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# System Center Operations Manager

## **Guide to Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode)**

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Microsoft Corporation

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The Operations Manager team encourages you to provide any feedback on the management pack by sending it to [sqlmpsfeedback@microsoft.com](mailto:sqlmpsfeedback@microsoft.com).

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# Guide to Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode)

This guide is based on version 7.0.17.0 of Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode).

## Changes History

Release Date	Changes
June 2019 (version 7.0.17.0 RTM)	<ul style="list-style-type: none"><li>• MP was prepared for public release</li></ul>
June 2019 (version 7.0.16.0 CTP)	<ul style="list-style-type: none"><li>• Updated monitoring of Memory Consumption and CPU Usage in order to collect performance data for all subprocesses in addition to the main SSRS service process.</li><li>• Updated monitors "Report manager accessible" and "Web service accessible" to consider specifics in how appropriate SSRS 2016 web services work</li><li>• Added support for cases when connection string to SSRS Database is set up the way different from "MachineName\InstanceName" (e.g., &lt;IPAddress,Port&gt;) and SSRS Database is in Availability Group or hosted either by named instance or SQL Cluster instance</li><li>• Improved descriptions of events thrown by management pack to make it easier to figure out error reason</li><li>• Improved error handling and error descriptions for cases when workflows can't get responses from WMI</li><li>• Improved error handling in workflows that watch for memory consumption</li><li>• Fixed Start/Stop tasks</li><li>• Fixed issue that caused some workflows to throw error events when SQL Server instance hosting SSRS Databases happened to stop operating or refuse connections</li><li>• Fixed issue which caused Reporting Service instance to get undiscovered when WMI didn't respond to calls</li><li>• Updated display strings</li></ul>
June 2018 (version 7.0.7.0 RTM)	<ul style="list-style-type: none"><li>• Updated the Visualization Library</li></ul>
June 2018 (version 7.0.6.0 CTP)	<ul style="list-style-type: none"><li>• Added support for cases when a connection string of the SSRS instance to the SSRS Database is not in the "MachineName\InstanceName" format; e.g. "&lt;IP Address&gt;, &lt;Port Number&gt;" or "(local)", etc. Such connection strings are fully</li></ul>

Release Date	Changes
	<p>supported for default SQL Server instances hosting the SSRS Database. If the instance is named, workflows targeted at the SSRS Instance object work properly, but those targeted at the Deployment object cannot work, as there is no possibility to learn the FQDN of the server.</p> <ul style="list-style-type: none"> <li>Updated the Deployment Seed discovery so that it does not check if the SQL Server instance hosting the SSRS Database is running</li> </ul>
June 2017 (version 6.7.31.0 RTM)	<ul style="list-style-type: none"> <li>Re-implemented Instance seed discovery: replaced the managed module with a PowerShell script</li> <li>Re-implemented Deployment seed discovery: added a retry policy and improved error handling</li> <li>Updated the visualization library</li> </ul>
December 2016 (version 6.7.15.0 RTM)	<ul style="list-style-type: none"> <li>Added support for configurations where computer host names are longer than 15 symbols</li> <li>Fixed: Web Service monitors do not support URL reservation <code>https://+:&lt;port&gt;/&lt;ReportServerPage&gt;</code> (protocol is HTTPS)</li> <li>Updated the visualization library</li> </ul>
June 2016	<ul style="list-style-type: none"> <li>Updated the visualization library</li> <li>Run As profiles are now presented in GPMP library and ready to become generic profiles for all SQL Server MPs starting with 2016</li> </ul>
March 2016	The original release of this management pack

## Get Started

In this section:

- [Supported Configurations](#)
- [Management Pack Scope](#)
- [Prerequisites](#)
- [Mandatory Configuration](#)

## Supported Configurations

This management pack is designed for the following versions of System Center Operations Manager:

- System Center Operations Manager 2012 (Except Dashboards)
- System Center Operations Manager 2012 SP1
- System Center Operations Manager 2012 R2
- System Center Operations Manager 2016
- System Center Operations Manager 1801

- System Center Operations Manager 1807
- System Center Operations Manager 2019

A dedicated Operations Manager management group is not required for this management pack.

The following table details the supported configurations for Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode):

Configuration	Support
SQL Server Reporting Services (Native Mode)	<ul style="list-style-type: none"> <li>• 64-bit SQL Server 2016 Reporting Services on 64-bit OS</li> </ul>
SQL Server Database Engine hosting the report server database	<ul style="list-style-type: none"> <li>• 64-bit SQL Server 2014 Database Engine on 64-bit OS</li> <li>• 64-bit SQL Server 2016 Database Engine on 64-bit OS</li> </ul> <p><b>Note:</b> Deployment monitoring is available for only stand-alone instances; cluster instances and Availability Replicas are not supported.</p>
Clustered servers	No
Agentless monitoring	Not supported
Virtual environment	Yes

## Management pack Scope

Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) enables the monitoring of following features:

- SQL Server 2016 Reporting Services Instance (Native Mode)
- SQL Server 2016 Reporting Services Scale-out Deployment



### Important

Agentless monitoring is not supported by Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode).



### Note

Please refer to the [“Monitoring Scenarios”](#) section for a full list of monitoring scenarios supported by this management pack.



### Note

For more information and detailed instructions on setup and configuration, see the [“Configure the Management Pack”](#) section of this guide.

**Note**

This management pack does not discover database objects for both SSRS Catalog Database and SSRS Temporary Database. It is recommended to import the management pack for SQL Server to enable discovery, monitoring and health rollup for SSRS databases. This management pack does not depend on management pack for SQL Server, i.e. installation of the management pack for SQL Server is optional.

## Prerequisites

As a best practice, you should import Windows Server Management Pack for the operating system you are using. Windows Server Management Packs monitor aspects of the operating system that influence the performance of computers running SQL Server Reporting Services, such as disk capacity, disk performance, memory utilization, network adapter utilization, and processor performance.

