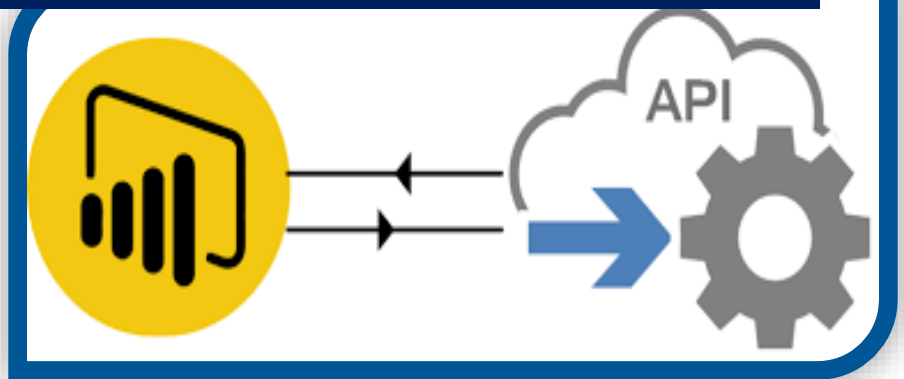


Microsoft PowerBI Rest API



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Cognitive Convergence is Subject Matter Expert in Office 365, Dynamics 365, SharePoint, Project Server, Power Platform: Power Apps-Power BI-Power Automate-Power Virtual Agents.

We offer Power BI consulting services covering solution architecture refinement, customization, integration, transformation, visualization and analytics to uncover insights hidden within data and enhance data exploration.

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OBJECTIVES

This paper will discuss the Power BI Rest API with their subcategories and examples. Different development patterns of these rest API's their comparison and limitations of Rest APIs.

Background

REST APIs created to make data collected by Application Insights easily available. Using these APIs enables to build new visualizations of application's data and extend the capabilities of Application Insights.

POWER BI REST API

Using Power BI REST API, create apps that integrate with Power BI reports, dashboards, and tiles. With Power BI REST API, it is possible to perform management tasks on Power BI objects like reports, datasets, and workspaces. IT allows to embed reports, dashboards, and tiles for Power BI users and Non-Power BI users. Perform management tasks on Power BI objects. Extend an existing business workflow to push key data into a Power BI dashboard. Authenticate to Power BI.

Operation group	Description
Admin	Operations for working with administrative tasks.
Apps	Operations for working with Apps.
Available Features	Operations that return available features.
Capacities	Operations for working with capacities.
Dashboards	Operations for working with dashboards.
Dataflow Storage Accounts	Operations for working with dataflow storage accounts.
Dataflows	Operations for working with dataflows.
Datasets	Operations for working with datasets.
Embed Token	Operations for working with embed tokens.
Gateways	Operations for working with gateways.
Groups	Operations for working with groups.
Imports	Operations for working with imports.
Push Datasets	Operations for working with push datasets.
Reports	Operations for working with reports.
Users	Operations for working with users.

The Anatomy of a Request

Anatomy of power BI Rest API request include endpoint, Method, Headers and Data.

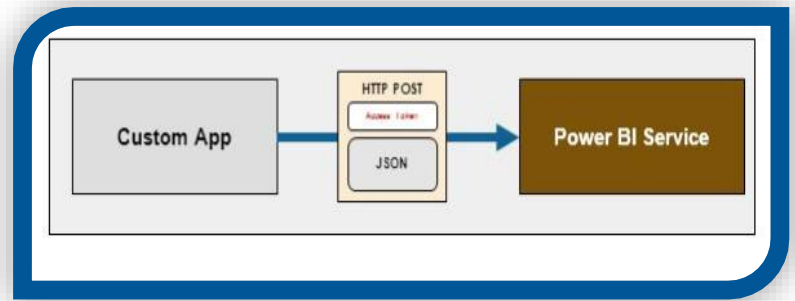
➤ **Endpoint:** <https://api.powerbi.com/v1.0/myorg/>



- **Method:** GET, POST, PUT, PATCH, DELETE
- **The Headers:** Authentication, Content Type
- **The Data (or body):** Json

HTTP Methods

- **GET**
Retrieve a representation of the member resource in the response body.
- **POST**
Create a member resource in the member resource using the instructions in the request body.
- **PUT**
Replace all the representations of the member resource, or create the member resource if it does not exist, with the representation in the request body.
- **PATCH**
Update all the representations of the member resource or may create the member resource if it does not exist, using the instructions in the request body.
- **DELETE**
Delete all the representations of the member resource



We Customize, extend, and embed Power BI analytics in applications using a comprehensive set of APIs

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POWER BI ADMIN API

Admin API	Description	HTTP Link
Add Power BI Encryption Key	Adds an encryption key for Power BI workspaces assigned to a capacity. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/admin/tenantKeys
Capacities AssignWorkspacesToCapacity	Assigns the provided workspaces to the specified capacity. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/admin/capacities/AssignWorkspaces
Capacities UnassignWorkspacesFromCapacity	Unassigns the provided workspaces from capacity. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/admin/capacities/UnassignWorkspaces
Dashboards GetDashboardsAsAdmin	Returns a list of dashboards for the organization. This API allows 200 requests per hour at maximum. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/dashboards
Dashboards GetDashboardsInGroupAsAdmin	Returns a list of dashboards from the specified workspace. This API allows 200 requests per hour at maximum. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}/dashboards
Dashboards GetTilesAsAdmin	Returns a list of tiles within the specified dashboard. This API allows 200 requests per hour at maximum. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/dashboards/{dashboardId}/tiles
Dataflows ExportDataflowAsAdmin	Exports the specified dataflow definition to a .json file. Required scope: Tenant.Read.All	GET https://api.powerbi.com/v1.0/myorg/admin/dataflows/{dataflowId}/export
Dataflows GetDataflowDatasourcesAsAdmin	Returns a list of datasources for the specified dataflow. Required scope: Tenant.Read.All	GET https://api.powerbi.com/v1.0/myorg/admin/dataflows/{dataflowId}/datasources
Dataflows GetDataflowsAsAdmin	Returns a list of dataflows for the organization. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/dataflows
Dataflows GetDataflowsInGroupAsAdmin	Returns a list of dataflows from the specified workspace. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}/dataflows
Dataflows GetUpstreamDataflowsInGroupAsAdmin	Returns a list of upstream dataflows for the specified dataflow. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}/dataflows/{dataflowId}/upstreamDataflows
Datasets GetDatasetsAsAdmin	Returns a list of datasets for the organization. This API processes each request for 2 seconds, in the meantime other requests will be queued.	GET https://api.powerbi.com/v1.0/myorg/admin/datasets

	Required scope: Tenant.Read.All or Tenant.ReadWrite.All	
Datasets GetDatasetsInGroup AsAdmin	Returns a list of datasets from the specified workspace. This API allows 200 requests per hour at maximum. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}/datasets
Datasets GetDatasetToDataflowsLinksInGroupAsAdmin	Returns a list of upstream dataflows for datasets from the specified workspace. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}/datasets/upstreamDataflows
Datasets GetDatasourcesAsAdmin	Returns a list of datasources for the specified dataset. This API processes each request for 0.5 seconds, in the meantime other requests will be queued. Required scope: Tenant.Read.All	GET https://api.powerbi.com/v1.0/myorg/admin/datasets/{datasetId}/datasources
Get Activity Events	Returns a list of audit activity events for a tenant. This API allows 200 requests per hour at maximum. To call this API, provide either a continuation token or both a start and end date time. StartDateTime and EndDateTime must be in the same UTC day. Required scope: Tenant.Read.All or Tenant.ReadWrite.All.	GET https://api.powerbi.com/v1.0/myorg/admin/activityevents
Get Capacities As Admin	Returns a list of capacities for the organization. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/capacities
Get Power BI Encryption Keys	Returns the encryption keys for the tenant. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/tenantKeys
Get Refreshable For Capacity	Returns the specified refreshable for the specified capacity the user has access to Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/capacities/{capacityId}/refreshables/{refreshableId}
Get Refreshables	Returns a list of refreshables for the organization within a capacity Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/capacities/refreshables?top={\$top}
Get Refreshables For Capacity	Returns a list of refreshables for the specified capacity the user has access to Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/capacities/{capacityId}/refreshables?top={\$top}
Groups AddUserAsAdmin	Grants user permissions to the specified workspace. This API allows 200 requests per hour at maximum. Required scope: Tenant.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}/users
Groups DeleteUserAsAdmin	Removes user permissions to the specified workspace. This API allows 200 requests per hour at maximum. Required scope: Tenant.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}/users/{user}
Groups GetGroupsAsAdmin	Returns a list of workspaces for the organization. This API allows 200 requests per hour at maximum. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/

		myorg/admin/groups?\$top={\$top}
Groups RestoreDeletedGroupAsAdmin	Restores a deleted workspace. This API allows 200 requests per hour at maximum. Required scope: Tenant.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}/restore
Groups UpdateGroupAsAdmin	Updates the specified workspace properties. This API allows 200 requests per hour at maximum. Required scope: Tenant.ReadWrite.All	PATCH https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}
Imports GetImportsAsAdmin	Returns a list of imports for the organization. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/imports
Patch Capacity As Admin	Changes the specific capacity information. Currently, only supports changing the capacity encryption key Required scope: Tenant.Read.All or Tenant.ReadWrite.All	PATCH https://api.powerbi.com/v1.0/myorg/admin/capacities/{capacityId}
Reports GetReportsAsAdmin	Returns a list of reports for the organization. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/reports
Reports GetReportsInGroupAsAdmin	Returns a list of reports from the specified workspace. This API allows 200 requests per hour at maximum. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/admin/groups/{groupId}/reports
Rotate Power BI Encryption Key	Rotate the encryption key for Power BI workspaces assigned to a capacity. This API allows 600 requests per hour at maximum. Required scope: Tenant.Read.All or Tenant.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/admin/tenantKeys/{tenantKeyId}/Default.Rotate

POWER BI AVAILABLE FEATURE

Rest API	Description	HTTP
Get Available Feature By Name	Returns the specified available feature for user by name. Required scope: None	GET https://api.powerbi.com/v1.0/myorg/availableFeatures(featureName='{featureName}')
Get Available Features	Returns a list of available features for the user Required scope: None	GET https://api.powerbi.com/v1.0/myorg/availableFeatures

Being Power BI consultants, we have a long background in business intelligence and data visualization software and are always up to speed with best practices and the latest Power BI functionality.

