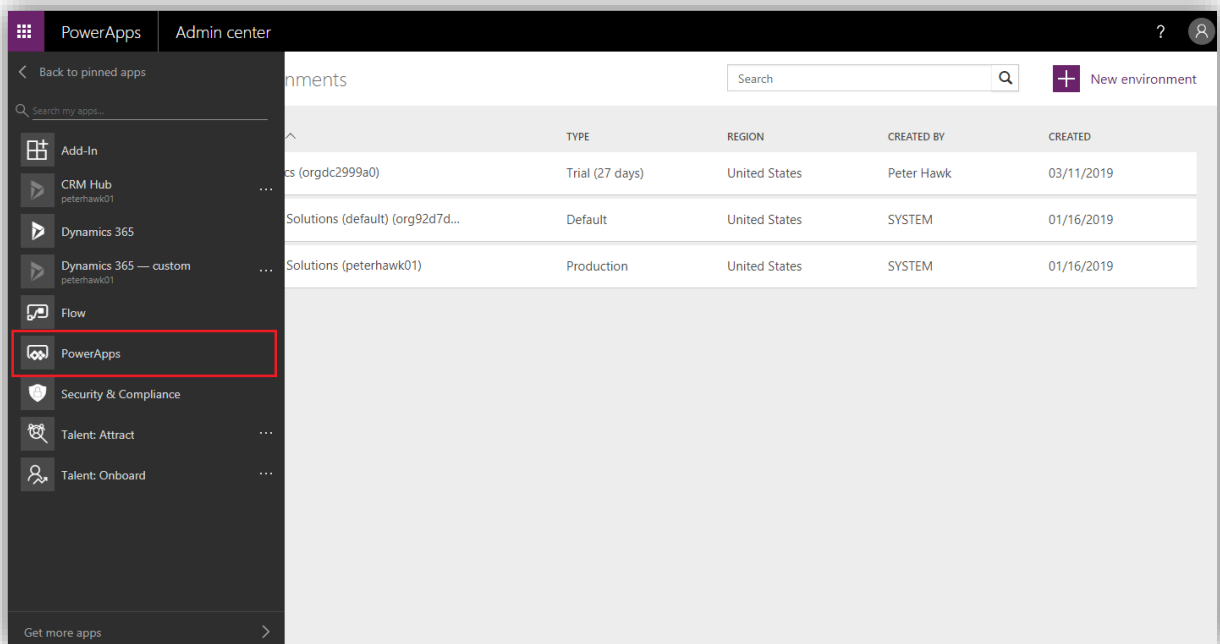
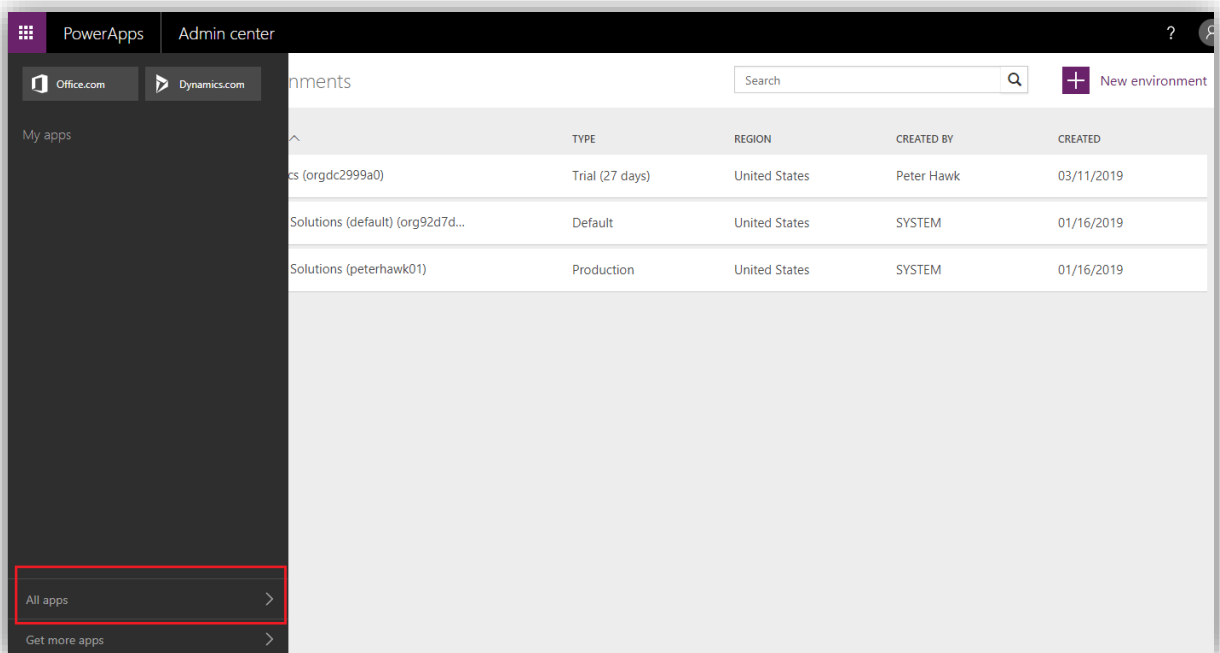


PowerApps Admin center

Environments

NAME ^	TYPE	REGION	CREATED BY	CREATED
Maplytics (orgdc2999a0)	Trial (27 days)	United States	Peter Hawk	03/11/2019
PHawk Solutions (default) (org92d7d...	Default	United States	SYSTEM	01/16/2019
PHawk Solutions (peterhawk01)	Production	United States	SYSTEM	01/16/2019

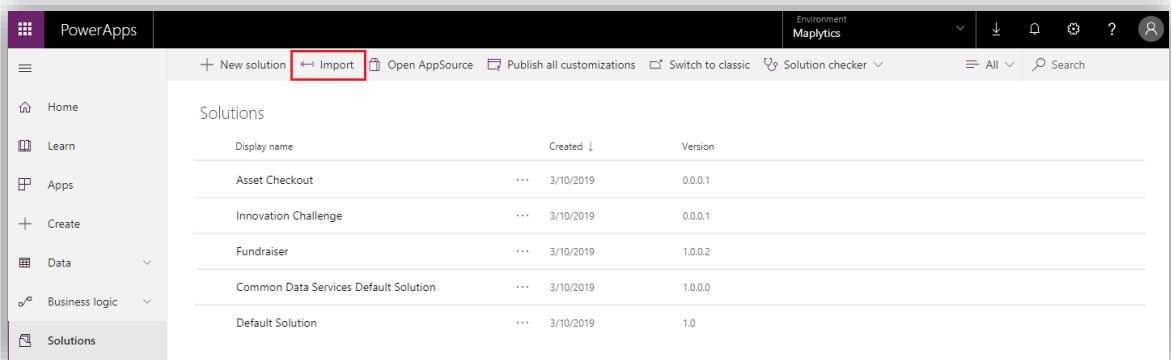
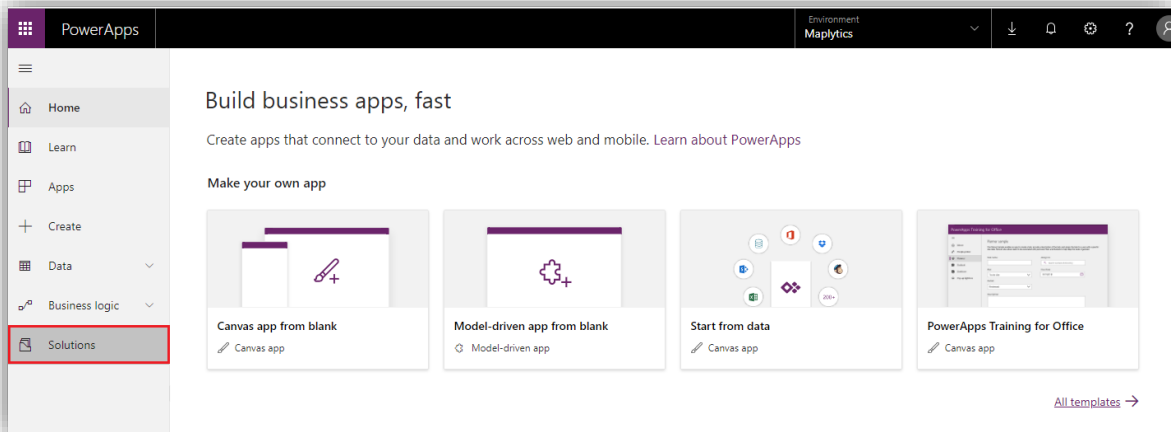
## Maplytics™ – User Manual



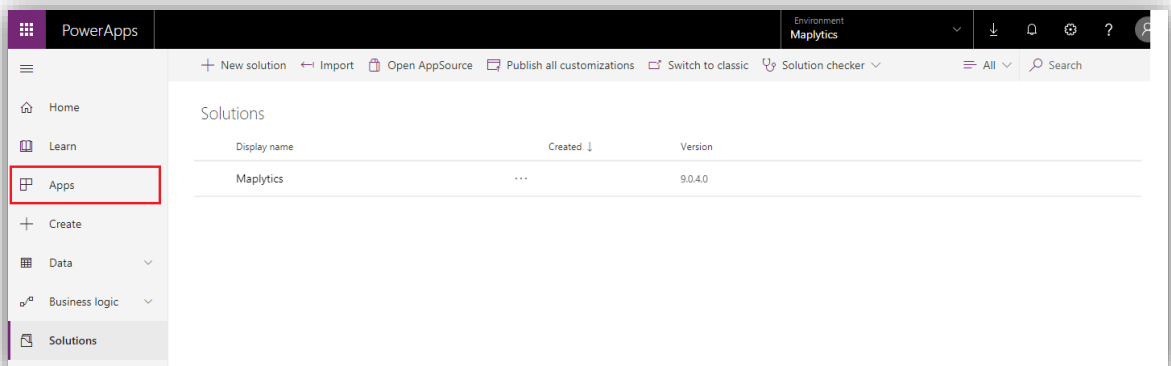


### Import Maplytics solution

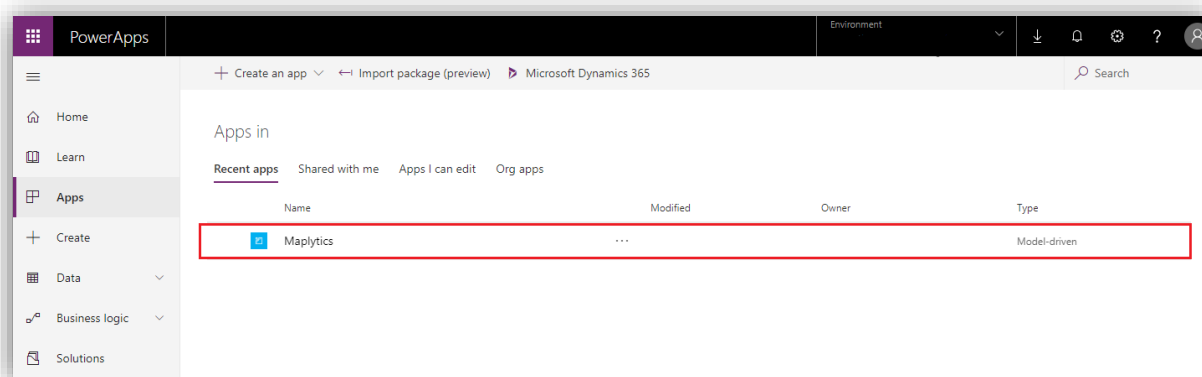
- Click on solutions at the left navigation pane > Import > Maplytics. This will create the Maplytics App.



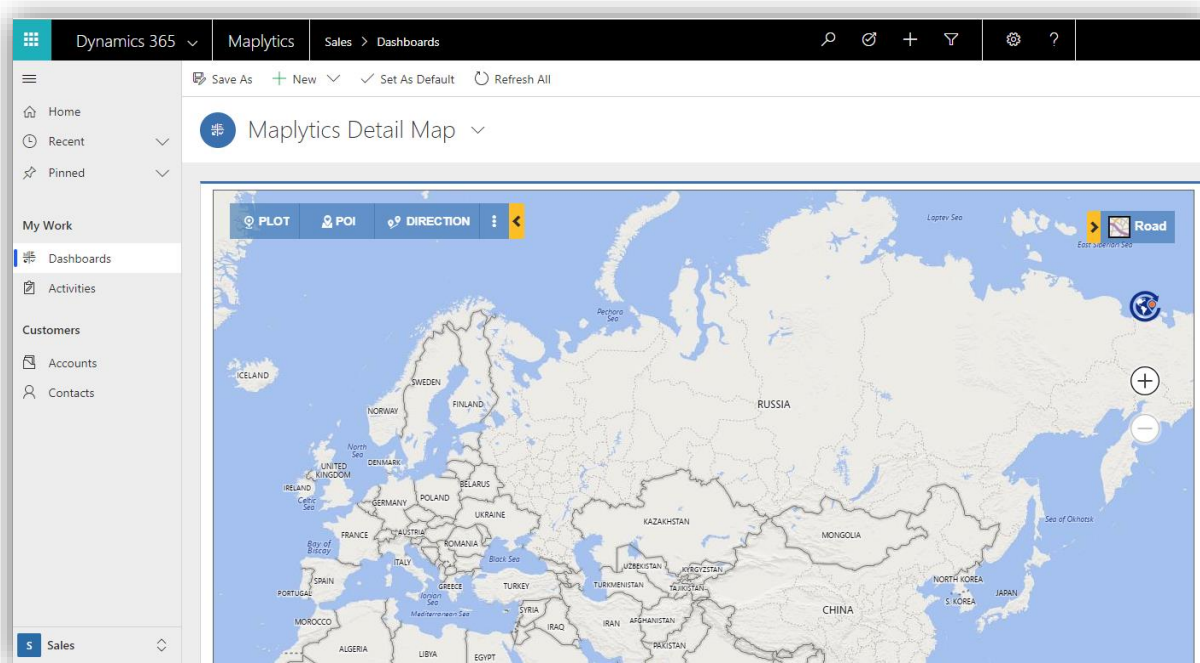
- To access the Maplytics App, click on Apps at the left navigation pane > Select Maplytics App.



# Maplytics™ – User Manual



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



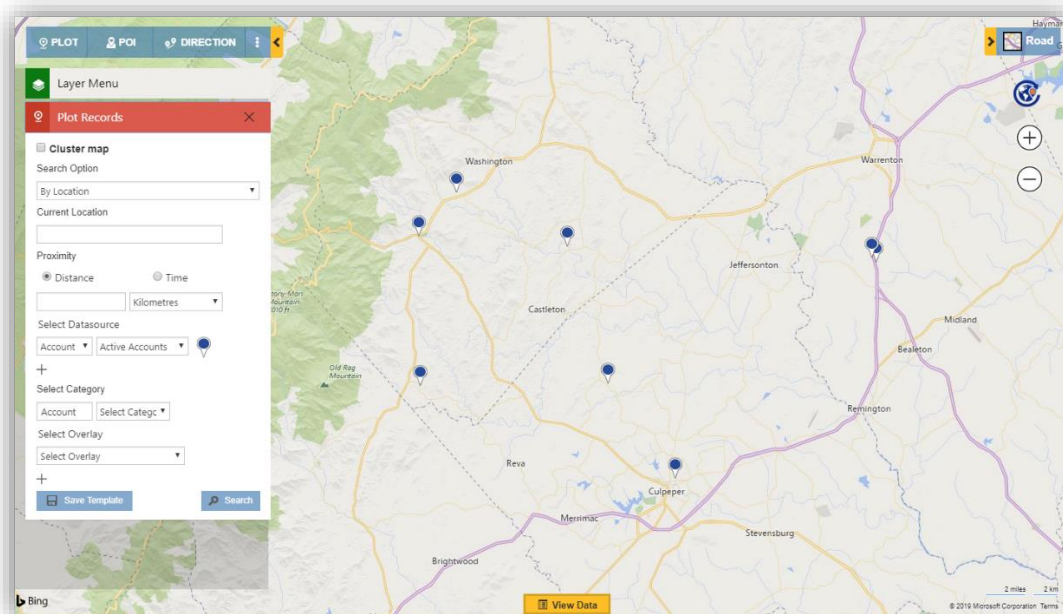
- Activate and configure Maplytics  
To access the Maplytics user needs to Activate and Configure Maplytics to start the license and configure the basic Entity maps, Dashboards and Census data.
  - Go to Settings > License registration > Click on Activate
  - Go to Settings > License registration > Click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

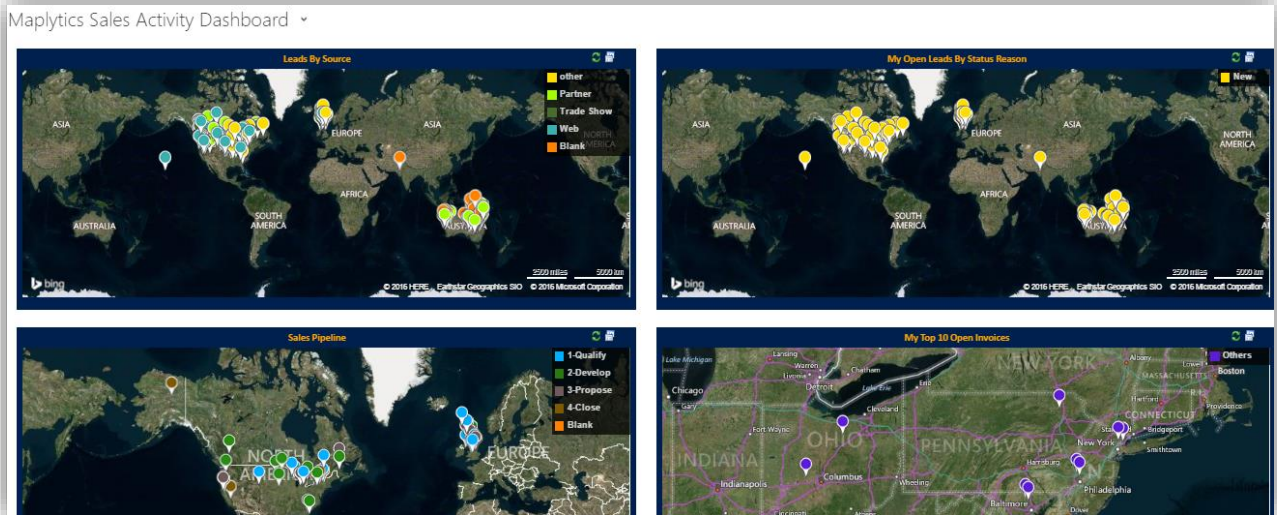
### Access Maplytics in PowerApps

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.

