

Power BI

Admin in a Day Labs

Contents

Lab Prerequisites	3
Workshop Outline.....	3
Lab 01 - Usage Monitoring & Auditing	4
Lab 02 – Premium Capacity	6
Lab 03 – Broadening the Reach of Power BI.....	10
Lab 04 – Automating Power BI Administration	13
References	15

Lab Prerequisites

Following prerequisites and setup must be complete for successful completion of the exercise:

- You must be connected to the internet.
- You must have access to <https://app.powerbi.com>. Ideally you have Power BI admin rights in your tenant.
- This is a **300-level** course. The assumption is that attendees are familiar with Power BI features and understand PowerShell scripting.
- **Download the Lab Content:** Create a folder called **AdminIAD** on the C drive of your local machine. Copy all contents from the folder called **Admin in a Day Assets** on the flash drive to the **AdminIAD** folder you just created (C:\AdminIAD).

Workshop Outline

Instructor will introduce various administrative functionality in Power BI followed by a demo of the functionality. You will have an opportunity to review some of the key concepts in each of the sections and where applicable there are hands on labs.

NOTE: If you are working on a production tenant, updating any of the settings might have an adverse effect in the production environment.

Lab 01 - Usage Monitoring & Auditing

Let's use Power BI Audit Log to answer a few questions.

Data is leaked to the internet. How to identify the issue?

1. Open PowerBIAuditLog.pbix (file located in Assets folder). Publish to Web is a feature where data can be accessed without entering credentials. So, let's look for this activity.
2. **From Activity** slicer, select to **PublishToWebReport**.
3. Notice there are a few users who have published to web. You can work with these users to investigate further.



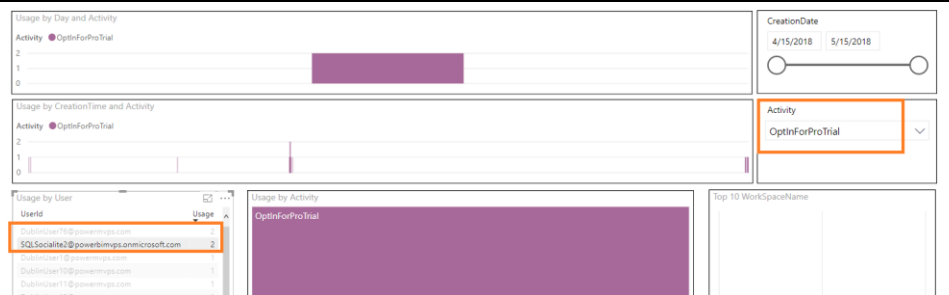
Dashboards and Reports are being deleted. Who is doing it?

4. **From Activity** slicer, select to **DeleteDashboard** and **DeleteReport**.
5. This will give a list of users who have deleted reports and dashboards. You can work with these users and investigate further.
6. **Remove** all filters once done.



How many users have Opted to use Pro trial?

7. **From Activity** slicer, select to **OptInForProTrial**.
8. Notice there are several users who have used Pro Trial and a couple of them have extended their Pro trial. So you might want to think about providing them Pro licenses before they lose the trial licenses.
9. **Remove** all filters once done.



Does user SQLSocialite2 need to be upgraded to Pro license?

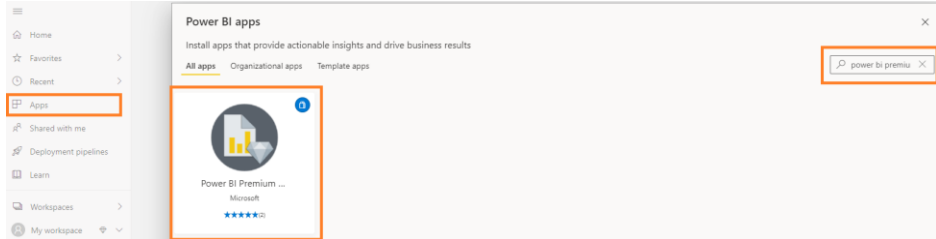
10. From **Usage by User** table, select **SQLSocialite2**.

11. Notice the user is not just viewing reports and dashboards but is also performing Pro level activity like creating datasets and reports across multiple workspaces. This user is making use of Pro features. It will make sense to upgrade to Pro license.