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POWER BI CAPACITIES API

Rest API	Description	HTTP
Get Capacities	Returns a list of capacities the user has access to. Required scope: Capacity.Read.All or Capacity.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/capacities
Get Refreshable For Capacity	Returns the specified refreshable for the specified capacity the user has access to. Required scope: Capacity.Read.All or Capacity.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/capacities/{capacityId}/refreshables/{refreshableId}
Get Refreshables	Returns a list of refreshables for all capacities of which the user has access to. Required scope: Capacity.Read.All or Capacity.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/capacities/refreshables?\$top={top}
Get Refreshables For Capacity	Returns a list of refreshables for the specified capacity the user has access to. Required scope: Capacity.Read.All or Capacity.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/capacities/{capacityId}/refreshables?\$top={\$top}
Get Workload	Returns the current state of a workload and if the workload is enabled also returns the maximum memory percentage that the workload can consume. Required scope: Capacity.Read.All or Capacity.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/capacities/{capacityId}/Workloads/{workloadName}
Get Workloads	Returns the current state of the specified capacity workloads, if a workload is enabled also returns the maximum memory percentage that the workload can consume. Required scope: Capacity.Read.All or Capacity.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/capacities/{capacityId}/Workloads
Groups AssignMyWorkspaceToCapacity	Assigns " My Workspace " to the specified capacity. Note: To perform this operation, the user must have admin or assign permissions on the capacity. To unassign " My Workspace " from a capacity, Empty Guid (00000000-0000-0000-0000-000000000000) should be provided as capacityId. Required scope: Capacity.ReadWrite.All and Workspace.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/AssignToCapacity
Groups AssignToCapacity	Assigns the specified workspace to the specified capacity. Note: To perform this operation, the user must be admin on the specified workspace and have admin or assign permissions on the capacity. To unassign the specified workspace from a capacity, Empty Guid (00000000-0000-	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/AssignToCapacity

	0000-0000-000000000000) should be provided as capacityId. Required scope: Capacity.ReadWrite.All and Workspace.ReadWrite.All	
Groups CapacityAssignmentStatus	Gets the status of the assignment to capacity operation of the specified workspace. Required scope: Workspace.Read.All and Workspace.ReadWrite.All.	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/CapacityAssignmentStatus
Groups CapacityAssignmentStatusMyWorkspace	Gets the status of "My Workspace" assignment to capacity operation. Note: Required scope: Workspace.Read.All and Workspace.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/CapacityAssignmentStatus
Patch Workload	Changes the state of a specific workload to Enabled or Disabled. When enabling a workload the maximum memory percentage that the workload can consume must be set. Required scope: Capacity.ReadWrite.All	PATCH https://api.powerbi.com/v1.0/myorg/capacities/{capacityId}/Workloads/{workloadName}

DASHBOARDS OPERATIONS

API	Description	HTTP
Add Dashboard	Creates a new empty dashboard on "My Workspace". Required scope: Content.Create	POST https://api.powerbi.com/v1.0/myorg/dashboards
Add Dashboard In Group	Creates a new empty dashboard on the specified workspace. Required scope: Content.Create	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/dashboards
Clone Tile	Clones the specified tile from "My Workspace". If target report id and target dataset are not specified, the following can occur: • When a tile clone is performed within the same workspace, the report and dataset links will be cloned from the source tile. • When cloning a tile within a different workspace, report and dataset links will be reset, and the tile will be broken. Required scope: Dashboard.ReadWrite.All To set the permissions scope, see Register an app.	POST https://api.powerbi.com/v1.0/myorg/dashboards/{dashboardId}/tiles/{tileId}/Clone

Clone Tile In Group	Clones the specified tile from the specified workspace. If target report id and target dataset are missing, the following can occur: • When a tile clone is performed within the same workspace, the report and dataset links will be cloned from the source tile. • If cloning a tile within a different workspace, report and dataset links will be rested. The tile will be broken. Required scope: Dashboard.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/dashboards/{dashboardId}/tiles/{tileId}/Clone
Get Dashboard	Returns the specified dashboard from "My Workspace". Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/dashboards/{dashboardId}
Get Dashboard In Group	Returns the specified dashboard from the specified workspace. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/dashboards/{dashboardId}
Get Dashboards	Returns a list of dashboards from "My Workspace". Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/dashboards
Get Dashboards In Group	Returns a list of dashboards from the specified workspace. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/dashboards
Get Tile	Returns the specified tile within the specified dashboard from "My Workspace". All tile types are supported except for "model tiles", which include datasets and live tiles that contain an entire report page. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/dashboards/{dashboardId}/tiles/{tileId}
Get Tile In Group	Returns the specified tile within the specified dashboard from the specified workspace. All tile types are supported except for "model tiles", which include datasets and live tiles that contain an entire report page. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/dashboards/{dashboardId}/tiles/{tileId}

Get Tiles	Returns a list of tiles within the specified dashboard from "My Workspace". All tile types are supported except for "model tiles", which include datasets and live tiles that contain an entire report page. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/dashboards/{dashboardId}/tiles
Get Tiles In Group	Returns a list of tiles within the specified dashboard from the specified workspace. All tile types are supported except for "model tiles", which include datasets and live tiles that contain an entire report page. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/dashboards/{dashboardId}/tiles

EMBED TOKEN OPERATIONS

Rest API	Description	HTTP
Dashboards GenerateTokenInGroup	Generates an embed token to view the specified dashboard from the specified workspace. This API is relevant only to 'App owns data' embed scenario. Required scope: (all of the below) Dashboard.ReadWrite.All or Dashboard.Read.All Report.ReadWrite.All or Report.Read.All Dataset.ReadWrite.All or Dataset.Read.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/dashboards/{dashboardId}/GenerateToken
Datasets GenerateTokenInGroup	Generates an embed token to Embed Q&A based on the specified dataset from the specified workspace. This API is relevant only to 'App owns data' embed scenario. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/GenerateToken
Generate Token	Generates an embed token for multiple reports, datasets and target workspaces. Reports and datasets do not have to be related. The binding of a report to a dataset can be done during embedding. Target workspaces are workspaces where creation of reports is allowed. This API is relevant only to 'App owns data' embed scenario. Required scope:	POST https://api.powerbi.com/v1.0/myorg/GenerateToken

	Content.Create - required only if a target workspace is specified in GenerateTokenRequestV2 Report.ReadWrite.All or Report.Read.All - required only if a report is specified in GenerateTokenRequestV2 Report.ReadWrite.All - required if allowEdit flag is specified for at least one report in GenerateTokenRequestV2 Dataset.ReadWrite.All or Dataset.Read.All When using service principal for authentication, refer to Service Principal with Power BI document along with considerations and limitations section. Restrictions • All the reports and datasets must reside in workspace V2. All the target workspaces must be workspace V2. • Maximum number of reports, datasets and target workspaces is 50 each. • Generating Embed Token with RLS may not work for AS Azure or AS OnPrem live connection reports for several minutes after a Rebind.	
Reports GenerateTokenForCreateInGroup	Generates an embed token to allow report creation on the specified workspace based on the specified dataset. This API is relevant only to 'App owns data' embed scenario. Required scope: (all of the below) Content.Create Report.ReadWrite.All or Report.Read.All Dataset.ReadWrite.All or Dataset.Read.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/GenerateToken
Reports GenerateTokenInGroup	Generates an embed token to view or edit the specified report from the specified workspace. This API is relevant only to 'App owns data' embed scenario. Required scope: (all of the below) Report.ReadWrite.All or Report.Read.All Dataset.ReadWrite.All or Dataset.Read.All Content.Create - required only if allowSaveAs specified in GenerateTokenRequest When using service principal for authentication, refer to Service Principal with Power BI document along with considerations and limitations section. Restrictions Generating Embed Token with RLS may not work for AS Azure or AS OnPrem live connection reports for several minutes after a Rebind.	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/GenerateToken



Tiles GenerateTokenInGroup	Generates an embed token to view the specified tile from the specified workspace. This API is relevant only to 'App owns data' embed scenario. Required scope: (all of the below) Dashboard.ReadWrite.All or Dashboard.Read.All Report.ReadWrite.All or Report.Read.All Dataset.ReadWrite.All or Dataset.Read.All When using service principal for authentication, refer to Service Principal with Power BI document along with considerations and limitations section.	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/dashboards/{dashboardId}/tiles/{tileId}/GenerateToken
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GATEWAYS OPERATIONS

Rest API	Description	HTTP
Add Datasource User	Grants or updates the permissions required to use the specified datasource for the specified user. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}/datasources/{datasourceId}/users
Create Datasource	Creates a new datasource on the specified gateway. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}/datasources
Delete Datasource	Deletes the specified datasource from the specified gateway. Required scope: Dataset.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}/datasources/{datasourceId}
Delete Datasource User	Removes the specified user from the specified datasource. Required scope: Dataset.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}/datasources/{datasourceId}/users/{emailAddress}
Get Datasource	Returns the specified datasource from the specified gateway. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}/datasources/{datasourceId}
Get Datasources	Returns a list of datasources from the specified gateway.	GET https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}/datasources

	Required scope: Dataset.ReadWrite.All or Dataset.Read.All	/v1.0/myorg/gateways/{gatewayId}/datasources
Get Datasource Status	Checks the connectivity status of the specified datasource from the specified gateway. Required scope: Dataset.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}/datasources/{datasourceId}/status
Get Datasource Users	Returns a list of users who have access to the specified datasource. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}/datasources/{datasourceId}/users
Get Gateway	Returns the specified gateway. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}
Get Gateways	Returns a list of gateways for which the user is an admin. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/gateways
Update Datasource	Updates the credentials of the specified datasource from the specified gateway. Required scope: Dataset.ReadWrite.All	PATCH https://api.powerbi.com/v1.0/myorg/gateways/{gatewayId}/datasources/{datasourceId}

Contact us today whether you use Power BI currently and need to improve its implementation.