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

- Web resource:** *ikl\_/Maplytics/Maplytics.Dashboard.html*
- Field Name and Properties:**
  - Name:** *WebResource\_MyFollowUpCasesByTodayByPriority*
  - Label:** *My Todays Follow-up Cases By Priority*
  - ☐ Display label on the Dashboard
- Visibility:**
  - ☒ Visible by default
- Web Resource Properties:**
  - Custom Parameter(data):** *My Todays Follow-up Cases By Priority*
  - ☐ Restrict cross-frame scripting, where supported.
  - ☐ Pass record object-type code and unique identifier as parameters.

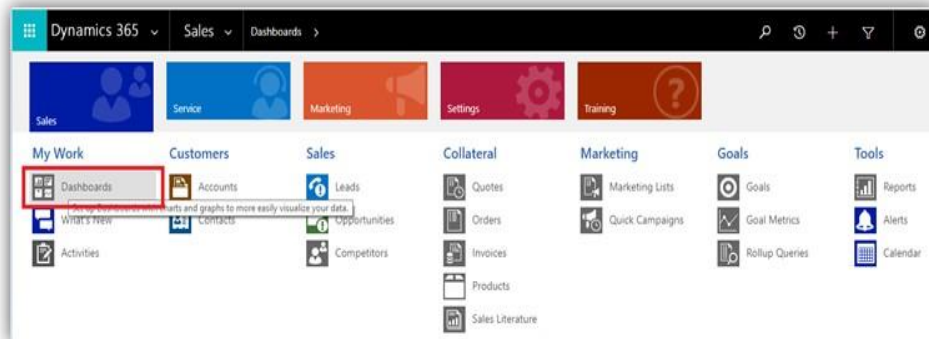


### Create a route dashboard

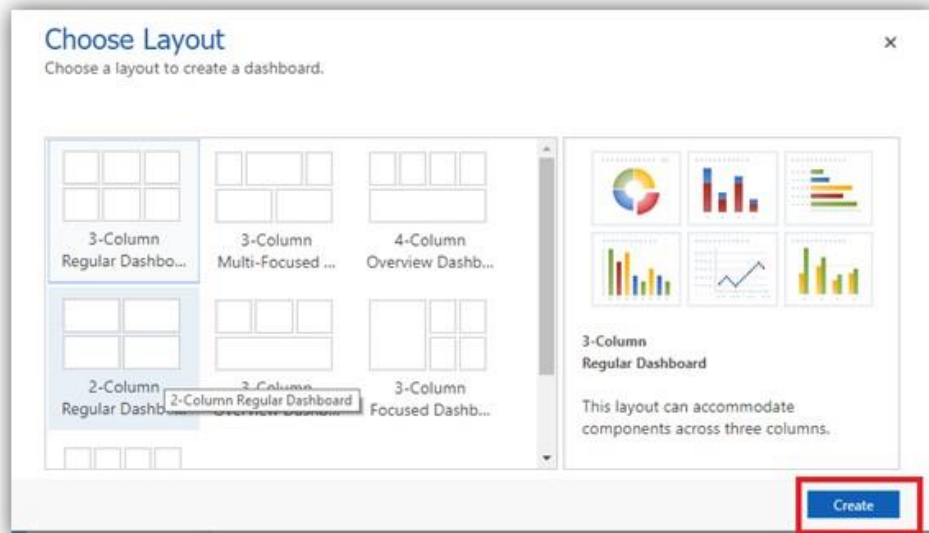
To plot route on a CRM dashboard follow the steps mentioned below:

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:

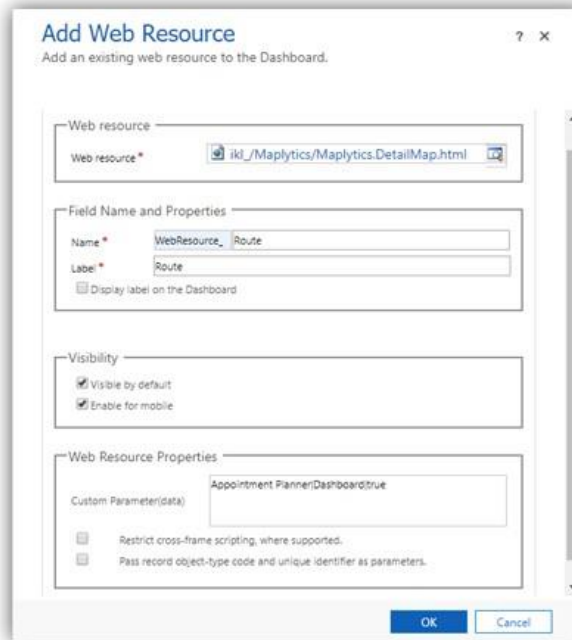


3. Provide the dashboard name and click on the web resource button to add the Detail map HTML web resource.

## Maplytics™ – User Manual

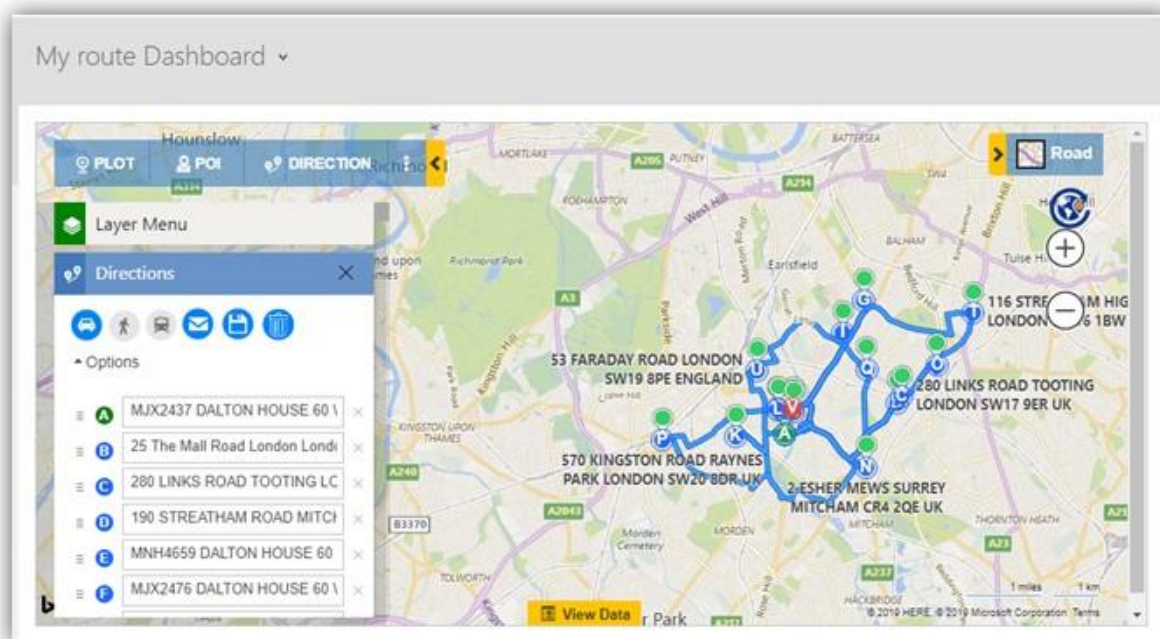


4. Add web resource :'*ikl\_/Maplytics/Maplytics.DetailMap.html*' web resource
5. Add a parameter in Custom Parameter (data) field as **<Dashboard Name>||dashboard||true** and click on 'OK'



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

# Maplytics™ – User Manual

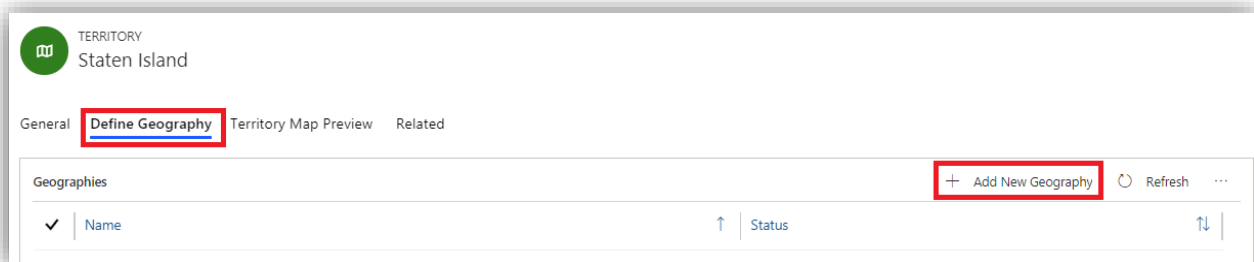


**Note: Only 25 waypoints can be added into the route.**

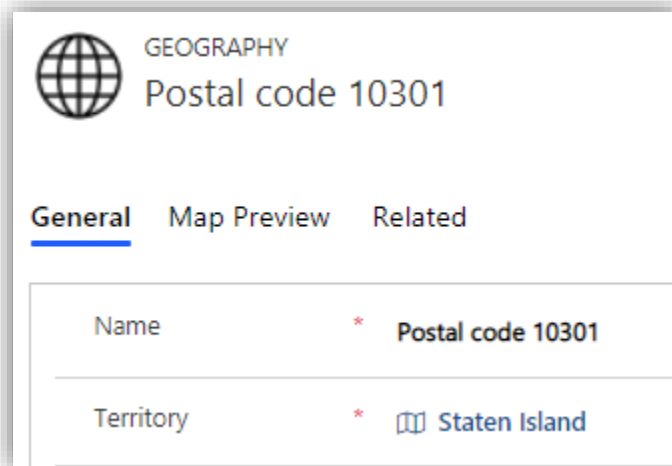
## Defining Geographies for Sales Territory using Maplytics

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'**.



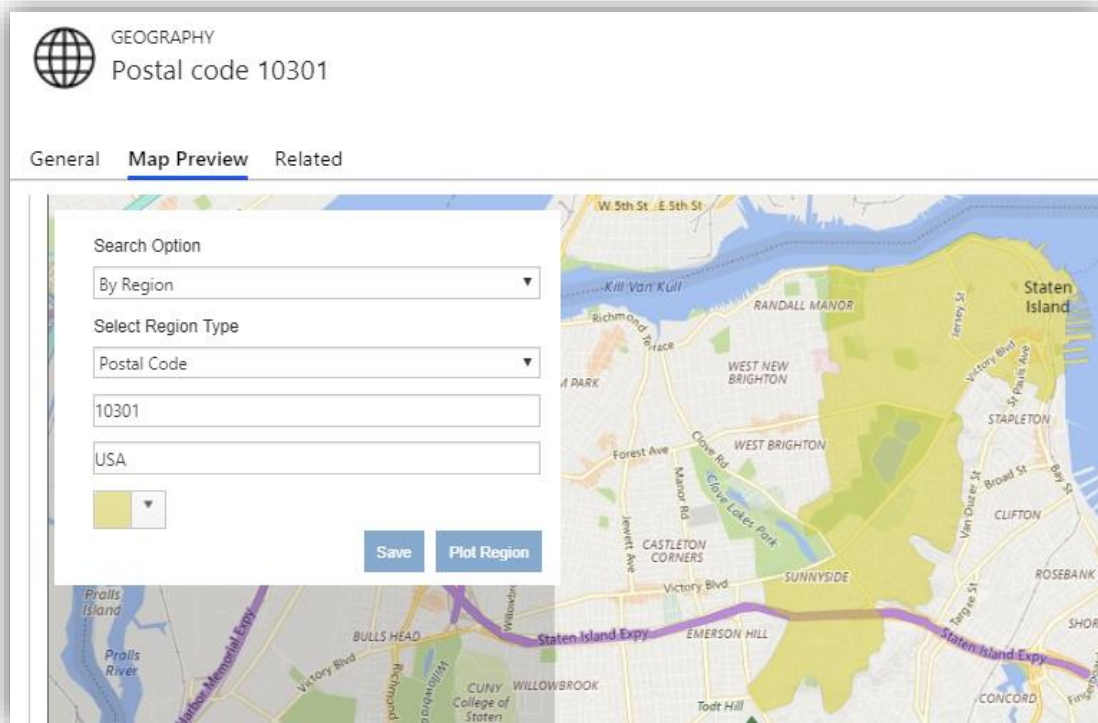
In the section '**General**', provide a name for the Geography.



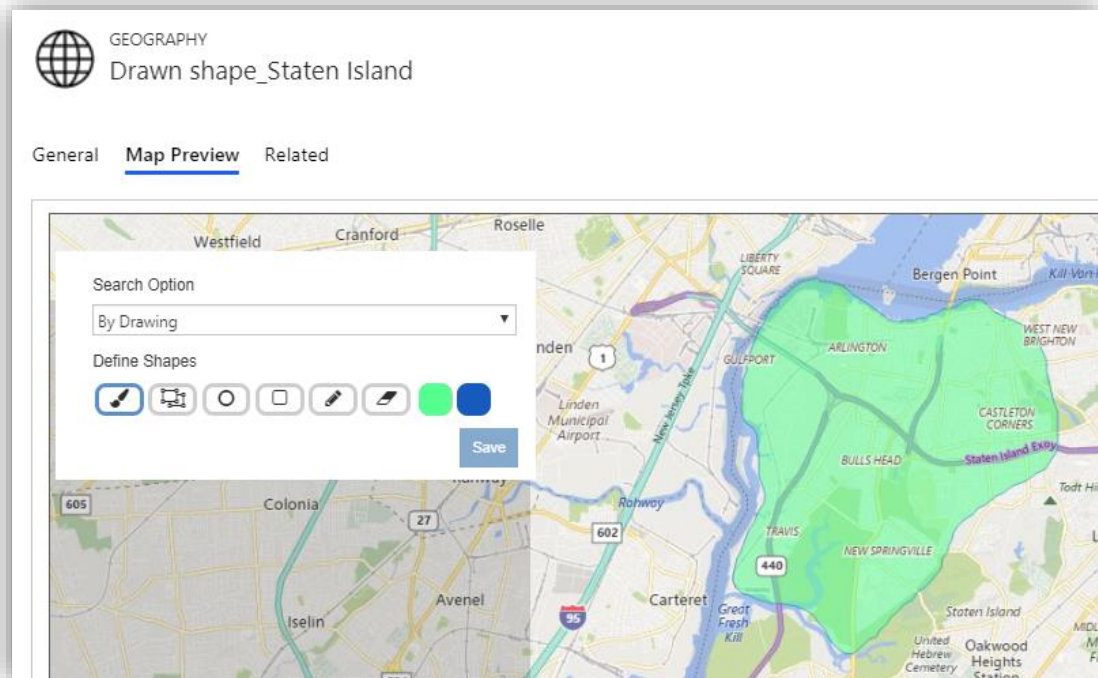
Within the section '**Map preview**', the user has the option to visualize the geography on a map 'By Region' or 'By Drawing'. The 'By Region' option lets the user to plot the geography based on region types and the user has the freedom to choose the color for the plotted region.