## Files in this Management Pack

Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) includes the following files:

File	Description
Microsoft.SQLServer.2016.ReportingServices.Discovery.mpb	This management pack discovers Microsoft SQL Server 2016 Reporting Services (Native Mode) and related objects. The management pack contains the discovery logic only and requires a separate monitoring management pack to be imported to monitor the discovered objects.
Microsoft.SQLServer.2016.ReportingServices.Monitoring.mpb	This management pack enables the monitoring of Microsoft SQL Server 2016 Reporting Services (Monitoring, Native Mode).
Microsoft.SQLServer.2016.ReportingServices.Presentation.mp	This management pack defines dashboards for Microsoft SQL Server 2016 Reporting Services (Native Mode).
Microsoft.SQLServer.2016.ReportingServices.Views.mp	This management pack defines views for Microsoft SQL Server 2016 Reporting Services (Native Mode).
Microsoft.SQLServer.Generic.Dashboards.mp	This management pack defines common components required for SQL Server dashboards.
Microsoft.SQLServer.Generic.Presentation.mp	This management pack defines common folder structure and views. Management pack contains Reporting Services Deployment and Instance Groups.
Microsoft.SQLServer.Visualization.Library.mpb	Microsoft SQL Server Visualization Library contains basic visual components required for SQL Server dashboards.

## Mandatory Configuration

To configure Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode), complete the following steps:

- Review the [“Configure the Management Pack”](#) section of this guide.
- Grant required permissions as described in the [“Security Configuration”](#) section of this guide.



- Enable Agent Proxy option on all agents installed on the servers, which host either an Instance of SQL Server 2016 Reporting Services or SQL Server instance with respective SSRS Catalog Database hosted. For more information about enabling Agent Proxy option, see the [“How to Enable Agent Proxy Option”](#) section of this guide.
- Import the Management pack.
- Associate Microsoft SQL Server 2016 Run As profiles with accounts that have appropriate permissions. For more information about configuring Run As profiles, see the [“How to Configure a Run As Profile”](#) section of this guide.
- Make sure that TCP/IP protocol is enabled for SQL Server instance hosting the report server database.
- Note that SQL Server Browser service is mandatory for Reporting Services discovery and monitoring. SQL Server Browser must be installed and turned on as on the computers with Reporting Services installed, so as on the computers with SQL Server instances installed, which host the report server database.

## Management Pack Purpose

In this section:

- [Monitoring Scenarios](#)
- [How Health Rolls Up](#)



### Note

For details on the discoveries, rules, monitors, and views contained in this management pack, see the following sections of this guide:

- [Appendix: Management Pack Objects and Workflows](#)
- [Appendix: Management Pack Views and Dashboards](#)

## Monitoring Scenarios

### Discovery of SQL Server 2016 Reporting Services Instance

Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) automatically discovers instances of SSRS 2016. To enable this, the management pack implements the following workflow:

1. The management pack reads the registry to detect if the installation of SQL Server 2016 Reporting Services exists on the server. If the installation has been detected, the management pack creates “Seed” object.
2. If “Seed” object has been discovered, the management pack reads various data sources (the registry, WMI, SSRS configuration file, etc.) to discover instance properties and “Deployment Seed” object.

**Note**

“Deployment Seed” object is an unhosted object and is managed by SCOM Management Server.

**Note**

Appropriate permissions are required to access all the necessary data sources. Please review the [“Security Configuration”](#) section of this guide for details.

## Discovery of SQL Server 2016 Reporting Services Deployment

Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) automatically discovers Deployments of SQL Server 2016 Reporting Services.

Deployment includes the following components:

1. One or more instances of SQL Server 2016 Reporting Services
2. SSRS Catalog SQL Server Databases
3. SSRS Temporary SQL Server Database

The management pack supports different kinds of installation of SQL Server. The SSRS Database may be deployed on:

- A stand-alone instance, either named or default one;
- A cluster instance;
- An availability group.

To find the SQL Server instance that hosts the SSRS Database, the management pack takes the connection string used by an SSRS Instance to connect to the database. The following formats of connection string are supported by the management pack:

- MachineName
- MachineName\InstanceName
- IPAddress
- IPAddress,PortNumber
- (local) and etc.

Deployment discovery runs on a SCOM Management Server and queries SCOM API to get the list of SSRS Instances, as well as the list of databases discovered at different servers.

Deployment discovery not only creates “Deployment” object but also “Deployment Watcher” object. Both objects are unhosted.

SSRS Scale-out Deployment is a distributed application by its nature; therefore, “Deployment” object is managed by Management Server, its purpose is to combine the health of various SSRS components and group respective SCOM objects.

“Deployment Watcher” is an auxiliary object, and is managed by either an agent installed on the server hosting SSRS Catalog Database or an agent hosting one of SSRS Instances from the

given deployment. This object is used to collect information about SQL Server 2016 Reporting Services deployment in its entirety.



**Note**

Appropriate permissions are required to access all the necessary data sources. Please review the [“Security Configuration”](#) section of this guide for details.



**Note**

Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) does not discover any database objects for SSRS Catalog Database and SSRS Temporary Database. You should install SCOM management pack for SQL Server to enable this functionality.

## Availability of SQL Server 2016 Reporting Services components

This management pack introduces a set of monitors, which enable the monitoring of both SSRS Deployments and SSRS Instances. The monitors verify the availability of these components from following perspectives:

- SSRS Deployment:
  - SSRS catalog database is accessible;
  - SSRS temporary database is accessible;
  - There are no broken references to shared data sources;
  - Number of failed report executions (expressed as a percentage of total report executions) is below the threshold;
  - All instances within deployment are discovered.
- SSRS Instance:
  - SSRS catalog database is accessible;
  - SSRS temporary database is accessible;
  - SSRS windows service is started;
  - SSRS web service is accessible;
  - SSRS report manager is accessible;
  - SSRS Instance is not using too much CPU resources;
  - SSRS Instance is not using too much memory resources;
  - There is no memory configuration conflict between SSRS Instance and SQL Server Database Engine (if both components are running on the same server);
  - Other processes allow enough memory resources for the SSRS Instance;
  - A number of failed report executions per minute is below the threshold for the given SSRS Instance.



**Note**

Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) does not observe the health of SSRS Catalog Database and SSRS Temporary Database from SQL Server Database perspective. You should install SCOM management pack for SQL Server to enable this functionality.



**Note**

Some monitors are disabled by default. Please review the “[Appendix: Management Pack Objects and Workflows](#)” section of this guide for more details about monitoring workflows implemented in this management pack.

