

# BI4Dynamics D365FO

## System Requirements and setup

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**Document version: 3.0**

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# 1 Introduction

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The purpose of the document is to provide a list of system requirements and resources that are required for BI4Dynamics installation. In addition to that the document contains information on preparatory procedures that have to be completed ahead of BI4Dynamics application installation – export to DataLake, setup of Azure resources and Power BI Premium.

Once preparatory steps are completed and necessary credentials are provided to BI4Dynamics or installing partner, BI4Dynamics application installation can be started.

## 2 System requirements

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### 1 Dynamics 365 Finance and Operations

Description	Value
Services hostname URL	abccorp-uat.sandbox.operations.dynamics.com
Tenant Id	4893fdsq-554f-84b2-b22c-f2a0111
Client app ID	b6b08c0f-d544-5155-9ert-r4rr79f11de9
Client secret key	_w_Aw_aCR0ce3kSa4S5RZx_aQ.r23a215Ci
Username	bi4dynamics@abccorp.com
Password	37#ie\$2l1&

Access to Dynamics 365 Finance and Operations is required for getting metadata and financial services. D365 FO credentials are only needed when creating a new instance, password stays encrypted.

### 2 Azure resources

#### 1 Azure credentials

- Azure Portal credentials:

Description	Value
Username (AAS admin)	<a href="mailto:bi4dynamics@companyname.com">bi4dynamics@companyname.com</a>
Password	Qpewoicsj490wkss

- Resource group **Contributor**

Access to Azure Portal is required to start and stop VM, change its properties or create logic apps for scheduled processing.

#### 2 Azure Storage

Description	Value
Subscription	Pay-As-You-Go
Resource Group	vm-bi4-demo

Azure Storage Account Name	vmbi4demostorage
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Permissions: user is Contributor and Storage Blob data Contributor.

Azure Storage Account stores data loaded from Dynamics 365 FO and acts as a source of Datawarehouse when creating new instance with BI4Dynamics application.

### 3 Azure Synapse Serverless

Description	Value
Serverless SQL endpoint	bi4dynamicsuat-ondemand.sql.azuresynapse.net
SQL admin username	sqladminuser
SQL admin password	Klrhvirehfqh33urf

Permissions: AAD user (!) must be **Synapse administrator** on Synapse workspace.

The user that has created Azure Synapse, automatically receives admin permissions.

Azure Synapse Analytics is used to read data from Data Lake storage and insert data to BI4Dynamics data warehouse.

### 3 Data warehouse

Depending on availability of computing capacities, BI4Dynamics application can be installed either on-premises or on Azure VM specially dedicated to the datawarehouse.

#### 1 Azure VM option

- RDP connection credentials:

Description	Value
RDP Public IP	51.132.66.72
SQL server name (as seen in Azure)	vm-bi4-demo.westeurope.cloudapp.azure.com
VM Admin Account	vm-admin-user
VM Admin Account Password	6!dJ2yS34MbbQiPHs@rd

Permissions: this user is administrator (default).

- SQL 2019 Standard edition or greater with SSIS

#### 2 On-Premises option

- RDP connection credentials

Description	Value
RDP Public IP	51.132.66.72
VM Admin Account	bi-user
VM Admin Account Password	Ehgfwhrefuhwi4ehrf

- SQL 2019 Standard edition or greater with SQL database, SSAS Tabular and SSIS.
- Instructions for VPN connection (if needed).

## 4 Analytics

### 1 Azure Analysis Services option

Description	Value
Azure Analysis Services	asazure://westeurope.asazure.windows.net/bi4dynamicshybrid
Username (AAS admin)	<a href="mailto:mg@bi4dynamics.com">mg@bi4dynamics.com</a>
Password	Qpewoicsj490wkss

Azure Analysis Services is an easily-scalable solution for deploying analytics in the cloud. It is best suitable for larger organizations. Azure Analysis Services is charged per capacity.

### 2 Power BI Premium option

Description	Value
Power BI user login	pa@abccorp.com
Power BI user password	Ehgfwegvrf
Workspace connection:	powerbi://api.powerbi.com/v1.0/myorg/BI4Dynamics%20PPU%20Prod

Power BI users must have Premium license, which costs 20\$ per month/per user.

Power BI Premium option is currently the most innovative solution for deploying analytics. Power BI Premium Per User is most suitable for relatively small organizations with few BI users.