## Maplytics™ – User Manual



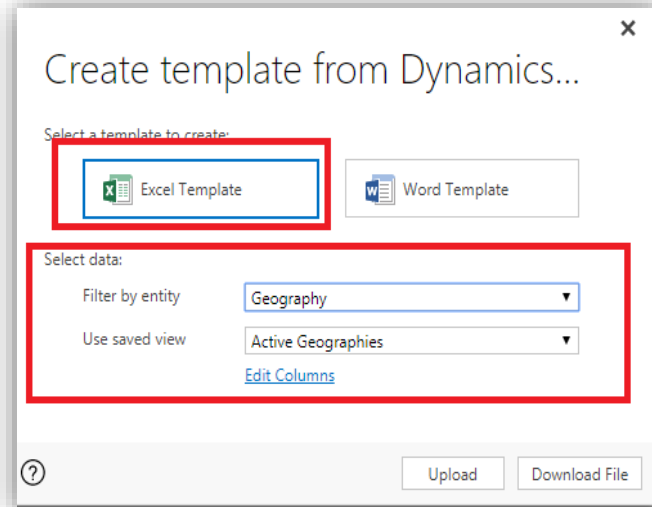
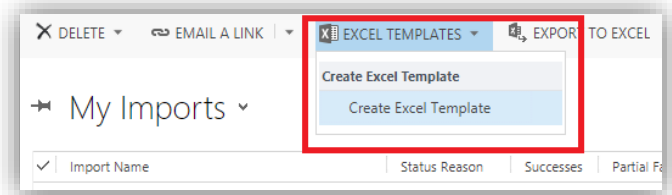
The 'By Drawing' option lets the user to plot the geography by drawing a shape on the map and the user can further edit the shape based on their needs.



**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.



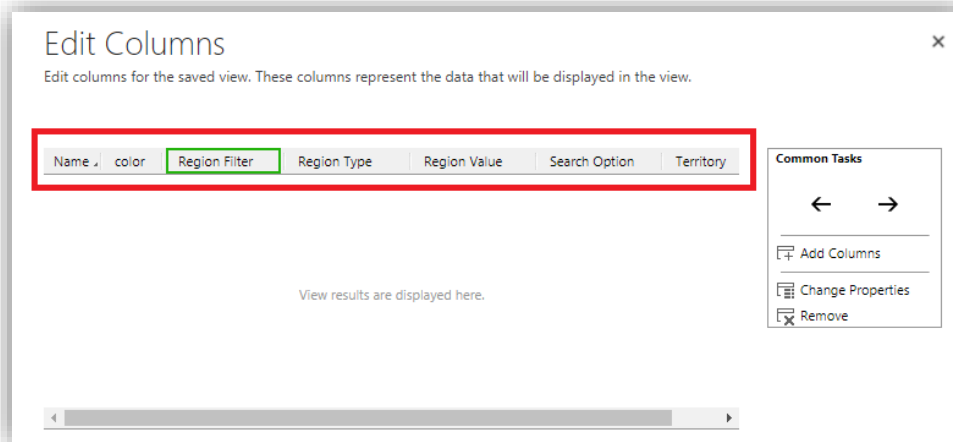
To upload the geographies in bulk, the user first needs to export an Excel template. Go to **Settings > Data Management > Imports >** select the '**Excel Templates**' and then click on the 'Create Excel Template' option. Select the 'Excel Template' and in the 'Select data' section, select the 'Geography'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



**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 (,).

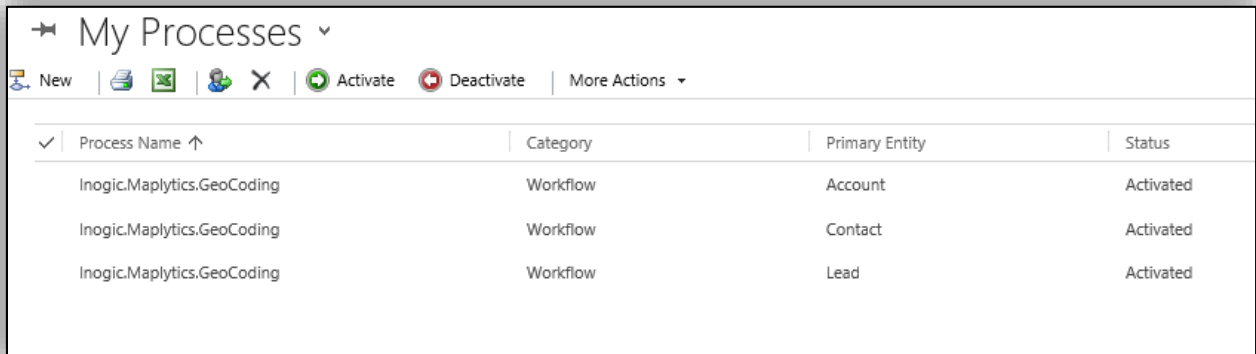
**Territory:** This is a lookup value to define which geography belongs to which territory.

**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 ships with two different kinds of workflows – **Geocoding workflows** to geocode addresses and **Territory Assignment workflow** to assign territories to CRM records. We also ship a **Driving Instructions workflow** to automatically generate directions (in HTML and Plain text format) between two related entity records using their respective addresses. We ship Geocoding workflow 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.

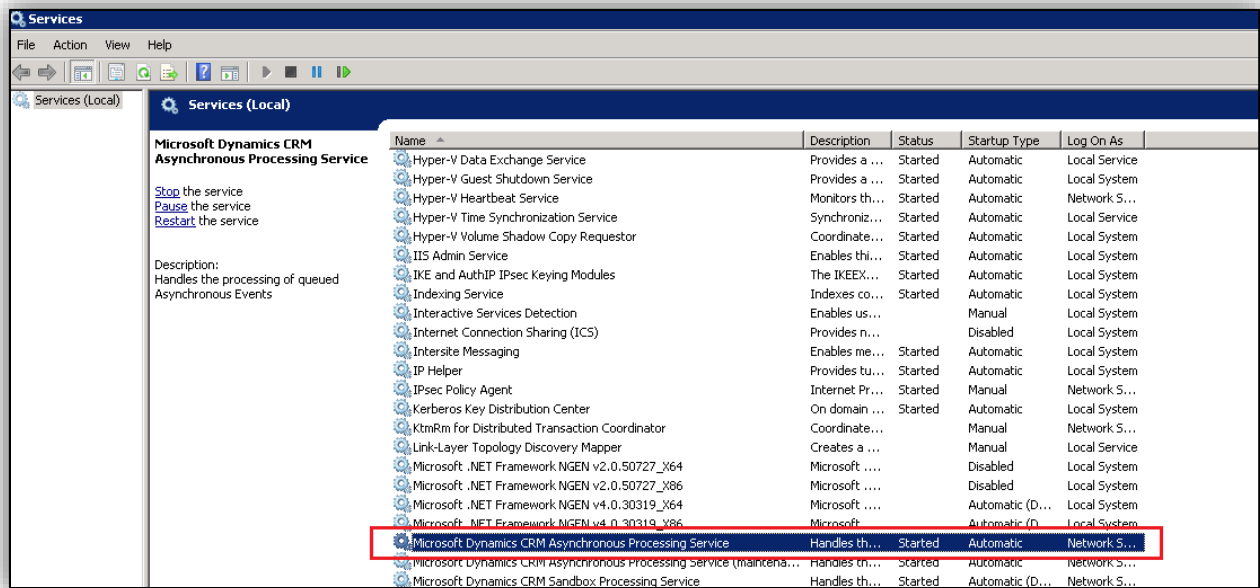


The screenshot shows a web interface titled "My Processes" with a dropdown arrow. Below the title is a toolbar with icons for "New", "Duplicate", "Delete", "Refresh", "Activate", "Deactivate", and "More Actions". Below the toolbar is a table with the following data:

✓	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.**

## Maplytics™ – User Manual



### Steps to 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;

### 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	Owner
No process template records are available in this view		

0 - 0 of 0 (0 selected) Page 1



## Maplytics™ – User Manual

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

Available to Run

- ☒ Run this workflow in the background (recommended)
- ☒ As an on-demand process
- ☐ As a child process

Workflow Job Retention

- ☒ Automatically delete completed workflow jobs (to save disk space)

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

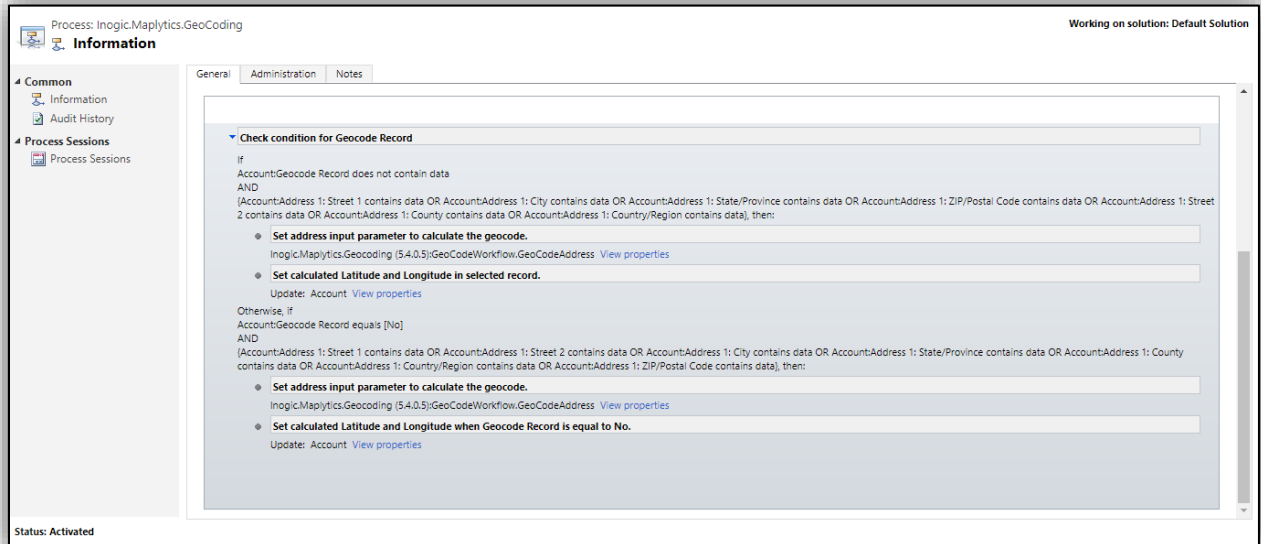
Select the fields that the process will monitor for changes.

<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

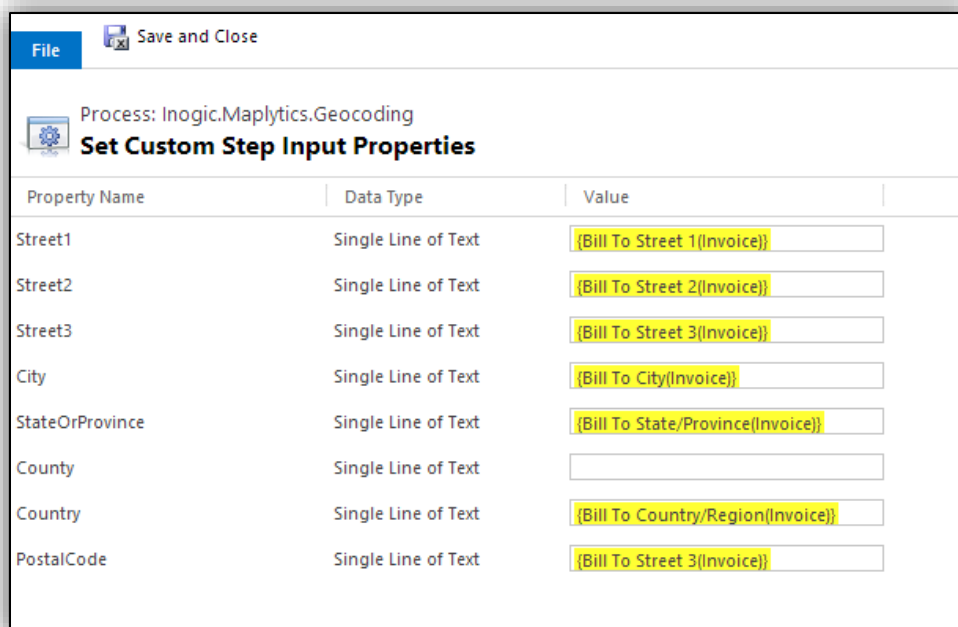
**Note: Please don't select Latitude & Longitude field attribute here.**

5. 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.**

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



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 addres
Rating	{Rating Set address ing

### Geocoding Confidence Rating:

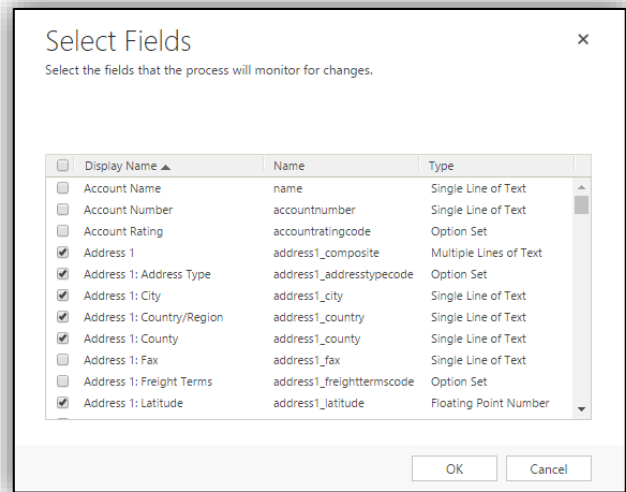
User can also check the geocoding confidence rating provided by Bing Maps. A 'Rating' field can be added that shows the confidence rating as High, Medium or Low. The 'Rating' field is set in the workflow as shown in the above screenshot.

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).

## Steps to 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;



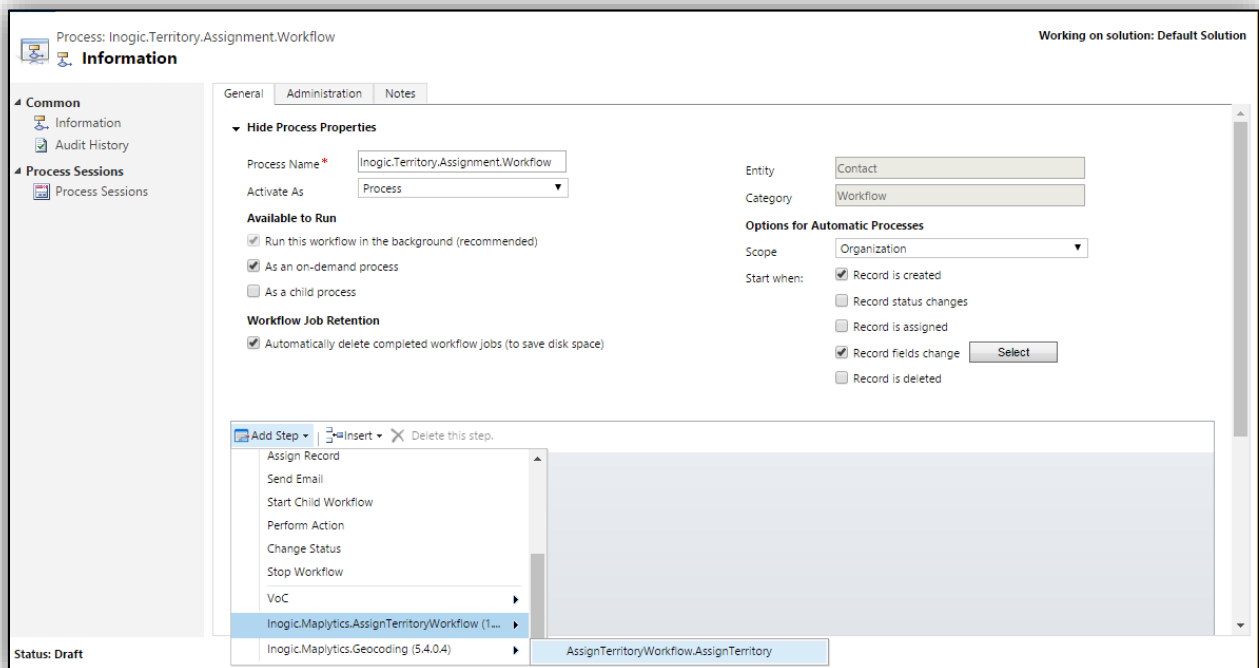
Select Fields

Select the fields that the process will monitor for changes.

Display Name	Name	Type
<input type="checkbox"/> Account Name	name	Single Line of Text
<input type="checkbox"/> Account Number	accountnumber	Single Line of Text
<input type="checkbox"/> Account Rating	accountratingcode	Option Set
<input checked="" type="checkbox"/> Address 1	address1_composite	Multiple Lines of Text
<input checked="" type="checkbox"/> Address 1: Address Type	address1_addresstypecode	Option Set
<input checked="" type="checkbox"/> Address 1: City	address1_city	Single Line of Text
<input checked="" type="checkbox"/> Address 1: Country/Region	address1_country	Single Line of Text
<input checked="" type="checkbox"/> Address 1: County	address1_county	Single Line of Text
<input type="checkbox"/> Address 1: Fax	address1_fax	Single Line of Text
<input type="checkbox"/> Address 1: Freight Terms	address1_freighttermscode	Option Set
<input checked="" type="checkbox"/> Address 1: Latitude	address1_latitude	Floating Point Number

OK Cancel

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



Process: Inogic.Territory.Assignment.Workflow

Working on solution: Default Solution

Information

Common

- Information
- Audit History
- Process Sessions
- Process Sessions

General Administration Notes

Hide Process Properties

Process Name\* Inogic.Territory.Assignment.Workflow

Activate As Process

Available to Run

- ☒ Run this workflow in the background (recommended)
- ☒ As an on-demand process
- ☐ As a child process

Workflow Job Retention

- ☒ Automatically delete completed workflow jobs (to save disk space)

Entity Contact

Category Workflow

Options for Automatic Processes

Scope Organization

Start when:

- ☒ Record is created
- ☐ Record status changes
- ☐ Record is assigned
- ☒ Record fields change
- ☐ Record is deleted

Select

Add Step Insert Delete this step.