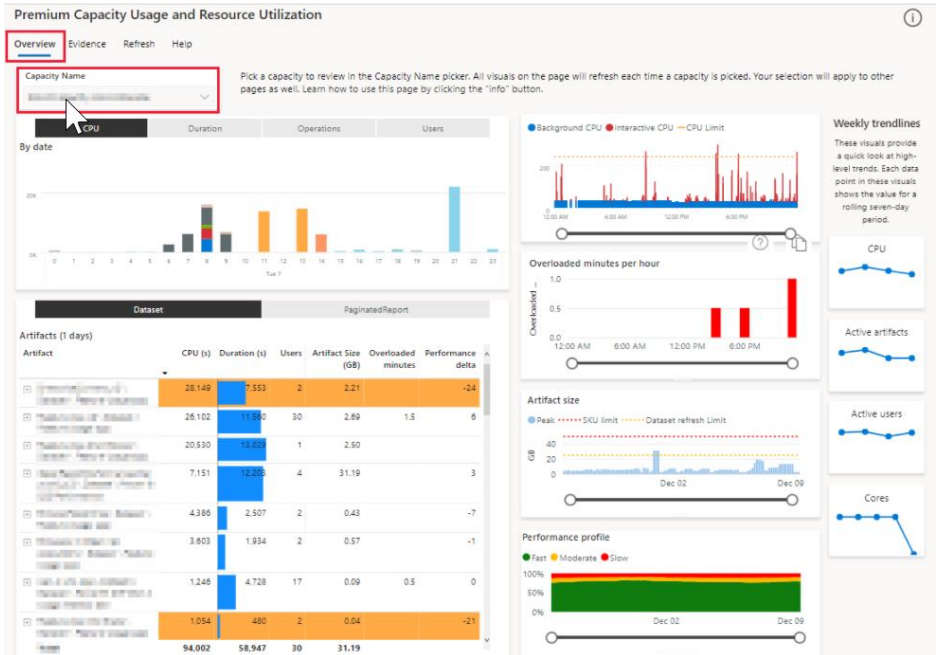


Lab 02 – Premium Capacity

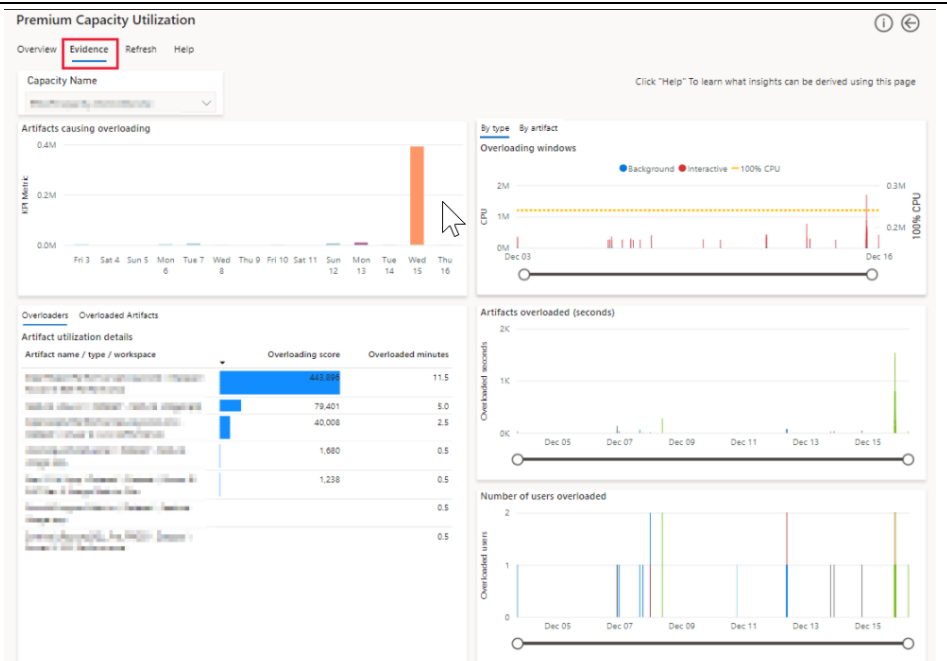
ACTIVITY: If you have privileges in your tenant, install and analyze your capacity using Power BI Premium Capacity Metrics app.

<ol style="list-style-type: none">1. Login to https://app.powerbi.com .2. Navigate to Apps section in the left panel.3. Select Get Apps in the right panel.4. Under Apps, search for Power BI Premium Capacity Utilization and Metrics app.5. Select Get it now under Power BI Premium Capacity Utilization and Metrics app. <p>You have to be a capacity admin to get the app to work.</p> <p>NOTE: The old version of the Premium Metrics app is available, but the labs will work with the Premium Gen2 version.</p>	 A screenshot of the Power BI web application interface. On the left is a navigation pane with options: Home, Favorites, Recent, Apps (highlighted with an orange box), Shared with me, Deployment pipelines, Learn, Workspaces, and My workspace. The main area is titled 'Power BI apps' and shows a search bar with 'power bi premium' entered (highlighted with an orange box). Below the search bar, there are tabs for 'All apps', 'Organizational apps', and 'Template apps'. A card for the 'Power BI Premium Capacity Utilization and Metrics' app is highlighted with an orange box. The card shows a bar chart icon, the app name, 'Microsoft' as the publisher, and a 5-star rating.
<ol style="list-style-type: none">6. Once the app is installed click on the tile.7. The Gen2 app has six pages:<ul style="list-style-type: none">• Overview• Evidence• Refresh• Timepoint• Release Notes• Help	

