Admin in a Day

by Power BI Team, Microsoft

Contents

Lab Prerequisites

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

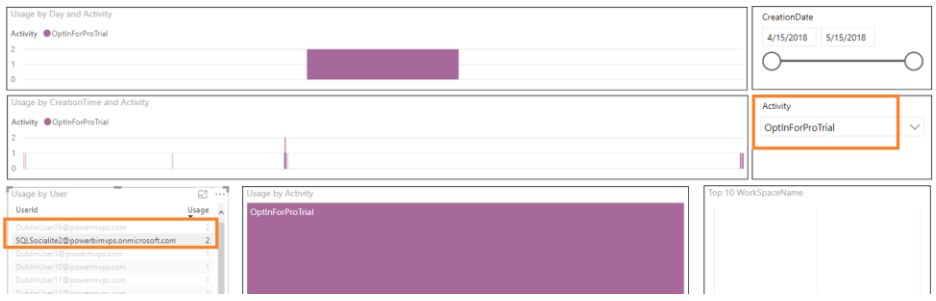
- You must be connected to the internet.
- You must have access to https://app.powerbi.com. Ideally you have Power BI admin rights in your tenant.
- This is a **300-level** course. The assumption is that attendees are familiar with Power BI features and understand PowerShell scripting.
- **Download the 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.

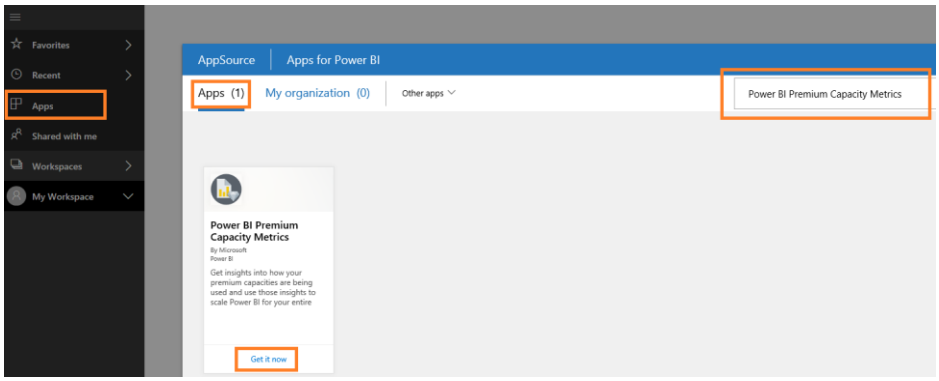
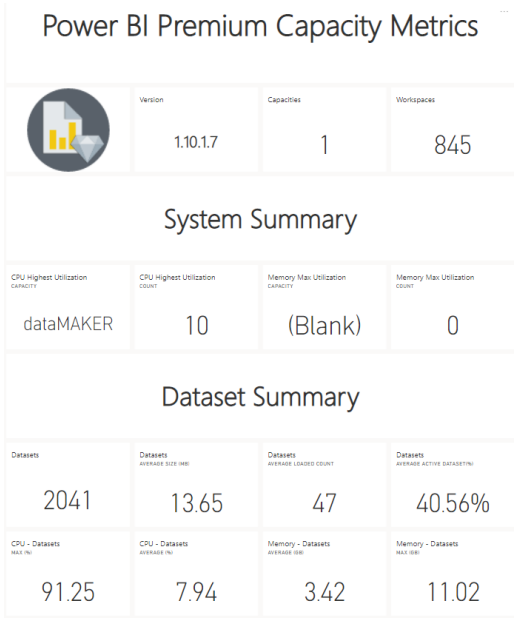
Lab 01 - Usage Monitoring & Auditing