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GROUPS OPERATIONS

Rest API	Description	HTTP
Add Group User	Grants the specified user permissions to the specified workspace. Required scope: Workspace.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/users
Create Group	Creates new workspace. Required scope: Workspace.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups
Delete Group	Deletes the specified workspace. Required scope: Workspace.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/groups/{groupId}
Delete User In Group	Deletes the specified user permissions from the specified workspace. Required scope: Workspace.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/groups/{groupId}/users/{user}
Get Groups	Returns a list of workspaces the user has access to. Required scope: Workspace.Read.All or Workspace.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/groups
Get Group Users	Returns a list of users that have access to the specified workspace. Required scope: Workspace.Read.All or Workspace.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/users
Update Group User	Update the specified user permissions to the specified workspace. Required scope: Workspace.ReadWrite.All	PUT https://api.powerbi.com/v1.0/myorg/groups/{groupId}/users

IMPORTS OPERATIONS

Rest API	Description	HTTP
Create Temporary Upload Location	Creates a temporary blob storage to be used to import large .pbix files larger than 1 GB and up to 10 GB. To import large .pbix files, create a temporary upload location and upload the .pbix file using the shared access signature (SAS) url from the response, and then call Post Import and specify 'fileUrl' to be the SAS url in the Request Body Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/imports/createTemporaryUploadLocation
Create Temporary	Creates a temporary blob storage to be used to import large .pbix files larger than 1 GB and up to 10 GB. To import large .pbix files, create a temporary upload location	POST https://api.powerbi.com/v1.0/myorg/imports/createTemporaryUploadLocation

Upload Location In Group	and upload the .pbix file using the shared access signature (SAS) url from the response, and then call Post Import In Group and specify 'fileUrl' to be the SAS url in the Request Body. Required scope: Dataset.ReadWrite.All	org/groups/{groupId}/imports/createTemporaryUploadLocation
Get Import	Returns the specified import from " My Workspace ". Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/imports/{importId}
Get Import In Group	Returns the specified import from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/imports/{importId}
Get Imports	Returns a list of imports from " My Workspace ". Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/imports
Get Imports In Group	Returns a list of imports from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/imports
Post Import	Creates new content on " My Workspace " from .pbix, Excel, Rdl or file path in OneDrive for Business. Required scope: Dataset.ReadWrite.All - To import a file, request Headers should include Content-Type: multipart/form-data with the file encoded as form data in the request body. - To import xlsx file from OneDrive for Business, request Headers should include Content-Type: application/json with ImportInfo in the request body. - Import .pbix file from OneDrive is not supported.	POST https://api.powerbi.com/v1.0/myorg/imports?datasetDisplayName={datasetDisplayName}
Post Import In Group	Creates new content on the specified workspace from .pbix, json, Excel, Rdl, or file path in OneDrive for Business. Required scope: Dataset.ReadWrite.All - To import a file, request Headers should include Content-Type: multipart/form-data with the file encoded as form data in the request body - To import from OneDrive for Business, request Headers should include Content-Type: application/json with ImportInfo in the request body. - To import large .pbix files between 1 GB and 10 GB see Create Temporary Upload Location In Group, supported only for workspaces on premium capacity. - To create a dataflow from a model.json, specify the parameter datasetDisplayName as described below.	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/imports?datasetDisplayName={datasetDisplayName}

We offer a complete consultancy service where our Power BI trainers work with you and your business to provide guidance and assistance through every part of the process.

Cognitive Convergence

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PUSH DATASETS OPERATION

This API supports only Push datasets.

Rest API	Description	HTTP
Datasets DeleteRows	Deletes all rows from the specified table within the specified dataset from "My Workspace" . Required scope: Dataset.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/tables/{tableName}/rows
Datasets DeleteRowsInGroup	Deletes all rows from the specified table, within the specified dataset, from the specified workspace. Required scope: Dataset.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/tables/{tableName}/rows
Datasets GetTables	Returns a list of tables within the specified dataset from "My Workspace" . Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/tables
Datasets GetTablesInGroup	Returns a list of tables within the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/tables
Datasets PostDataset	Creates a new dataset on "My Workspace" . Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/datasets
Datasets PostDatasetInGroup	Creates a new dataset in the specified workspace. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets
Datasets PostRows	Adds new data rows to the specified table within the specified dataset from "My Workspace" . Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/tables/{tableName}/rows
Datasets PostRowsInGroup	Adds new data rows to the specified table, within the specified dataset, from the specified workspace. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/tables/{tableName}/rows
Datasets PutTable	Updates the metadata and schema for the specified table within the specified dataset from "My Workspace" . Required scope: Dataset.ReadWrite.All	PUT https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/tables/{tableName}
Datasets PutTableInGroup	Updates the metadata and schema for the specified table, within the specified dataset, from the specified workspace.	PUT https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/tables/{tableName}

	Required scope: Dataset.ReadWrite.All	
--	--	--

REPORTS OPERATIONS

Rest API	Description	HTTP
Clone Report	Clones the specified report from "My Workspace" . If after cloning the report and its dataset reside in two different upgraded workspaces or "My Workspace", a shared dataset will be created in the report's workspace. Reports with live connection will lose the live connection when cloning and will have a direct binding to the target dataset. Required scope: Content.Create	POST https://api.powerbi.com/v1.0/myorg/reports/{reportId}/Clone
Clone Report In Group	Clones the specified report from the specified workspace. If after cloning the report and its dataset reside in two different upgraded workspaces or "My Workspace", a shared dataset will be created in the report's workspace. Reports with live connection will lose the live connection when cloning and will have a direct binding to the target dataset. Required scope: Content.Create	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/Clone
Delete Report	Deletes the specified report from "My Workspace" . Required scope: Report.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/reports/{reportId}
Delete Report In Group	Deletes the specified report from the specified workspace. Required scope: Report.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}
Export Report	Exports the specified report from "My Workspace" to a .pbix file. Export of a report with Power BI service live connection after calling rebind report is not supported. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/reports/{reportId}/Export
Export Report In Group	Exports the specified report from the specified workspace to a .pbix file. Export of a report with Power BI service live connection after calling rebind report is not supported. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/Export
Export To File	Exports the specified report from "My Workspace" to the requested format. Required scope: Report.ReadWrite.All or Report.Read.All	POST https://api.powerbi.com/v1.0/myorg/reports/{reportId}/ExportTo

	Dataset.ReadWrite.All or Dataset.Read.All	
Export To File In Group	Exports the specified report from the specified workspace to the requested format. Required scope: Report.ReadWrite.All or Report.Read.All Dataset.ReadWrite.All or Dataset.Read.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/ExportTo
Get Datasources	Returns a list of datasources for the specified RDL report from "My Workspace" . Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/reports/{reportId}/datasources
Get Datasources In Group	Returns a list of datasources for the specified RDL report from the specified workspace. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/datasources
Get Export To File Status	Returns the status of the Export to file job from "My Workspace" . Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/reports/{reportId}/exports/{exportId}
Get Export To File Status In Group	Returns the status of the Export to file job from the specified workspace. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/exports/{exportId}
Get File Of Export To File	Returns the file of the Export to file job of the specified report from "My Workspace" . Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/reports/{reportId}/exports/{exportId}/file
Get File Of Export To File In Group	Returns the file of the Export to file job of the specified report from the specified group. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/exports/{exportId}/file
Get Page	Returns the specified page within the specified report from "My Workspace" . Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/reports/{reportId}/pages/{pageName}
Get Page In Group	Returns the specified page within the specified report from the specified workspace. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/pages/{pageName}

Get Pages	Returns a list of pages within the specified report from " My Workspace ". Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/reports/{reportId}/pages
Get Pages In Group	Returns a list of pages within the specified report from the specified workspace. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/pages
Get Report	Returns the specified report from " My Workspace ". Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/reports/{reportId}
Get Report In Group	Returns the specified report from the specified workspace. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}
Get Reports	Returns a list of reports from " My Workspace ". Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/reports
Get Reports In Group	Returns a list of reports from the specified workspace. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports
Rebind Report	Rebinds the specified report from " My Workspace " to the requested dataset. If the dataset resides in a different upgraded workspace, a shared dataset will be created in "My Workspace". Reports with live connection will lose the live connection when rebinding, and will have a direct binding to the target dataset. Required scope: Report.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/reports/{reportId}/Rebind
Rebind Report In Group	Rebinds the specified report from the specified workspace to the requested dataset. If the dataset resides in a different upgraded workspace or in "My Workspace", a shared dataset will be created in the report's workspace. Reports with live connection will lose the live connection when rebinding, and will have a direct binding to the target dataset. Required scope: Report.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/Rebind
Update Report Content	Updates the specified report from " My Workspace " to have the same content as the report in the request body. Required scope: Report.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/reports/{reportId}/UpdateReportContent
Update Report Content In Group	Updates the specified report from the specified workspace to have the same content as the specified report in the request body. Required scope: Report.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/reports/{reportId}/UpdateReportContent

DATASETS OPERATIONS

Rest API	Description	HTTP
Bind To Gateway	Binds the specified dataset from "My Workspace" to the specified gateway with (optional) given set of datasource Ids. This only supports the On-Premises Data Gateway. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/Default.BindToGateway
Bind To Gateway In Group	Binds the specified dataset from the specified workspace to the specified gateway with (optional) given set of datasource Ids. This only supports the On-Premises Data Gateway. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/Default.BindToGateway
Delete Dataset	Deletes the specified dataset from "My Workspace". Required scope: Dataset.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}
Delete Dataset In Group	Deletes the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All	DELETE https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}
Discover Gateways	Returns a list of gateways which the specified dataset from "My Workspace" can be bound to. This API is relevant only for datasets that have at least one on-premises connection. For datasets with cloud-only connections, it will return an empty list. Required scope: Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/Default.DiscoverGateways
Discover Gateways In Group	Returns a list of gateways that the specified dataset from the specified workspace can be bound to. This API is relevant only for datasets that have at least one on-premises connection. For datasets with cloud-only connections, it will return an empty list. Required scope: Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/Default.DiscoverGateways
Get Dataset	Returns the specified dataset from "My Workspace". Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}
Get Dataset In Group	Returns the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}
Get Datasets	Returns a list of datasets from "My Workspace".	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}

