



# Move SQL Reporting Services to Another Server

By: [Joe Gavin \(/sqlserverauthor/285/joe-gavin/\)](#) | Updated: 2020-02-25 | [Comments \(1\)](#) | Related: > [Reporting Services Administration \(/sql-server-tip-category/104/reporting-services-administration/\)](#)

## Problem

You need to migrate a SQL Server Reporting Services (SSRS) Native Mode environment installed on one server and move it all to another server. Check out this tip to learn the steps.

## Solution

Let's walk through the steps.

The high-level overview is:



- Backup SSRS databases on source server
- Backup Encryption Key on source server
- Restore SSRS databases on target server
- Restore Encryption Key on target server
- Remove old server name from the Keys table on the target server
- Test

These are the versions and editions I used, but you can follow these steps for other versions and editions.

- Windows 10
- SQL Server 2012 Developer Edition (source)
- SQL Server 2017 Developer Edition (target)

[MENU](#)

We'll use a very simple example of an SSRS Server with one Folder, one Report and one Subscription. The steps are the same whether it's one or one-thousand reports so we'll keep it simple.

Here's the MyReports Folder with MyReport.

The screenshot shows the SQL Server Reporting Services Home page. The top navigation bar includes links for Home, SQL Server Reporting Services, New Folder, New Data Source, Report Builder, Folder Settings, and Upload File. Below the navigation bar, the main content area displays the 'MyReports' folder. Inside the folder, there is a single report named 'MyReport', which is represented by a small thumbnail icon.

And here's the Subscription that automatically runs MyReport.

The screenshot shows the SQL Server Reporting Services 'My Subscriptions' page. The top navigation bar includes links for Home, SQL Server Reporting Services, and My Subscriptions. Below the navigation bar, the main content area displays a single subscription entry for 'MyReport'. The subscription details are as follows:

Report	Description	Folder	Trigger	Last Run	Status
MyReport	Save in \\gavin-l\ReportFiles as MyReport	/MyReports	Timed Subscription	2/5/2020 3:19 PM	The file "MyReport.csv" has been saved to the

Edit the directory you want to use for your backup files here and execute to backup databases ReportServer and ReportServerTempDB.



```
TO DISK = N'C:\backups\ReportServer_migration.bak' -- edit backup directory and file name
WITH INIT,
NAME = N'ReportServer-Full Database Backup',
SKIP,
COMPRESSION,
STATS = 10
GO

-- backup ReportServerTempDB
BACKUP DATABASE [ReportServerTempDB]
TO DISK = N'C:\backups\ReportServerTempDB_migration.bak' -- edit backup directory and file name
WITH INIT,
NAME = N'ReportServerTempDB-Full Database Backup',
SKIP,
COMPRESSION,
STATS = 10
GO
```

Backup the encryption key by opening the **Reporting Services Configuration Manager** on the source server

1. Encryption Keys
2. Backup
3. Enter directory and file name
4. Give it a password that meets your domain requirement
5. Confirm password
6. Click **OK**

Microsoft SQL Server 2012 Reporting Services Configuration Manager

Encryption Keys

Reporting Services uses a symmetric key to encrypt credentials, connection strings, and other sensitive data that is stored in the report server database. You can manage this key by creating a backup. If you migrate or move the report server installation to another computer, you can restore the key to regain access to encrypted content.

Backup

⚠ Backup the key to a password protected file for report server recovery in case of emergency.

Backup

Restore

To restore the encryption key, click the Restore button. You must know the password that was used to protect the encryption key file.

Change

This operation replaces the encryption key.

Delete Encrypted Content

All stored connection strings, credentials, and subscriptions used on the report server will be deleted. After you delete this content, you cannot restore it.

Backup Encryption Key

Specify the name and location of a file that will contain the copy of the key. You must specify a password that is used to lock and unlock the file.

File Location: C:\backups\SourceSsrsEncryptionKey.snk

Password: \*\*\*\*\*

Confirm Password: \*\*\*\*\*

OK Cancel Copy

Apply Exit

## Target Server

Open the **Reporting Services Configuration Manager** on the new server.