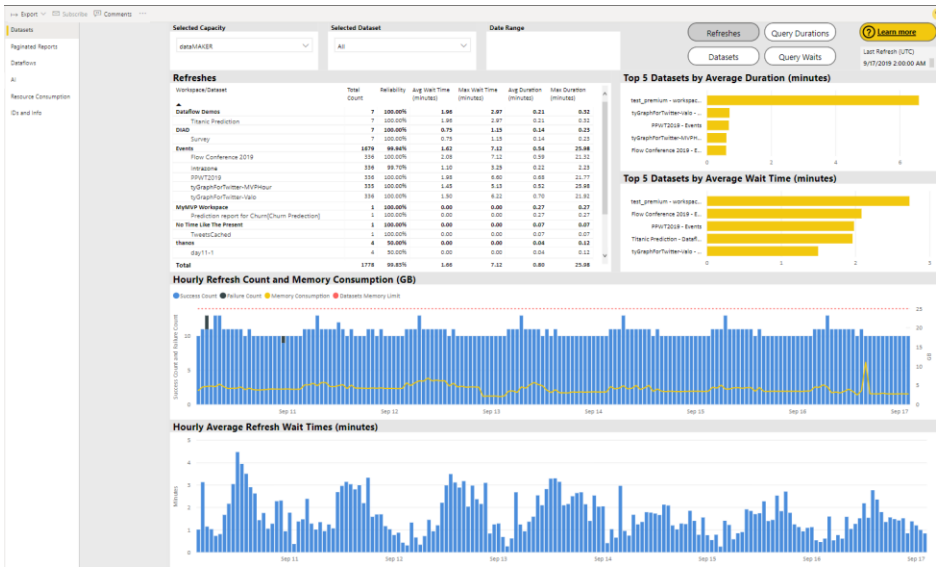
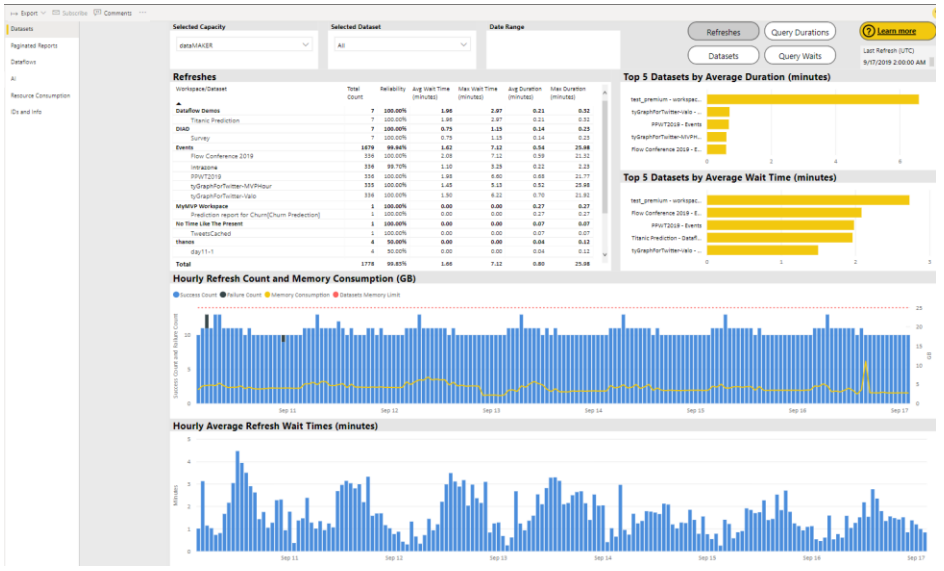
Let's use Power BI Audit Log to answer a few questions. **Data is leaked to the internet. How to identify the issue?** 1. Open PowerBIAuditLog.pbix (file located in Assets folder). Publish to Web is a feature where data can be accessed without entering credentials. So, let's look for this activity. 2. **From Activity** slicer, select to **PublishToWebReport.** 3. Notice there 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.	

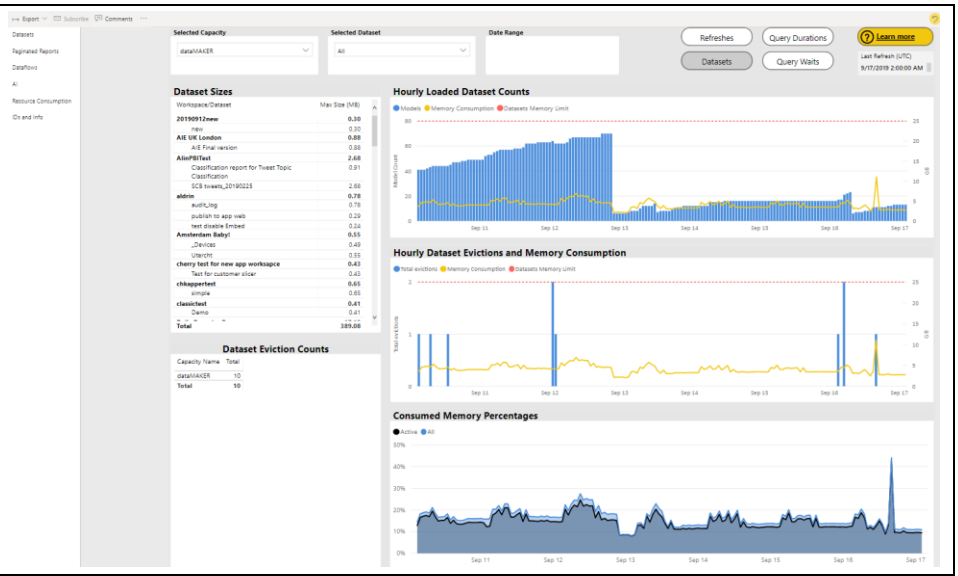
Does user SQLSocialite2 need to be upgraded to Pro license? 10. From **Usage by User** table, select **SQLSocialiate2**. 11. Notice the user is not just viewing reports and dashboards but is also performing Pro level activity like creating datasets and reports across multiple workspaces. This user is making use of Pro features. It will make sense to upgrade to Pro license.	