	Required scope: Dataset.ReadWrite.All or Dataset.Read.All	
Get Datasets In Group	Returns a list of datasets from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets
Get Dataset To Dataflows Links In Group	Returns a list of upstream dataflows for datasets from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/upstreamDataflows
Get Datasources	Returns a list of datasources for the specified dataset from "My Workspace" . Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/datasources
Get Datasources In Group	Returns a list of datasources for the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/datasources
Get Direct Query Refresh Schedule	Returns the refresh schedule of a specified DirectQuery or LiveConnection dataset from "My Workspace" . Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/directQueryRefreshSchedule
Get Direct Query Refresh Schedule In Group	Returns the refresh schedule of a specified DirectQuery or LiveConnection dataset from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/directQueryRefreshSchedule
Get Gateway Datasources	Returns a list of gateway datasources for the specified dataset from "My Workspace" . Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/Default.GetBoundGatewayDatasources
Get Gateway Datasources In Group	Returns a list of gateway datasources for the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/Default.GetBoundGatewayDatasources
Get Parameters	Returns a list of parameters for the specified dataset from "My Workspace" . Required scope: Dataset.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/parameters
Get Parameters In Group	Returns a list of parameters for the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/parameters
Get Refresh History	Returns the refresh history of the specified dataset from "My Workspace" .	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/refreshHistory

	Required scope: Dataset.ReadWrite.All or Dataset.Read.All	org/datasets/{datasetId}/refreshes
Get Refresh History In Group	Returns the refresh history of the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/refreshes
Get Refresh Schedule	Returns the refresh schedule of the specified dataset from " My Workspace ". Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/refreshSchedule
Get Refresh Schedule In Group	Returns the refresh schedule of the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All or Dataset.Read.All	GET https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/refreshSchedule
Refresh Dataset	Triggers a refresh for the specified dataset from " My Workspace ". Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/refreshes
Refresh Dataset In Group	Triggers a refresh for the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/refreshes
Take Over In Group	Transfers ownership over the specified dataset to the current authorized user. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/Default.TakeOver
Update Datasources	Updates the datasources of the specified dataset from " My Workspace ". The original datasource and the new datasource must have the exact same schema. For cached models, the dataset must be refreshed to get the data from the new data sources. Wait 30 minutes for the update datasources operation to complete before refreshing. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/Default.UpdateDatasources
Update Datasources In Group	Updates the datasources of the specified dataset from the specified workspace. The original datasource and the new datasource must have the exact same schema. For cached models, the dataset must be refreshed to get the data from the new datasources. Wait 30 minutes for the update datasources operation to complete before refreshing. Required scope: Dataset.ReadWrite.All.	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/Default.UpdateDatasources
Update Direct Query Refresh Schedule	Updates the refresh schedule for the specified DirectQuery or LiveConnection dataset from " My Workspace ". This operation is only supported for the dataset owner. A request should	PATCH https://api.powerbi.com/v1.0/my

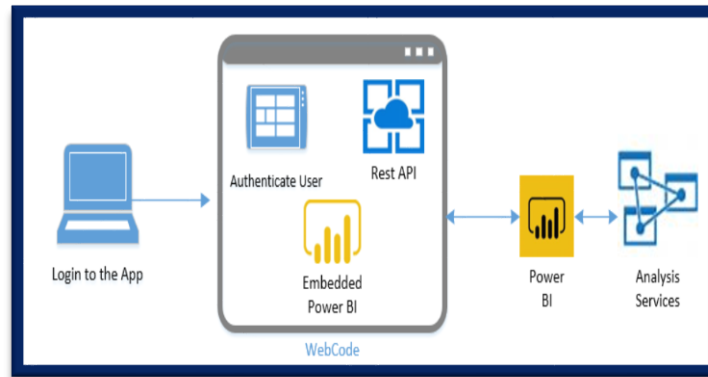
	contain either a combination of days and times (setting times is optional, otherwise a default single time per day is used) or a valid frequency, but not both. Setting frequency will automatically truncate the days and times arrays. Required scope: Dataset.ReadWrite.All	org/datasets/{datasetId}/directQueryRefreshSchedule
Update Direct Query Refresh Schedule In Group	Updates the refresh schedule for the specified DirectQuery or LiveConnection dataset from the specified workspace. This operation is only supported for the dataset owner. A request should contain either a combination of days and times (setting times is optional, otherwise a default single time per day is used) or a valid frequency, but not both. Setting frequency will automatically truncate the days and times arrays. Required scope: Dataset.ReadWrite.All	PATCH https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/directQueryRefreshSchedule
Update Parameters	Updates the parameters values for the specified dataset from "My Workspace". The dataset must be refreshed for new parameters values to be applied. Wait 30 minutes for the update parameters operation to complete before refreshing. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/Default.UpdateParameters
Update Parameters In Group	Updates the parameters values for the specified dataset from the specified workspace. The dataset must be refreshed for the new parameter values to be applied. Wait 30 minutes for the update parameters operation to complete before refreshing. Required scope: Dataset.ReadWrite.All	POST https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/Default.UpdateParameters
Update Refresh Schedule	Updates the refresh schedule for the specified dataset from "My Workspace". This operation is only supported for the dataset owner. • A request that disables the refresh schedule should contain no other changes. • The days array should not be set to empty array. • The times may be set to empty array. • The limit on number of time slots per day depends on the type of capacity used (Premium or Shared), see What is Microsoft Power BI Premium. Required scope: Dataset.ReadWrite.All	PATCH https://api.powerbi.com/v1.0/myorg/datasets/{datasetId}/refreshSchedule
Update Refresh Schedule In Group	Updates the refresh schedule for the specified dataset from the specified workspace. Required scope: Dataset.ReadWrite.All	PATCH https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}/refreshSchedule

APPS API

API	Description	HTTP
Get App	Returns the specified installed app. Required scope: App.Read.All	GET https://api.powerbi.com/v1.0/myorg/apps/{appId}
Get Apps	Returns a list of installed apps. Required scope: App.Read.All	GET https://api.powerbi.com/v1.0/myorg/apps
Get Dashboard	Returns the specified dashboard from the specified app. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/apps/{appId}/dashboards/{dashboardId}
Get Dashboards	Returns a list of dashboards from the specified app. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/apps/{appId}/dashboards
Get Report	Returns the specified report from the specified app. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/apps/{appId}/reports/{reportId}
Get Reports	Returns a list of reports from the specified app. Required scope: Report.ReadWrite.All or Report.Read.All	GET https://api.powerbi.com/v1.0/myorg/apps/{appId}/reports
Get Tile	Returns the specified tile within the specified dashboard from the specified app. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/apps/{appId}/dashboards/{dashboardId}/tiles/{tileId}
Get Tiles	Returns a list of tiles within the specified dashboard from the specified app. Required scope: Dashboard.ReadWrite.All or Dashboard.Read.All	GET https://api.powerbi.com/v1.0/myorg/apps/{appId}/dashboards/{dashboardId}/tiles

DEVELOPMENT PATTERNS OF MICROSOFT POWER BI REST API

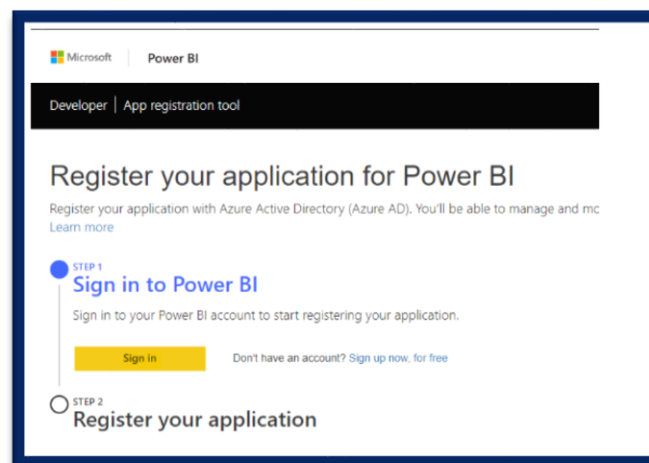
Power BI Rest API provide different development methods all demand Authentication of Power BI, either direct authentication to Power BI server or first registering app in Azure and then authenticate the app with help of application id. The use these rest API HTTP in development patterns to achieve required results.



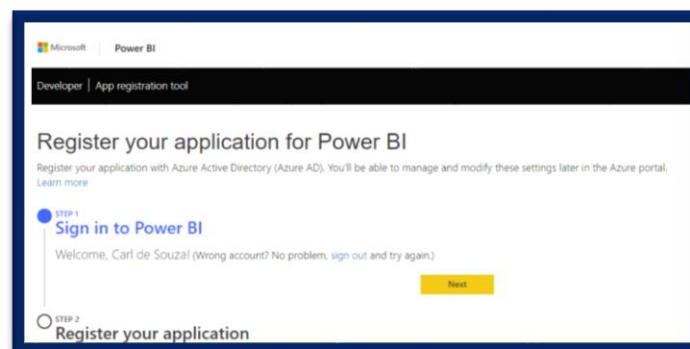
REGISTER APP IN AZURE

The Power BI API contains many useful features if looking to interact with Power BI at the API level. In order to use it, need to register an Azure App first.