## Performance of SQL Server 2016 Reporting Services installation

This management pack collects the following performance metrics:

- SSRS Deployment:
  - Failed report executions per minute
  - Report executions per minute
  - Number of reports
  - Number of shared data sources
  - Number of subscriptions
  - On-demand execution failures per minute
  - On-demand executions per minute
  - Scheduled execution failures per minute
  - Scheduled executions per minute
- SSRS Instance:
  - CPU utilization (%)
  - WorkingSetMaximum (GB)
  - WorkingSetMinimum (GB)
  - Memory consumed by other processes (%)
  - Memory consumed by SSRS (GB)
  - Total memory on the Server (GB)
  - Total memory consumed on the server (GB)
  - Failed report executions per minute
  - Report executions per minute

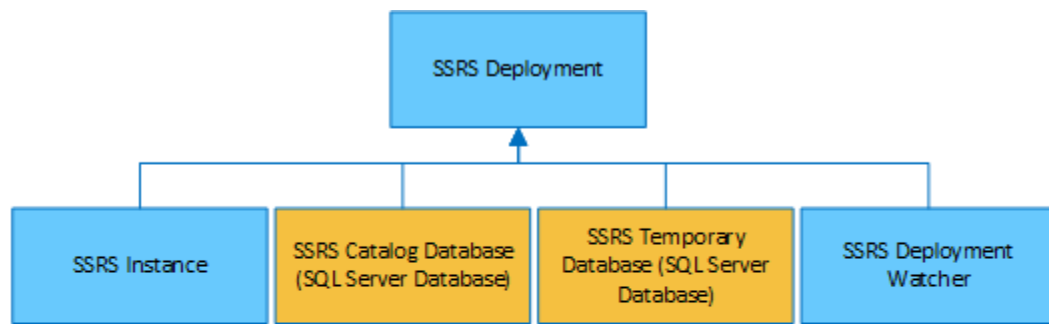


### Note

Please review the “[Appendix: Management Pack Objects and Workflows](#)” section of this guide for more details about monitoring workflows implemented in this management pack.

## How Health Rolls Up

The following diagram shows how health states of the objects roll up in this management pack.



Legend:

Defined in SQL Server Management Pack

Defined in SQL Server Reporting Services Management Pack

# Configure the Management Pack

This section provides guidance on configuring and tuning this management pack.

In this section:

- [Best Practice: Create a Management Pack for Customizations](#)
- [How to Import a Management Pack](#)
- [How to Enable Agent Proxy Option](#)
- [How to Configure a Run As Profile](#)
- [Security Configuration](#)

## Best Practice: Create a Management Pack for Customizations

Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) is sealed so that you cannot change any of the original settings in the management pack file. However, you can create customizations, such as overrides or new monitoring objects, and save them to a different management pack. By default, Operations Manager saves all customizations to the default management pack. As a best practice, you should create a separate management pack instead for each sealed management pack you want to customize.

Creating a new management pack for storing overrides has the following advantages:

- When you create a management pack for the purpose of storing customized settings for a sealed management pack, it is helpful to base the name of the new management pack on the name of the management pack that it is customizing, such as “Microsoft SQL Server 2016 Reporting Services Overrides”.
- Creating a new management pack for storing customizations of each sealed management pack makes it easier to export the customizations from a test environment to a production environment. It also makes it easier to delete a management pack, because you must delete any dependencies before you can delete a management pack. If customizations for all management packs are saved in the Default Management Pack and you need to delete a single management pack, you must delete the Default Management Pack first, which also deletes customizations to other management packs.

For more information about sealed and unsealed management packs, see [Management Pack Formats](#). For more information about management pack customizations and the default management pack, see [About Management Packs](#).

### How to Create a New Management Pack for Customizations

1. Open the Operations console, and then click **Administration** button.
2. Right-click **Management Packs**, and then click **Create New Management Pack**.

3. Enter a name (for example, SQLMP Customizations), and then click **Next**.
4. Click **Create**.

## How to Import a Management Pack

For more information about importing a management pack, see [How to Import an Operations Manager Management Pack](#).

## How to Enable Agent Proxy Option

To enable **Agent Proxy option** complete the following steps:

1. Open the Operations Console and click **Administration** button.
2. In Administrator pane, click **Agent Managed**.
3. Double-click an agent in the list.
4. On Security tab, select **Allow this agent to act as a proxy and discover managed objects on other computers**.

## Security Configuration

This section provides guidance on configuring the security for this management pack.

In this section:

- Administration
- Run As Profiles
- Low-Privilege Environments

### Administration

This section describes how to configure required permissions for Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode). All workflows (discoveries, rules, and monitors) in this management pack are bound to Run As profiles described in the “[Run As Profiles](#)” section. To enable the monitoring, appropriate permissions should be granted to Run As accounts, and these accounts should bound to respective Run As profiles. Subsections below describe how to grant permissions at Operating System, SQL Server and SQL Server Reporting Services level.



#### Note

Please refer to the [“Run As Profiles”](#) section for the detailed explanation of what Run As profiles are defined in Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode).



#### Note

For more information about configuring Run As profiles, see the [“How to Configure a Run As Profile”](#) section of this guide.



#### Note

Please refer to the [“Appendix: Run As Profiles”](#) section for the full list of discoveries, rules, and monitors to identify the rules and monitors associated with each **Run As Profile**.

## Run As Profiles

When Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) is imported for the first time, it creates three new Run As profiles:

- Microsoft SQL Server 2016 Discovery Run As Profile
- Microsoft SQL Server 2016 Monitoring Run As Profile
- Microsoft SQL Server 2016 SCOM SDK Run As Profile

By default, all discoveries, monitors, and rules defined in SQL Server 2016 Reporting Services management pack use accounts defined in “Default Action Account” Run As profile. If the default action account for the given system does not have the necessary permissions to discover or monitor the instance of SQL Server 2016 Reporting Services, then those systems can be bound to more specific credentials in “Microsoft SQL Server 2016 Reporting Services ...” Run As profiles, which do have access.



#### Note

For more information about configuring Run As profiles, see the [“How to Configure a Run As Profile”](#) section of this guide.



#### Note

Please refer to the [“Appendix: Run As Profiles”](#) section for the full list of discoveries, rules, and monitors to identify rules and monitors associated with each **Run As Profile**.

## How to Configure a Run As Profile

To configure a **Run As profile** complete the following steps:

1. Identify the names of the target computers, where the default action account has insufficient rights to monitor SQL Server 2016 Reporting Services.
2. For each system, create or use an existing set of credentials that have at least the set of privileges discussed in the “Security Configuration” section of this management pack guide.