1. Click **Stop** to stop Reporting Services

The screenshot shows the 'Report Server Configuration Manager' window. On the left is a navigation pane with various configuration options. The main area is titled 'Report Server Status' and contains information about the current report server instance. A large red circle with the number '1' is overlaid on the 'Start' button. Below the status information is a 'Results' section showing a successful task completion message.

Report Server Status

Use the Report Server Configuration Manager tool to define or modify settings for the report server and web portal. Before you can use the report server, you must configure the Web Service URL, the database, and the Web Portal URL.

Current Report Server

Instance ID:	SSRS
Edition:	SQL Server Developer
Product Version:	14.0.600.1274
Report Server Database Name:	ReportServer
Report Server Mode:	Native
Report Service Status:	Started

Start Stop

Results

Starting report server "SQLServerReportingServices" on JGAVIN-L.

The task completed successfully.

Copy Apply Exit

Copy the backup files from the source to the target server.

Edit the following code with the path to your backup files, and path to the physical database files in the following and execute to restore the two databases. (Note, everything is pointing to C:\ here as I'm testing this on one laptop with 2 named instances of SQL Server. Good place to test, but you'll most like be doing this on actual servers.)



ReportServer

[MENU](#)

```
RESTORE DATABASE [ReportServer]
FROM DISK = N'C:\backups\ReportServer_migration.bak' -- edit backup directory and file name
WITH FILE = 1,
-- edit physical file path