Lab 02 – Premium Capacity

*This **ACTIVITY will require capacity ADMIN:*** If you have Capacity admin privileges in your tenant, install and analysis your capacity using Power BI Premium Capacity Metrics app**.**

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 Metrics** app. 5. Select **Get it now** under Power BI Premium Capacity Metrics app. You have to capacity admin to get the app to work.	
6. Once the app is installed click on the tile. 7. Navigate to **Power BI Premium Capacity Metrics** dashboard. Dashboard shows an aggregated summary of all the capacities that you are an admin of. 8. Click on any **tile** to open the more detailed report.	

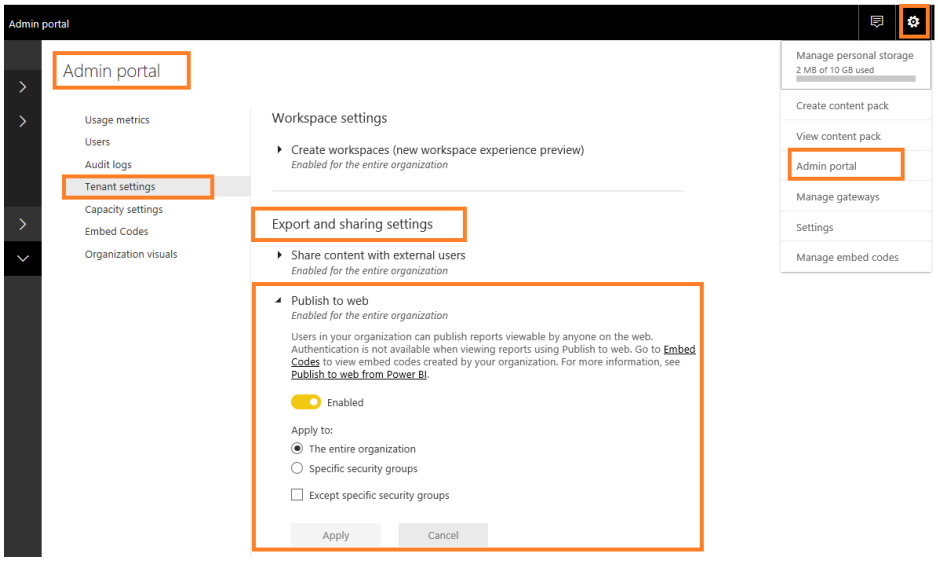
9. The first tab of the report is the **Datasets** tab, which allows you to select a specific capacity or dataset to explore for all the following pages in this report. 10. Using the buttons on the top right you can select Refreshes, Query Duration, Datasets and Query Waits. For each of these criteria we can figure out e.g. how long refreshes are taking, what is average refresh time, etc. This will help analyze if there are bottlenecks.	
11. **Refreshes** shows successful refresh count, refresh failure count, the average duration and wait times of dataset refreshes by hour. Long refresh wait times, can be a sign that a capacity is becoming busy. A refresh will wait when there are not enough resources (memory or CPU) available for it to start. These resources may be consumed by other refreshes or queries being run on the capacity. Refreshes can be broken out by dataset name and workspace name.	

12. **Dataset** shows total datasets evicted due to memory pressure by hour. The line on the chart represents the average memory consumption. Eviction is a normal process to clean up unused dataset from memory to make room for new datasets which are actively being used. Unused datasets will be evicted when new datasets need to be queried or refreshed.	
13. **Query Durations** and **Query Waits** options help investigate slow queries and how best to optimize queries. 14. Use following link to review various metrics available. https://docs.microsoft.com/en-us/power-bi/service-admin-premium-monitor-capacity. 15. Metrics is available for Paginated Reports, Dataflows, etc. There is also links to white papers. You can demo one of the real-world scenarios.	