### 3 On-premises analytics option

- SQL 2019 Standard edition or greater, Tabular model

Best suitable when installing BI4Dynamics application on local servers – allows to save on costs by utilizing in-house excess computing capacities.

## 3 Environment set-up

The following chapter provides instructions on preparatory steps that have to be done in Dynamics Finance & Operations, Azure Portal and Power BI Portal (in case analytics are implemented with Power BI Premium option).

### 1 Select DFO tables for Export to DataLake

In your Finance and Operations, go to **System Administration > Setup > Export to Data Lake**.

On the **Export to Data Lake** page, under **Choose Tables** tab, select tables that will be loaded to DataLake (the list is provided by BI4Dynamics).

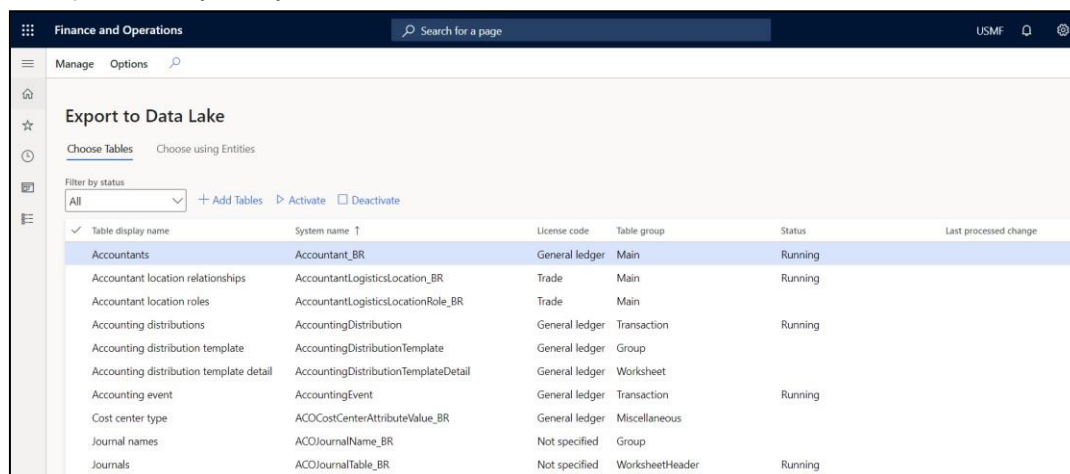


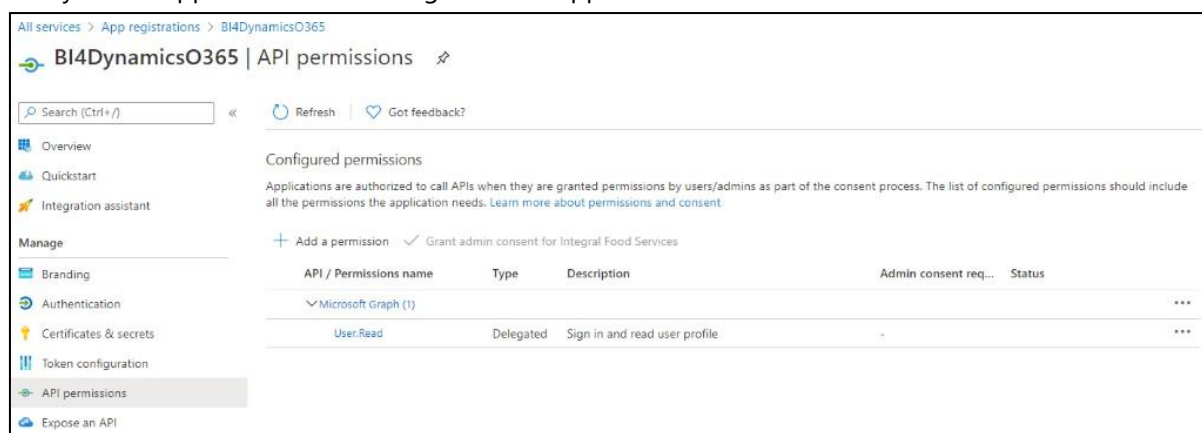
Table display name	System name	License code	Table group	Status	Last processed change
Accountants	Accountant_BR	General ledger	Main	Running	
Accountant location relationships	AccountantLogisticsLocation_BR	Trade	Main	Running	
Accountant location roles	AccountantLogisticsLocationRole_BR	Trade	Main		
Accounting distributions	AccountingDistribution	General ledger	Transaction	Running	
Accounting distribution template	AccountingDistributionTemplate	General ledger	Group		
Accounting distribution template detail	AccountingDistributionTemplateDetail	General ledger	Worksheet		
Accounting event	AccountingEvent	General ledger	Transaction	Running	
Cost center type	ACOCostCenterAttributeValue_BR	General ledger	Miscellaneous		
Journal names	ACOJournalName_BR	Not specified	Group		
Journals	ACOJournalTable_BR	Not specified	WorksheetHeader	Running	

When you've finished, select **Add Tables** to add the selected tables to Data Lake.