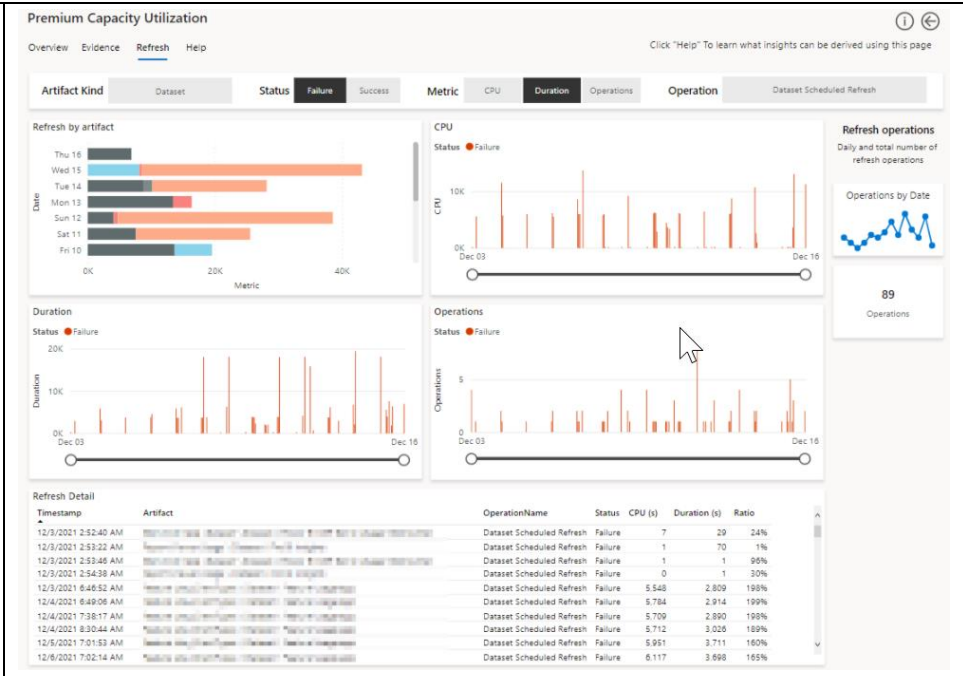
8. The **Overview** page provides capacity performance. It is broken down into three sections: **Artifacts**, **Performance** and **CPU over Time**.



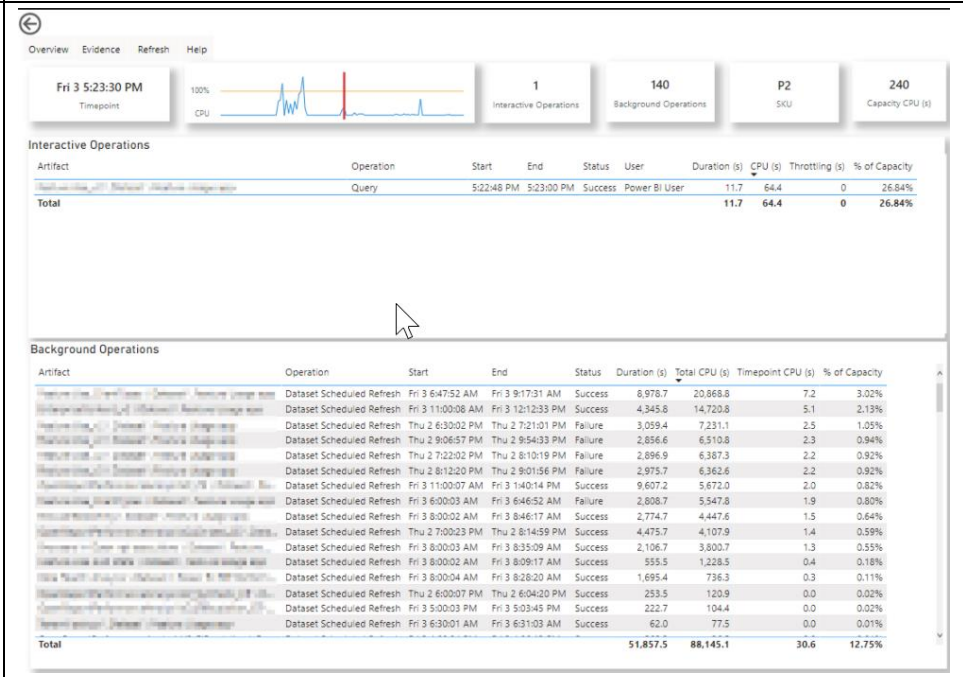
9. The **Evidence** page provides information about overloads in your capacity. You can use it to establish which Power BI items (such as reports, dashboards, and datasets) cause overload, and which items are affected by this overload



10. The **Refresh** page is designed to help you identify aspects concerning refresh performance such as refresh CPU consumption power



11. The **Timepoint** page provides a detailed view of every operation that resulted in CPU activity at a given timepoint. Use this page to understand which interactive and background operations contributed the most to CPU usage



12. The **Release Notes** page contains the release notes for each new version of the app. As the app updates automatically, it's a good idea to review the release notes from time to time.