3. For each set of credentials identified in step 2, make sure a corresponding **Run As Account** exists in the management group. Create a **Run As Account** if necessary.
4. Setup the mappings between the targets and the **Run As Accounts** on the **Run As Accounts** tab of each of the **Run As Profiles**.

**Note**

Please refer to the [“Run As Profiles”](#) section for the detailed explanation of what Run As profiles are defined in Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode).

**Note**

Please refer to the [“Appendix: Run As Profiles”](#) section for the full list of discoveries, rules, and monitors to identify the rules and monitors associated with each **Run As Profile**.

## Low-Privilege Environments

### ► Configure Permissions in Active Directory

1. In Active Directory, create three domain users that will be commonly used for low-privilege access to all target SSRS instances and SQL Server DBE instances hosting report database:
  - a. **SSRSMonitoring**
  - b. **SSRSDiscovery**
  - c. **SSRSSDK**
2. Create a domain group named **SSRSMPLowPriv** and add the following domain users:
  - a. **SSRSMonitoring**
  - b. **SSRSDiscovery**

### ► Configure Permissions on the Agent Machine

1. Grant Local Administrator permissions to **SSRSMPLowPriv** group.

### ► Configure Permissions on the Instance of SQL Server 2016 Reporting Services

1. Open Internet Explorer and connect to SSRS Report Manager.
2. Click “Site Settings” link in the upper right corner of the page to navigate to “Site Settings” page.
3. Click “Security” menu item on the left side of “Site Settings” page.
4. Click “New Role Assignment” button.
5. On “New Role Assignment” enter the group name (<Your Domain>\**SSRSMPLowPriv**) and check “System Administrator” checkbox.
6. Click “OK” button to apply changes.

### ► Configure Permissions on SQL Server 2016 Reporting Services Catalog Database

1. In SQL Server Management Studio, for the instance of SQL Server Database Engine, which hosts SSRS Catalog Database, create a login for **SSRSMPLowPriv**.
2. Create an **SSRSMPLowPriv** user in both SSRS Catalog and Temporary databases.
3. Assign db\_datareader role for **SSRSMPLowPriv** on both SSRS Catalog and Temporary databases.

### ► Configure Permissions on the System Center Operations Manager Management Server

1. Grant Local Administrator permissions to **SSRSSDK** account.

### ► Configure Permissions on the System Center Operations Manager

1. Open SCOM Console and navigate to “Administration” pane.
2. Select “User Roles” view (located under “Security” folder).
3. Right-click “Operations Manager Operators” role and click “Properties” in the context menu.
4. In “General Properties” tab, click “Add” button.
5. Find **SSRSSDK** user and click “OK”.
6. Click “OK” button to apply changes and close “User Role Properties” dialog.

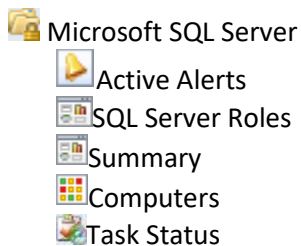
### ► Configure System Center Operations Manager

1. Import SQL Server Management Pack, if it has not been imported.
2. Create **SSRSMonitoring**, **SSRSDiscovery** and **SSRSSDK** Run As accounts with “Windows” account type. For more information about how to create a Run As account, see [How to Create a Run As Account in Operations Manager 2007](#) or [How to Create Run As Account in Operations Manager 2012](#). For more information about various Run As Account types, see [Run As Accounts and Run As Profiles in Operations Manager 2007](#) or [Managing Run As Accounts and Profiles in Operations Manager 2012](#).
3. On System Center Operations Manager console, configure the Run As profiles as follows:
  - a. Set “Microsoft SQL Server 2016 Discovery Run As Profile” Run As profile to use **SSRSDiscovery** Run As account.
  - b. Set “Microsoft SQL Server 2016 Monitoring Run As Profile” Run As profile to use **SSRSMonitoring** Run As account.
  - c. Set “Microsoft SQL Server 2016 SCOM SDK Run As Profile” Run As profile to use **SSRSSDK** Run As account.

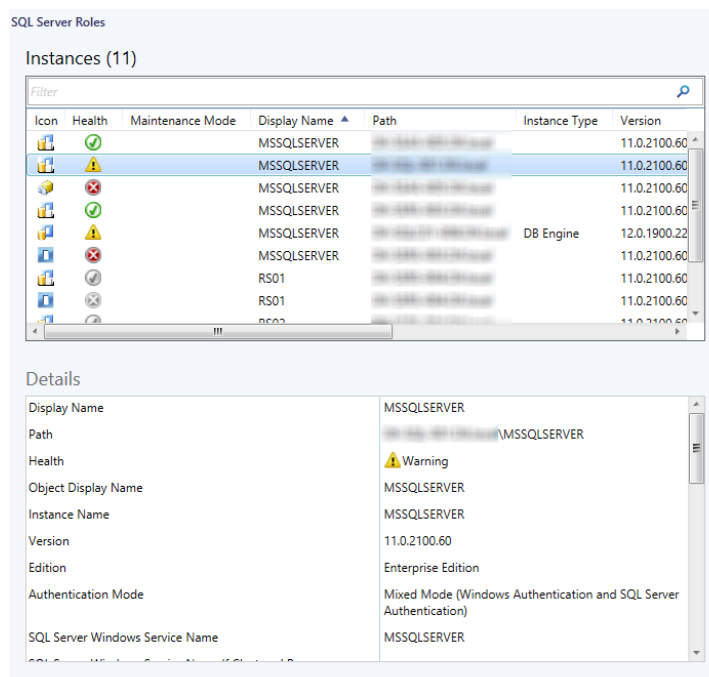
# View Information in the Operations Manager Console

## Version-Independent (Generic) Views and Dashboards

This management pack uses common folder structure introduced with the first release of the management pack for SQL Server 2014. The following views and dashboards are version-independent, and show information about all versions of SQL Server:

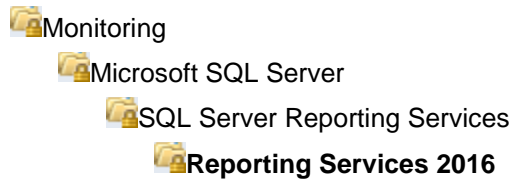


“SQL Server Roles” dashboard provides information about all instances of SQL Server Database Engine, SQL Server Reporting Services, SQL Server Analysis Services and SQL Server Integration Services:



## SQL Server 2016 Reporting Services Views

Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) introduces a comprehensive set of state, performance and alert view, which can be found in the dedicated folder:

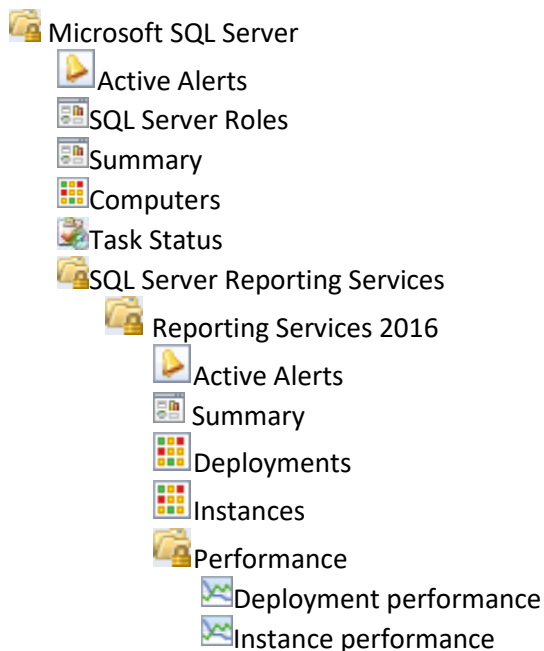


### Note

Some views may contain a very long list of objects or metrics. To find a specific object or group of objects, you can use **Scope**, **Search**, and **Find** buttons on the Operations Manager toolbar. For more information, see “[Finding Data and Objects in the Operations Manager Consoles](#)” article in the Operations Manager Help.

## Views and Dashboards

This management pack includes a set of rich dashboards, which provide detailed information about SQL Server 2016 Reporting Services Instances and Deployments. The structure of the management pack views and folders is as follows:



**Note**

For detailed information, see SQLServerDashboards.doc.

## Links

The following links connect you to information about common tasks that are associated with System Center management packs:

1. [Management Pack Life Cycle](#)
2. [How to Import an Operations Manager Management Pack](#)
3. [Creating a Management Pack for Overrides](#)
4. [Managing Run As Accounts and Profiles](#)
5. [How to Export an Operations Manager Management Pack](#)
6. [How to Remove an Operations Manager Management Pack](#)

If you already have some familiarity with the basic functionality of Management Packs and would like to expand your Service Pack knowledge, you may check out a free [System Center 2012 R2 Operations Manager Management Pack](#) course at Microsoft Virtual Academy (MVA).

With questions about Operations Manager and management packs, refer to [System Center Operations Manager community forum](#) (<http://go.microsoft.com/fwlink/?LinkID=179635>).

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## Appendix: Management Pack Objects and Workflows

### Health Service

This type represents the System Center Health Service.

#### Health Service - Discoveries

##### SSRS 2016: Native Mode Deployment Discovery

This rule discovers all instances of SSRS 2016 Native Mode Deployments.

Name	Description	Default value
------	-------------	---------------

Enabled	Enables or disables the workflow.	Yes
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	14400
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## Microsoft SQL Server 2016 Reporting Services (Native Mode)

Microsoft SQL Server 2016 Reporting Services (Native Mode)

### Microsoft SQL Server 2016 Reporting Services (Native Mode) - Discoveries

[SSRS 2016: Microsoft SQL Server 2016 Reporting Services \(Native Mode\) Discovery](#)

This rule discovers all instances of Microsoft SQL Server 2016 Reporting Services (Native Mode).

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	14400
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

### Microsoft SQL Server 2016 Reporting Services (Native Mode) - Unit monitors

[Memory consumed by SSRS Instance](#)

The monitor alerts, if the memory usage by the SSRS process is close to the limit defined by WorkingSetMaximum setting.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Critical threshold	The monitor will change its state to critical, if the observed value exceeds the critical threshold.	90
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300
Warning threshold	The monitor will change its state to warning, if the observed value is between warning and critical thresholds.	80

#### Web service accessible

The monitor raises an alert, if monitoring workflow cannot connect to SSRS web service.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Ignored status codes checkup	This parameter allows checking if responses from the web services with admittedly invalid status codes should be passed	

	as valid ones. You can set a list of valid codes divided by semicolons.	
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	300
Number of samples	Indicates, how many times a measured value should breach a threshold before the state is changed.	6
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for web connection	The workflow will fail and register an event, if it cannot access the web resource during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

### Report manager accessible

The monitor raises an alert, if monitoring workflow cannot connect to SSRS Report Manager

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Ignored status codes checkup	This parameter allows checking if responses from the web services with admittedly invalid status codes should be passed as valid ones. You can set a list of valid codes divided by semicolons.	



Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	300
Number of samples	Indicates, how many times a measured value should breach a threshold before the state is changed.	6
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for web connection	The workflow will fail and register an event, if it cannot access the web resource during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### Instance configuration state

The monitor raises an alert, if SSRS instance has certain configuration problems.

Name	Description	Default value
Enabled	Enables or disables the workflow.	No
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

### Windows service state

The monitor alerts, if SSRS Windows service is not in running state for a longer period than the threshold.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Alert, only if service startup type is automatic	This may be set to 'true' or 'false' only. The workflow will not consider the current startup type setting of the service, if this parameter is set to 'false'. The default is 'true'.	true
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	60
Number of samples	Indicates, how many times a measured value should breach a threshold before the state is changed.	15
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

### CPU utilization (%)

The monitor alerts, if the CPU usage by the SSRS process is close to 100%.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True

Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	300
Number of samples	Indicates, how many times a measured value should breach a threshold before the state is changed.	6
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Threshold	The monitor alerts, if the CPU utilization caused by the SSRS process is higher than the threshold.	95
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### Memory consumed by others

The monitor alerts, if the memory consumed by processes other than SSRS does not allow SSRS to allocate the amount of memory prescribed by WorkingSetMinimum setting. The monitor uses the following formula to determine the state:

$$(\{\text{WorkingSetMinimum}\} + \{\text{Memory Consumed By Others}\}) * 100 / \{\text{Total Memory}\} < \{\text{Threshold (\%)}\}$$

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Number of samples	Health State changes if the number of threshold breaches is greater than or equal to the Minimum Number of Breaches.	4

Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Threshold	The monitor alerts, if the sum of memory consumed by processes other than SSRS and value of WorkingSetMinimum expressed as a percentage of total server memory exceeds the threshold.	100
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### Temporary database accessible

The monitor raises an alert, if the instance failed to connect to Reporting Services Temporary Database. Note: This monitor is disabled by default. Please use overrides to enable it when necessary.