## 2 Register BI4Dynamics as application

### 1 Register BI4Dynamics as application in Azure portal

BI4Dynamics application must be registered as application in Azure tenant:



All services > App registrations > BI4DynamicsO365

BI4DynamicsO365 | API permissions

Search (Ctrl+/) Refresh Got feedback?

Overview Quickstart Integration assistant

Manage Branding Authentication Certificates & secrets Token configuration API permissions Expose an API

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 Integral Food Services

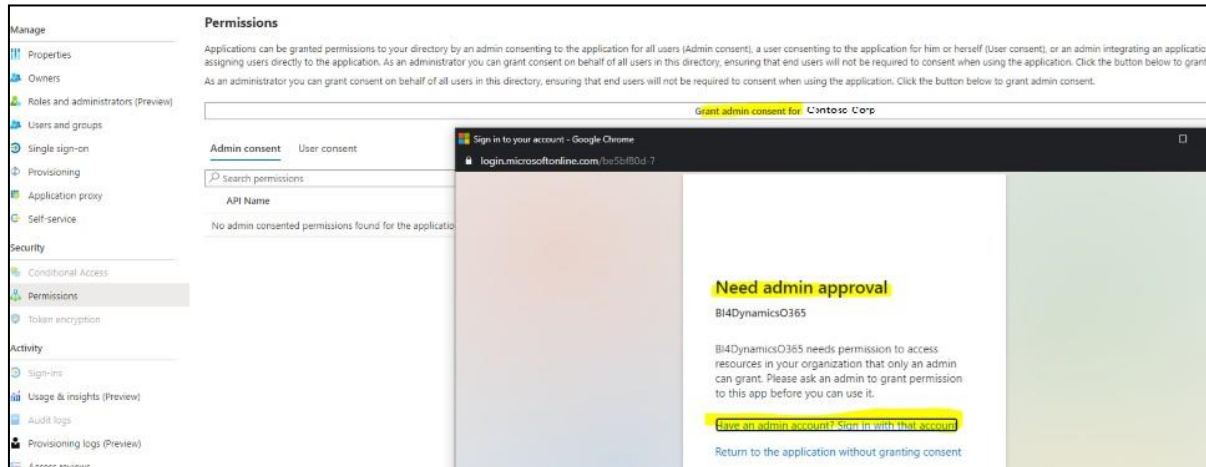
API / Permissions name	Type	Description	Admin consent req...	Status
Microsoft Graph (1)				...
User.Read	Delegated	Sign in and read user profile	-	...

### 2 Grant tenant-wide admin consent to an application

Grant admin consent in App registration:

1. **Sign-in** to the Azure portal as a Global, Application or Cloud Application Administrator.

2. Select **Azure Active Directory** then **App registrations**.
3. Select the application to which you want to grant tenant-wide admin consent.
4. Select **API permissions** and then click **Grant admin consent**.
5. Carefully review the permissions the application requires.
6. If you agree with the permissions the application requires, grant consent. If not, click **Cancel** or close the window.



### 3 Register your external application in DFO

1. In Finance and Operations apps, go to **System administration > Setup > Azure Active Directory applications**.
2. Select **New**.
3. Fill in the fields for the new record:
  - In the **Client Id** field, enter the application ID that you registered in Azure AD.
  - In the **Name** field, enter a name for the application.
  - In the **User ID** field, select an appropriate service account user ID. For this example, we have selected the **Admin** user. However, as a better practice, you should provision a dedicated service account that has the correct permissions for the operations that must be performed.