MOVE N'ReportServer' TO N'C:\Program Files\Microsoft SQL Server\MSSQL14.SQL2017\MSSQL\DATA\ReportServer.mdf',
MOVE N'ReportServer_log' TO N'C:\Program Files\Microsoft SQL Server\MSSQL14.SQL2017\MSSQL\DATA\ReportServer_log.ldf
NOUNLOAD,
REPLACE,
STATS = 5
GO

-- update compat Level
ALTER DATABASE [ReportServer] SET COMPATIBILITY_LEVEL = 140
GO

-- set db owner to sa
USE [ReportServer]
GO
ALTER AUTHORIZATION ON DATABASE::[ReportServer] TO [sa]
GO

-- dbcc
dbcc CHECKDB([ReportServer]) WITH NO_INFOMSGS

-- Restore ReportServerTempDB
USE [master]
RESTORE DATABASE [ReportServerTempDB]
FROM DISK = N'C:\backups\ReportServerTempDB_migration.bak' -- edit backup directory and file name
WITH FILE = 1,
-- edit physical file path
MOVE N'ReportServerTempDB' TO N'C:\Program Files\Microsoft SQL Server\MSSQL14.SQL2017\MSSQL\DATA\ReportServerTempDB
MOVE N'ReportServerTempDB_log' TO N'C:\Program Files\Microsoft SQL Server\MSSQL14.SQL2017\MSSQL\DATA\ReportServerTempDB_log
NOUNLOAD,
REPLACE,
STATS = 5
GO

-- update compat Level
ALTER DATABASE [ReportServerTempDB] SET COMPATIBILITY_LEVEL = 140
GO

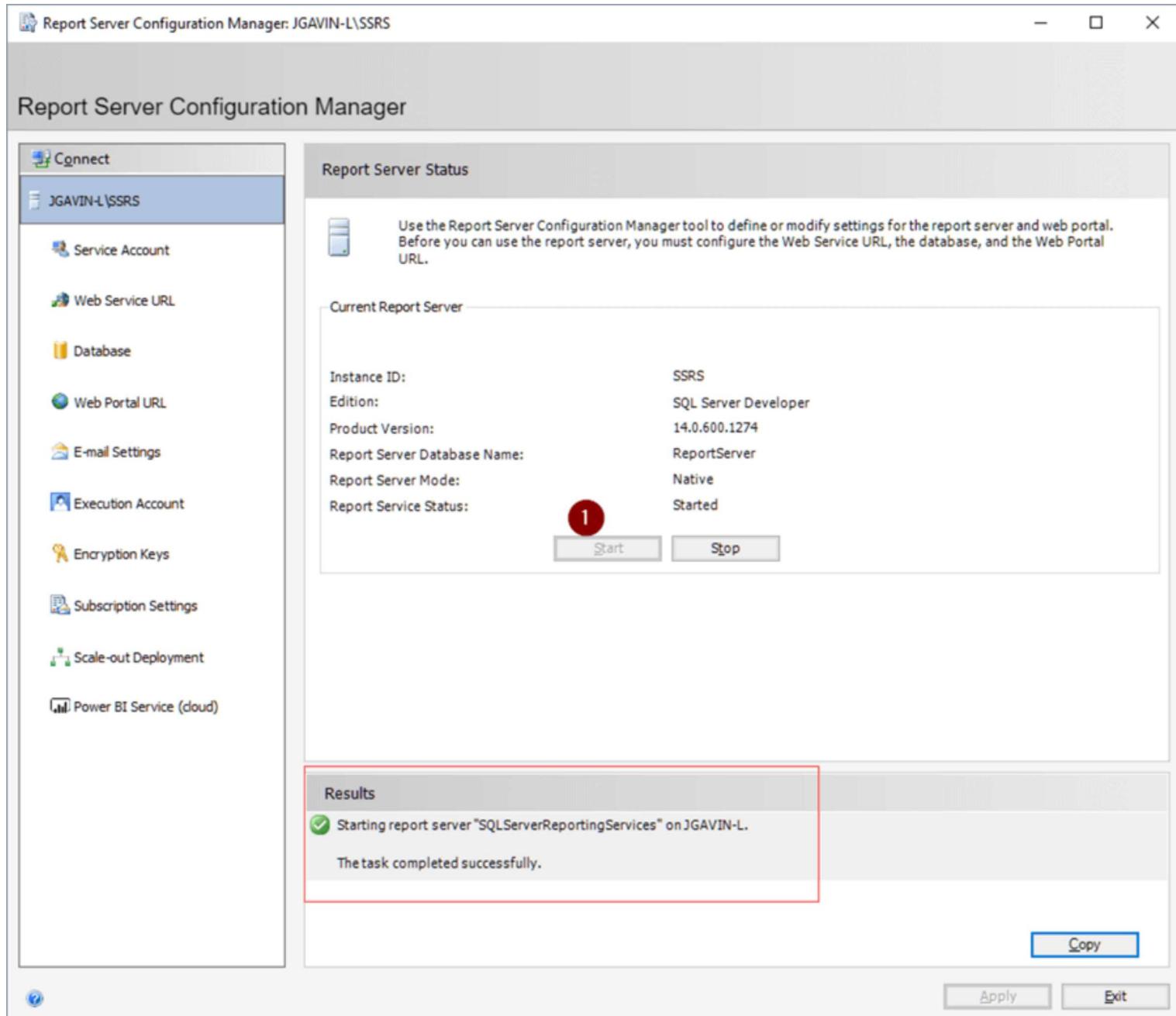
-- set db owner to sa
USE [ReportServerTempDB]
GO
ALTER AUTHORIZATION ON DATABASE::[ReportServerTempDB] TO [sa]
GO

-- dbcc
dbcc CHECKDB([ReportServerTempDB]) WITH NO_INFOMSGS

-- sp_helpdb
EXEC sp_helpdb [ReportServer]
EXEC sp_helpdb [ReportServerTempDB]
```

We need to be sure the logins and users are in sync, but we'll digress briefly to show what happens if you omit this step. Go to the Report Server Configuration Manager.

## 1. Click Start to start the service



The service starts and it appears to be working, but we have this in the error log:



ProcessInfo	Text	MENU
1(I) spid56	System Manufacturer: 'Dell Inc.', System Model: 'Latitude E5570'.	
190 spid56	Authentication mode is MIXED.	
2020-02-05 13:54:04.190 spid56	Logging SQL Server messages in file 'C:\Program Files\Microsoft SQL Server\MSSQL14.SQL2017\MSSQL\Log\ERRORLOG'.	
2020-02-05 13:54:04.190 spid56	The service account is 'NT Service\SQLServerSQL2017'. This is an informational message; no user action is required.	
2020-02-05 13:54:04.190 spid56	Default collation: SQL_Latin1_General_CI_AS (us_english 1033)	
2020-02-05 13:54:04.190 spid56	The error log has been reinitialized. See the previous log for older entries.	
2020-02-05 13:54:09.780 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:09.780 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:17.270 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:17.270 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:27.270 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:27.270 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:28.650 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:28.650 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:29.540 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:29.540 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:37.670 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:37.670 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:38.650 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:38.650 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:39.550 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:39.550 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:40.840 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:40.840 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:47.670 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:47.670 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:50.860 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:50.860 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	
2020-02-05 13:54:52.010 Logon	Error: 18456, Severity: 14, State: 38.	
2020-02-05 13:54:52.010 Logon	Login failed for user 'NT SERVICE\SQLServerReportingServices'. Reason: Failed to open the explicitly specified database 'ReportServer'. [CLIENT: <local machine>]	

For our example we're using the default accounts to run the services on both our source and target SSRS servers. The user will not show up in Management Studio because there is no associated login with it so it's essentially orphaned but you can see it by querying **sys.sysusers** in each database.

```
SELECT name FROM [ReportServer].[sys].[sysusers]
SELECT name FROM [ReportServerTempDB].[sys].[sysusers]
```

We don't really have to delete the orphaned users, but let's do some housekeeping while we have the chance.



```
DROP SCHEMA [NT SERVICE\ReportServer$SQL2012]
GO
DROP USER [NT SERVICE\ReportServer$SQL2012]
GO

USE [ReportServerTempDB]
GO
DROP SCHEMA [NT SERVICE\ReportServer$SQL2012]
GO
DROP USER [NT SERVICE\ReportServer$SQL2012]
GO
```

Now we're ready to add our users and assign them to the proper groups.

```
-- master
USE [master]
GO
CREATE USER [NT SERVICE\SQLServerReportingServices]
FOR LOGIN [NT SERVICE\SQLServerReportingServices]
WITH DEFAULT_SCHEMA=[NT SERVICE\SQLServerReportingServices]
GO

ALTER ROLE [RSExecRole] ADD MEMBER [NT SERVICE\SQLServerReportingServices]
GO

-- msdb
USE [msdb]
GO
ALTER ROLE [RSExecRole] ADD MEMBER [NT SERVICE\SQLServerReportingServices]
GO
ALTER ROLE [SQLAgentOperatorRole] ADD MEMBER [NT SERVICE\SQLServerReportingServices]
GO
ALTER ROLE [SQLAgentReaderRole] ADD MEMBER [NT SERVICE\SQLServerReportingServices]
GO
ALTER ROLE [SQLAgentUserRole] ADD MEMBER [NT SERVICE\SQLServerReportingServices]
GO

-- ReportServer
USE [ReportServer]
GO
ALTER ROLE [db_owner] ADD MEMBER [NT SERVICE\SQLServerReportingServices]
GO
ALTER ROLE [RSExecRole] ADD MEMBER [NT SERVICE\SQLServerReportingServices]
GO

-- ReportServerTempDB
USE [ReportServerTempDB]
GO
ALTER ROLE [db_owner] ADD MEMBER [NT SERVICE\SQLServerReportingServices]
GO
ALTER ROLE [RSExecRole] ADD MEMBER [NT SERVICE\SQLServerReportingServices]
GO
```



SSRS again.

[MENU](#)

Check for errors in the error log and there should not be any more login failures.

```
EXEC sp_readerrorlog
```

Look for NT SERVICE\SQLServerReportingServices connections.

```
EXEC sp_who 'NT SERVICE\SQLServerReportingServices'
```

And we expect to see something like this.

	spid	ecid	status	loginame	hostname	blk	dbname	cmd	request_id
1	57	0	sleeping	NT SERVICE\SQLServerReportingServices	JGAVIN-L	0	ReportServer	AWAITING COMMAND	0
2	58	0	sleeping	NT SERVICE\SQLServerReportingServices	JGAVIN-L	0	ReportServer	AWAITING COMMAND	0
3	59	0	sleeping	NT SERVICE\SQLServerReportingServices	JGAVIN-L	0	ReportServer	AWAITING COMMAND	0
4	60	0	sleeping	NT SERVICE\SQLServerReportingServices	JGAVIN-L	0	ReportServer	AWAITING COMMAND	0

Go back to the Report Server Configuration Manager.