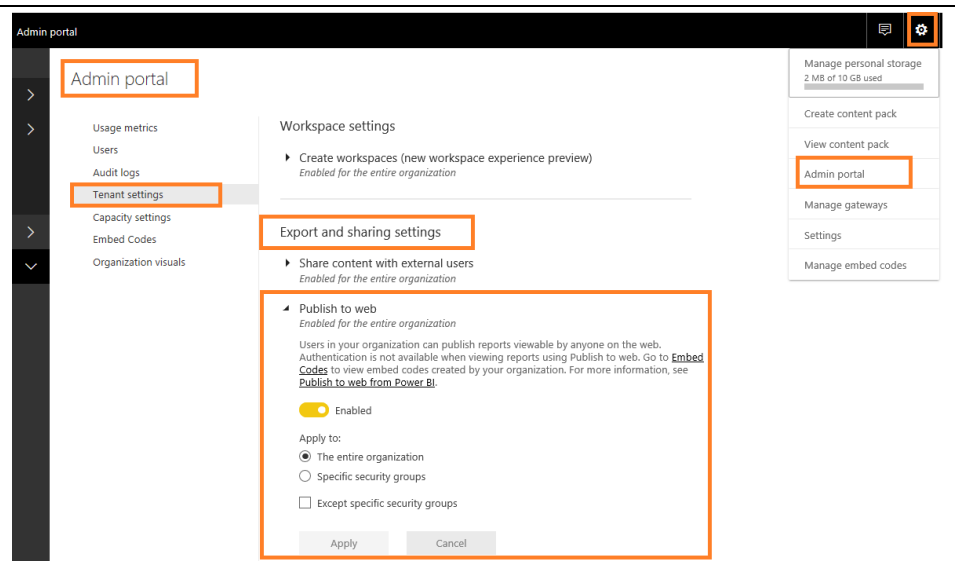


13. The **Help** page provides a help summary for each one of the Gen2 metrics app pages. At the top there's a tab for each page in the app. Select a tab to review the help summary

Lab 03 – Broadening the Reach of Power BI

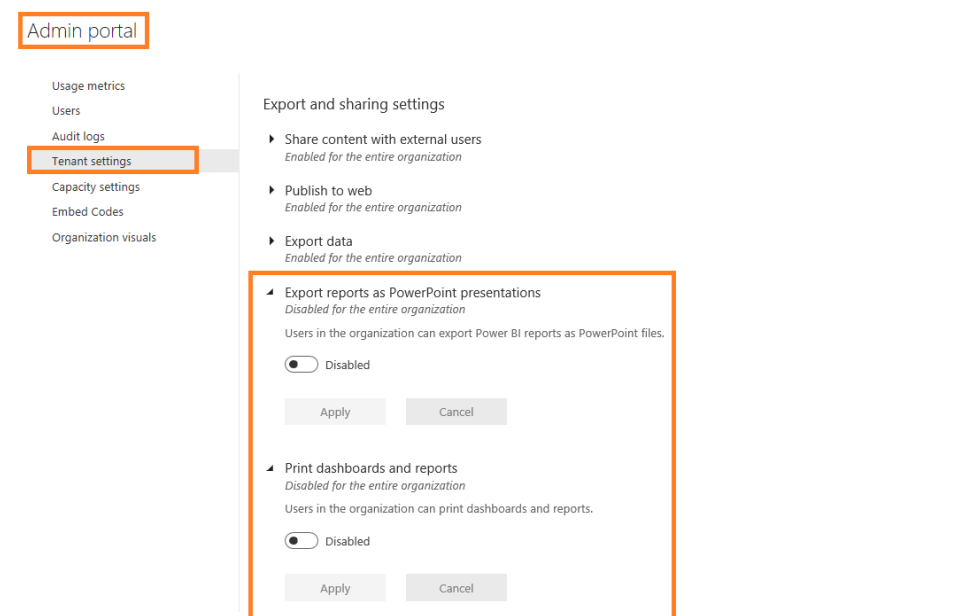
How do I control who can Publish to Web?

