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Enterprise Route Management

*Dashboard Deployment and Integration Guide*

**Table of Contents**

**Section Title Page**

[1.0 About This Document 2](#_Toc99556877)

[1.1 Purpose 2](#_Toc99556878)

[2.0 Dashboards for ERM 3](#_Toc99556879)

[2.1 Create data and map for Template 3](#_Toc99556880)

[2.1.1 Add Additional Data Layers 4](#_Toc99556881)

[2.2 Create Template Dashboard 4](#_Toc99556882)

[2.3 Publish Dashboard Service 5](#_Toc99556883)

[2.3.1 Publish with Tool 5](#_Toc99556884)

[2.3.2 Publish with Script 5](#_Toc99556885)

[2.4 Share Dashboard Items 6](#_Toc99556886)

[2.5 Update Configuration 6](#_Toc99556887)

[2.5.1 API Config 6](#_Toc99556888)

[2.5.2 Web Config 6](#_Toc99556889)

[3.0 Confidence Test 7](#_Toc99556890)

[Appendix A Document History 7](#_Toc99556891)

1. About This Document
   1. Purpose

This Application Deployment Guide serves to document steps for creating Dashboards for displaying information about plans in the Enterprise Route Management (ERM) application.

There are precursor steps for setting up the underlying environment and deploying the ERM. These steps are included in separate documents [*ERM Environment Setup Guide*](https://github.com/EsriPS/enterprise-route-management/blob/master/Install-Deployment/ERM%20Environment%20Setup%20Guide.docx)and [*ERM Application Deployment Guide*](https://github.com/EsriPS/enterprise-route-management/blob/master/Install-Deployment/ERM%20Application%20Deployment%20Guide.docx)*.*

A working deployment of ERM is required to create a template dashboard used by the Dashboard geoprocessing service.

1. Dashboards for ERM

ERM uses a template to create a dashboard for selected plan. This dashboard can be configured to display information that pertains to business needs. A web map and feature layer are used from an existing plan to create the template dashboard.

* 1. Create data and map for Template

ERM must be deployed before you can create data for a dashboard template. You can use a plan created with sample BSI to create template.

1. Log into ERM application as user that will be owner of the dashboard items.
2. Create a plan.
3. Can optionally Solve/Commit to change Routes and Orders. Having different values set can help with configuration of dashboard.
4. Remove the plan from the Registry table so the app will no longer use.
   1. Open Pro and log into Portal as admin user that owns the ERM\_Registry feature service.
   2. Add the Registry table to a map
   3. Find entry for newly created plan and delete record. Save edits.
5. Log into Portal as same user that created the plan.
6. Find the Web Map and Feature Layer for the new plan
7. Mark item as not to delete
   1. Open item to details page
   2. Click Settings
   3. Under Delete Protection section, check the “Prevent this item from being accidentally delete” option.
   4. Repeat for both Web Map and Feature Layer
8. Rename Web Map to “ERM Dashboard Template Map” or another identifying name.
9. Rename Feature Layer to “ERM Dashboard Template Features” or another identifying name.
10. Optional: Create a “ERM Dashboard” folder and move the map and feature layer into it.
    * 1. Add Additional Data Layers

You can optionally add additional layers that are not in the ERM Template service and included in the plan web map. These could be truck locations, weather, or any other layers that would be helpful in the dashboard.

**NOTE**: All additional layers to be added into the dashboard will also be in the plan map that the Route Planner users will see. The [*ERM Application Deployment Guide*](https://github.com/EsriPS/enterprise-route-management/blob/master/Install-Deployment/ERM%20Application%20Deployment%20Guide.docx) has more information on using a web map template for Create Plan.

If you do not want additional layers, skip to the next section.

1. From Portal, open your ERM Dashboard Template Map.
2. Add additional layers into your map. Save changes.
3. Record the ID of the map.
4. In the ERM API config.js file, set the config.templateWebMapId value to your map ID.
5. Restart the ERM service.
6. Make sure the map is shared with the organization or any overriding ERM group.

**NOTE:** If you will be using Living Atlas layers in your map, there is a known bug with the Python API. There is a work around that involves updating python files on the server. If you will be using these types of layers, the ERM project team can help with implementation.