1. Encryption Keys
2. Restore
3. Fully qualified file name of Encryption Key backup from the source server
4. Password
5. Click **OK**



## Report Server Configuration Manager

Connect

- JGAVIN-L\SSRS
  - Service Account
  - Web Service URL
  - Database
  - Web Portal URL
  - E-mail Settings
  - Execution Account
  - Encryption Keys** 1
  - Subscription Settings
  - Scale-out Deployment
  - Power BI Service (cloud)

Encryption Keys

The report server uses a symmetric key to encrypt credentials, connection strings, and other sensitive data that is stored in the report server database. You can manage this key by creating a backup. If you migrate or move the report server installation to another computer, you can restore the key to regain access to encrypted content.

Backup

**⚠** Backup the key to a password protected file for report server recovery in case of emergency.

Restore

To restore the encryption key, click the Restore button. You must know the password that was used to protect the encryption key file.

Change

This operation replaces the encryption key with a newer version.

Delete Encrypted Content

All stored connection strings, credentials, and deleted. After you delete this content, you must resubscribe to all subscriptions used on the report server.

Restore Encryption Key

You must specify the security password and file which will be used to restore your Report Server encryption key.

File Location:  3

Password:  4

5

You should see the restore was successful and Reporting Services was restarted.

Configuration Manager: JGAVIN-L\SSRS MENU

## Report Server Configuration Manager

- [Connect](#)
- [JGAVIN-L\SSRS](#)
- [Service Account](#)
- [Web Service URL](#)
- [Database](#)
- [Web Portal URL](#)
- [E-mail Settings](#)
- [Execution Account](#)
- [Encryption Keys](#)
- [Subscription Settings](#)
- [Scale-out Deployment](#)
- [Power BI Service \(cloud\)](#)

### Encryption Keys

The report server uses a symmetric key to encrypt credentials, connection strings, and other sensitive data that is stored in the report server database. You can manage this key by creating a backup. If you migrate or move the report server installation to another computer, you can restore the key to regain access to encrypted content.

**Backup**

Backup the key to a password protected file for report server recovery in case of emergency.

[Backup](#)

**Restore**

To restore the encryption key, click the Restore button. You must know the password that was used to protect the encryption key file.

[Restore](#)

**Change**

This operation replaces the encryption key with a newer version.

[Change](#)

**Delete Encrypted Content**

All stored connection strings, credentials, and encrypted values in a subscription will be deleted. After you delete this content, you must redefine all data source connections and subscriptions used on the report server.

[Delete](#)

**Results**

- Restoring Encryption Key
- Stopping report server "SQLServerReportingServices" on JGAVIN-L.
- Starting report server "SQLServerReportingServices" on JGAVIN-L.

The task completed successfully.

[Copy](#)

If you're on SQL Server Standard Edition, you'll encounter a "scale-out deployment is not supported in this edition of reporting services" error when you open the SSRS Web Portal.

We just need to delete the source server record.

```
SELECT *
FROM [ReportServer].[dbo].[keys]
GO
```

Results		Messages				
MachineName	InstallationID	InstanceName	Client	PublicKey	SymmetricKey	
1	NULL	00000000-0000-0000-000000000000	NULL	-1	NULL	NULL
2	JGAVIN-L	E31BBC88-980C-4559-A744-0340E70C1C20	SSRS	1	0x0602000000A400005253413100080000010001009D63725...	NULL
3	JGAVIN-L	88F7D8C5-3650-44C4-95E5-7A90CDD7E9EB	SQL2012	1	0x0602000000A400005253413100080000010001008DE7AD6...	0x01020000036600000A40000872650229471D2C5F35B5A...

```
DELETE [dbo].[Keys]
WHERE InstanceName LIKE 'SQL2012'
GO
```



targetservername/Reports/ and here are our Reports.