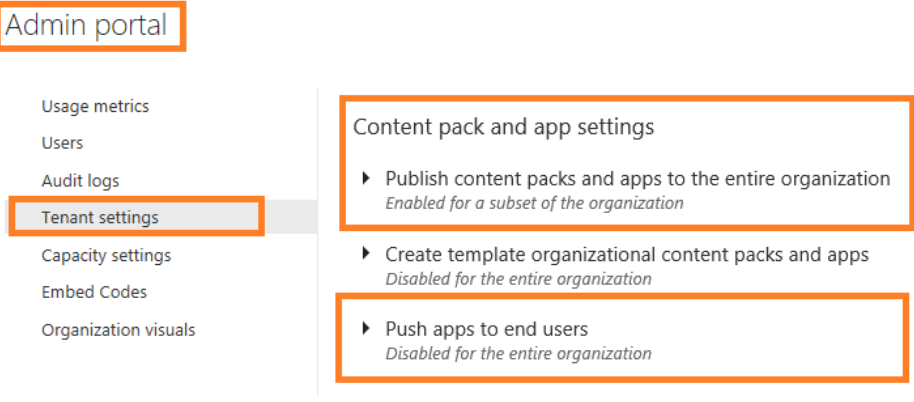
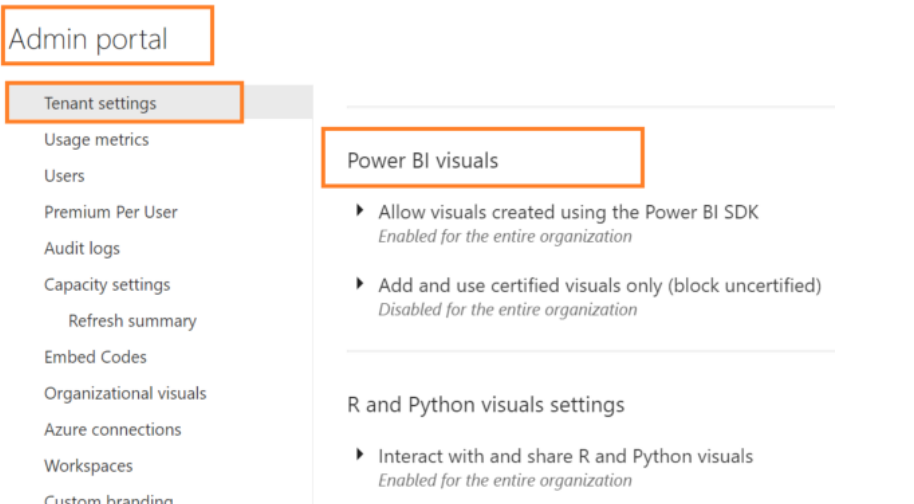
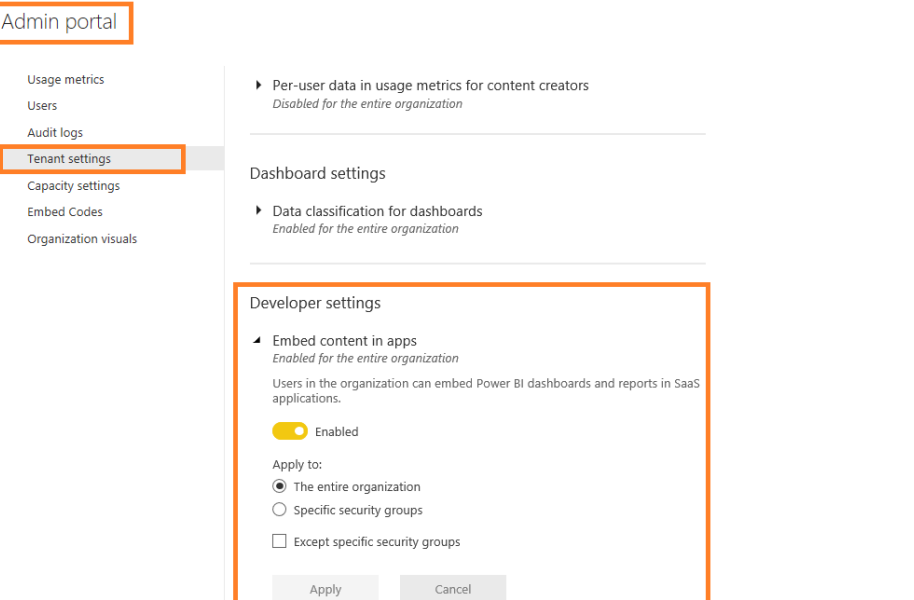
1. Login to <https://app.powerbi.com> .
2. From the top right panel, select **Settings** gear -> **Admin Portal**.
3. Select **Tenant settings** from the left menu.
4. Under **Export and sharing settings**, expand **Publish to web** section. Here you can enable/disable this feature. If it's enabled, you can control who has access to it.