- Assign Record
- Send Email
- Start Child Workflow
- Perform Action
- Change Status
- Stop Workflow
- VoC
- Inogic.Maplytics.AssignTerritoryWorkflow (1...
- Inogic.Maplytics.Geocoding (5.4.0.4)
- AssignTerritoryWorkflow.AssignTerritory

Status: Draft

## Maplytics™ – User Manual

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

Property Name	Data Type	Required	Value
Latitude	Floating Point Num...	Optional	{Address 1: Latitude>Contact}
Longitude	Floating Point Num...	Optional	{Address 1: Latitude>Contact}

Form Assistant

Dynamic Values

Operator: Set to

Look for: Contact

Address 1: Latitude

Add

Address 1: Latitude>Contact

Default value:

OK

### Steps to Configure Driving Instructions workflow

- Go to Setting > Processes > Click on 'New' to design a new Workflow Process.
- 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: \* GetDirection

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

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



## Maplytics™ – User Manual

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: [Redacted]

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

Available to Run

- ☒ Run this workflow in the background (recommended)
- ☒ As an on-demand process
- ☐ As a child process

Workflow Job Retention

- ☒ Automatically delete completed workflow jobs (to save disk space)

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 as shown below;

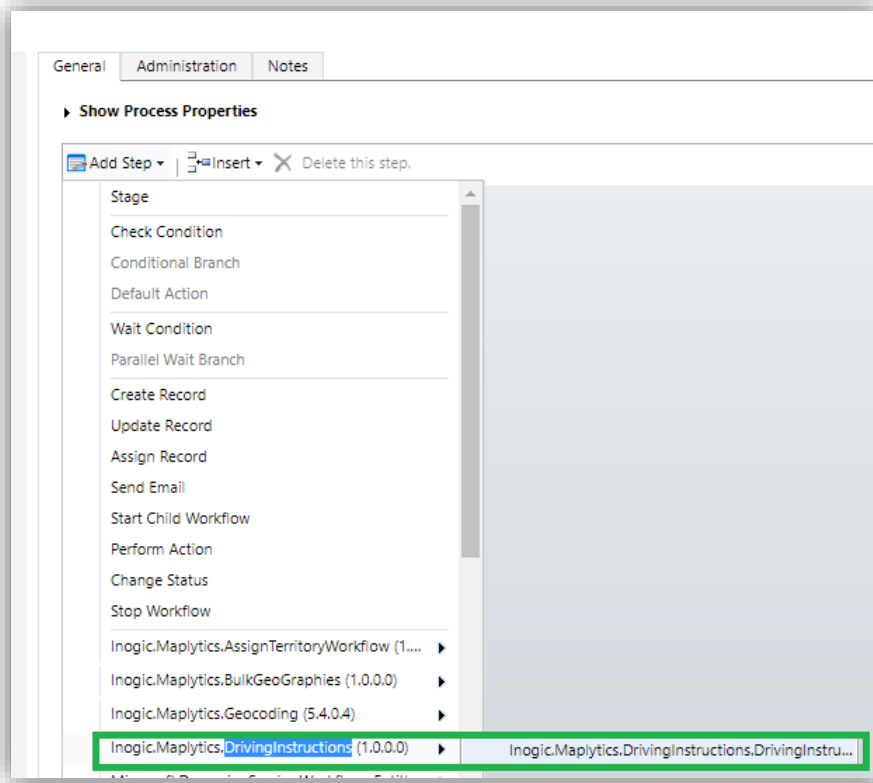
Select Fields

Select the fields that the process will monitor for changes.

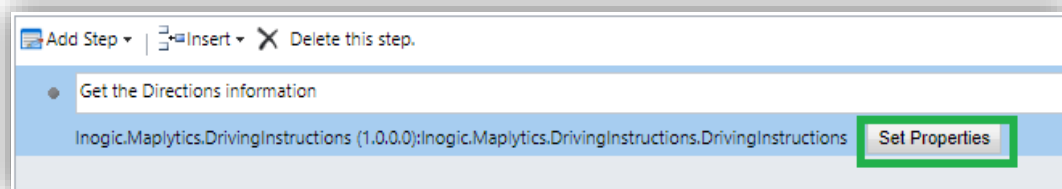
Display Name	Name	Type
<input type="checkbox"/> Address 1: Shipping Method	address1_shippingmethod...	Option Set
<input checked="" type="checkbox"/> Address 1: State/Province	address1_stateorprovince	Single Line of Text
<input checked="" type="checkbox"/> Address 1: Street 1	address1_line1	Single Line 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

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



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



Process: GetDirection Working on solution: Default Solution

### Set Custom Step Input Properties

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

## Maplytics™ – User Manual

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.

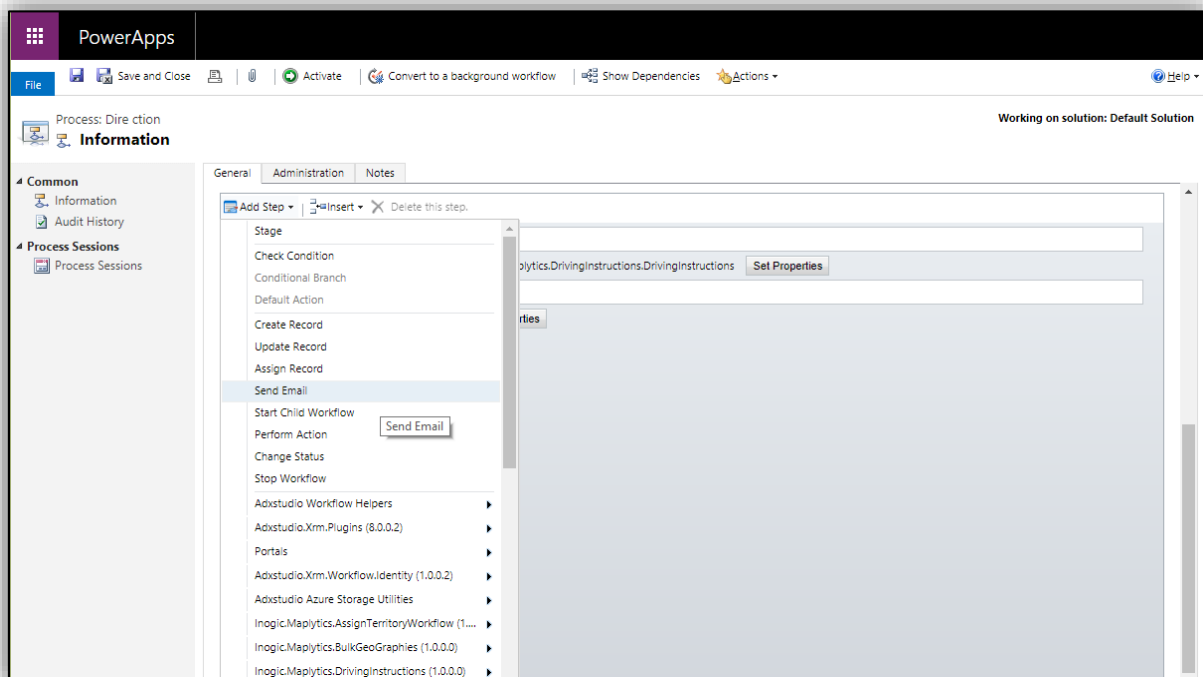
{Address 1: Street 1(Account)} {Address 1: Street 2(Account)} {Address 1: City(Account)} {Address 1: State/Province(Account)}

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.

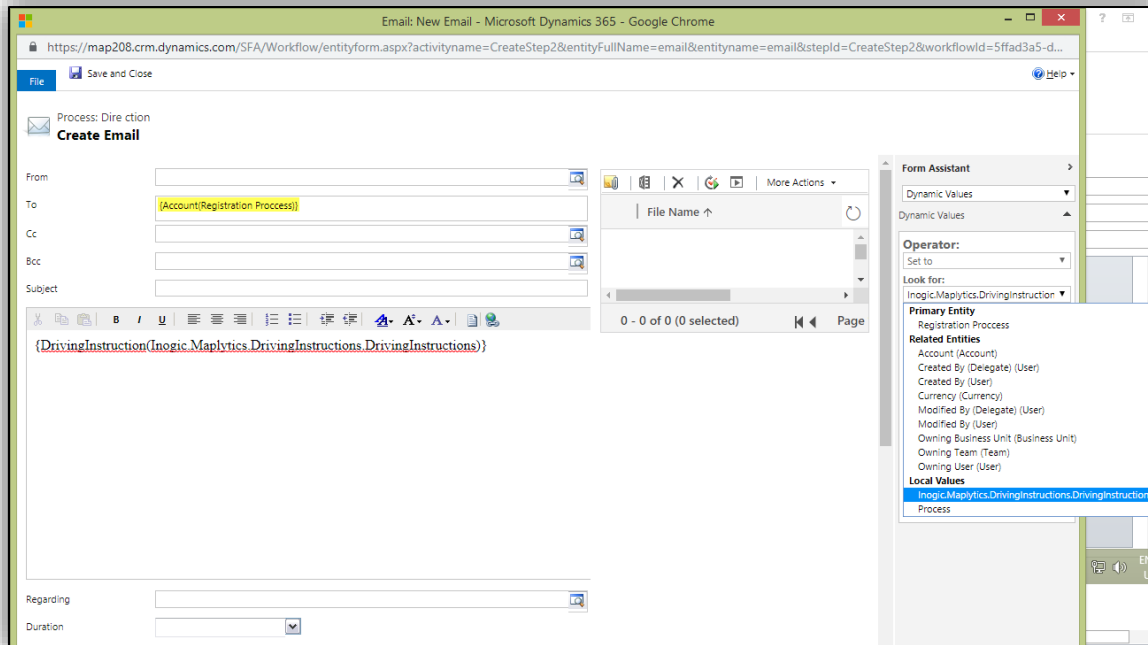
**Distance Unit**: Select the Distance unit. For example (Mile or mi, Kilometer or km). If you do not specify the unit then it will take Kilometer as default unit.

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



## Maplytics™ – User Manual

8. 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.

9. 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.






<b>From Address:</b> 1 NW 50th Ln Ocala FL 34482 USA	
<b>To Address:</b> 4350 US-98 Frostproof FL 33843 USA	
<b>Total Travel Distance:</b> 208.45 miles	
<b>Total Travel Duration:</b> 3 hrs 25 min	
<b>Instruction</b>	<b>Distance</b>
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.



## Maplytics™ – User Manual

The screenshot shows the 'Maplytics Batch Processing Tool (2.0.0.8)' window. The left sidebar contains a list of steps: 'Connection Details' (selected), 'Choose Option', 'Entity Selection and Filtering', 'Results and Log Settings', and 'Progress'. The main area is titled 'Maplytics Batch Processing' and contains the following fields:

- Deployment model:** Three radio buttons: 'On Premise' (unselected), 'IFD' (unselected), and 'Online' (selected).
- CRM Server:** A text input field.
- Organization:** A dropdown menu.
- User name:** A text input field.
- Password:** A text input field with masked characters (dots).

At the bottom right, there are two buttons: 'Next' and '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:

The screenshot shows the 'Maplytics Batch Processing Tool (2.0.0.8)' window. The left sidebar contains a list of steps: 'Connection Details', 'Choose Option' (selected), 'Entity Selection and Filtering', 'Results and Log Settings', and 'Progress'. The main area is titled 'Maplytics Batch Processing' and contains the following options:

- Batch Geocode:** A radio button that is selected.
- Territory Assignment:** A radio button that is unselected.

At the bottom right, there is a single button: 'Next'.

### 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.

The screenshot shows the 'Maplytics Batch Processing' window. On the left is a sidebar with navigation links: 'Connection Details', 'Choose Option', 'Entity Selection and Filtering' (which is highlighted), 'Results and Log Settings', and 'Progress'. The main area has a blue background. At the top, there are two dropdown menus: 'Entity' with 'Lead' selected and 'Views' with 'My Open Leads' selected. To the right of the 'Views' dropdown is a radio button labeled 'OR All Records' which is currently unchecked. Below these is an 'Add' button. In the center, there is a table with three columns: 'Entity Name', 'View Name', and 'Action'. The table contains two rows: one for 'Account' with 'Active Accounts' and a 'Remove' button, and another for 'Lead' with 'My Open Leads' and a 'Remove' button. At the bottom right of the main area are three buttons: 'Back', 'Next', and 'Cancel'.

Entity Name	View Name	Action
Account	Active Accounts	Remove
Lead	My Open Leads	Remove

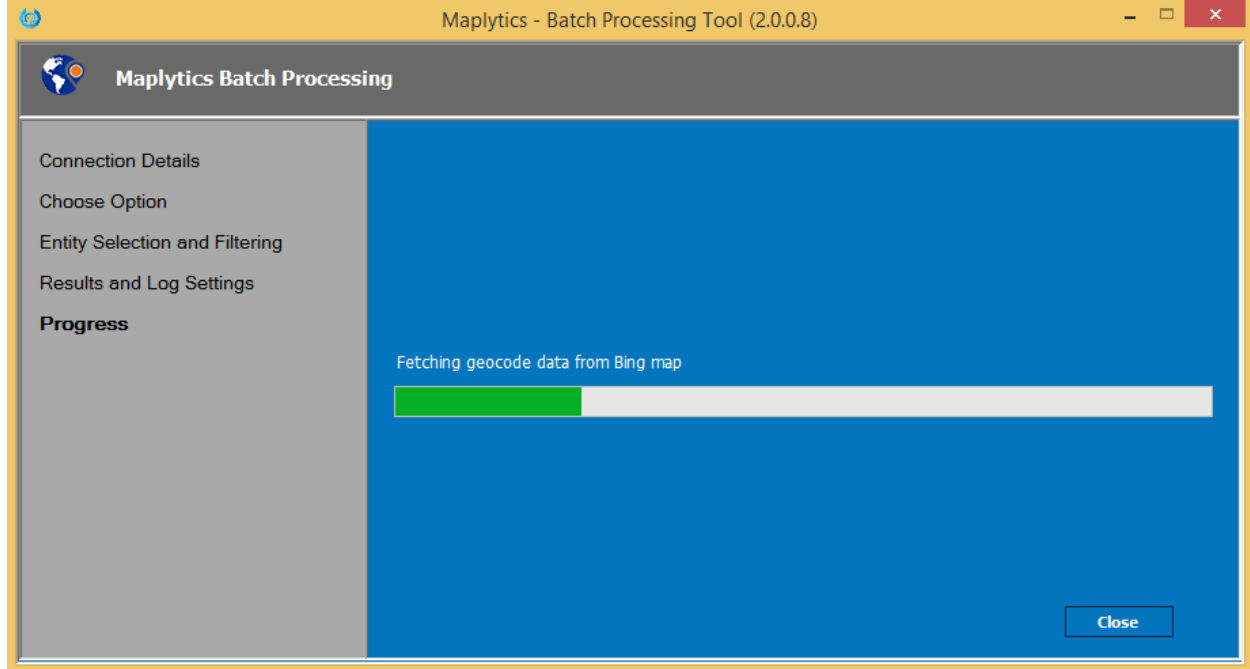
### Results and Log Settings:

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.

The screenshot shows the 'Maplytics Batch Processing' window with the 'Results and Log Settings' step selected in the sidebar. The main area has a blue background. There are two fields: 'Email' with a checked checkbox and 'Email Address' with a text input field containing 'cm@inogic.com'. At the bottom right of the main area are three buttons: 'Back', 'Next', and 'Cancel'.

### Progress :

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



### 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™ – User Manual

The screenshot shows the 'Maplytics Batch Processing' window. The left sidebar has a 'Progress' section highlighted. The main area displays the 'Records Summary' for 'Bing Status'. It shows 'Total processed records: 2088' and 'Succeeded: 2088 Failed: 0'. Below this is a table with columns: Entity, View Name, Succeeded, and Failed. The table has two rows: 'Account' with 'Active Accounts' (1044 succeeded, 0 failed) and 'Lead' with 'My Open Leads' (1044 succeeded, 0 failed). At the bottom, there are buttons for 'Go to Home', 'Download the results', and 'Finish'.

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

### ***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.

The screenshot shows the 'Maplytics Batch Processing' window. The left sidebar has a 'Progress' section highlighted. The main area displays the 'Records Summary' for 'CRM Status'. It shows 'Total: 2088' and 'Total Align Records : 2088'. Below this is a table with columns: Entity, View Name, Succeeded, and Failed. The table has two rows: 'Lead' with 'My Open Leads' (1088 succeeded, 0 failed) and 'Account' with 'Active Accounts' (1088 succeeded, 0 failed). At the bottom, there are buttons for 'Go to Home', 'Download the results', and 'Finish'.

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.

