

# MS Exchange Server

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## Introduction

This guide will take you through the steps of deploying and configuring Enterprise Dashboards for Microsoft Exchange Server. Dashboard will contain state and performance information about Exchange Server Components monitored in System Center Operations Manager

## Getting Started

There are actions must be done before creating and deploy System Center Enterprise Dashboard and steps you must take to properly deploy it.

## Prerequisites

Before you start you must make sure you have the following prerequisites:

1. Power BI Reporting Service
2. Operations Manager 2012 R2, 2016 or 2019
3. Operations Manager Environment is healthy and does not suffer from performance issues.
4. Service Account to access databases
5. Download and import latest Microsoft Exchange Server Management Pack
6. Import Windows Servers Core OS Dashboard as some components depends on it.

## Microsoft Exchange Server Dashboard Deployment

Use the following steps to deploy Dashboard.

## Step 1: Import Exchange Queue and Mail flow Management Pack

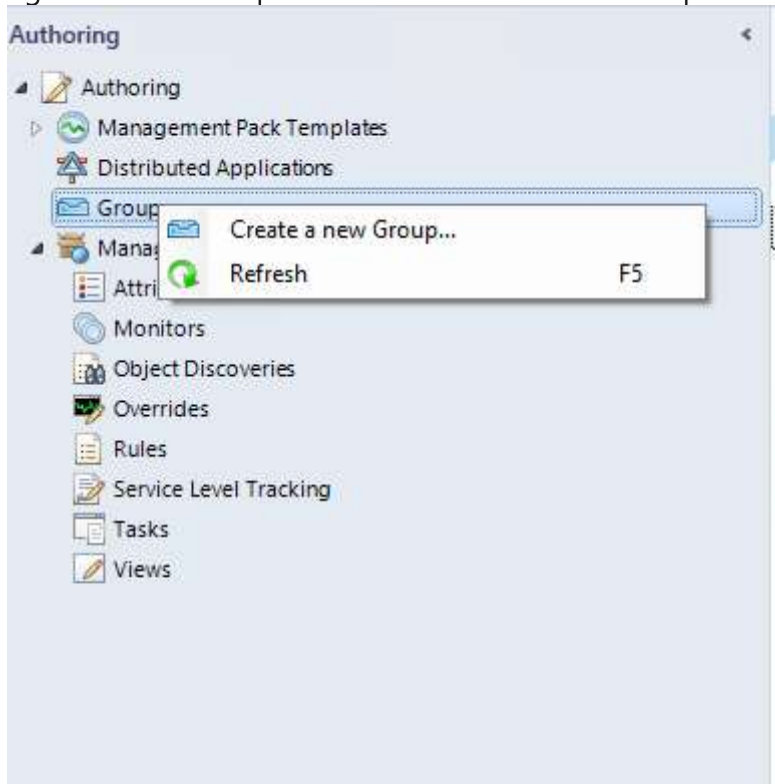
This Management Pack will add new rule in SCOM to collect Exchange Mail Flow (Mails Sent/Received). This is essential part of exchange dashboard. please download and import to SCOM below Management Pack

[EnterpriseDashboard.Exchange.Queue.Monitoring.zip](#)

## Step 2: Create Dashboard Group


Enterprise Dashboards scope is defined based on Operations Manager Group for each workload, for Microsoft Exchange Server Dashboard the scope group name is **EX Dashboard Group**.


1. Open SCOM Console, browse to Authoring --> Groups
2. right Click on Groups and select Create a new Group



3. In Create Group Wizard, Type Group name "**EX Dashboard Group**" and in Management Pack destination, click on **New**. Create New management pack to save this group. click **Next** and in Knowledge Page click

## Create

 Create Group Wizard ✕

 Enter a name and description for the new group.

General Properties

Explicit Members

Dynamic Members

Subgroups

Excluded Members

Enter a friendly name and description

Name:

Description:

Management pack

Select destination management pack:

▼ New...