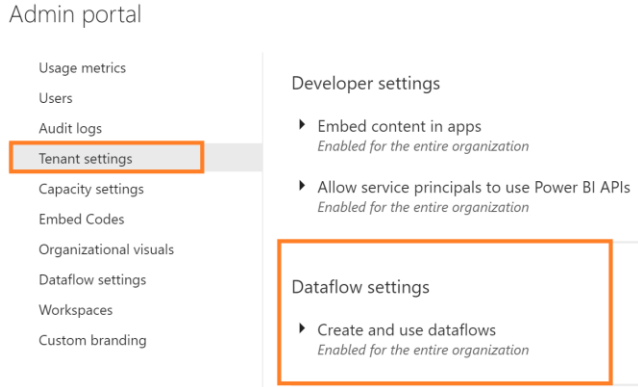
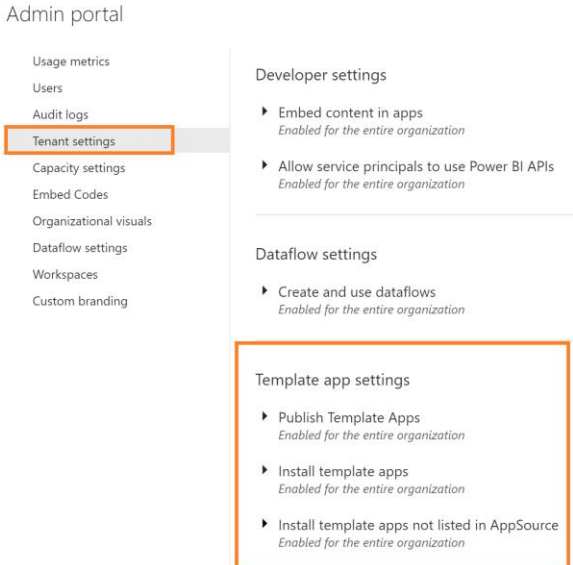
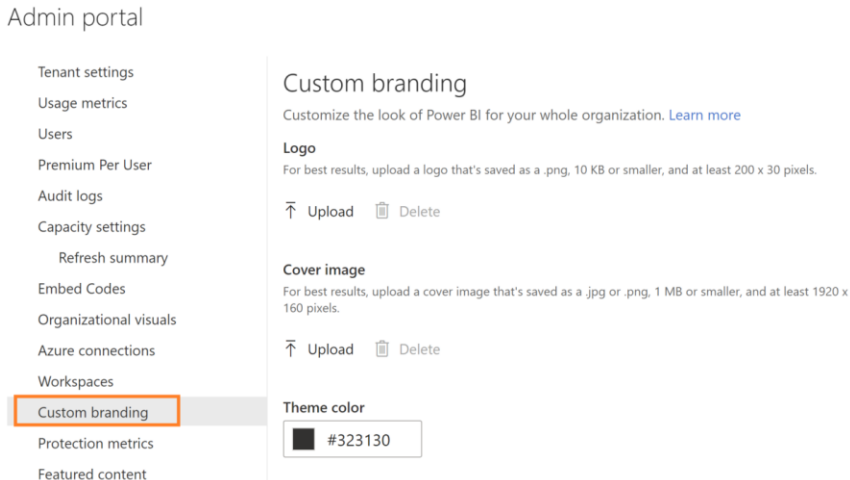


What about ability to export report to PowerPoint or print it, can this be controlled as well?

5. Under **Export and sharing settings**, expand **Export reports as PowerPoint presentations and Print dashboards and reports** section. Notice these features can be enabled/disabled for the entire organization.



<p>I want to control who publishes apps and I want the app publishers to have the ability to push apps to end users. This way end users don't have to subscribe to it.</p> <p>6. Under Content pack and app settings, use Publish content packs and apps to the entire organization section and Push apps to end users section.</p>	 <p>The screenshot shows the 'Admin portal' with a sidebar containing 'Usage metrics', 'Users', 'Audit logs', 'Tenant settings' (highlighted), 'Capacity settings', 'Embed Codes', and 'Organization visuals'. The main content area is titled 'Content pack and app settings' and contains two sections: 'Publish content packs and apps to the entire organization' (Enabled for a subset of the organization) and 'Push apps to end users' (Disabled for the entire organization).</p>
<p>Do I need to do anything specific to enable the use of custom visuals across the organization?</p> <p>7. Under Custom visuals settings, use Custom visuals section.</p>	 <p>The screenshot shows the 'Admin portal' with a sidebar containing 'Usage metrics', 'Users', 'Premium Per User', 'Audit logs', 'Capacity settings', 'Refresh summary', 'Embed Codes', 'Organizational visuals', 'Azure connections', 'Workspaces', and 'Custom branding'. The main content area is titled 'Power BI visuals' and contains two sections: 'Allow visuals created using the Power BI SDK' (Enabled for the entire organization) and 'Add and use certified visuals only (block uncertified)' (Disabled for the entire organization). Below this is the 'R and Python visuals settings' section with 'Interact with and share R and Python visuals' (Enabled for the entire organization).</p>
<p>We are embedding Power BI content in our custom app. I want to make sure developers have all the required access.</p> <p>8. Under Developer settings, use Embed content in apps section.</p>	 <p>The screenshot shows the 'Admin portal' with a sidebar containing 'Usage metrics', 'Users', 'Audit logs', 'Tenant settings' (highlighted), 'Capacity settings', 'Embed Codes', and 'Organization visuals'. The main content area is titled 'Developer settings' and contains a section 'Embed content in apps' (Enabled for the entire organization). Below this is the 'Dashboard settings' section with 'Data classification for dashboards' (Enabled for the entire organization). The 'Embed content in apps' section is further detailed with a toggle switch set to 'Enabled', 'Apply to:' options (The entire organization selected, Specific security groups, Except specific security groups), and 'Apply' and 'Cancel' buttons.</p>