The screenshot shows the 'ENTITY MAP' configuration page for the entity 'account'. The page has a header with the entity name and a subgrid with tabs: General, Attribute Mappings, Tooltip Mapping, Category Configuration, Configuration, Advance Settings, and Related. The 'General' tab is active. It contains fields for 'Entity Name' (set to 'Account') and 'Link To'. Below these are two rows of statistics: 'Total Records' (741) and 'Geocoded Records' (715). There is also a 'Create New Record' button set to 'Yes'.

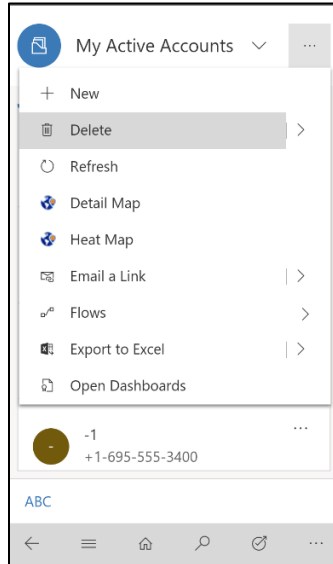
- Click on the plus (+) icon of the Category Configuration subgrid to open the new Entity Category form. Select the name of the category attribute in the Category text box and save the form.
- The user can select only OptionSet, Two options, Numeric, String, Lookup and Money attributes to define category 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.

The screenshot shows the 'ENTITY CATEGORY : INFORMATION' form for the category 'revenue'. It has two tabs: General and Category Mapping. The 'Category Mapping' tab is active. It displays a 'Range List' table with columns for Start Range, End Range, Color, and Pushpin. The table shows four rows: 'Blank' (red), '>= 0 < 200000' (blue), '>= 200000 < 500000' (maroon), and '>= 500000' (orange). Each row has a pushpin icon and a '+' or 'x' button for editing.

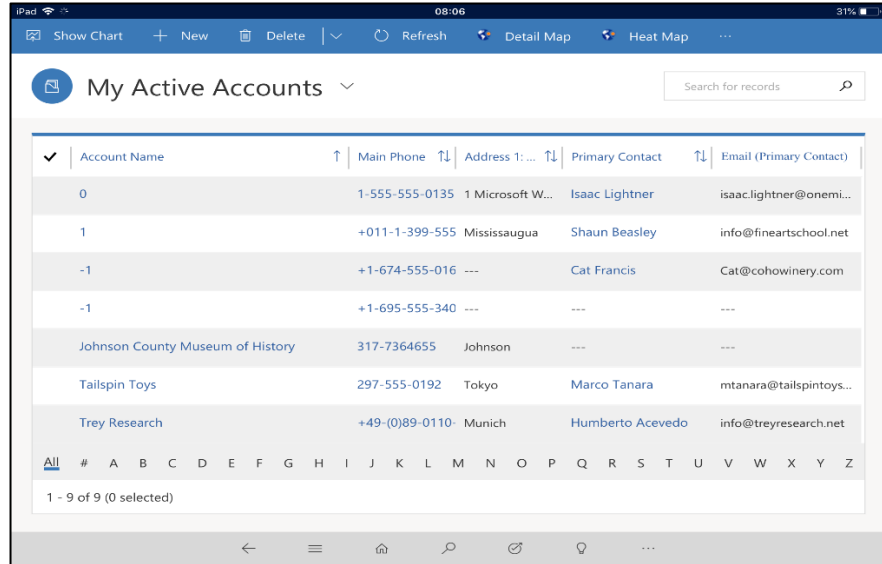


## Maplytics – Tablet / Mobile

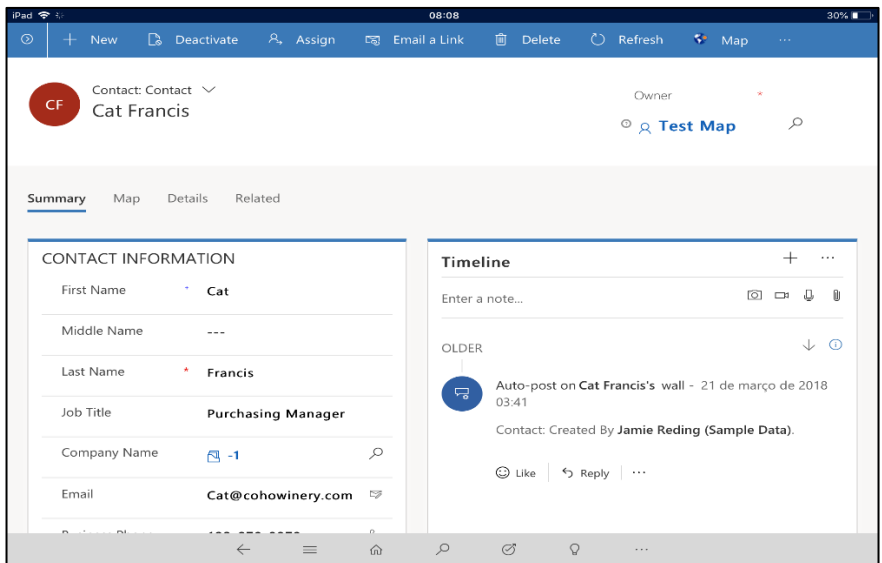
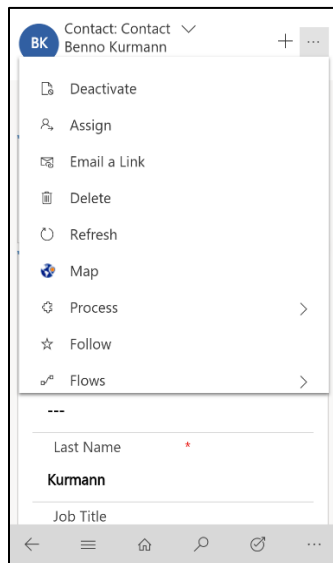
For Dynamics 365 v9.x, Maplytics can be accessed from the Entity homepage and entity form using the 'Detail Map', 'Heat Map' and 'Map' button respectively.



Mobile

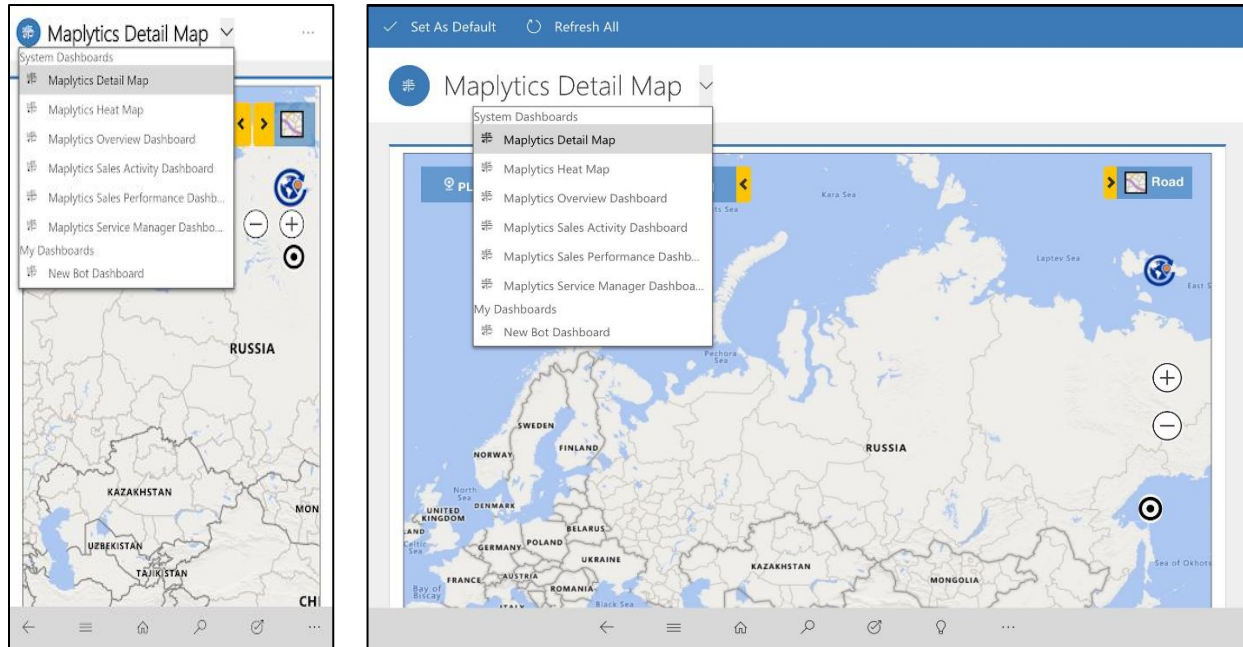


Tablet



## Maplytics™ – User Manual

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.

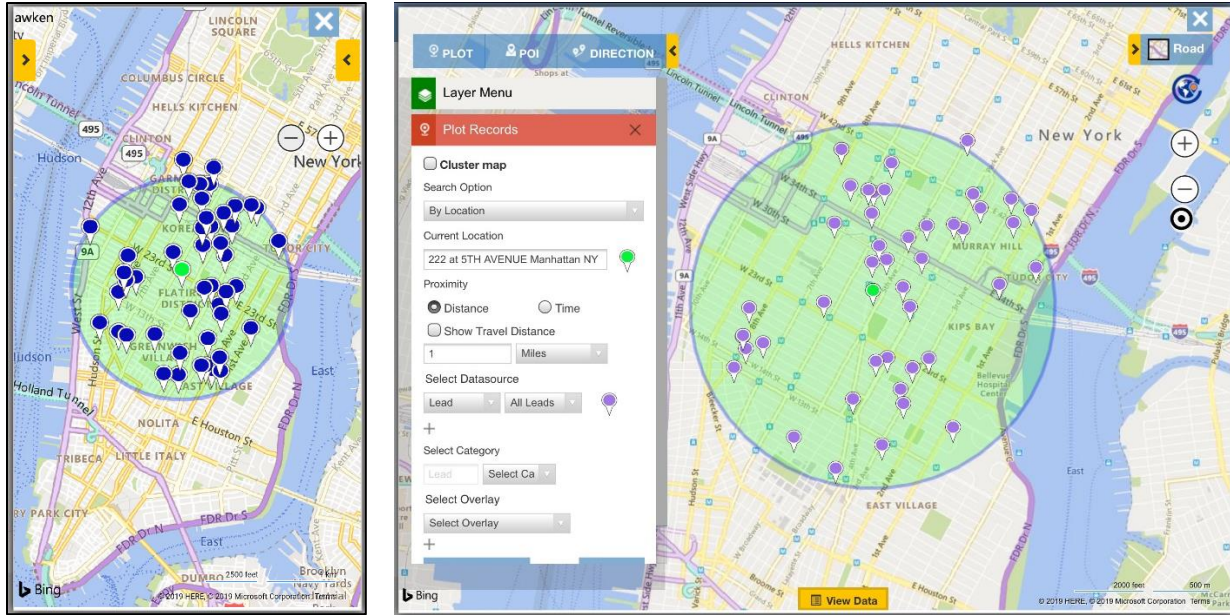
**Plot:** There are five ways to plot the data on Map, similar to the Detail Map on browser;