- Go to <https://dev.powerbi.com/apps> and click Sign In:



- Click Next:



- Give the App a name, such as Contoso Power BI Integration, and select the Application type and home page URL. Here select Server-side web application:

Developer | App registration tool

Register your application for Power BI

Register your application with Azure Active Directory (Azure AD). You'll be able to manage and modify these settings later in the Azure portal. [Learn more](#)

STEP 1
Sign in to Power BI

STEP 2
Register your application

Register your application with Azure AD to allow your application to access the Power BI REST APIs and to set resource permissions for your application. You can change this later in the Microsoft Azure portal. [Learn more](#)

Application Name
Enter a display name to identify your application in Azure

Application Type
Choose the type of application you are developing

Home Page URL
Enter your application's homepage URL

- Enter a redirect URL and select which Power BI access the app should have. Below I am checking Select All, meaning the app has access to Reading, Writing and Creating:

Redirect URL
Enter a URL where users will be redirected upon sign in so your application can receive an authorization code.

API access
Select the APIs and the level of access your application needs. You can change these settings later in the Azure portal. [Learn more](#)

☒ Select all

Read only APIs	Read and write APIs	Create APIs
☒ Read all datasets	☒ Read and write all datasets	☒ Create APIs
☒ Read all dashboards	☒ Read and write all dashboards	
☒ Read all reports	☒ Read and write all reports	
☒ Read all workspaces	☒ Read and write all workspaces	
☒ Read all capacities	☒ Read and write all capacities	
☒ Read all storage accounts	☒ Read and write all storage accounts	
☒ Read all dataflows	☒ Read and write all dataflows	
☒ Read all gateways	☒ Read and write all gateways	
☒ Read all Power BI apps		

By clicking Register, you agree to the [terms of use](#)

Note: An application registered here can't be used as a service principal. [Learn how to register a service principal](#)

Using Power BI REST APIs and client APIs, we help to easily embed interactive reports and dashboards for high-fidelity experiences across devices.

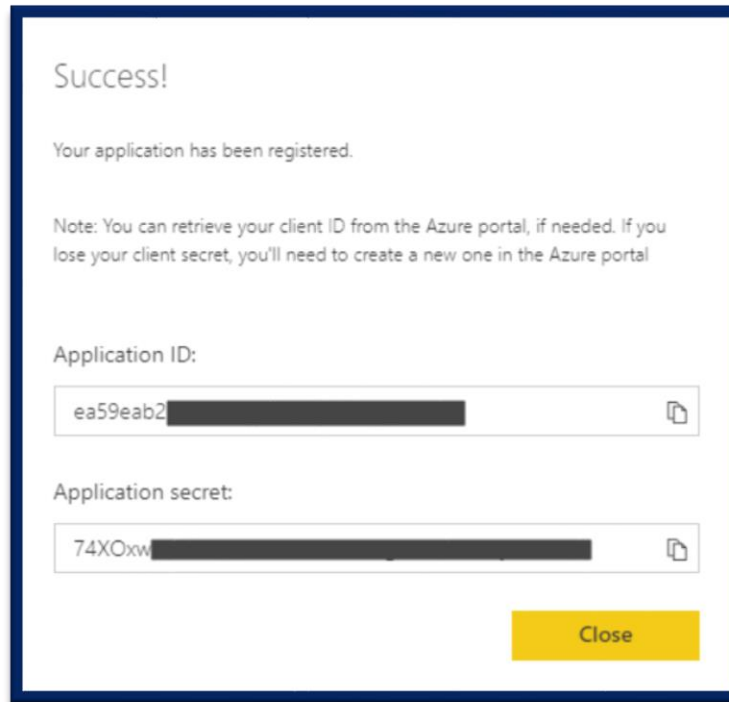
Cognitive Convergence

<http://www.cognitiveconvergence.com>

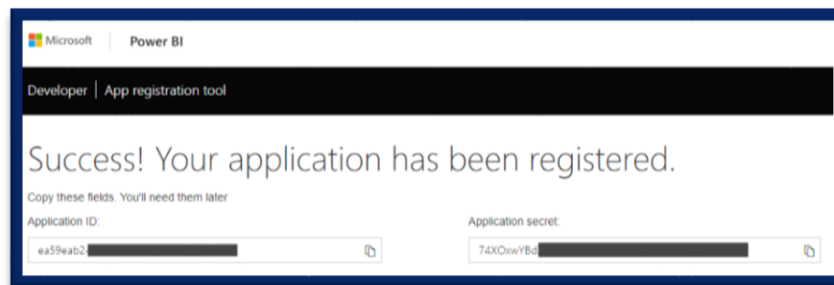
+1 4242530744

shahzad@cognitiveconvergence.com

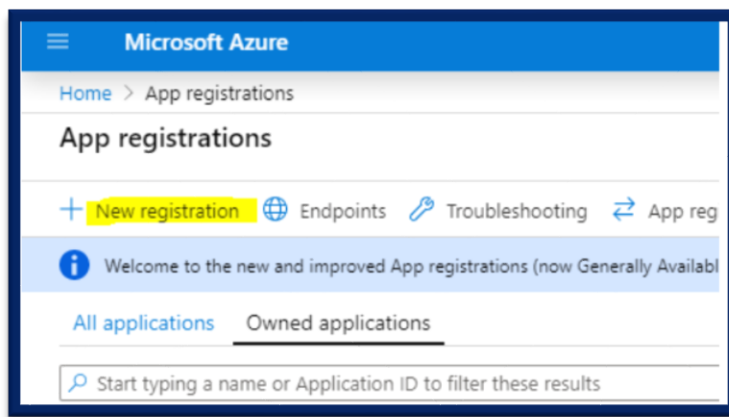
- Once Registered, provided with an Application ID and an Application Secret. Click Close:



- The app has now been registered



- Open https://portal.azure.com/#blade/Microsoft_AAD_RegisteredApps/ApplicationsListBlade/quickStartType//sourceType/ and select New



Registration:

- Provide a name, e.g. PowerBIApp, and the supported account types, e.g. Single tenant, Multitenant etc, and click Register:

Microsoft Azure

Home > App registrations > Register an application

Register an application

Name
The user-facing display name for this application (this can be changed later).

PowerBIApp

Supported account types
Who can use this application or access this API?

☐ Accounts in this organizational directory only (Contoso only - Single tenant)
☒ Accounts in any organizational directory (Any Azure AD directory - Multitenant)
☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

[Help me choose...](#)

Redirect URI (optional)
We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Web

By proceeding, you agree to the [Microsoft Platform Policies](#)

Register

- Note the Application Client Id to use when integrating with the API:

Microsoft Azure

Home > App registrations > PowerBIApp

PowerBIApp

Overview | Manage | Authentication | Certificates & secrets | Token configuration (preview) | API permissions | Expose an API | Owners | Roles and administrators (Preview) | Manifest | Support + troubleshooting | Troubleshooting | New support request

Application ID (client ID): [Redacted]

Supported account type: Accounts in any organizational directory (Any Azure AD directory - Multitenant)

Redirect URI: https://powerbiapp.contoso.com

Application ID URI: [Redacted]

Managed application in: [Redacted]

Welcome to the new and improved App registrations. Looking to learn how it's changed from App registrations (Legacy)? [Learn more](#)

Call APIs

Build more powerful apps with rich user and business data from Microsoft services and your own company's data sources.

[View API permissions](#)

Sign in users in 5 minutes

Use our SDKs to sign in users and call APIs in a few steps.

[View all quickstart guides](#)

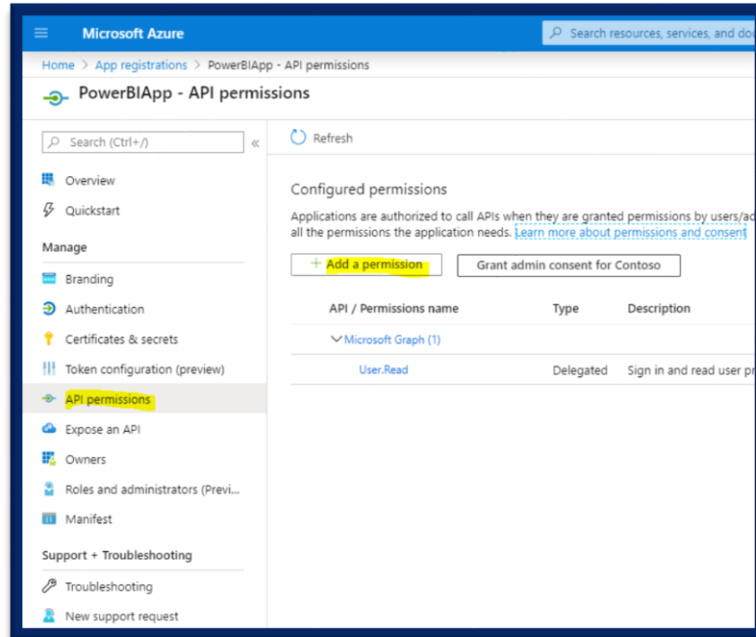
Documentation

[Microsoft identity platform](#)
[Authentication scenarios](#)
[Code samples](#)
[Microsoft Graph](#)
[Glossary](#)
[Help and support](#)

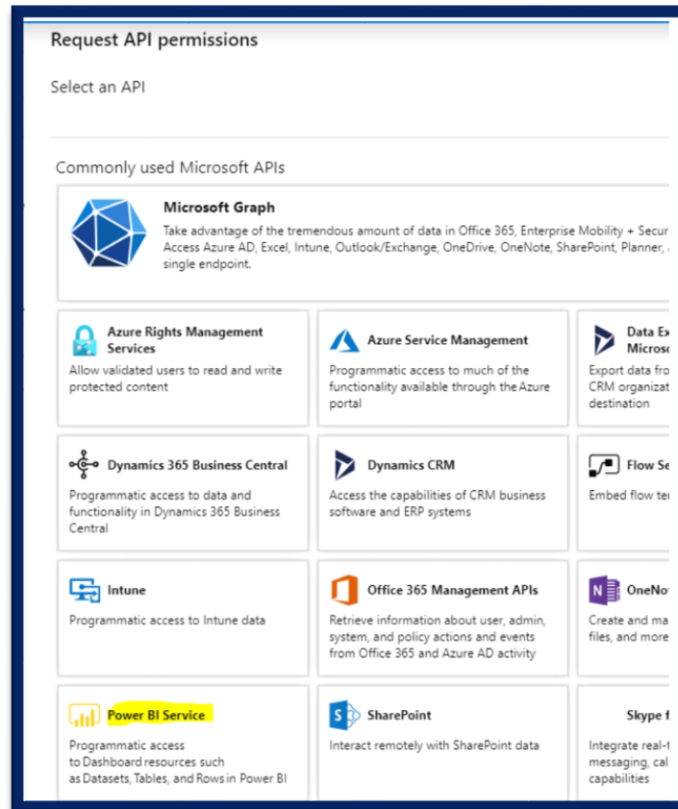
Select API Permissions and click Add a permission:

Microsoft Azure

- Select API Permissions and click Add a permission:



- Select Power BI Service:



- I will grant access to several pieces of Power BI API functionality, and click Add Permissions:

Request API permissions

< All APIs

Power BI Service
<https://analysis.windows.net/powerbi/api/> Docs

What type of permissions does your application require?