Name	Description	Default value
Enabled	Enables or disables the workflow.	No
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### Database accessible

The monitor raises an alert, if the monitoring workflow cannot access the Reporting Services Database. Note: This monitor is disabled by default. Please use overrides to enable it when necessary.

Name	Description	Default value
Enabled	Enables or disables the workflow.	No
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### Configuration conflict with SQL Server

The monitor alerts, if there is a SQL Server process running on the server, and WorkingSetMaximum setting for the SSRS Instance does not allow enough memory for the SQL server process. Note: This monitor is disabled by default. Please use overrides to enable it when necessary.

Name	Description	Default value
Enabled	Enables or disables the workflow.	No
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	604800

Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Threshold	The monitor will change state and register an alert, if SSRS and SQL Server are running on the same box, and WorkingSetMaximum exceeds the threshold.	40
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### Number of failed report executions

The monitor checks, if the number of failed report executions per minute does not exceed the threshold expressed as an absolute value. The monitor will raise an alert and change its state only when several consecutive checks have failed. Note: This monitor is disabled by default. Please use overrides to enable it when necessary.

Name	Description	Default value
Enabled	Enables or disables the workflow.	No
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	300
Number of samples	Indicates, how many times a measured value should breach a threshold before the state is changed.	6
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Threshold	The monitor checks, if the number of failed report executions per minute doesn't exceed the threshold	100

	expressed as an absolute value.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## Microsoft SQL Server 2016 Reporting Services (Native Mode) - Rules (non-alerting)

### SSRS 2016: Report executions per minute

The rule collects the number of report executions per minute for the given SSRS Instance.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

### SSRS 2016: Failed report executions per minute

The rule collects the number of report execution failures per minute for the given SSRS Instance.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: Memory consumed by SSRS (GB)

The rule collects the amount of memory consumed by the given SSRS Instance.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run	300



	before being closed and marked as failed.	
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#### SSRS 2016: WorkingSetMaximum (GB)

The rule collects configuration for WorkingSetMaximum setting in gigabytes for instance.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: CPU utilization (%)

The rule collects CPU usage by SSRS Instance.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	300
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	

Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300
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#### SSRS 2016: Total memory consumed on the server (GB)

The rule collects the total size of memory used in gigabytes on the computer, where the instance is located.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: WorkingSetMinimum (GB)

The rule collects the value of WorkingSetMinimum setting in gigabytes for the given SSRS Instance.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900

Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: Memory consumed by other processes (%)

The rule collects memory usage by other processes on the instance.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: Total memory on the Server (GB)

The rule collects the total size of memory in gigabytes on the computer, where the instance is located.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No

Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## Microsoft SQL Server 2016 Reporting Services Instance Seed

It is a seed for Microsoft SQL Server 2016 Reporting Services (Native Mode) installation. This object indicates that the particular server computer contains Microsoft SQL Server 2016 Reporting Services (Native Mode) installation.

## Microsoft SQL Server 2016 Reporting Services Instance Seed - Discoveries

### SSRS 2016: Native Mode Deployment Discovery

This rule discovers all instances of SSRS 2016 Native Mode Deployments.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	14400
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

### SSRS 2016: Microsoft SQL Server Reporting Services (Native Mode) Seed Discovery

This rule discovers a seed for Reporting Services installation. This object indicates that the particular server computer contains Reporting Services (Native Mode) installation.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	14400
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## Microsoft SQL Server 2016 Reporting Services Instance Seed - Rules (alerting)

### SSRS 2016: An error occurred during execution of a SSRS 2016 MP managed module

The rule oversees the Event Log and watches for error events submitted by SSRS 2016 management pack. If one of the workflows (discovery, rule or monitor) fails, an event is logged, and a critical alert is reported.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	Yes
Priority	Defines Alert Priority.	2
Severity	Defines Alert Severity.	2

## Server Roles Group

Server Roles Group contains all SQL Server root objects such as Database Engine, Analysis Services instance or Reporting Service instance.

### Server Roles Group - Discoveries

#### SSRS 2016: Server Roles Group Discovery

This object discovery populates the Server Roles group to contain all SQL Server Reporting Services Instances.

## SQL Server Alerts Scope Group

SQL Server Alerts Scope Group contains SQL Server objects which can throw alerts.

### SQL Server Alerts Scope Group - Discoveries

#### [SSRS 2016: Alerts Scope Group Discovery](#)

This object discovery populates the Alerts Scope group to contain all SQL Server Reporting Services Roles.

## SQL Server Computers

This group contains all Windows computers that are running a component of Microsoft SQL Server

### SQL Server Computers - Discoveries

#### [SSRS 2016: Discover SQL Server Reporting Services Computer Group membership](#)

Populates the computer group to contain all computers running SQL Server Reporting Services.

## SSRS 2016 Deployment

Reporting Services (native mode) support a scale-out deployment model that allows running multiple report server instances that share a single report server database. Scale-out deployments are used to increase scalability of report servers to handle more concurrent users and larger report execution loads. It can also be used to dedicate specific servers to process interactive or scheduled reports.