< Previous Next > Create Cancel

4. Verify Dashboard name and click **Next**

## 5. On Explicit Members page, Click **Next**

The screenshot shows the 'Create Group Wizard' dialog box, specifically the 'Explicit Members' page. The title bar reads 'Create Group Wizard'. The main header area says 'Choose Members from a List'. On the left, a sidebar lists the wizard steps: 'General Properties', 'Explicit Members' (which is selected and highlighted in blue), 'Dynamic Members', 'Subgroups', and 'Excluded Members'. The main content area is titled 'Explicit Group Members (optional)' and contains the instruction 'Choose specific objects that will be members of this group.' Below this is a button labeled 'Add/Remove Objects...'. A table titled 'Group members:' is present, with columns for 'Name', 'Path', and 'Full Name'. The table is currently empty. In the top right corner of the main area is a 'Help' icon. At the bottom right, there are four buttons: '< Previous', 'Next >', 'Create', and 'Cancel'.

Create Group Wizard

Choose Members from a List

General Properties  
Explicit Members  
Dynamic Members  
Subgroups  
Excluded Members

Help

**Explicit Group Members (optional)**

Choose specific objects that will be members of this group.

Add/Remove Objects...

Group members:

Name	Path	Full Name
------	------	-----------

< Previous   Next >   Create   Cancel

6. On Dynamic Members page, Click on **Create/Edit rules**

Create Group Wizard

Create a Membership Formula

General Properties

Explicit Members

**Dynamic Members**

Subgroups

Excluded Members

**Dynamic Inclusion Rules (optional)**

Use a formula to populate group membership.

Create/Edit rules...

Query formula:

< Previous   Next >   Create   Cancel

Help

7. Add Following Classes by selecting **class name** and then **Insert**

- Exchange 2013 Customer Touch Point
- Exchange 2013 Key Dependency
- Exchange 2013 Organization
- Exchange 2013 Server
- Exchange 2013 Server Resource
- Exchange 2013 Service Component
- Exchange 2013 Service Perspective
- Exchange 2013 Windows Service

Then Click **Ok**

8. Check Query formula written and click **Ok**

EX Dashboard Group Properties

General Explicit Members **Dynamic Members** Subgroups Excluded Members Product Knowledge Overrides

**Dynamic Inclusion Rules (optional)**

Use a formula to populate group membership.

Create/Edit rules...

Query formula:

( ( Object is Exchange 2013 Customer Touch Point AND True ) OR ( Object is Exchange 2013 Key Dependency AND True ) OR ( Object is Exchange 2013 Organization AND True ) OR ( Object is Exchange 2013 Server AND True ) OR ( Object is Exchange 2013 Server Resource AND True ) OR ( Object is Exchange 2013 Service Component AND True ) OR ( Object is Exchange 2013 Service Perspective AND True ) OR ( Object is Exchange 2013 Windows Service AND True ) )

OK Cancel Apply

9. Find the Group created, right click on it and select **View Group Members**

10. Confirm Group members includes all objects that were mentioned in dynamic rules.

### Step 3: Modify Sync Rule

Enterprise Dashboards sync rule need to be modified to include new group created. the sync rule later, will start populating group members state information to EnterpriseDashbaord Database. follow below steps to add group to Sync Rule



1. Open SCOM Console, browse to **Authoring** Tab and **select Management Pack Objects --> Rules**

The screenshot shows the SCOM Authoring console. On the left, the 'Authoring' tree is expanded to 'Rules'. The main pane displays a list of rules under the heading 'Rules (22)'. The 'Maintenance Mode' rule is selected. Below the list, the 'Rule details' section shows the 'Maintenance Mode' rule's properties.

Name	Inherited from	Management Pack	Created	Enabled by default
<b>Type: All Management Servers Resource Pool (22)</b>				
Health Service Modules Alert Subscription DataSource M...	All Management Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
Agent Initiated Maintenance Mode Event Process Rule	All Management Servers ...	System Center Core Monitoring	11/5/2019 10:27:58 ...	Yes
<b>Maintenance Mode</b>	<b>All Management Servers ...</b>	<b>System Center Internal Library</b>	<b>3/20/2019 1:04:30 P...</b>	<b>Yes</b>
MSDashboards Unified Sync Engine for Multiple Groups	All Management Servers ...	Enterprise Dashboards Sync Rules MP	4/1/2019 1:14:17 PM	No
An alert subscription has been automatically disabled du...	All Management Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
New Management Pack Available	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Health Service Modules Alert Subscription DataSource M...	All Management Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
Discovery Data Grooming	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Partitioning and Grooming	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Alert Auto Resolve Execute All	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Collect Agent Health States	All Management Servers ...	Microsoft SystemCenter OperationsM...	3/20/2019 1:07:30 P...	Yes
An exception occurred processing a group membership r...	All Management Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	No
Detect and Fix Object Space Inconsistencies	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Transfer Events	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Optimize Indexes	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Collect Management Group Active Alerts Count	All Management Servers ...	Microsoft SystemCenter OperationsM...	3/20/2019 1:07:30 P...	Yes
Health Service Modules Alert Subscription DataSource M...	All Management Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
System Center Generate Pool Heartbeat	Management Service Pool	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
Resource Pool Watcher Heartbeat On Demand Error Date	All Management Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes

**Rule details:**

**Maintenance Mode**

Management Pack: System Center Internal Library

Rule Description: System rule that updates maintenance mode data.

2. Change Scope to be **All Management Servers Resource Pool** and then click **Ok**

The screenshot shows the SCOM Authoring console with the 'Maintenance Mode' rule selected. A 'Scope Management Pack Objects' dialog box is open, allowing the user to select the target for the rule. The 'Look for' field is set to 'all management'. The 'View all targets' radio button is selected. The list shows two targets: 'All Management Servers Resource Pool' and 'All Management Servers Resource Pool', both selected.

**Scope Management Pack Objects**

Select the class, group, or object that you want to target from the list below. You can also filter or sort the list to make items easier to find.

Look for: all management

☐ View common targets

☒ View all targets

Target	Management Pack	Description
<input checked="" type="checkbox"/> All Management Servers Resource Pool	System Center Core Library	A pool which contains all mana
<input checked="" type="checkbox"/> All Management Servers Resource Pool	System Center Core Library	Group hosting all of the watch

1930 total Targets, 2 visible, 2 selected

3. Right click on **MSDashboards Unified Sync Engine for Multiple Groups** and select **Overrides --> Override the Rule --> For All objects of class: All Management Servers Resource Pool**

Name	Inherited from	Management Pack	Created	Enabled by default
Type: All Management Servers Resource Pool (22)				
Health Service Modules Alert Subscription DataSource M...	All Management Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
Agent Initiated Maintenance Mode Event Process Rule	All Management Servers ...	System Center Core Monitoring	11/5/2019 10:27:58 ...	Yes
Maintenance Mode	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
MSDashboards Unified Sync Engine for Multiple Groups	All Management Servers ...	Enterprise Dashboards Sync Rules MP	4/1/2019 1:14:17 PM	No
An alert subscription has been automatical	Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
New Management Pack Available	Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Health Service Modules Alert Subscription	Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
Discovery Data Grooming	Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Partitioning and Grooming	Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Alert Auto Resolve Execute All	Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Collect Agent Health States	Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
An exception occurred processing a group	Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Detect and Fix Object Space Inconsistencies	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Transfer Events	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Optimize Indexes	All Management Servers ...	System Center Internal Library	3/20/2019 1:04:30 P...	Yes
Collect Management Group Active Alerts Count	All Management Servers ...	Microsoft SystemCenter OperationsM...	3/20/2019 1:07:30 P...	Yes
Health Service Modules Alert Subscription DataSource M...	All Management Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
System Center Generate Pool Heartbeat	Management Service Pool	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes
Resource Pool Watcher Heartbeat On Demand Error Data	All Management Servers ...	System Center Core Monitoring	3/20/2019 1:04:41 P...	Yes

4. In Override Rule properties, Ensure the following overrides enabled:
- Enabled** = True
  - GroupList** includes "EX Dashboard Group"
  - SQLServer** = <SQL Instance hosting EnterpriseDashboards Database>

Override Properties

Rule name:

MSDashboards Unified Sync Engine for Multiple Groups

Category:

Custom

Overrides target:

Class: All Management Servers Resource Pool

Show Rule Properties...