Delegated permissions
 Your application needs to access the API as the signed-in user.

Application permissions
 Your application runs as a background service or daemon without a signed-in user.

Select permissions expand all

Type to search

Permission	Admin Consent Required
> App (1)	
> Capacity (2)	
> Content (1)	
> Dashboard (2)	
> Data (1)	
> Dataflow (2)	
> Dataset (2)	
> Gateway (2)	
> Group (2)	
> Metadata (1)	
> Report (2)	

- Next, click on Grant admin consent for org (or may run into the error “The user or administrator has not consented to use the application”):

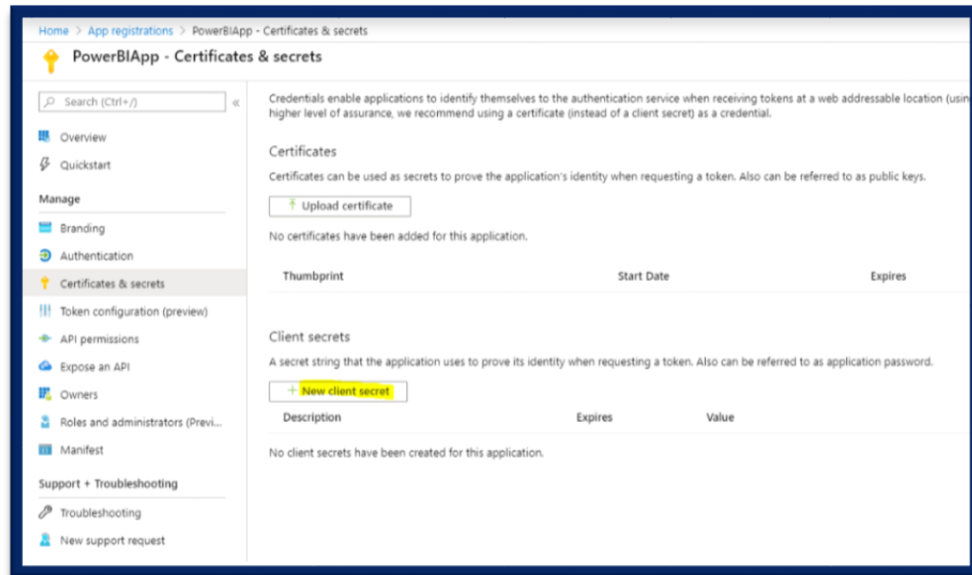
Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission **Grant admin consent for Contoso**

API / Permissions name	Type	Description	Admin Consent Required	Status
Microsoft Graph (1)				...
User.Read	Delegated	Sign in and read user profile	-	...
Power BI Service (24)				...
App.Read.All	Delegated	View all Power BI apps	-	...

- Once complete, go to Certificates and Secrets. Create a new secret that use when using the API:



- Give the secret a name and duration:

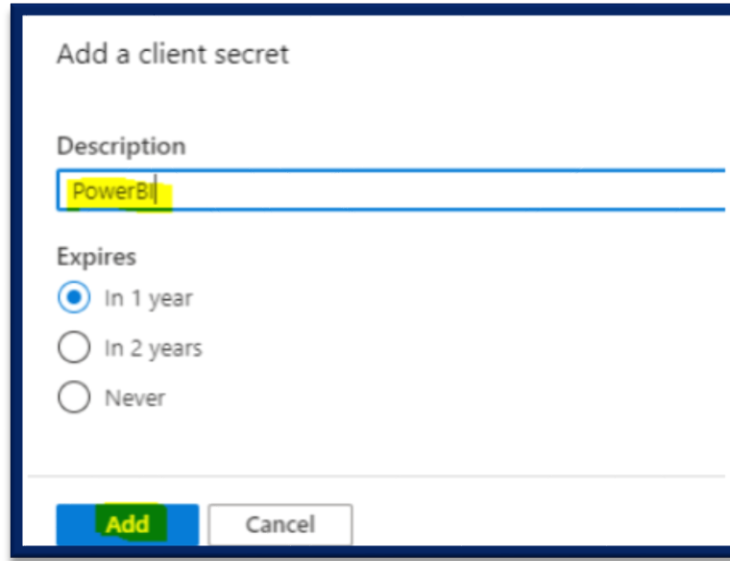
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The screenshot shows a dialog box titled "Add a client secret". It has a "Description" text box containing the text "PowerBI". Below this is an "Expires" section with three radio button options: "In 1 year" (which is selected), "In 2 years", and "Never". At the bottom of the dialog are two buttons: a blue "Add" button and a white "Cancel" button.

That's it, set up to integrate to the Power BI API.

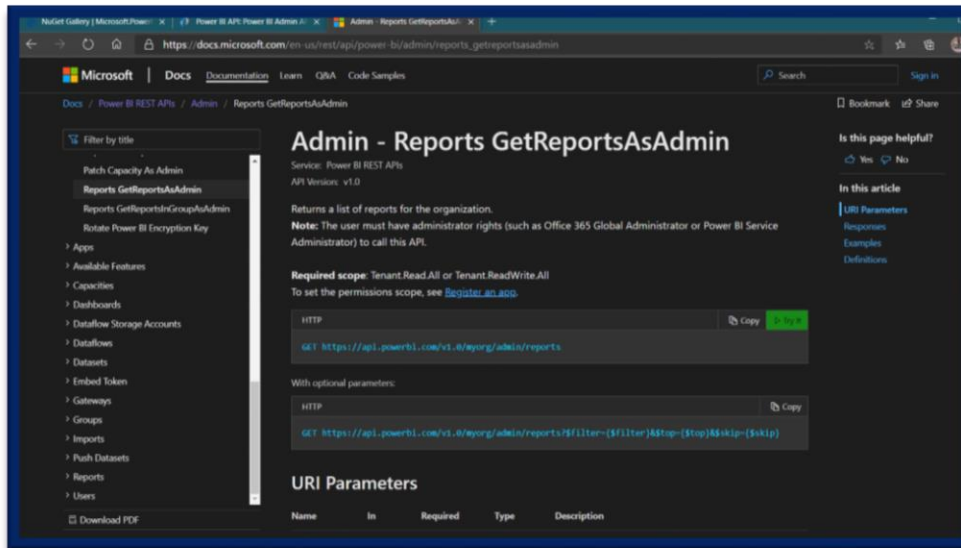
POWER BI REST API 'TRY-IT' TOOL

Power BI REST API with 'Try-it' tool allows to try APIs without any code. Anyone with a Power BI license can now log into the account to see how the Power BI REST API works, get information, or perform operation on Power BI artifacts have access to - without writing any code using the new Power BI API Try-it tool.

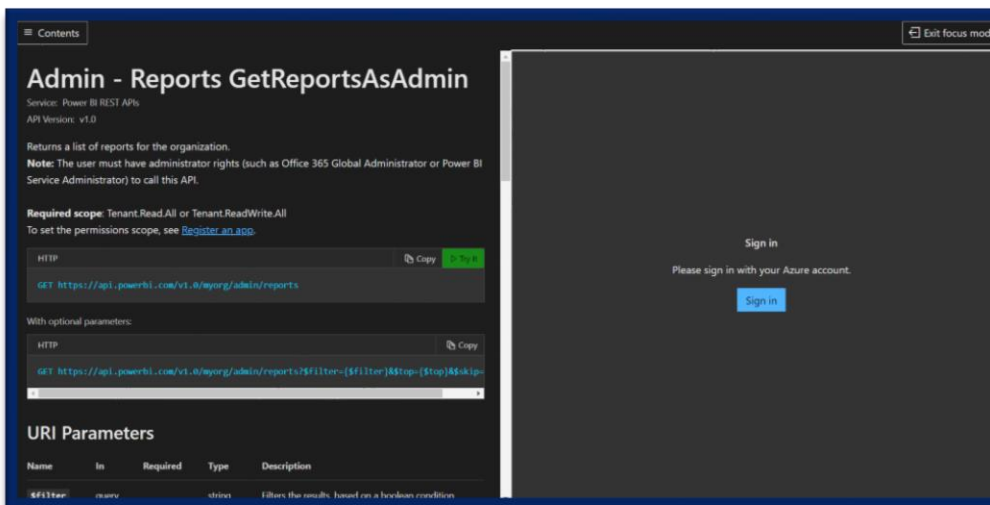
'Try-it' enables to explore how each REST call works, what are the required params, structure of response or errors, and what data comes back, all within a minute!