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

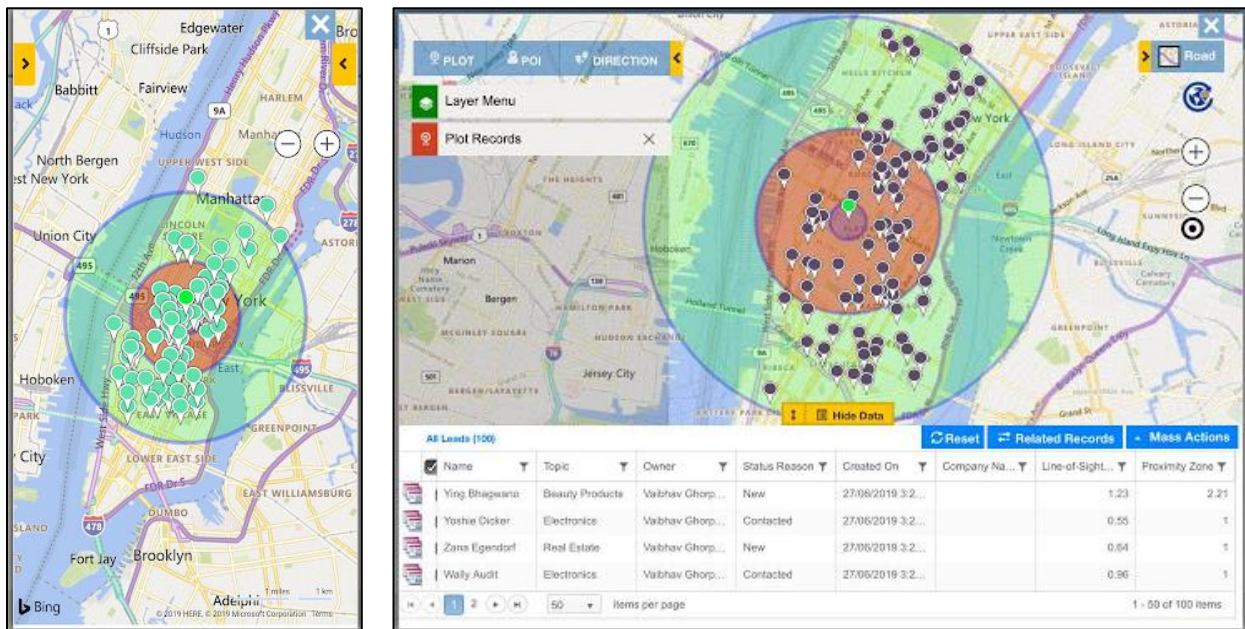
**Proximity:**

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

## Maplytics™ – User Manual



### Concentric Proximity Search:

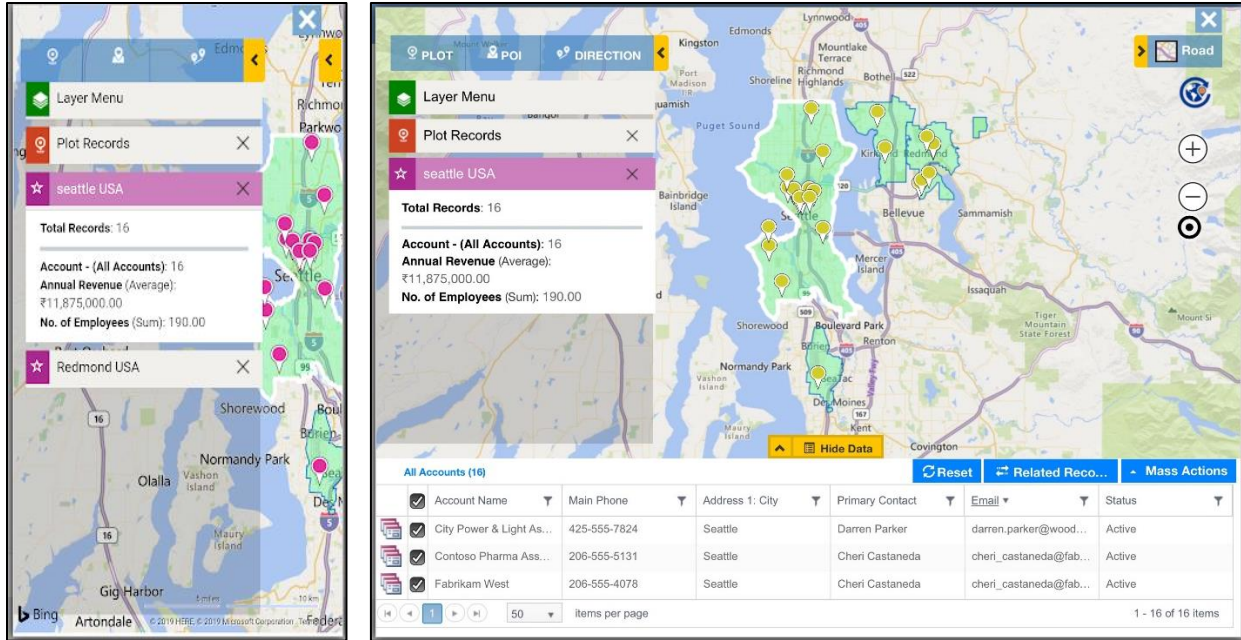


### Summary Card:

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

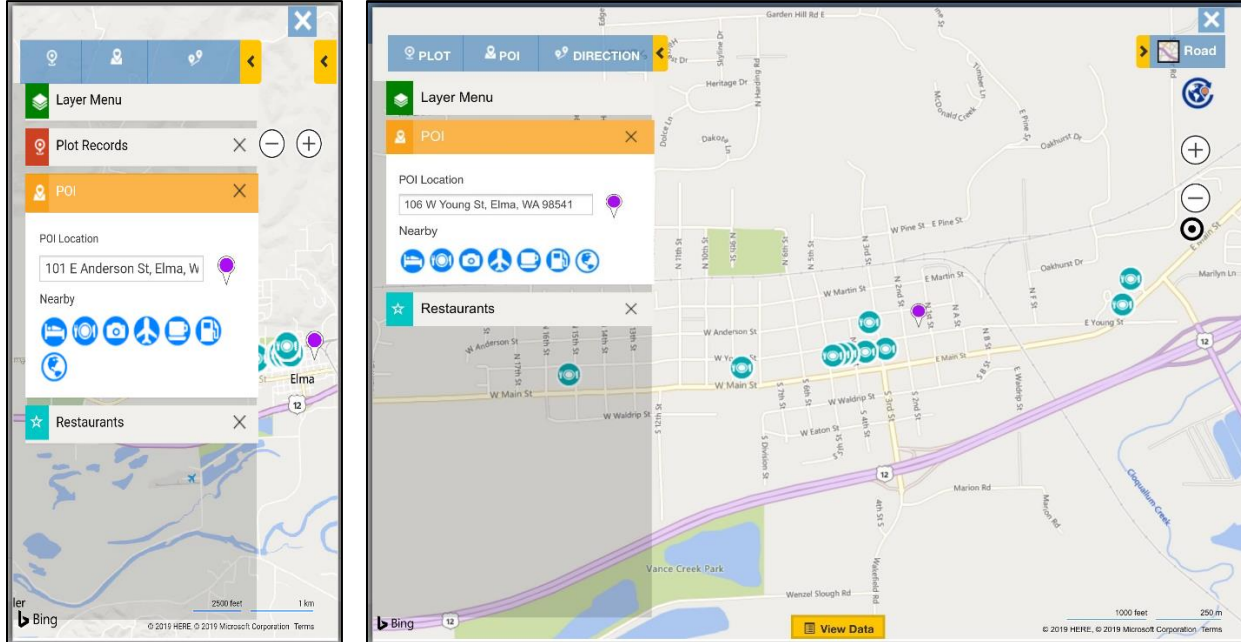


## Maplytics™ – User Manual

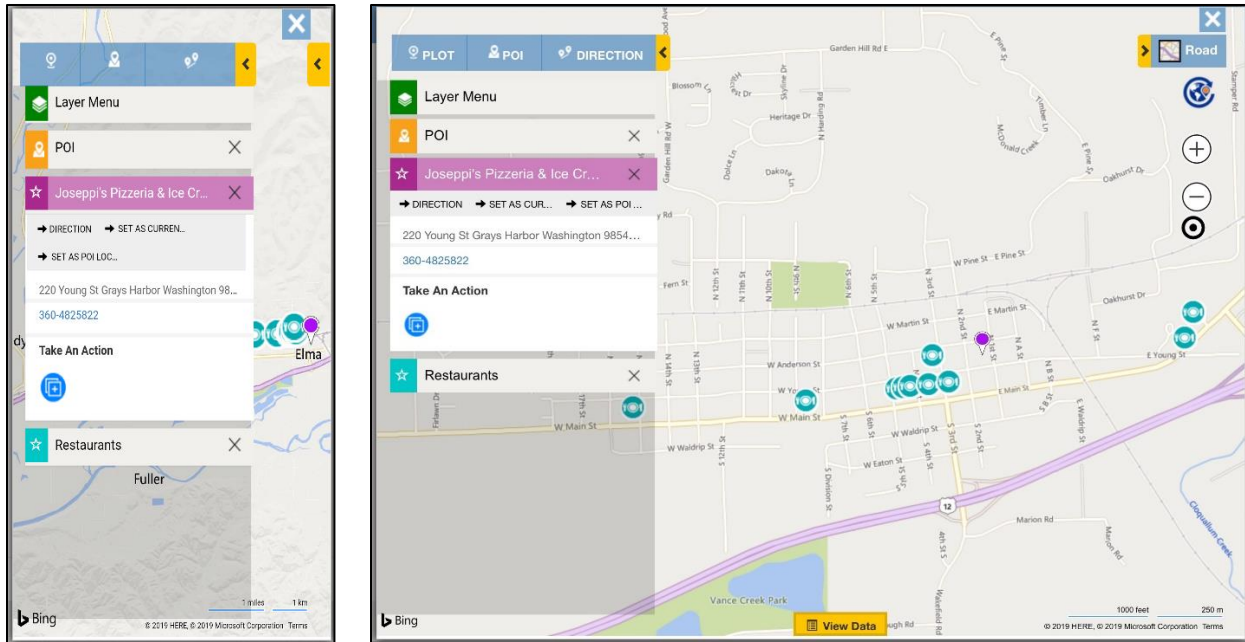


### Search POI:

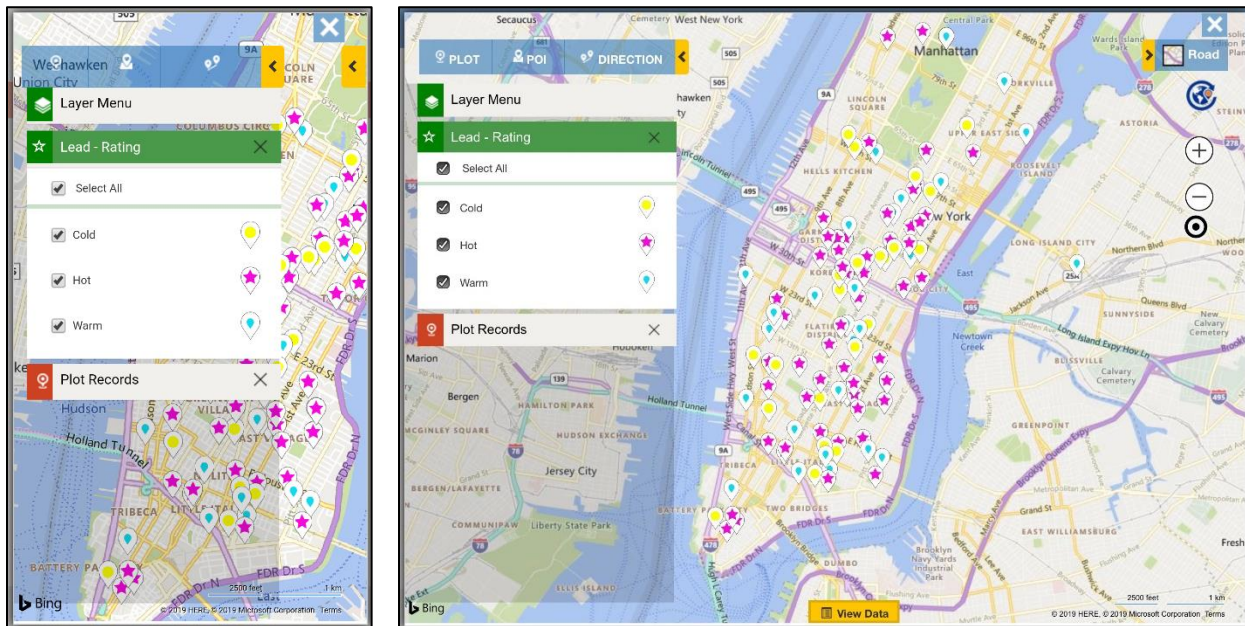
Ability to search for any Points of Interest (POI) like ATMs, restaurants, hotels, coffee shops, etc. in the vicinity. This will be plotted alongside the CRM data.



## Maplytics™ – User Manual




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



### Current Location:

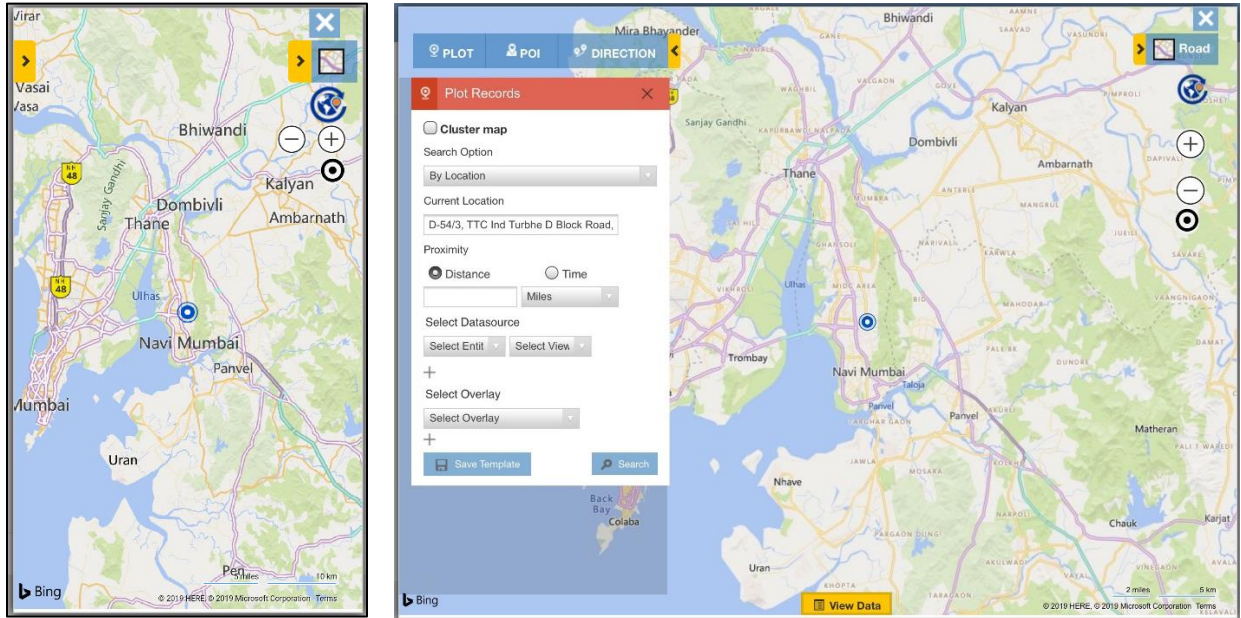
This is used in combination with Proximity to specify the center point for the proximity search. By default, this field displays the address stored in the Maplytics Personalized record of the logged in user.

### Set GPS Location as the current location:

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



## Maplytics™ – User Manual



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.

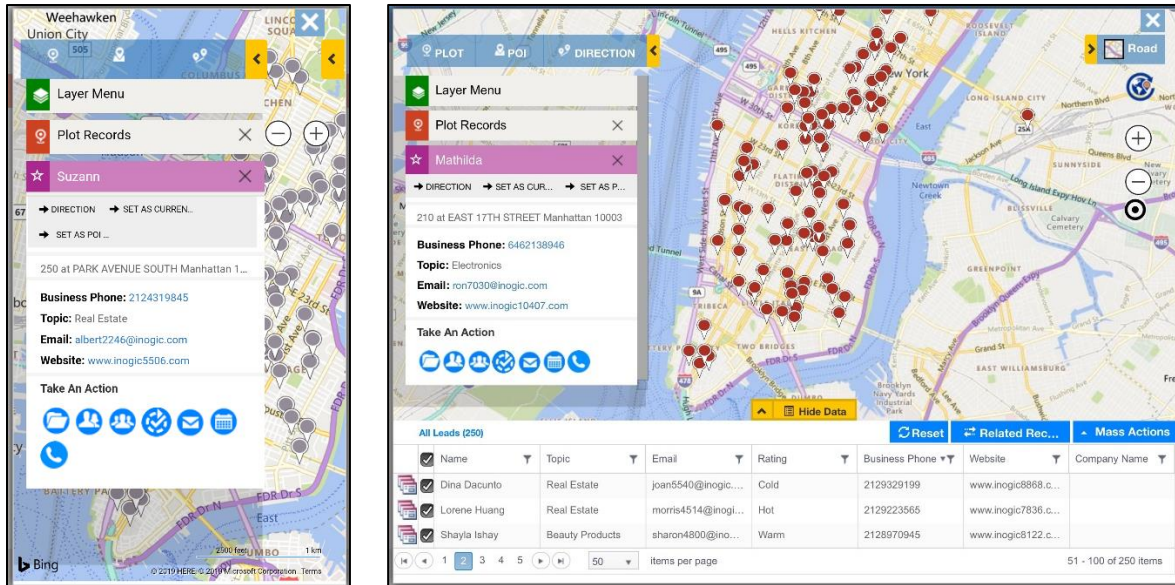
**Note: Please ensure the following points for the GPS functionality to work:**

- 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

### Tooltip:

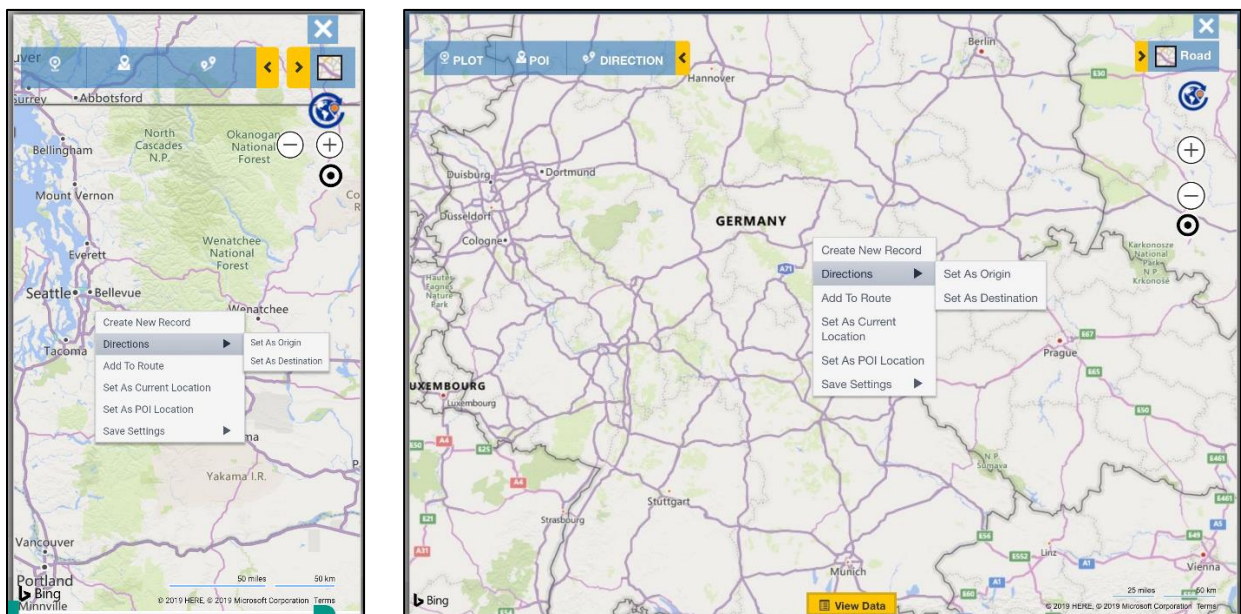
Every Pushpin will display the record name, address, as well as the contextual data defined in the tooltip section of the Maplytics Configuration. The user can open the record, change owner and run workflow using the available quick actions button.

## Maplytics™ – User Manual



### 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.



### 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:



## Maplytics™ – User Manual

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:

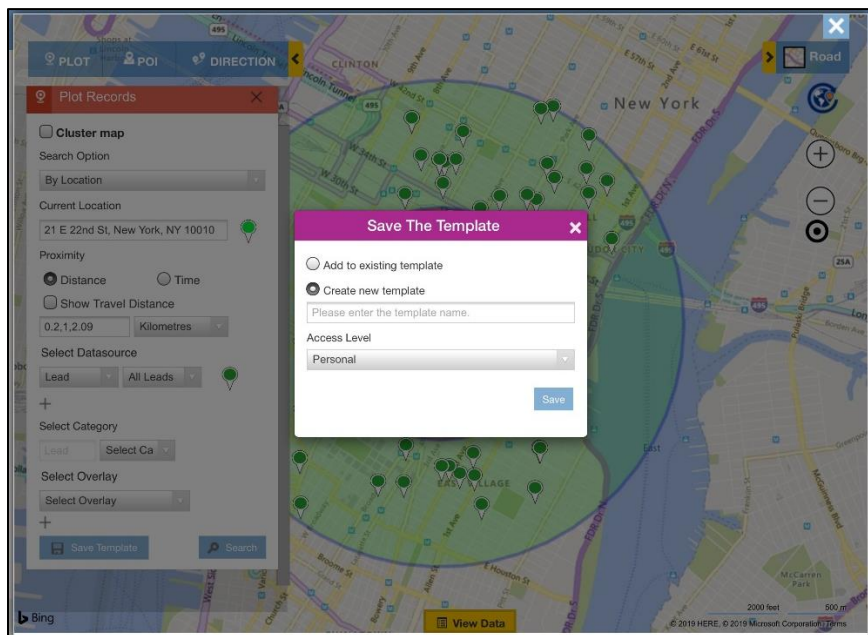
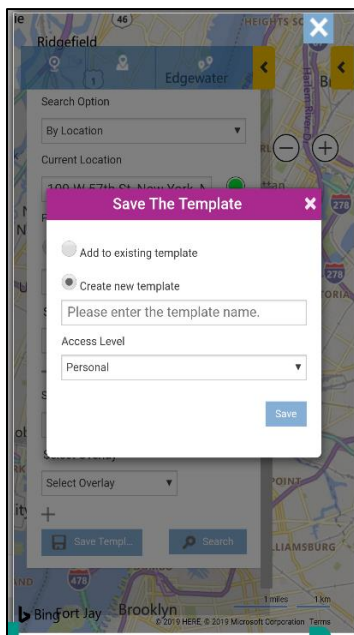
This option helps the user to set the center point for the Point of Interest (POI) searches like ATMs, restaurants, Airports, etc. Once this location is set as the POI location, the user can search for different POI around this location.