### SSRS 2016 Deployment - Discoveries

#### [SSRS 2016: Native Mode Deployment Discovery](#)

This rule discovers all instances of SSRS 2016 Native Mode Deployments.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	14400

Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## SSRS 2016 Deployment - Unit monitors

### All deployment instances are discovered

The monitor raises an alert, if not all SSRS Instances are discovered for the given SSRS Deployment.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	604800
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Threshold for count of unmatched instances	The monitor will create an alert, if the count of unmatched instances is more or equal to the specified value.	1
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## SSRS 2016 Deployment - Dependency (rollup) monitors

### Deployment Watcher Configuration (rollup)

Microsoft SQL Server 2016 Reporting Services Deployment Watcher Configuration Health Rollup Monitor

#### **Instance Performance (rollup)**

Microsoft SQL Server 2016 Reporting Services Reporting Services Instance Performance Health Rollup Monitor

#### **Instance Configuration (rollup)**

Microsoft SQL Server 2016 Reporting Services Reporting Services Instance Configuration Health Rollup Monitor

#### **Deployment Watcher Performance (rollup)**

Microsoft SQL Server 2016 Reporting Services Deployment Watcher Performance Health Rollup Monitor

#### **Database Configuration (rollup)**

Microsoft SQL Server 2016 Reporting Services Database Configuration Health Rollup Monitor

#### **Database Performance (rollup)**

Microsoft SQL Server 2016 Reporting Services Database Performance Health Rollup Monitor

#### **Deployment Watcher Availability (rollup)**

Microsoft SQL Server 2016 Reporting Services Deployment Watcher Availability Health Rollup Monitor

#### **Instance Availability (rollup)**

Microsoft SQL Server 2016 Reporting Services Reporting Services Instance Availability Health Rollup Monitor

#### **Instance Security (rollup)**

Microsoft SQL Server 2016 Reporting Services Reporting Services Instance Security Health Rollup Monitor

#### **Database Security (rollup)**

Microsoft SQL Server 2016 Reporting Services Database Security Health Rollup Monitor

#### **Database Availability (rollup)**

Microsoft SQL Server 2016 Reporting Services Database Availability Health Rollup Monitor

#### **Deployment Watcher Security (rollup)**

Microsoft SQL Server 2016 Reporting Services Deployment Watcher Security Health Rollup Monitor



## SSRS 2016 Deployment Seed

It is a seed for Microsoft SQL Server 2016 Reporting Services (Native Mode) Deployment installation. This object indicates that Deployment exists within the managed environment. This object is unhosted and managed by SCOM Management Servers.

### SSRS 2016 Deployment Seed - Discoveries

#### SSRS 2016: Deployment Seed Discovery

This rule discovers Deployment Seed of Microsoft SQL Server 2016 Reporting Services (Native Mode).

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	14400
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## SSRS 2016 Deployment Watcher

Deployment Watcher is a hidden object, which is used as a target to run monitoring workflows for Deployment object. Deployment Watcher is an unhosted object. The server hosting SSRS Catalog Database is used to manage this object. If the server hosting the database has no agent installed, then one of SSRS servers will take responsibility of running the respective workflows.

### SSRS 2016 Deployment Watcher - Discoveries

#### SSRS 2016: Native Mode Deployment Discovery

This rule discovers all instances of SSRS 2016 Native Mode Deployments.

Name	Description	Default value
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Enabled	Enables or disables the workflow.	Yes
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	14400
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## SSRS 2016 Deployment Watcher - Unit monitors

### Number of failed report executions

The monitor alerts, if the number of failed report executions expressed as a percentage of total number of report executions is higher than the threshold. The monitor will raise an alert and change its state only when several consecutive checks have failed.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	300
Number of samples	Indicates, how many times a measured value should breach a threshold before the state is changed.	6
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Threshold	The monitor alerts, if the number of failed report executions expressed as a percentage of total number of	50

	report executions is higher than the threshold.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### Temporary database accessible

The monitor raises an alert, if the deployment watcher fails to connect to Reporting Services Temporary Database.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### Database accessible

The monitor changes its state and raises an alert, if the deployment watcher fails to connect to Reporting Services Database

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

### Misconfigured data sources

The monitor alerts, if misconfigured data sources are detected.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	True
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	604800
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Threshold	The monitor will change state and register an alert, if the number of misconfigured data	0

	sources is higher than the threshold.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## SSRS 2016 Deployment Watcher - Rules (non-alerting)

### SSRS 2016: Number of subscriptions

The rule collects the number of subscriptions configured for SSRS Deployment. The rule queries SSRS Catalog database to get the information.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

### SSRS 2016: Number of shared data sources

The rule collects the number of shared data sources deployed to SSRS Deployment. The rule queries SSRS Catalog database to get the information.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: Scheduled execution failures per minute

The rule collects the number of scheduled execution failures per minute for entire SSRS Deployment. The rule queries SSRS Catalog database to get the information.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	

Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: On-demand executions per minute

The rule collects the number of on-demand executions per minute for entire SSRS Deployment. The rule queries SSRS Catalog database to get the information.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: Scheduled executions per minute

The rule collects the number of scheduled executions per minute for entire SSRS Deployment. The rule queries SSRS Catalog database to get the information.

Name	Description	Default value
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Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: Report executions per minute (Deployment)

The rule collects the total number of report executions per minute for entire Deployment of SQL Server Reporting Services. The rule queries SSRS Catalog database to get the information.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200



Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300
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#### SSRS 2016: Number of reports

The rule collects the number of reports deployed to SSRS Deployment. The rule queries SSRS Catalog database to get the information.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: On-demand execution failures per minute

The rule collects the number of on-demand execution failures per minute for entire SSRS Deployment. The rule queries SSRS Catalog database to get the information.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No

Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	900
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

#### SSRS 2016: Failed report executions per minute (Deployment)

The rule collects the number of failed report executions per minute for entire Deployment of SQL Server Reporting Services.

Name	Description	Default value
Enabled	Enables or disables the workflow.	Yes
Generate Alerts	Defines whether the workflow generates an Alert.	No
Interval (seconds)	The recurring interval of time in seconds in which to run the workflow.	300
Synchronization Time	The synchronization time specified by using a 24-hour format. May be omitted.	
Time out for database connection	The workflow will fail and register an event, if it cannot access the database during the specified period.	200
Timeout (seconds)	Specifies the time the workflow is allowed to run before being closed and marked as failed.	300

## **SSRS 2016: Alerts Scope Group**

SQL Server Reporting Services Alerts Scope Group contains SQL Server Reporting Services objects that can throw alerts.

### **SSRS 2016: Alerts Scope Group - Discoveries**

#### **[SSRS 2016: Local Alerts Scope Group Discovery](#)**

This object discovery populates the Local Alerts Scope group to contain all SQL Server Reporting Services Roles.

## **SSRS 2016: Deployment Group**

This object discovery populates the Local Deployment group to contain all SQL Server Reporting Services Roles.