Exploration of Try it tool

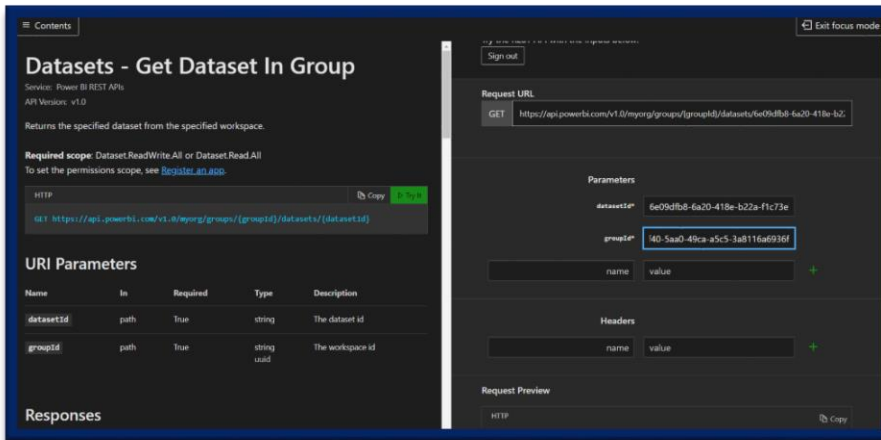
- Go to Power BI REST API documentation. Choose a specific API call that wish to use or explore. Inside the documentation will find the HTTP URL structure. On the top-right corner will find a green button with the text 'Try it'. Click on the green button.



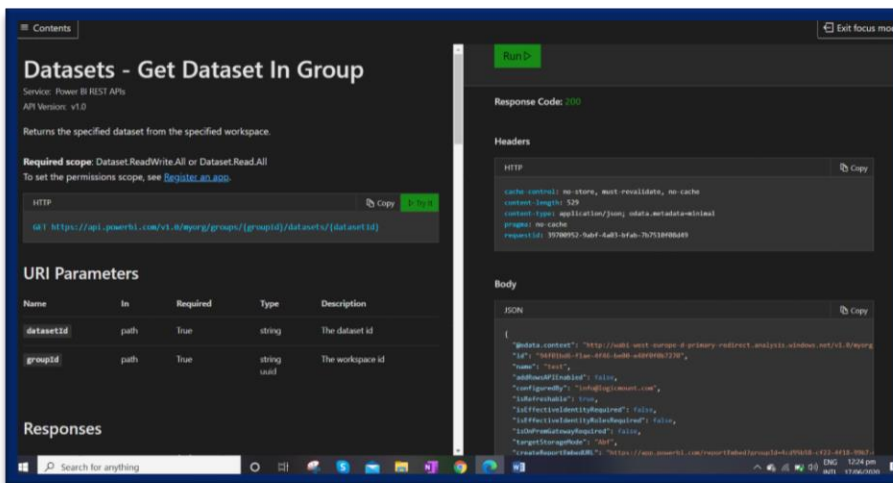
- Once clicked, a right pane will open, asking to sign in to AAD account. Sign-in to Admin account of Power BI.



- After signing in, the Tool will open in the right pane. Add parameters to the call to get specific result. Some calls require to mention specific parameters. For example, 'Get Reports In Group' needs the Workspace (group) ID to perform the call.



- Response code: 200 shows the success of API. This HTTP can be copy and use in code to access this rest API.



POSTMAN

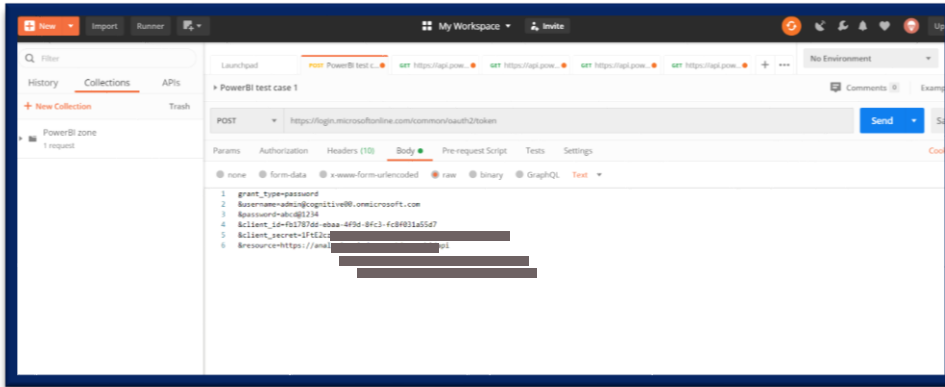
The Postman app is useful as a developer, it allows to send requests and see responses when interacting with Web APIs, as well as seeing what the calls actually do. Firstly it require registration of Power IB app with azure.

Exploring Rest API in Postman

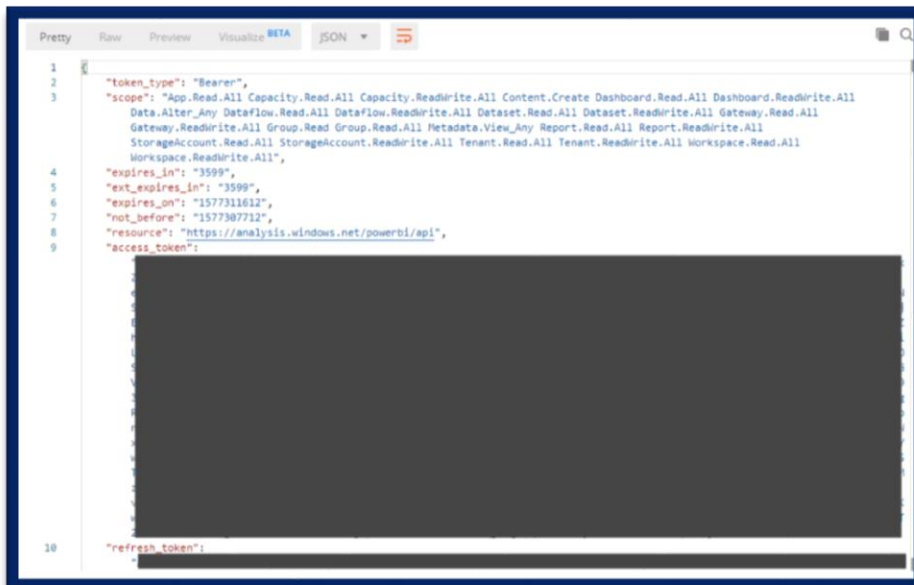
Create a new Request. First create a request to get a Bearer that will use to authenticate with the Power BI API. Select Post method to get access token, paste http in it and write following code in body. Enter following

- Username = email address of Power BI admin account
- Password = password of Power BI admin account
- Client_id = id get at time of registering app in azure
- Client_secret = secret id get at time of registering app in azure





Click on Send. access_token is returned, which will use in next request as the Bearer. Copy it:



Now create a request to the Power BI API. Get a list of Apps in Power BI. Send through the GET request `https://api.powerbi.com/v1.0/myorg/apps`, and in the Headers add an Authorization key, with the value as Bearer <your access token>:

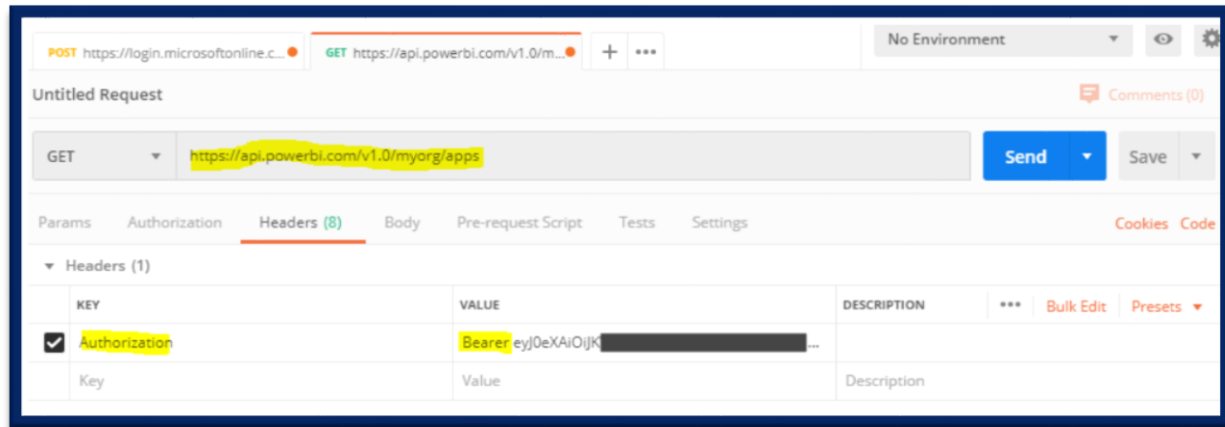
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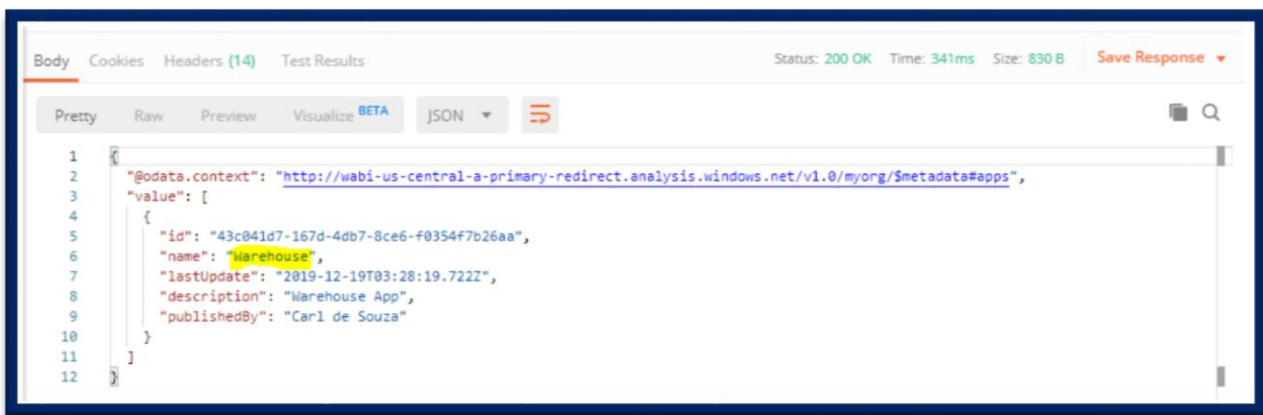
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It will return apps in the response:



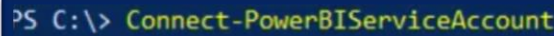
POWERSHELL

The greatest part of using the Power BI Powershell Cmdlets to access the API is how quickly it get started. With the following command, ready to use the API

```
Install-Module -Name MicrosoftPowerBIMgmt
```

Now that the modules are installed, authenticate Powershell session to the API via the following command.

```
Connect-PowerBIServiceAccount
```



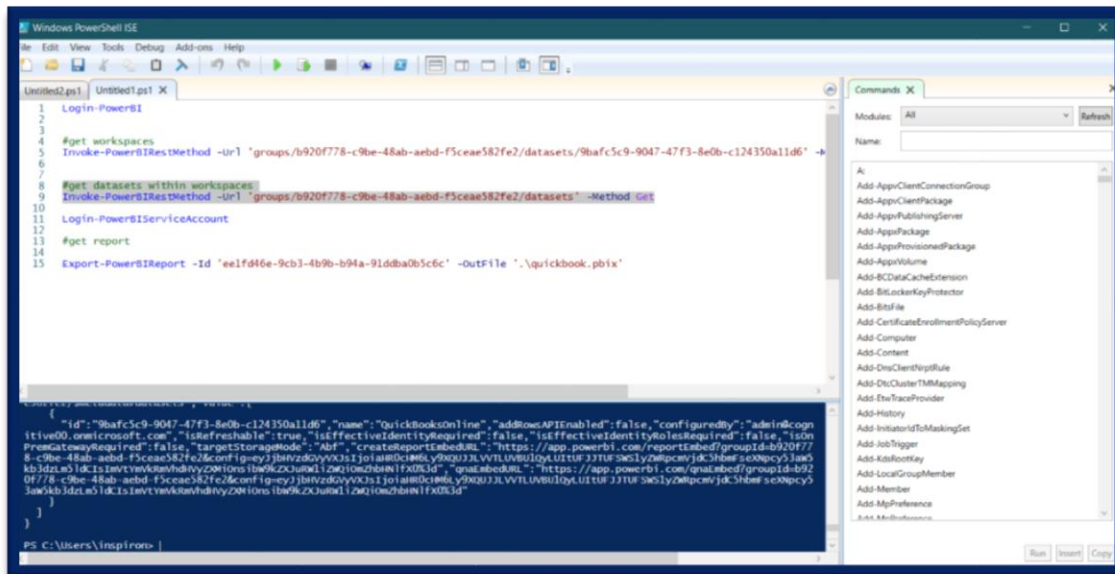
Environment : Public

TenantId : 438c3c79-

```
JserName      : JPries@
```

Enter Commands

- Get workspaces and save in .csv file in working directory
- Get datasets within workspaces and save in .csv file in working directory
- Get report and save in working directory in form of pbix



QUERYING THE POWER BI REST API DIRECTLY (WITH C#)

The first thing to do while querying Power BI rest API with C# is authentication. Authenticate to Azure Active Directory (ADAL) with an interactive login or credentials stored in the application. This performs the authentication and then provides an authentication token string which can then be provided with all subsequent API requests.

Firstly, it is necessary to register application in Azure Active Directory to be able to perform an authentication (as discussed above). It is important to register as a Native app and make a note of the Application ID that is generated.



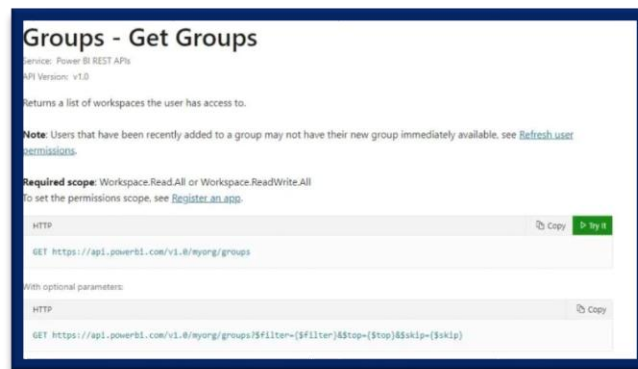
Libraries

For this method, application will require the Microsoft Identity Model Client library, which can be installed in Visual Studio via NuGet.

Install-Package Microsoft.IdentityModel.Clients.ActiveDirectory -Version 5.2.7

Data

After wrangling with authentication and getting a valid authentication token, handling the data is relatively straightforward. The Power BI API Reference is well documented and ever expanding. The reference breaks the available commands into groups with a number of read and write functions typically in each group. To get information about Workspaces, for instance, that can be found in the “Groups” group of the reference The “Get Groups” function will return information for Workspaces in the Power BI Service for which have access.



The HTTP code provided here will use to get workspaces.

```

///
///
/// GetAuthUserLogin Method (Saved Credential)
///
///
/// Reference
public async Task<AuthenticationResult> GetAuthUserLoginSavedCredential()
{
    AuthenticationResult authResult = null;

    PlatformParameters parameters = new PlatformParameters(PromptBehavior.Always);

    try
    {
        // Query Azure AD for an interactive login prompt and subsequent Power BI auth token
        AuthenticationContext authContext = new AuthenticationContext(AuthorityURL);

        UserPasswordCredential userPasswordCredential = new UserPasswordCredential(UserName, Password);
        authResult = await authContext.AcquireTokenAsync(ResourceURL, ApplicationID, userPasswordCredential).ConfigureAwait(false);
    }
    catch (Exception ex)
    {
        Console.WriteLine(" - Error acquiring token with saved credentials.");
        Console.WriteLine(" Usually this is due to an invalid username or password.");
        Console.WriteLine("");
        Console.WriteLine(" Details: " + ex.Message);
    }

    return authResult;
}

```



```

/// -----
///
/// GetAuthToken Method (Interactive and Saved Credential)
///
1 reference
public string GetAuthTokenUser(string authType)
{
    Task<AuthenticationResult> authResult = null;
    string authToken = "";

    Console.WriteLine("- Performing App authentication to request API access token...");
    if (authType == "SavedCredential")
    {
        authResult = GetAuthUserLoginSavedCredential();
        authResult.Wait(); // Wait for the authentication to be attempted
    }
    else
    {
        authResult = GetAuthUserLoginInteractive();
        authResult.Wait(); // Wait for the authentication to be attempted
    }

    // If authentication result received, get the token
    if (authResult != null)
    {
        if (authResult.Result != null)
        {
            authToken = authResult.Result.CreateAuthorizationHeader();
            if (authToken.Substring(0, 6) == "Bearer")
            {
                Console.WriteLine(" - API Authorization token received.");
            }
            else
            {
                Console.WriteLine(" - Unable to retrieve API Authorization token.");
            }
        }
    }
}

```

Firstly authentication of application is done and once authentication credentials have been entered the program sends the "Get Workspaces" command to the Power BI REST API, receives the result JSON file, de-serializes it into individual pieces of data, and outputs the data to the screen.

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```

- Response code received: OK
- De-serializing Workspace Data...
  - Workspaces received: 6

-----

Workspace ID: f7d9abc3-9dfa-4eff-99c7-1995b1cc5bf7
Workspace Name: All Company
Workspace Description:
Capacity ID:
Dataflow Storage ID:
In Dedicated Capacity: False
Lead Only: False
Orphaned: False
WorkspaceState:
WorkspaceType:
.

-----

Workspace ID: 2f0a34f7-2c70-44c0-b7e6-83e6c6bdc663
Workspace Name: Cognitive Convergence
Workspace Description:
Capacity ID:
Dataflow Storage ID:
In Dedicated Capacity: False
Lead Only: False
Orphaned: False
WorkspaceState:
WorkspaceType:

```

COMPARISON BETWEEN DEVELOPMENT PATTERNS

Rest API 'Try it' tool	Postman	PowerShell	Querying Rest API Directly
Try window of Microsoft Provided API list require manual login to get authorization.	Postman Require Access Token from client id and secret id obtain at time of registering app in Azure to get authorization.	PowerShell require to Enter command to manually login into PowerBI to get authorization.	Require Access Token from client id and secret id obtain at time of registering app in Azure to generate request to get authorization.
Try window of Microsoft Provided API list require to click on try and add parameters like group_id/dataset_id etc and run. Success of it gives HTTP request with exact parameters values.	To test any API in Postman select the command type and paste the HTTP than provide require parameters e.g. Group_Id in Body	Command is added with HTTP request with proper parameters and type of method required to execute the command. e.g. GET/POST	Proper code is written to access HTTP request provided with exact parameters and display result.
It gives the details of asked parameters in HTTP request	It gives the details of asked parameters in HTTP request	It gives details of workspace number and also download the workbook or dataset file on working environment depends on the command.	It can perform all the functionalities required to provide by Rest API.

LIMITATIONS OF POWER BI REST API

Power BI Rest API provides amazing features, but it has some of the limitations

- 75 max columns
- 75 max tables
- 10,000 max rows per single POST rows request
- 1,000,000 rows added per hour per dataset
- 5 max pending POST rows requests per dataset
- 120 POST rows requests per minute per dataset
- If table has 250,000 or more rows, 120 POST rows requests per hour per dataset
- 200,000 max rows stored per table in FIFO dataset
- 5,000,000 max rows stored per table in 'none retention policy' dataset
- 4,000 characters per value for string column in POST rows operation

CONCLUSION

In this paper discussed Microsoft Power BI rest API its uses and implementation, access features and capacities, explore the Power BI rest API with their subcategory and examples. Different development patterns of these rest API's which are Power BI REST API with 'Try-it' tool, API in Postman, API in POWERSHELL, QUERYING THE POWER BI REST API DIRECTLY (WITH C#) This paper also discuss comparison among all these Rest API development methods and limitations of Rest APIs.

Cognitive Convergence will provide consulting services that help in designing, deploying, managing, enhancing or troubleshooting on-premises, cloud-based or hybrid Power BI environment. Cognitive Convergence will provide help to start fresh with Power BI to modernize current business analytics solution or revamp existing Power BI deployment by incorporating new data sources or adding new services.

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