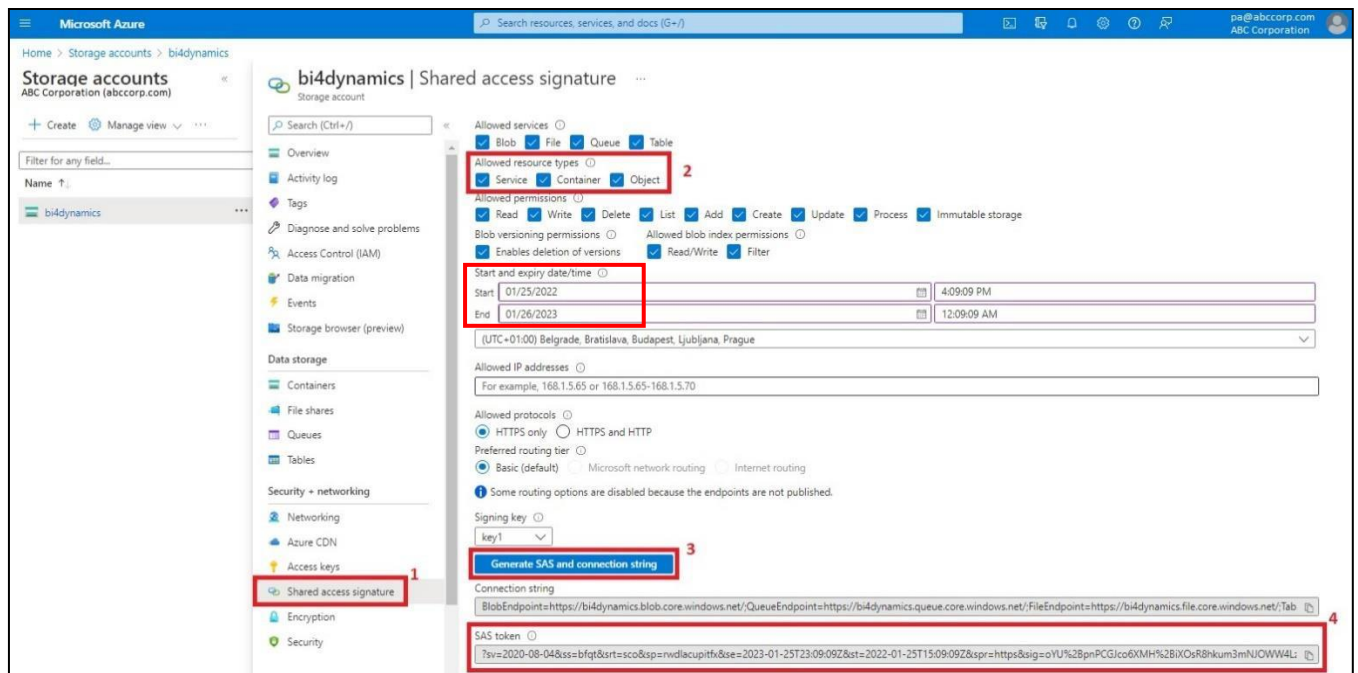
When you've finished, select **Save**.



### 3 Setup Azure Synapse

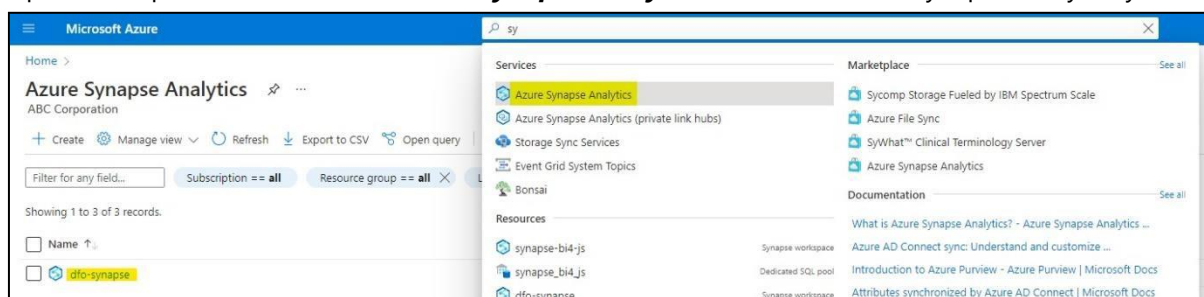
#### 1 Setup Azure Synapse in Azure portal

1. In storage account navigate to **Shared access signature** from the menu on the left.
2. Select all three options under Allowed resource types.
3. Select Start and Expiry date (usually 1 year)
4. Press Generate SAS and connection string.
5. Copy SAS token value.