### Manage Territory:

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

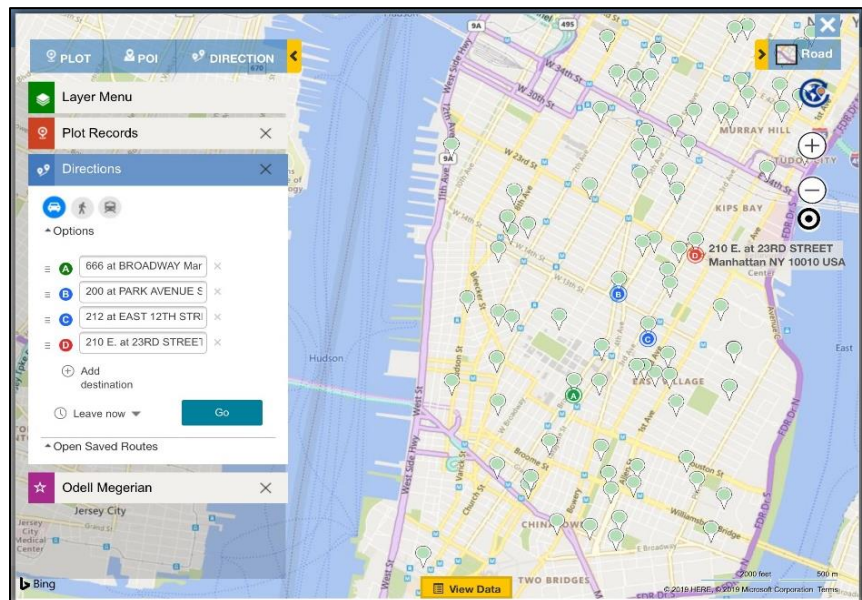
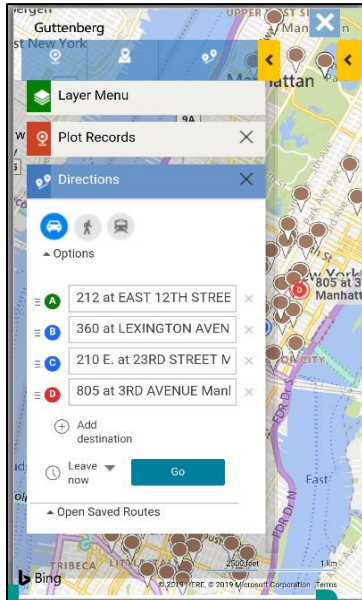
### Save Template:

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

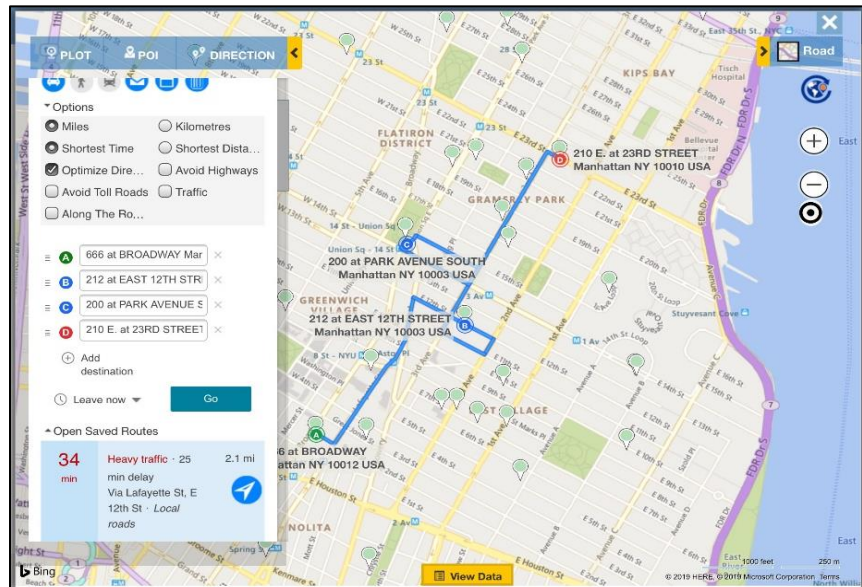
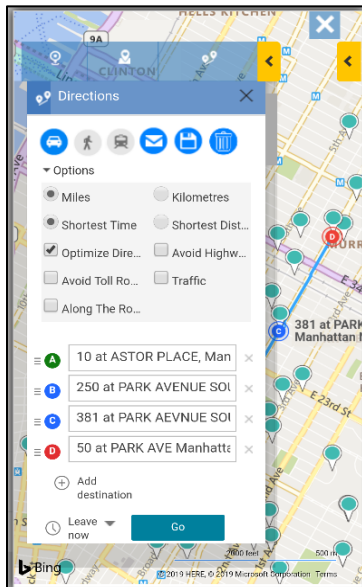


## Routing – Tablet / Mobile

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.

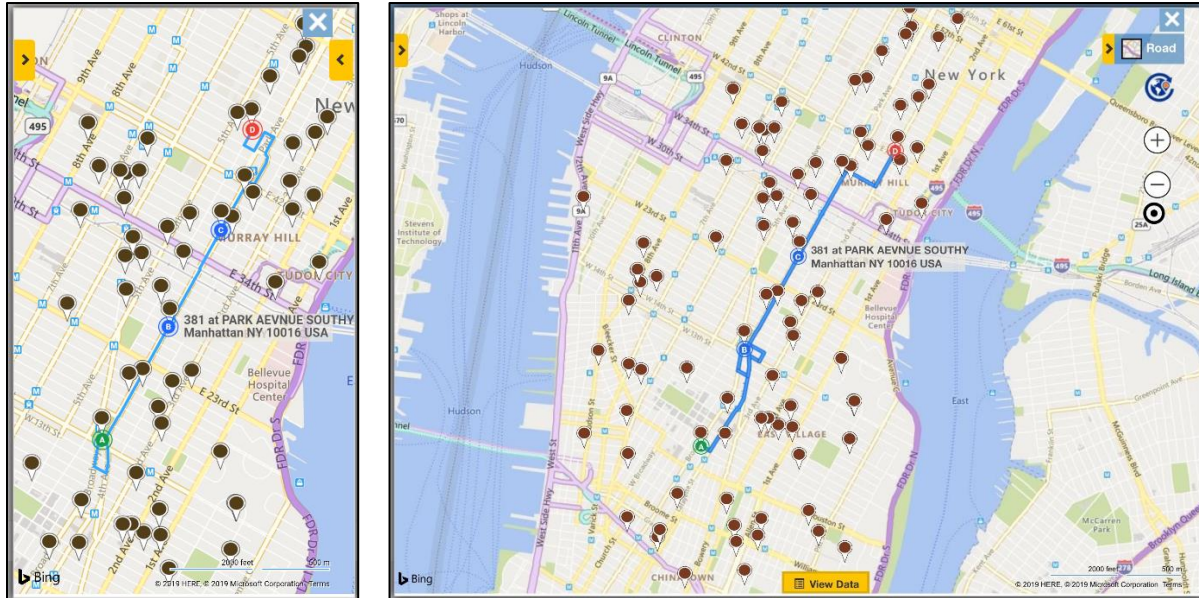




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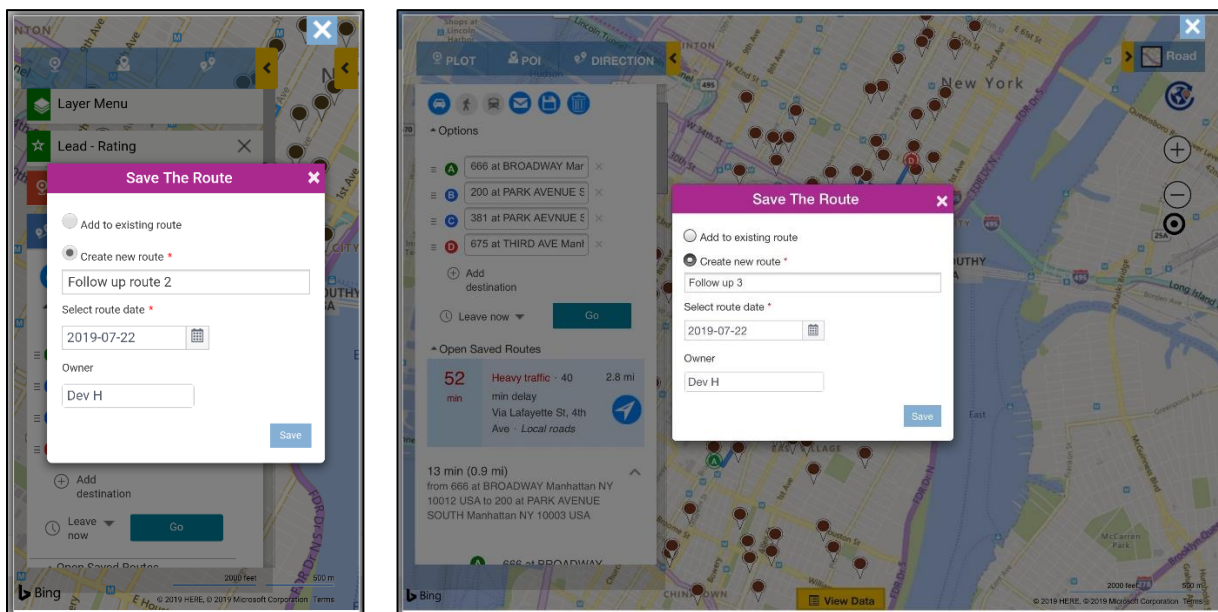
### Merged Route and Plot View:

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.



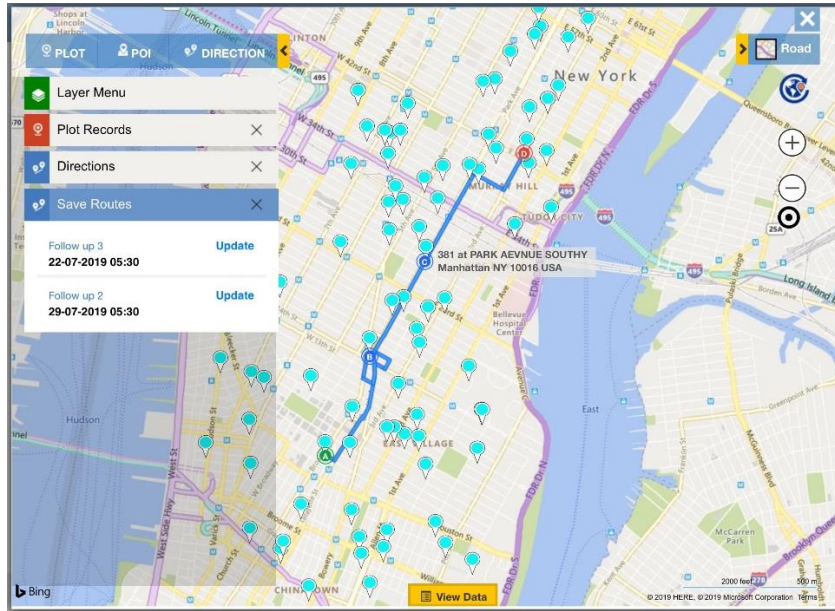
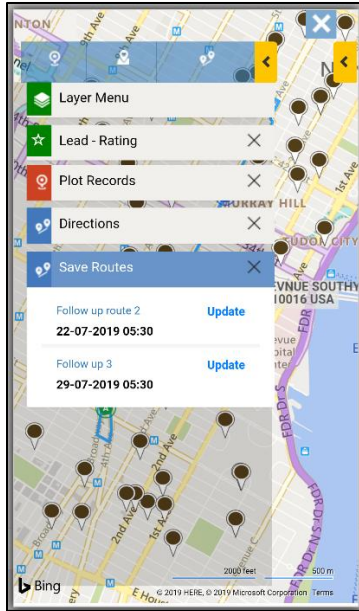
### Save Route and Plot Saved Routes:

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.

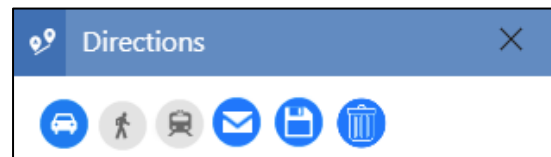




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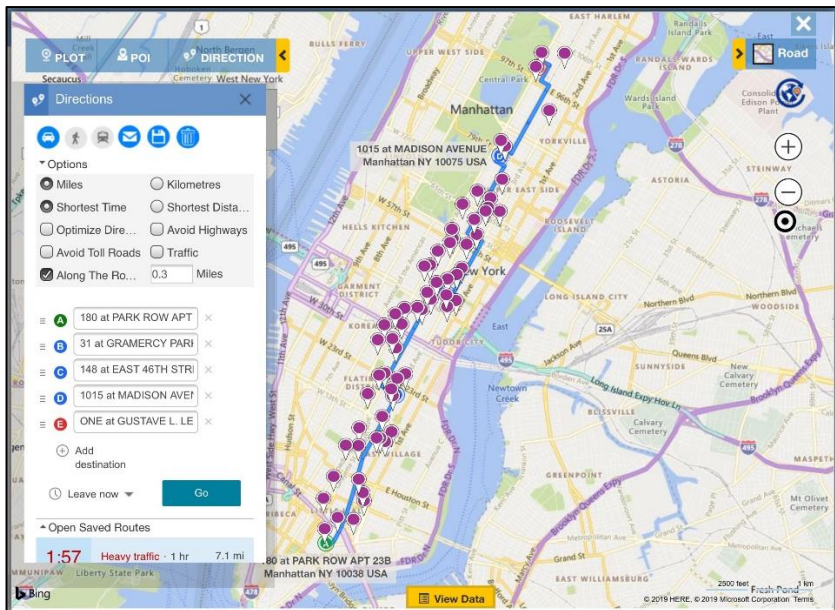
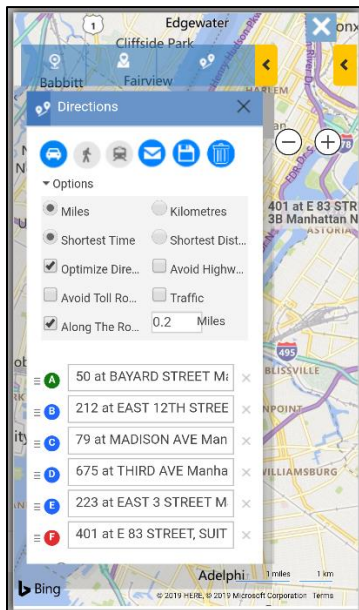


Email route - The user can email route to any of the Dynamics CRM records using email route option.