Lab 03 – Broadening the Reach of Power BI

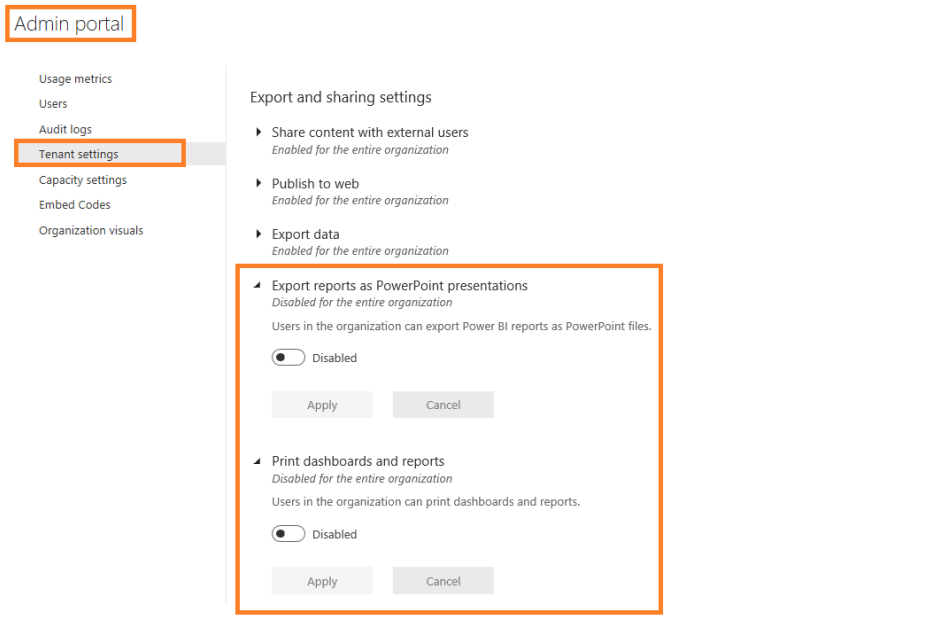
How do I control who can Publish to Web?