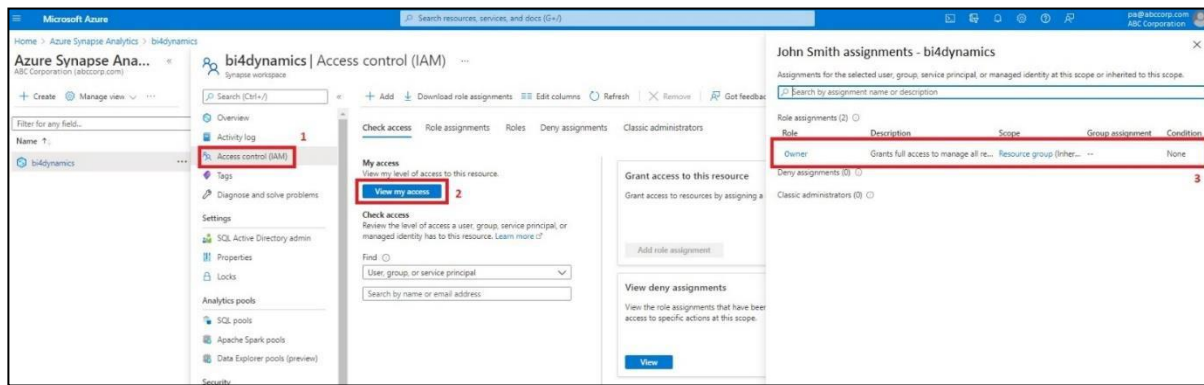
#### 2 Setup and check permissions

Open Azure portal and search for **Azure Synapse Analytics**. Select the Azure Synapse Analytics you are using.



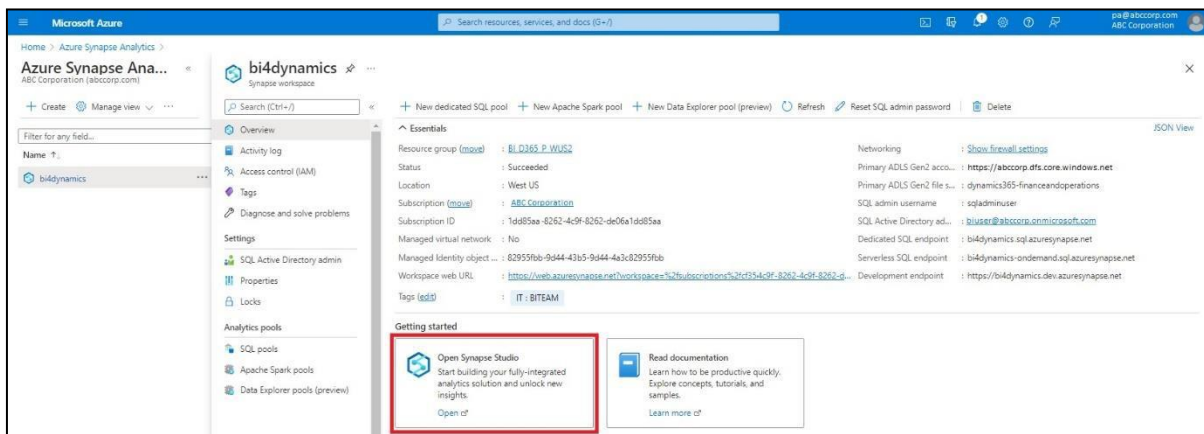
Select **Access control (IAM)** from the menu on left. Press **View my access** button and make sure you have **Owner** resource role.