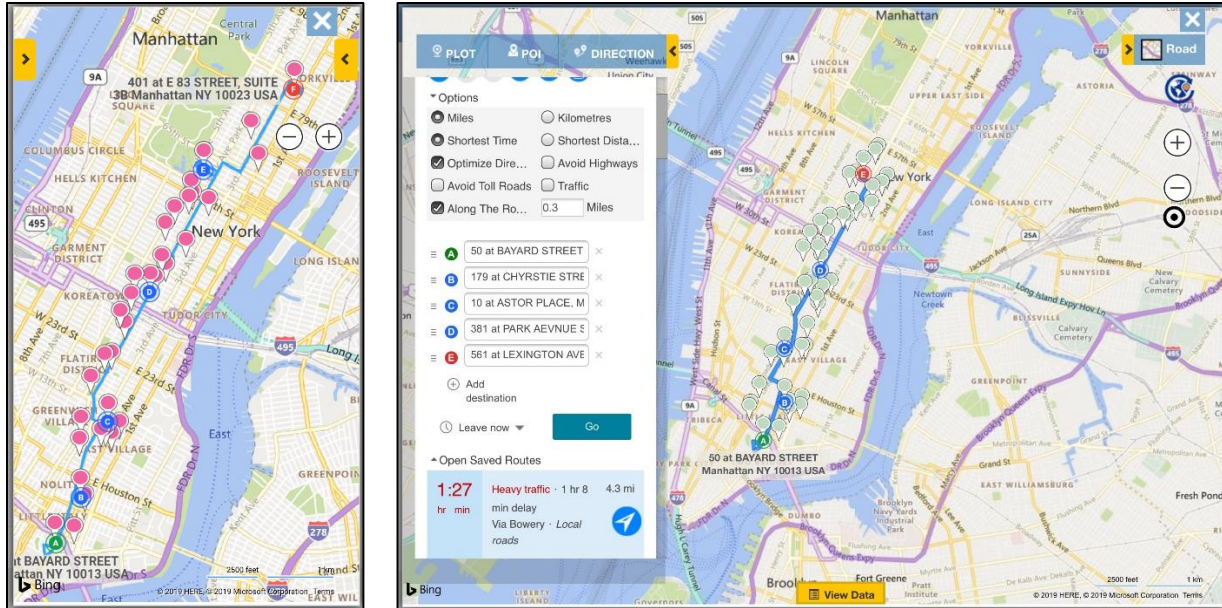


### Along the Route Search:

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

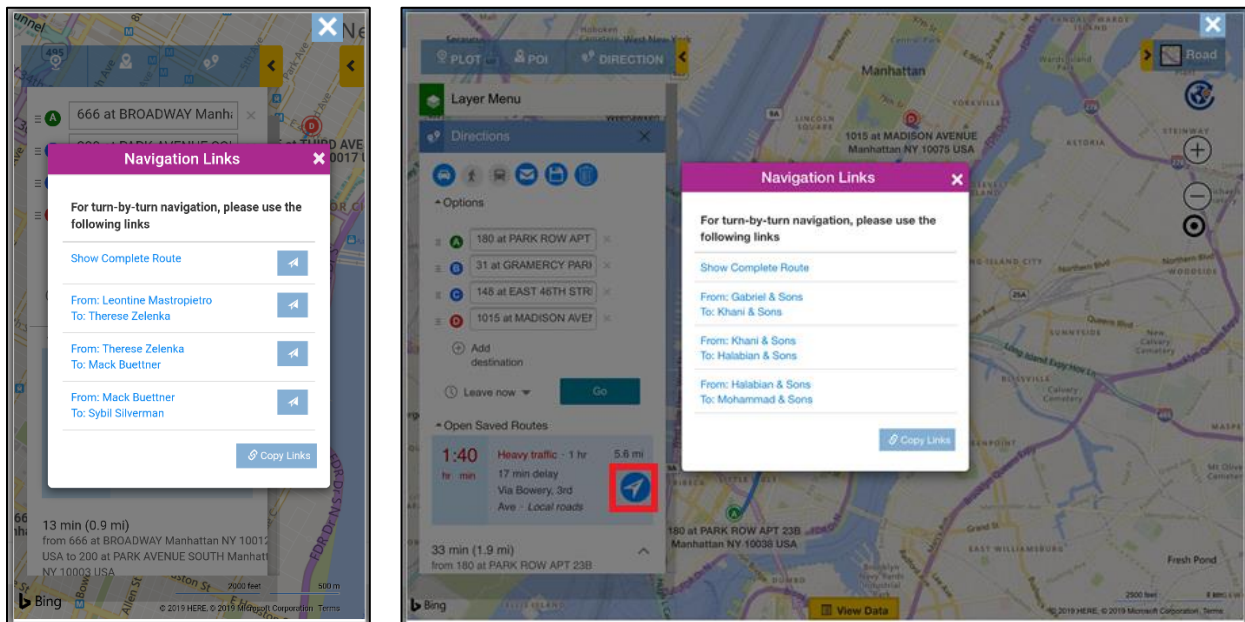


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### Route Redirect and Copy Navigation Links:

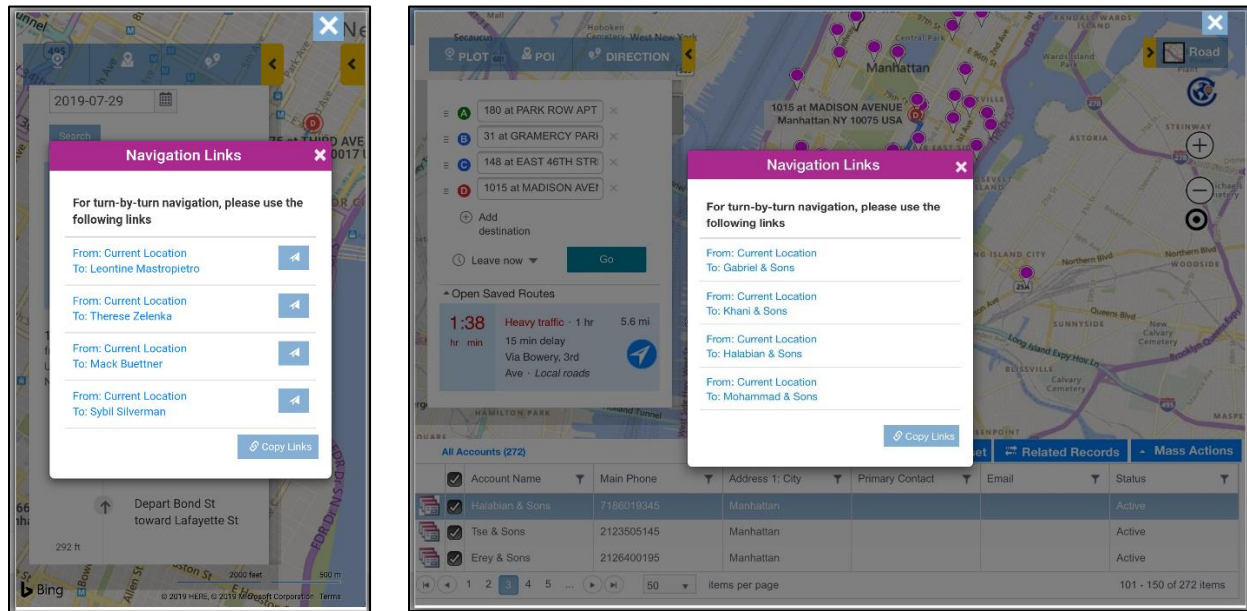
#### Redirect with Google Maps





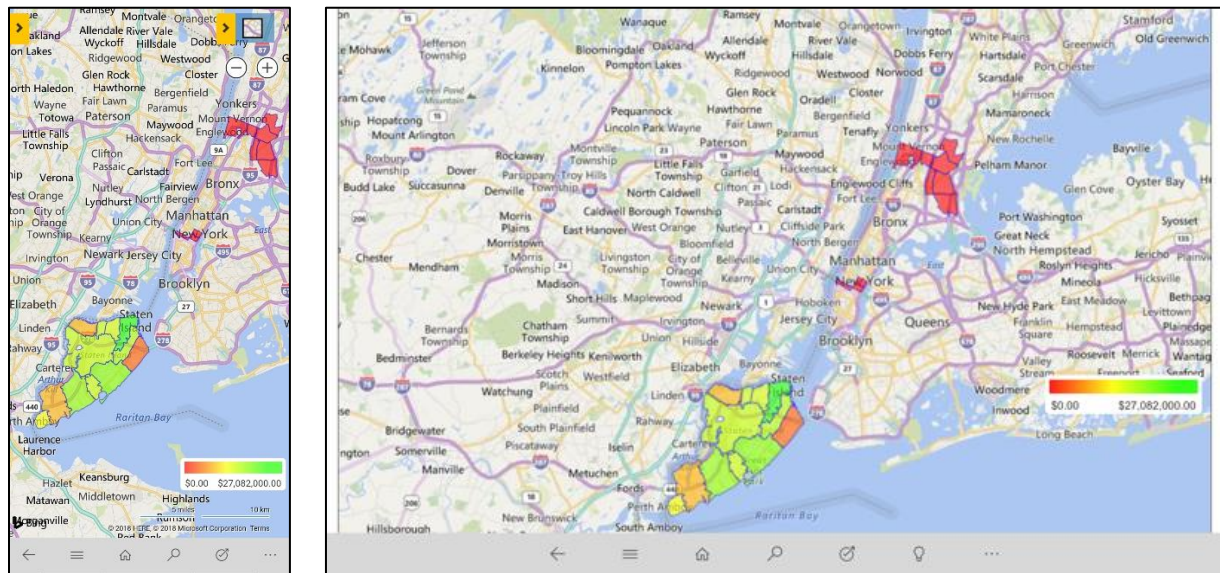
## Maplytics™ – User Manual

### Redirect with Waze

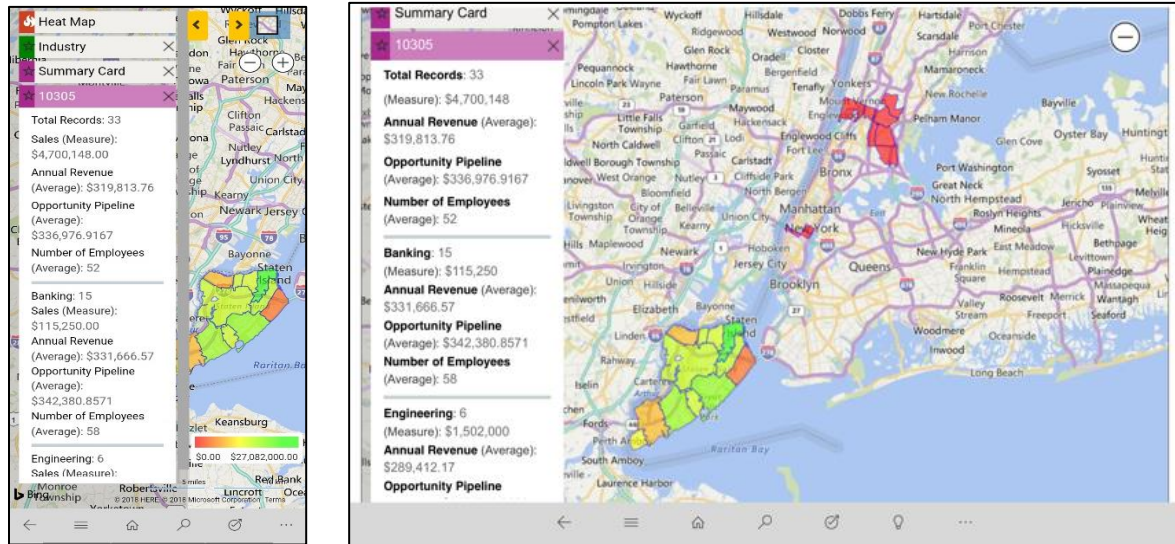


### Heat Map – Tablet / Mobile

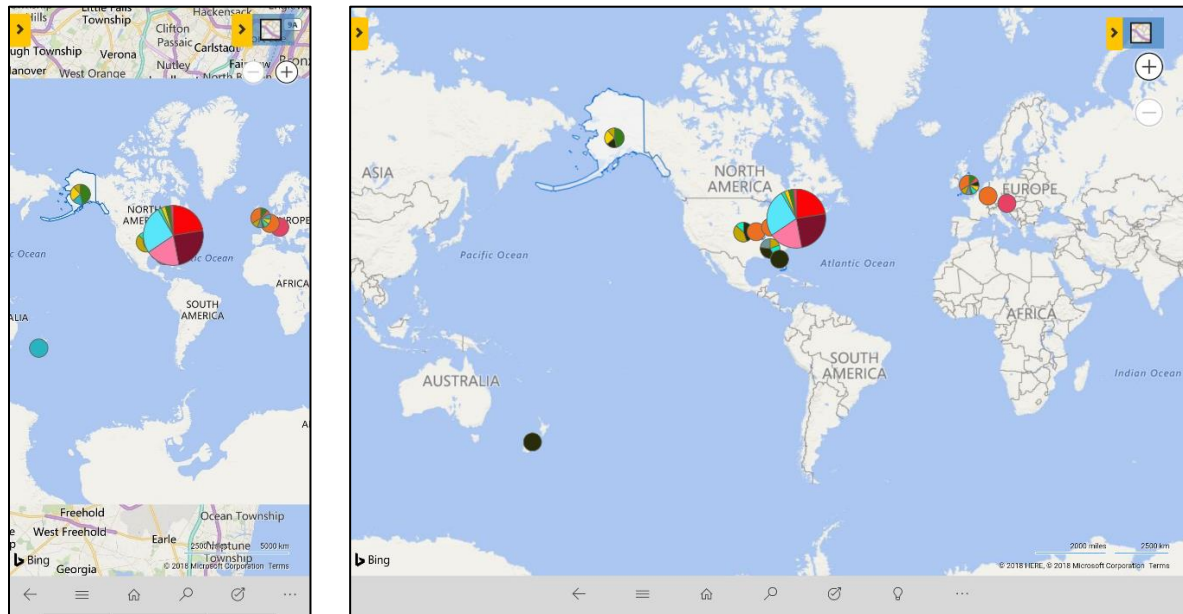
For Dynamics 365 v9.x, Maplytics can also from the Entity homepage and entity form using 'Heat Map'. When clicked on Heat Map button, it opens the heat map.



## Summary card:

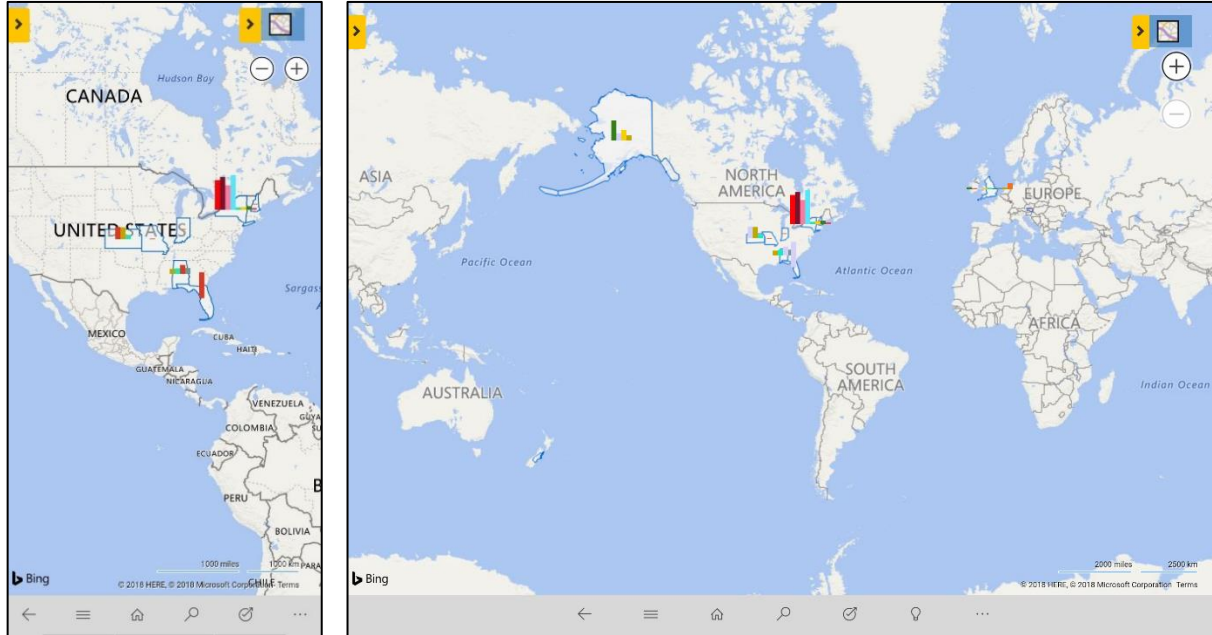


## Pie chart in Heat Map



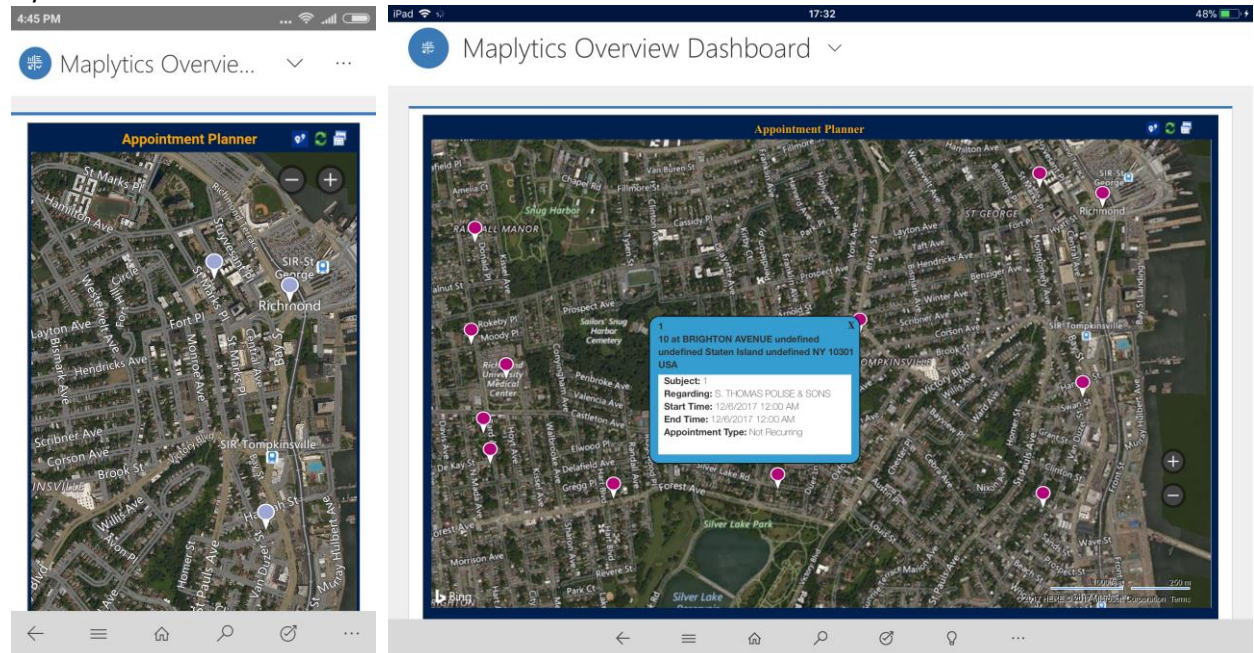


## Column chart in Heat Map



## 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.



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## Contact Us

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