Override-controlled parameters:

Override	Parameter Name	Parameter Type	Default Value	Override Value	Effective Value	Change Status	Enforced
<input checked="" type="checkbox"/>	Enabled	Boolean	False	True	True	[No change]	
<input type="checkbox"/>	GetAlerts	Boolean	True	True	True	[No change]	
<input type="checkbox"/>	GetMonitorTree	Boolean	False	False	False	[No change]	
<input type="checkbox"/>	GroupList	String	Group 1, Gro...	AD Dashboard Group; Windows Dashboard Group; SQL Dashboard Group; EX Dashboard Group; Citrix Dashboard ...	AD Dashboard...	[No change]	
<input type="checkbox"/>	Interval Seconds	Integer	300	300	300	[No change]	
<input type="checkbox"/>	Logging	Boolean	False	False	False	[No change]	
<input type="checkbox"/>	Mode	String	Rule	Rule	Rule	[No change]	
<input type="checkbox"/>	SQLDBName	String	EnterpriseD...	EnterpriseDashboards	EnterpriseDas...	[No change]	
<input type="checkbox"/>	SQLServer	String	SQL-SQL1602	SQL-SQL1602	SQL-SQL1602	[No change]	

Details:

Enabled

The custom override for this parameter is defined in 'Enterprise Dashboards Rule Overrides'.

The effective value is set:

- as a preferred value
- on the current target
- by the custom override in 'Enterprise Dashboards Rule Overrides'

Description

Management pack

Select destination management pack:

<Select Management Pack>

New...

Help

OK

Apply

Cancel

5. Click on **Ok**

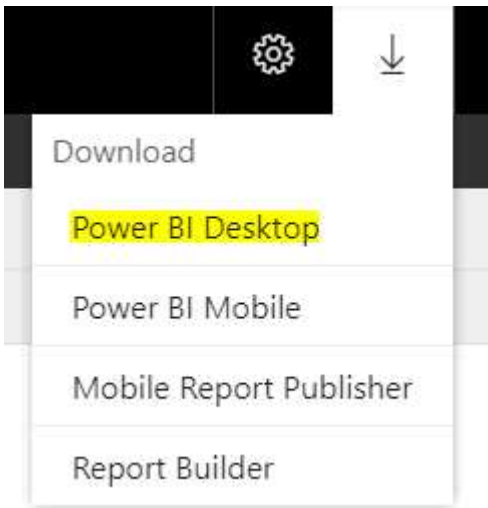
## Step 4: Confirm Group populates information to EnterpriseDashboard Database

- Using SQL Management Studio, Open EnterpriseDashboard Database and exand Tables.
- Check if [dbo].[EXDashboardGroup\_Statedata] table is created.
- Right click on the table and click on Select Top 1000 Rows. confirm results.

## Step 5: Import Dashboard Template File

Following steps need to be applied on your desktop or Report server. make sure you have Power BI desktop installed (RS Version). you can download it from Power BI Report Server if you have required permissions.





1. Download MS Exchange Power BI Template  
[MS Exchange Dashboard.zip](#)
2. Open Template file
3. Insert required parameters then click Loadnotes