<p>I love Dataflows, but I want to control which user can create dataflows. Is there an option to do this?</p> <p>9. Under Dataflow settings, there is options to control who can create and use dataflows.</p>	 <p>The screenshot shows the Admin portal with 'Tenant settings' highlighted in the left sidebar. The main content area shows 'Developer settings' and 'Dataflow settings'. The 'Dataflow settings' section is highlighted with an orange box, showing the option 'Create and use dataflows' which is 'Enabled for the entire organization'.</p>
<p>Are there any controls with regards to Template apps</p> <p>10. Under Template app settings, there is options to control who can publish and install template apps.</p>	 <p>The screenshot shows the Admin portal with 'Tenant settings' highlighted in the left sidebar. The main content area shows 'Developer settings' and 'Dataflow settings'. The 'Template app settings' section is highlighted with an orange box, showing options like 'Publish Template Apps', 'Install template apps', and 'Install template apps not listed in AppSource', all of which are 'Enabled for the entire organization'.</p>
<p>I want to update Power BI service to follow my company's branding. Is there an option?</p> <p>11. Under Custom Branding, there is options to add a logo, cover image and theme color.</p>	 <p>The screenshot shows the Admin portal with 'Custom branding' highlighted in the left sidebar. The main content area shows the 'Custom branding' section, which includes options to upload a logo, a cover image, and set a theme color. The 'Theme color' section is highlighted with an orange box, showing the current color as '#323130'.</p>

Lab 04 – Automating Power BI Administration

<p>Let's run through a few scenarios you could use Power BI CMDLETS</p> <p>How do I find all the datasets that use a specific data source?</p> <p>12. Run Windows PowerShell as Administrator.</p> <p>13. Using command: <i>Install-Module -Name MicrosoftPowerBIMgmt</i> to Install the module.</p> <p>14. Enter the commands from Find dataset-owner.ps1 (file in scripts folder) The script is looking for the following: Datasource Type: sql Server: sqldb01 Database: sales. Please change it based on your use case.</p>	<pre> Login-PowerBI \$datasetIds = Get-PowerBIDataset -Scope Organization Foreach {\$dsId = \$_.Id; Get-PowerBIDatasource -DatasetId \$dsId -Scope Organization Where-Object {\$_.DataSourceType -eq 'Sql' -and (\$_.ConnectionDetails.Server -like 'sqldb01' -and \$_.ConnectionDetails.Database -like 'sales')}} Foreach { \$dsId } \$reports = \$datasetIds Foreach { Get-PowerBIReport -Filter "datasetId eq '\$_' -Scope Organization } \$owners = \$datasetIds Foreach { Get-PowerBIDataset -Id \$_ -Scope Organization } foreach { \$_.ConfiguredBy } </pre>
<p>How do I recover deleted workspaces?</p> <p>15. Enter the commands from Workspace Management.ps1 (file in scripts folder) in PowerShell window.</p> <p>Note: This works with the new improved workspaces. Unfortunately, it does not work with O365 group-based workspaces.</p>	<pre> \$login = Login-PowerBI ## Filter for deleted workspaces that can be recovered (i.e. v2 workspaces only) \$deletedWorkspaces = Get-PowerBIWorkspace -Deleted -Scope Organization -Filter "type eq 'Workspace'" ## Recover the first one by assigning it to the current (admin) user. \$newName = 'Restored Workspace' Restore-PowerBIWorkspace -Scope Organization -Id \$deletedWorkspaces[0].id -RestoredName \$newName -AdminUserPrincipalName \$login.UserName </pre>
<p>I need to add a list of users to Azure AD. Is there an easy way to do this?</p> <p>16. Enter the commands from Add-users-loop.ps1 (file in scripts folder) in PowerShell window.</p> <p>Note: You can read list of usernames from a file and use similar logic to add users.</p>	<pre> ## Requires the Azure AD 2.0 cmdlets ## Install-Module -Name AzureAD # Set-ExecutionPolicy RemoteSigned \$UserCredential = Get-Credential Connect-AzureAD -credential \$UserCredential For (\$i=1; \$i -le 401; \$i++) { \$PasswordProfile = New-Object -TypeName Microsoft.Open.AzureAD.Model.PasswordProfile \$PasswordProfile.Password = "P@ssw0rd" \$displayName = "Ready User" + \$i \$upn = "readyuser" + \$i + "@msreadydemo.onmicrosoft.com" } </pre>

	<pre> \$mb = "readyuser" + \$i New-AzureADUser -DisplayName \$displayName -PasswordProfile \$PasswordProfile - UserPrincipalName \$upn -AccountEnabled \$true -MailNickName \$mb -UsageLocation "US" } </pre>
<p>I want to get gateway information, status of gateway, gateways in a cluster, etc.</p> <p>17. Enter the commands from Gateways.ps1 (file in scripts folder) in PowerShell window.</p> <p>Note: OnPremisesDataGatewayMgmt module is in pre-release.</p>	<pre> # Install the On-Premises Data Gateway PowerShell module # This requires pre-release currently # # Install-Module -Name OnPremisesDataGatewayMgmt -AllowPrerelease # Cluster ID: f16c0ea9-c0af-418e-aab2-59f44e07c42b Login-OnPremisesDataGateway -EmailAddress "asaxton@guyinacube.com" # Get a list of clusters Get-OnPremisesDataGatewayClusters # Get a list of gateways for a given cluster Get-OnPremisesDataGatewayClusterInfo # Get the status of gateways Get-OnPremisesDataGatewayStatus </pre>
<p>My PowerShell script is throwing an error and I am not able to figure out the cause.</p> <p>18. Enter the commands from Resolve Power BI.ps1 (file in scripts folder) in PowerShell window.</p> <p>This script is looking for an invalid Workspace and Resolve_PowerBIError cmdlet is used to detailed error message.</p>	<pre> Login-PowerBI ## Try with a bad id to produce an error \$badId = 'not a guid' Get-PowerBIWorkspace -Id \$badId -Scope Organization Resolve-PowerBIError -Last </pre>

There are more scripts in the Scripts folder. Feel free to review and customize it to your needs.