[MENU](#)

## SQL Server Reporting Services

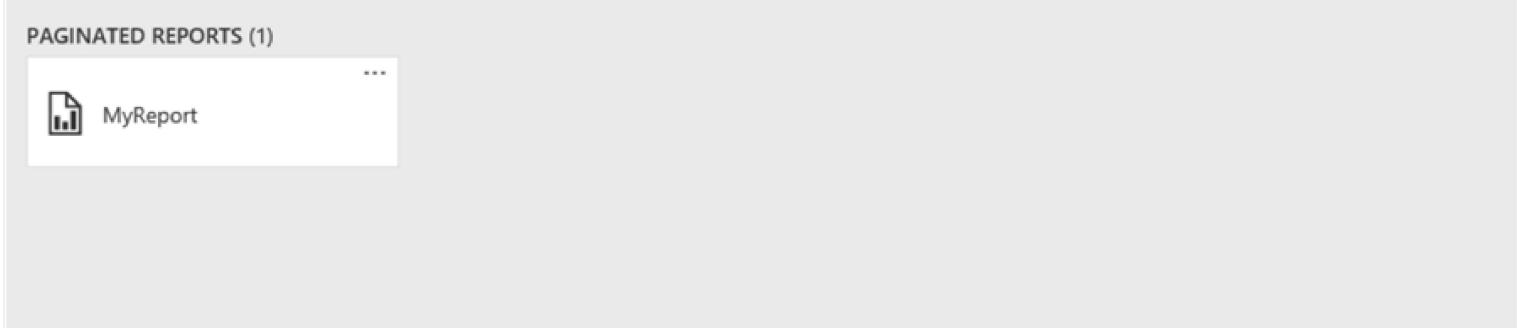
★ Favorites   □ Browse

### MyReports

Home > MyReports

PAGINATED REPORTS (1)

MyReport



And here are the Subscriptions.

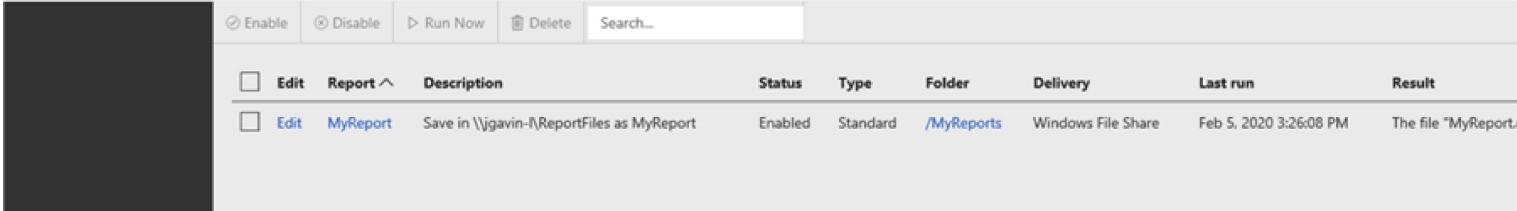
## SQL Server Reporting Services

★ Favorites   □ Browse

### My subscriptions

Home

<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Report ^</a>	Description	Status	Type	Folder	Delivery	Last run	Result
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">MyReport</a>	Save in \\jgavin-l\ReportFiles as MyReport	Enabled	Standard	<a href="#">/MyReports</a>	Windows File Share	Feb 5, 2020 3:26:08 PM	The file "MyReport...



And here is the SQL Agent Job that was automatically created.



MENU

The screenshot shows the Object Explorer window in SQL Server Management Studio. The connection is set to '.\SQL2017 (SQL Server 14.0.3257.3 -)'. The 'ReportServer' database is expanded, revealing its contents. A red box highlights the 'Jobs' folder under 'ReportServer'. Inside 'Jobs', two items are listed: '28A82912-FF50-4B60-8793-BE34D09D6DEC' and 'syspolicy\_purge\_history'. Below 'Jobs', there are links to 'Job Activity Monitor', 'Alerts', 'Operators', 'Proxies', 'Error Logs', and 'XEvent Profiler'.