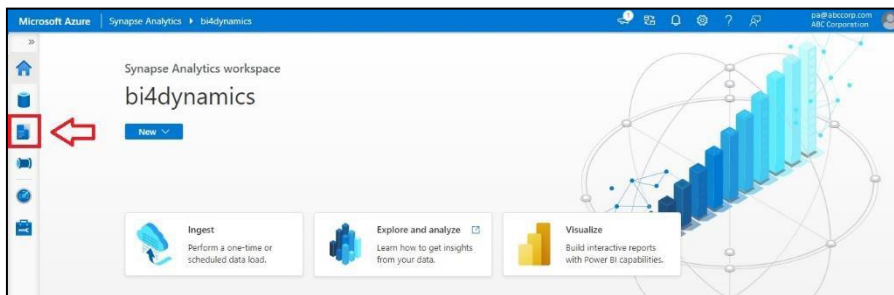


### 3 Setup Azure Synapse in Synapse Studio

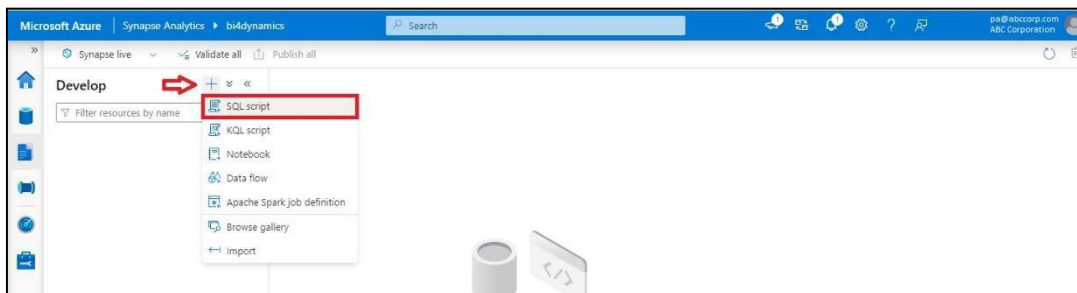
Come back to **Overview** tab of Synapse Analytics and **Open Synapse Studio**.



Navigate to **Develop** tab.



Press + and select **SQL script** from the pop-up menu.



## 4 Prerare script for assigning credentials

Prepare script with shared access signature, paste it into the newly opened query, edit it accordingly and click **Run**.

### SQL script template

```
CREATE CREDENTIAL [https://@storageAccount.dfs.core.windows.net/@containerName] WITH IDENTITY = 'SHARED ACCESS SIGNATURE', SECRET = '@SAS Token'
```

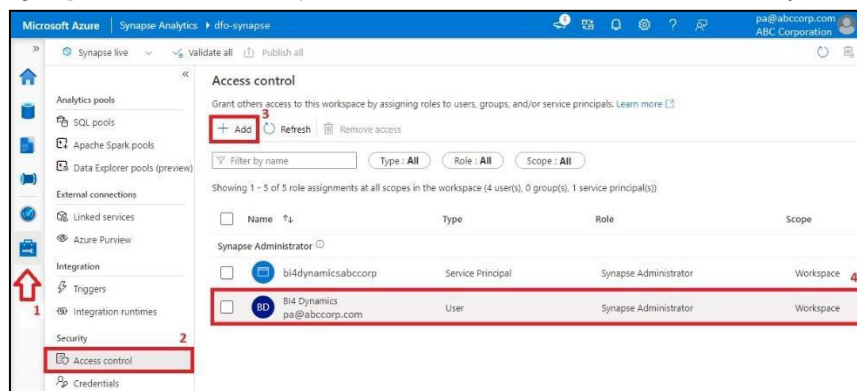
Replace parameters with real values:

Parameter	Description	Value (example)
@storageAccount	Name of the storage account	bi4dynamicsuat
@containerName	Container name	dynamics365-financeandoperations
@SAS Token	Value you have generated in previous steps; <b>delete the first character in token string "?"</b>	sv=2020-08-04&ss=bfqt&srt=sco&sp=rwldacupx&se=2022-02-01T21:33:14Z&st=2023-02-01T13:33:14Z&spr=https&sig=KS%2ULInU%3D

### Prepared SQL script (example):

```
CREATE CREDENTIAL [https://bi4dynamicsuat.dfs.core.windows.net/dynamics365-financeandoperations] WITH IDENTITY = 'SHARED ACCESS SIGNATURE', SECRET = 'sv=2020-08-04&ss=bfqt&srt=sco&sp=rwldacupx&se=2022-02-01T21:33:14Z&st=2023-02-01T13:33:14Z&spr=https&sig=KS%2ULInU%3D'
```

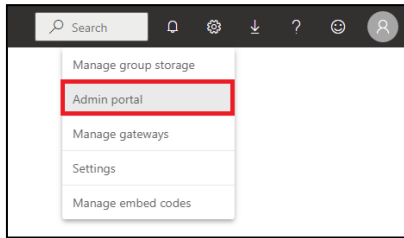
Navigate to **Manage** tab. Select **Access control** tab from the menu on the left. Press **Add** button and grant **Synapse Administrator** permissions to the user that will be used by BI4Dynamics application.



## 4 Setup Power BI service

- XMLA setting set to read/write (set to read by default).

Open Power BI Portal, navigate to **Settings** and select **Admin portal**.



Go to **Premium Per User** tab, set XMLA Endpoint to **Read Write** (default is Read) and **Apply**.