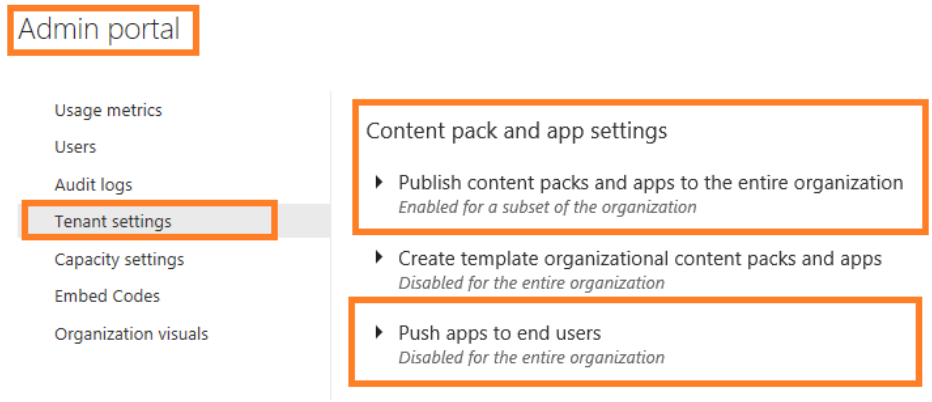
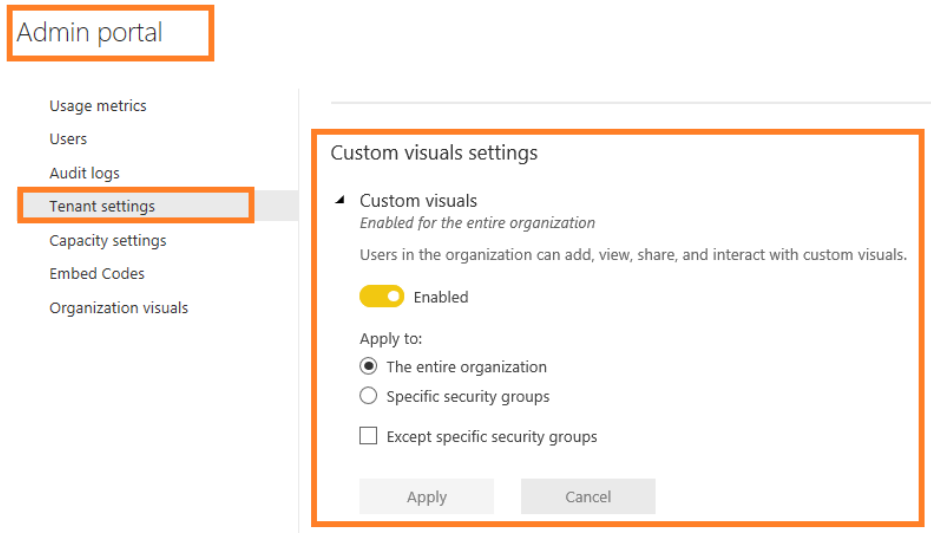
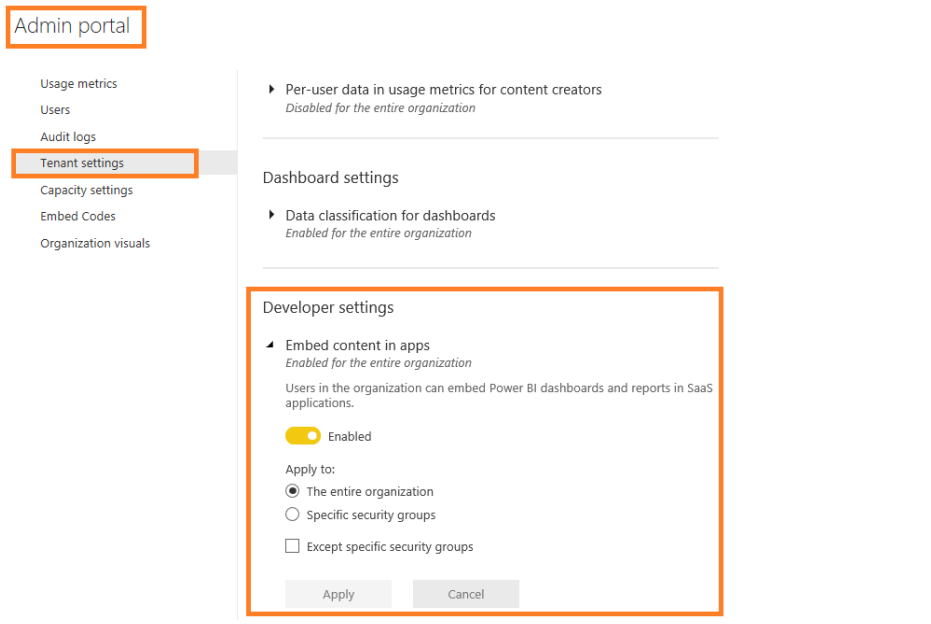
1. **Login** to https://app.powerbi.com .
2. From the top right panel, select **Settings gear -> Admin Portal**.
3. Select **Tenant settings** from the left menu.
4. Under **Export and sharing settings**, expand **Publish to web** section. Here you can enable/disable this feature. If it's enabled, you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