×

## Windows Servers Dashboard

System Center Enterprise Dashbaords - Windows Server Core OS

SCED\_Server ⓘ

SCED\_DB ⓘ

OMDW\_Server ⓘ

OMDW\_DB ⓘ

Language

SCOM\_WebConsole ⓘ

Load ▾

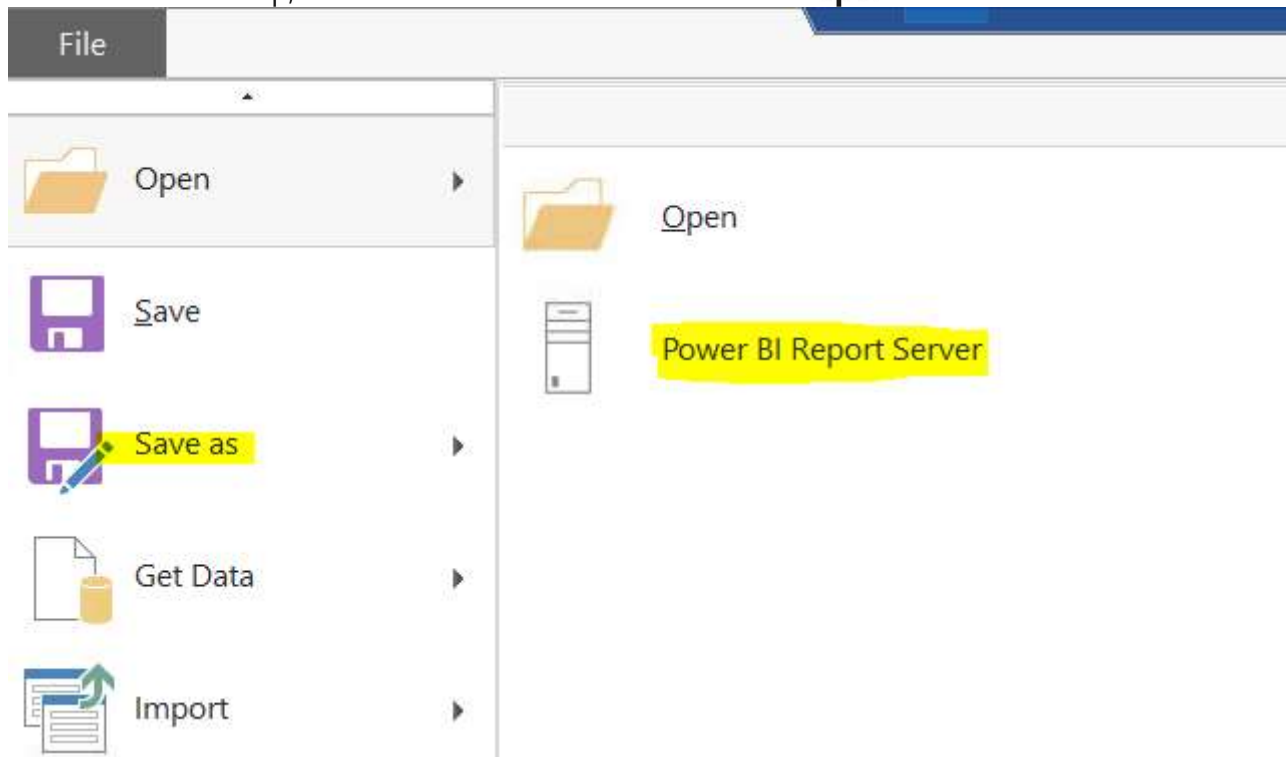
Cancel

4. Dashboard will start connecting to Operations Manager Databases and load required information to build visualizations
5. Finally, you will have the dashboard running

## Step 6: Save Dashboard to Power BI Report Server

Once the dashboard is ready to be published, follow below steps.

1. On Power BI Desktop, select **File** --> **Save As** --> **Power BI Report Server**



2. Select or Type in Power BI Report Server Name and click **Ok**

### Power BI Report Server Selection

Choose the report server you would like to open your report from. You can select from the recent report server list or enter a new report server address.

Recent report servers

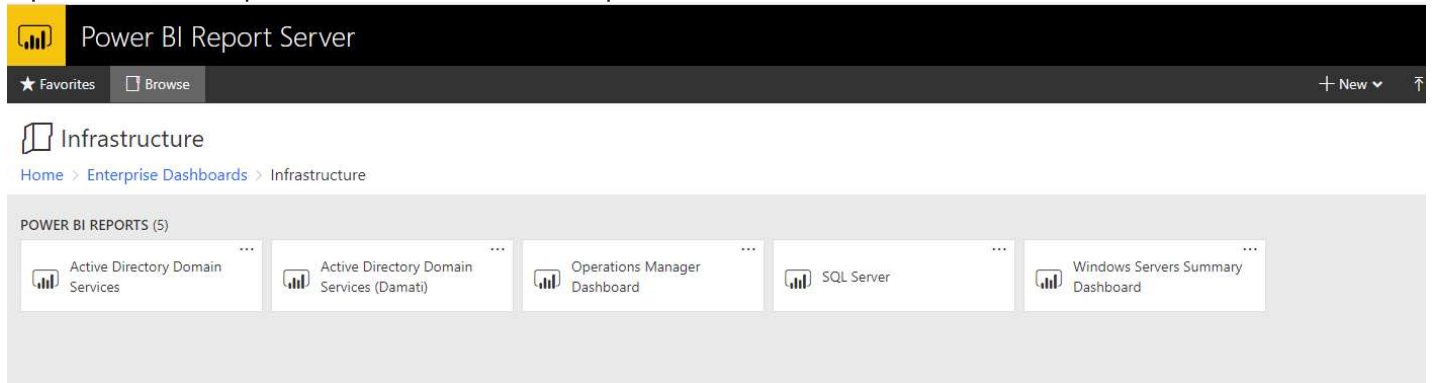
  

New report server address (Example: <http://reportserver/reports> or <https://reportserver/reports>)