You'll probably want to disable jobs while testing.

## Checklist

Also, here's a handy checklist to use if you like simple checklists like I do.

### SSRS Migration Checklist

- **Source Server**
  - Backup ReportServer and ReportServerTempDB together
  - Copy backups to target server
  - Backup SSRS Encryption Key
- **Target Server**
  - Stop Reporting Services thru Reporting Services Configuration Manager
  - Restore ReportServer and ReportServerTempDB from backups



- Run DBCC CHECKDB on ReportServer and ReportServerTempDB
- Fix logins and users
- Start Reporting Services
- Verify no login errors in errorlog
- Restore Encryption Key
- DELETE [ReportServer].[dbo].[Keys] WHERE InstanceName = 'SourceSsrsServerName'
- Validate at <http://TargetServerName/Reports/> (<http://TargetServerName/Reports/>)
- Test

## Next Steps

Following are some links to more info on migrating SQL Server Reporting Services

- [SQL Server Reporting Services Migration Tips](#) (</sql-server-tip-category/190/reporting-services-migration/>)
- [Migrate a Reporting Services Installation \(Native Mode\)](#) (<https://docs.microsoft.com/en-us/sql/reporting-services/install-windows/migrate-a-reporting-services-installation-native-mode?view=sql-server-ver15>)

Last Updated: 2020-02-25

## About the author



(</sqlserverauthor/285/joe-gavin/>) Joe Gavin is from Greater Boston. He has held many roles in IT and is currently a SQL Server Database Administrator.

[View all my tips](#) (</sqlserverauthor/285/joe-gavin/>)

### Related Resources

- [More Business Intelligence Tips...](#) (</sql-server-business-intelligence-resources/>)

## Follow

- [Get Free SQL Tips](#) (</get-free-sql-server-tips/?ref=GetFooterMenu>)
- [Twitter](#) (<https://twitter.com/mssqltips>)
- [LinkedIn](#) (<https://www.linkedin.com/groups/2320891/>)
- [Facebook](#) (<https://www.facebook.com/mssqltips/>)
- [Pinterest](#) (<https://www.pinterest.com/mssqltips/>)
- [RSS](#) (<https://feeds.feedburner.com/MSSQLTips-LatestSqlServerTips>)

## Learning

- [DBAs](#) (</sql-server-dba-resources/>)
- [Developers](#) (</sql-server-developer-resources/>)
- [BI Professionals](#) (</sql-server-business-intelligence-resources/>)
- [Careers](#) (</sql-server-professional-development-resources/>)
- [Today's Tip](#) (</todays-sql-server-tip/>)

## Resources

- [Tutorials](#) (</sql-server-tutorials/>)
- [Webcasts](#) (</sql-server-webcasts/>)
- [Whitepapers](#) (</sql-server-whitepapers/>)
- [Tools](#) (</sql-server-tools/>)



()

## Community

[MENU](#)

- [Tip Categories \(/sql-server-categories/\)](#)
- [Search By TipID \(/search-tip-id/\)](#)
- [Authors \(/sql-server-mssqltips-authors/\)](#)
- [First Timer? \(/learn-more-about-mssqltips/\)](#)
- [Pictures \(/mssqltips-community/1/\)](#)
- [Contribute \(/contribute/\)](#)
- [Event Calendar \(/sql-server-event-list/\)](#)
- [User Groups \(/sql-server-user-groups/\)](#)
- [Author of the Year \(/mssqltips-author-of-year/\)](#)

## More Info

- [Join \(/get-free-sql-server-tips/?ref=JoinFooterMenu\)](#)
- [About \(/about/\)](#)
- [Copyright \(/copyright/\)](#)
- [Privacy \(/privacy/\)](#)
- [Disclaimer \(/disclaimer/\)](#)
- [Feedback \(/feedback/\)](#)
- [Advertise \(/advertise/\)](#)

---

Copyright (c) 2006-2020 [Edgewood Solutions, LLC](#) (<https://www.edgewoodsolutions.com>) All rights reserved

Some names and products listed are the registered trademarks of their respective owners.