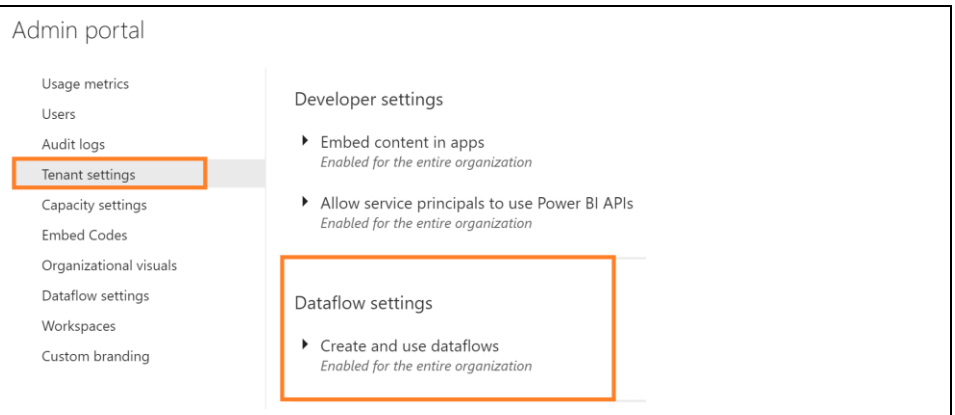
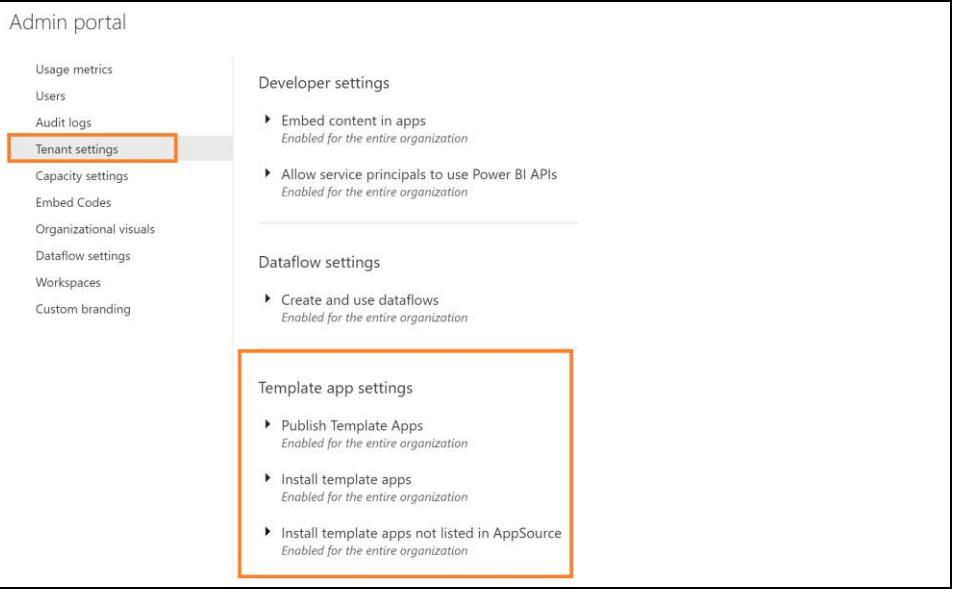


What about ability to export report to PowerPoint or print it, can this be controlled as well?

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.



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. 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.	
Do I need to do anything specific to enable the use of custom visuals across the organization? 7. Under **Custom visuals settings**, use **Custom visuals** section.	
We are embedding Power BI content in our custom app. I want to make sure developers have all the required access. 8. Under **Developer settings**, use **Embed content in apps** section.	

I love Dataflows, but I want to control which user can create dataflows. Is there an option to do this? 9. Under **Dataflow settings**, there is options to control who can create and use dataflows.	
Are there any controls with regards to Template apps 10. Under **Template app settings**, there is options to control who can publish and install template apps.	

Lab 04 – Automating Power BI Administration

Let's run through a few scenarios you could use Power BI CMDLETS **How do I find all the datasets that use a specific data source?** 11. Run **Windows PowerShell** as Administrator. 12. Using command: *Install-Module -Name MicrosoftPowerBIMgmt* to Install the module. 13. 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.	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 }
How do I recover deleted workspaces? 14. Enter the commands from **Workspace Management.ps1** (file in scripts folder) in PowerShell window. **Note**: This works with the **new improved workspaces**. Unfortunately, it does not work with O365 group-based workspaces.	$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

I need to add a list of users to Azure AD. Is there an easy way to do this?
 	
15. Enter the commands from **Add-users-loop.ps1** (file in scripts folder) in PowerShell window.
 	
Note: You can read list of usernames from a file and use similar logic to add users.
	## 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"

	$mb = "readyuser" + $i New-AzureADUser -DisplayName $displayName -PasswordProfile $PasswordProfile -UserPrincipalName $upn -AccountEnabled $true -MailNickName $mb -UsageLocation "US" }
I want to get gateway information, status of gateway, gateways in a cluster, etc. 16. Enter the commands from **Gateways.ps1** (file in scripts folder) in PowerShell window. **Note**: **OnPremisesDataGatewayMgmt** module is in pre-release.	# 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
My PowerShell script is throwing an error and I am not able to figure out the cause. 17. Enter the commands from **Resolve Power BI.ps1** (file in scripts folder) in PowerShell window. This script is looking for an invalid Workspace and **Resolve_PowerBIError** cmdlet is used to detailed error message.	Login-PowerBI ## Try with a bad id to produce an error $badId = 'not a guid' Get-PowerBIWorkspace -Id $badId -Scope Organization Resolve-PowerBIError -Last

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/

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