References

Admin in a Day introduces some of the key administrative functionalities available in Power BI. Here are a few references that will help you with your next steps with Power BI.

Getting started: <http://powerbi.com>

Admin Portal: <https://docs.microsoft.com/en-us/power-bi/service-admin-portal>

Power BI Admin: <https://docs.microsoft.com/en-us/power-bi/service-admin-role>

Power BI Premium: <https://docs.microsoft.com/en-us/power-bi/service-premium>

Power BI Embedded: <https://docs.microsoft.com/en-us/power-bi/developer/azure-pbie-what-is-power-bi-embedded>

Collaboration: <https://docs.microsoft.com/en-us/power-bi/service-collaborate-power-bi-workspace>

Usage metrics: <https://docs.microsoft.com/en-us/power-bi/service-usage-metrics>

On-premises data gateway: <https://docs.microsoft.com/en-us/power-bi/service-gateway-onprem>

REST API: <https://docs.microsoft.com/en-us/rest/api/power-bi/>

CMDLETS: <https://docs.microsoft.com/powershell/power-bi/overview?view=powerbi-ps>

Community site <https://community.powerbi.com/>

© 2018 Microsoft Corporation. All rights reserved.

By using this demo/lab, you agree to the following terms:

The technology/functionality described in this demo/lab is provided by Microsoft Corporation for purposes of obtaining your feedback and to provide you with a learning experience. You may only use the demo/lab to evaluate such technology features and functionality and provide feedback to Microsoft. You may not use it for any other purpose. You may not modify, copy, distribute, transmit, display, perform, reproduce, publish, license, create derivative works from, transfer, or sell this demo/lab or any portion thereof.

COPYING OR REPRODUCTION OF THE DEMO/LAB (OR ANY PORTION OF IT) TO ANY OTHER SERVER OR LOCATION FOR FURTHER REPRODUCTION OR REDISTRIBUTION IS EXPRESSLY PROHIBITED.

THIS DEMO/LAB PROVIDES CERTAIN SOFTWARE TECHNOLOGY/PRODUCT FEATURES AND FUNCTIONALITY, INCLUDING POTENTIAL NEW FEATURES AND CONCEPTS, IN A SIMULATED ENVIRONMENT WITHOUT COMPLEX SET-UP OR INSTALLATION FOR THE PURPOSE DESCRIBED ABOVE. THE TECHNOLOGY/CONCEPTS REPRESENTED IN THIS DEMO/LAB MAY NOT REPRESENT FULL FEATURE FUNCTIONALITY AND MAY NOT WORK THE WAY A FINAL VERSION MAY WORK. WE ALSO MAY NOT RELEASE A FINAL VERSION OF SUCH FEATURES OR CONCEPTS. YOUR EXPERIENCE WITH USING SUCH FEATURES AND FUNCTIONALITY IN A PHYSICAL ENVIRONMENT MAY ALSO BE DIFFERENT.

FEEDBACK. If you give feedback about the technology features, functionality and/or concepts described in this demo/lab to Microsoft, you give to Microsoft, without charge, the right to use, share and commercialize your feedback in any way and for any purpose. You also give to third parties, without charge, any patent rights needed for their products, technologies and services to use or interface with any specific parts of a Microsoft software or service that includes the feedback. You will not give feedback that is subject to a license that requires Microsoft to license its software or documentation to third parties because we include your feedback in them. These rights survive this agreement.

MICROSOFT CORPORATION HEREBY DISCLAIMS ALL WARRANTIES AND CONDITIONS WITH REGARD TO THE DEMO/LAB, INCLUDING ALL WARRANTIES AND CONDITIONS OF MERCHANTABILITY, WHETHER EXPRESS, IMPLIED OR STATUTORY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. MICROSOFT DOES NOT MAKE ANY ASSURANCES OR REPRESENTATIONS WITH REGARD TO THE ACCURACY OF THE RESULTS, OUTPUT THAT DERIVES FROM USE OF DEMO/ LAB, OR SUITABILITY OF THE INFORMATION CONTAINED IN THE DEMO/LAB FOR ANY PURPOSE.

DISCLAIMER

This demo/lab contains only a portion of new features and enhancements in Microsoft Power BI. Some of the features might change in future releases of the product. In this demo/lab, you will learn about some, but not all, new features.