### **SSRS 2016: Deployment Group - Discoveries**

#### **[SSRS 2016: Deployment Group Discovery](#)**

This object discovery populates the Local Deployment group to contain all SQL Server Reporting Service Roles.

## **SSRS 2016: Instance Group**

This object discovery populates the Local Instance group to contain all SQL Server Reporting Services Roles.

### **SSRS 2016: Instance Group - Discoveries**

#### **[SSRS 2016: Instance Group Discovery](#)**

This object discovery populates the Local Instance group to contain all SQL Server Reporting Services Roles.

## **SSRS: Deployment Group**

This object discovery populates the Local Deployment group to contain all SQL Server Reporting Services Roles.

### **SSRS: Deployment Group - Discoveries**

#### **[SSRS 2016: Global Deployment Group Discovery](#)**

This object discovery populates the Deployment group to contain all SQL Server Reporting Services Roles.

## SSRS: Instance Group

This object discovery populates the Local Instance group to contain all SQL Server Reporting Services Roles.

## SSRS: Instance Group - Discoveries

### [SSRS 2016: Global Instance Group Discovery](#)

This object discovery populates the Instance group to contain all SQL Server Reporting Services Roles.

## Appendix: Run As Profiles

Run As Profile	Workflow Type	Workflow
Microsoft SQL Server 2016 Discovery Run As Profile	Discovery	SSRS 2016: Deployment Seed Discovery
	Discovery	SSRS 2016: Microsoft SQL Server 2016 Reporting Services (Native Mode) Discovery
Microsoft SQL Server 2016 SCOM SDK Run As Profile	Discovery	SSRS 2016: SSRS 2016 Native Mode Deployment Discovery
	Monitor	All deployment instances are discovered
Microsoft SQL Server 2016 Monitoring Run As Profile	Monitor	Configuration conflict with SQL Server
	Monitor	CPU utilization (%)
	Monitor	Database accessible
	Monitor	Database accessible
	Monitor	Instance configuration state
	Monitor	Memory consumed by others
	Monitor	Memory consumed by SSRS Instance
	Monitor	Misconfigured data sources
	Monitor	Number of failed report executions
	Monitor	Number of failed report executions
	Monitor	Report manager accessible

Run As Profile	Workflow Type	Workflow
	Monitor	Temporary database accessible
	Monitor	Temporary database accessible
	Monitor	Web service accessible
	Monitor	Windows service state
	Rule	SSRS 2016: CPU utilization (%)
	Rule	SSRS 2016: Failed report executions per minute
	Rule	SSRS 2016: Failed report executions per minute (Deployment)
	Rule	SSRS 2016: Memory consumed by other processes (%)
	Rule	SSRS 2016: Memory consumed by SSRS (GB)
	Rule	SSRS 2016: Number of reports
	Rule	SSRS 2016: Number of shared data sources
	Rule	SSRS 2016: Number of subscriptions
	Rule	SSRS 2016: On-demand execution failures per minute
	Rule	SSRS 2016: On-demand executions per minute
	Rule	SSRS 2016: Report executions per minute
	Rule	SSRS 2016: Report executions per minute (Deployment)
	Rule	SSRS 2016: Scheduled execution failures per minute
	Rule	SSRS 2016: Scheduled executions per minute
	Rule	SSRS 2016: Total memory consumed on the server (GB)
	Rule	SSRS 2016: Total memory on the Server (GB)
	Rule	SSRS 2016: WorkingSetMaximum (GB)
	Rule	SSRS 2016: WorkingSetMinimum (GB)

## Appendix: Known Issues and Release Notes

### Instance discovery fails if host name cannot be resolved in DNS

**Issue:** SSRS Instance discovery fails with the following error:

```
SSRS instance cannot be discovered because of the following issue:  
Module:  
Microsoft.SqlServer2016.ReportingServices.Module.Discovery.ReportingServicesNativeProperty  
No such host is known  
    at System.Net.Dns.InternalGetHostByName(String hostName, Boolean includeIPv6)  
    at System.Net.Dns.GetHostEntry(String hostNameOrAddress)
```

**Resolution:** Make sure that host name and host IP address can be resolved in DNS.

### SSRS Deployment Seed discovery may fail if all services are stopped

**Issue:** SSRS Deployment Seed discovery fails and “An error occurred during execution of a SSRS 2016 MP managed module” alert is registered, if all SSRS Instances are stopped, or a corresponding SSRS Catalog database is inaccessible.

**Resolution:** Make database available for accounts used to discover SSRS Deployment and start SSRS Instances. In case SSRS services have been stopped intentionally, and you do not plan to use them in future, uninstall SSRS Instances, or use overrides to disable SSRS Deployment Seed discovery for all SSRS Instances, which are part of the affected SSRS Deployment.

### SSRS Instances deployed to different AD domains, or to servers, which are not members of the domain, are monitored incorrectly

**Issue:** The current release of Microsoft System Center Management Pack for SQL Server 2016 Reporting Services (Native Mode) might not operate correctly when different components of SSRS Deployment are deployed to servers, which are members of different domains or workgroups.

**Resolution:** No resolution is known at the moment.

### Dashboards may crash upon MP upgrade

**Issue:** In some cases, upon upgrade of the MP to version 6.6.7.6 the Operations Console may crash with an ObjectNotFoundException error.

**Resolution:** Wait until the importing process is completed, and restart the Operations Console. Mind that the Operations Console restarting is essential after MP upgrade. Otherwise, the dashboards will not work.

### Usage of Local System as monitoring account may cause monitoring issues on servers with SCOM Reporting Server installed

**Issue:** On servers having both SQL Server Reporting Services and SCOM Reporting Server installed at the same time, usage of Local System as the monitoring account for SSRS MP may cause both monitors “Report manager accessible” and “Web service accessible” to become inoperable — they continually indicate an unhealthy state of the appropriate services regardless of the actual state. In addition, events 26319 happen to appear regularly in the Operations Manager log.

**Resolution:** Use a domain account for the monitoring of SSRS.

### Version of SSRS Instance showed in Version property may mismatch actual version

**Issue:** SSRS Instance discovery gets the version from the following registry key:

HKLM\SOFTWARE\Microsoft\Microsoft SQL  
Server\<InstanceName>\MSSQLServer\CurrentVersion\CurrentVersion

However, this key does not reflect the actual version if Cumulative Updates were installed.

**Resolution:** No resolution is known at the moment.