OK

Cancel

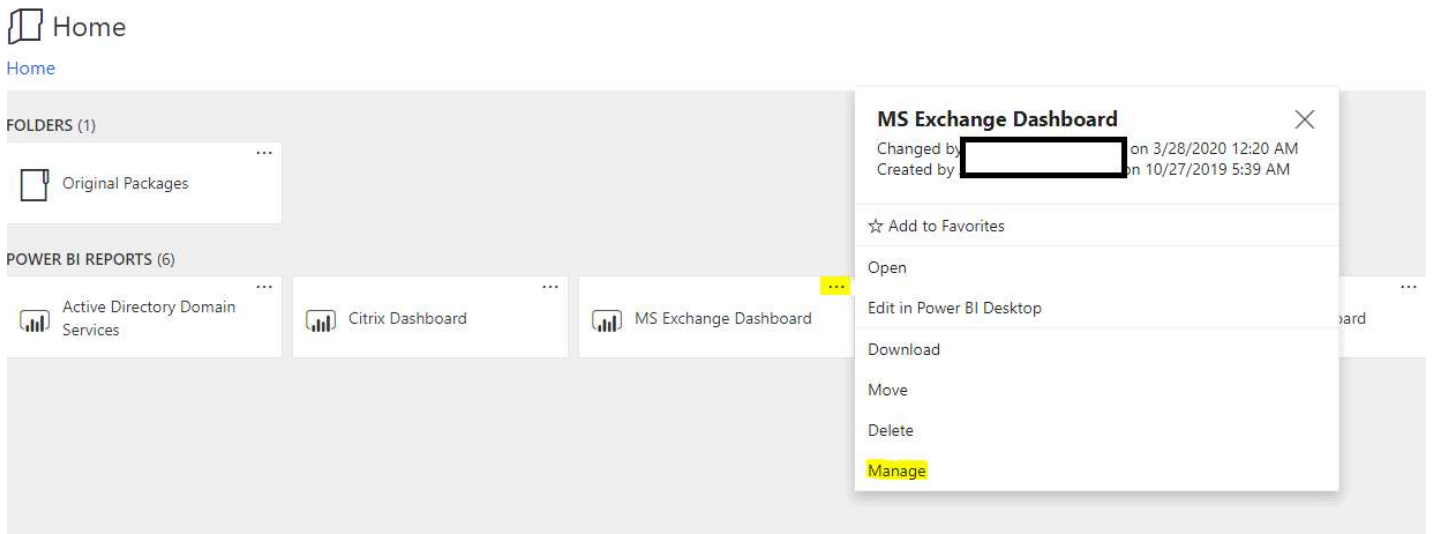
### 3. Open Power BI Report Server URL and Select published Dashboard



### Step 7: Configure Data Source Settings

Data Sources does not have the real time information as it need to be configured after we published the dashboards. to do that, follow below steps:

- 1. On Power BI Report Server Web URL, Browse to Dashboard file location [DON'T OPEN IT].
- 2. On the file corner, click on "... " and select Manage



- 3. In Manage Tab, Select Data Sources

4. Type required credentials to connect to EnterpriseDashboards DB and click Test to verify connectivity

Properties

**Data sources**

Scheduled refresh

Row-level security

**Security**

**Data Source 1:**

**Connection**

Type

SQL

Connection string [Learn more](#)

damatisql\scom;EnterpriseDashboards

**Credentials**

Log into the data source

Authentication Type

Windows Authentication


User name

daMATImAN\OMaDMIN

Password

.....

**Test connection**

 Connected successfully

5. scroll down and do the same for OperationsManagerDW Database.

**Data Source 2:**

**Connection**

Type: SQL

Connection string: [Learn more](#)  
damatisql\scom;OperationsManagerDW

**Credentials**

Log into the data source

Authentication Type: Windows Authentication

User name: daMATImAN\OMaDMIN

Password: .....

**Test connection** Connected successfully

**Save** **Cancel**

6. Confirm Test Connection is successful and click **Save**