* 1. Create Template Dashboard

Dashboard can be configured to display any available information from the plan. Resources for available elements and how to configure are available through Esri online help [here](https://www.esri.com/en-us/arcgis/products/arcgis-dashboards/resources).

1. In Portal, in the ERM Dashboard folder, click Create and choose Dashboards.
   1. Name = “ERM Dashboard”
      1. Note that this name will be the prefix for all created dashboards, i.e. “ERM Dashboard – Plan GOL 20200831”
   2. Add tags and summary.
2. Add elements as needed. Point all to use the web map created in step 2.1
   1. Publish Dashboard Service

A geoprocessing service needs to be published that is used to create new dashboards from the template. Can use core tool or a script is included to make re-deploying to multiple environments easier.

* + 1. Publish with Tool

1. Open ArcGIS Pro and log into your Portal.
2. Open the Upload Service Definition tool from the geoprocessing pane.
3. Point to the DashboardTools.sd file in the dashboard service folder.
4. Under the Override Sharing Properties section, check box to share with your Organization or ERM group.
5. Set any folder options for where to store service.
6. Run tool.
7. Open Server Manager.
8. Verify Dashboard Tools geoprocessing tool exists and is running. Note the path for use in configuration.
   * 1. Publish with Script

This script is available if there is some sort of automated deployment into customer environment. It can be updated to use a different credential storage option.

1. Open the Publish\_Dashboard\_Tools.py in python editor.
   1. Right click and choose Edit in IDLE (ArcGIS Pro)
2. Update the 4 portal credential variables. Or create environment variables on the machine to hold values.
   1. erm\_portal
   2. erm\_server
   3. erm\_user
   4. erm\_pswd
3. Can optionally change the dashboard\_folder variable for the folder on the server machine to create gp service in.
4. Open Server Manager
5. Verify Dashboard Tools geoprocessing tool exists and is running. Note the path for use in configuration.
   1. Share Dashboard Items

In Portal, the Template Dashboard item and the Template GP tool need to be shared with either the Organization or a group that all ERM users will be part of.

* 1. Update Configuration

Main configuration is within the ERM Middleware API configuration file. There is also a value in the web app config to show the Dashboard buttons.

* + 1. API Config

1. On the machine where ERM Middleware API is deployed open the config file
   1. Located at <install location>\middleware\src\config.json
2. Open the config file
3. Set the dashboardTemplateItemId value to the ID of the template dashboard created previously.
4. If using extra data layers in your dashboard, set the config.templateWebMapId to the ID of the map used to make the dashboard.
   1. If not using extra data layers, leave values set to “”
5. Update geoprocessing path as needed. If you left folder as default during publishing should not need to change.
6. Restart the ERM API service after making any changes.

config.dashboardTemplateItemId = "d8d4a3f9d413418b91a553c8e73f18a1";

config.templateWebMapId = "ff0fc728dac143328cb55a046cdd9314";

config.dashboardGPUrl =

config.hostingServerBaseUrl +

"/rest/services/GP/DashboardTools/GPServer/Create%20Plan%20Dashboard";

* + 1. Web Config

There is a configuration value to show or hide the Dashboard buttons. Need to verify that it is set to true, so buttons are available.

1. On the web hosting machine, open the app configuration file.
   1. Located under routeplanner\config.json
2. Verify that showDashboardControls is set to true.
3. Confidence Test

Run these steps to validate that Dashboard functionality was installed and configured correctly.

1. Open the ERM application with a user different than used to publish tools and create template.
2. Create a new Plan.
3. With plan open, in upper right click Create Dashboard button.
   1. If button is not available, update the showDashboardControls value in the web app configuration.
4. Dashboard for current plan created and opened in new tab.
5. Make changes to your plan.
   1. Changes made will depend on what the dashboard is configured to show.
6. See the dashboard update with new values.
7. Close the dashboard.
8. From the app, click Open Dashboard.
9. Correct dashboard opens in new tab.
10. Document History

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| --- | --- | --- |
| Date | Description | Editor |
| 8/18/2020 | Initial Version | Mike Nelson |
| 9/23/2020 | Misc updates | Mike Nelson |
| 12/16/2020 | Update details on sharing items | Mike Nelson |
| 4/30/2021 | Added functionality to support non-ERM layers | Mike Nelson |
| 3/28/2022 | General updates and refinement for version 3.4 | Mike Nelson |