

Workflow Management

Installation Guide RayFlow Server 7.3

RayFlow is part of RaySuite.

•rayNET



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# Overview

RayFlow is a software management workflow tool that helps to control and monitor the complicated IT processes in an enterprise. This guide shows how to can setup RayFlow web server in your environment.

Not only is RayFlow straightforward and easy to use it is highly customizable. To know more about, how RayFlow can help you monitor and control your enterprise IT process, contact RayNet.

## Who Should Use this Guide?

This guide is for administrators, consultants and users responsible for deployment of the RayFlow Web Server.

# **Contact Support**

For any questions about the order process and documentation, please contact the Raynet Support Team using our Support Panel at https://raynetgmbh.zendesk.com.

# Documentation Requests

We welcome all suggestions and feedback on the various documentation resources available with RayFlow and its components. Customer comments and concerns can be forwarded through a local Raynet support representative.



# Requirements

#### Hardware Requirements

This section lists the minimal hardware requirements for devices running RayFlow.

#### Minimal

• Disc space: 120 GB

• RAM: 1 GB

CPU: Pentium 4, 2.4 GHz or better Processor

Network: 100 Mbit

#### Recommended

• Disc Space: 500 GB RAID 10 (4x250 GB)

• RAM: 8 GB

• CPU: Intel Core 2 Duo or better Processor

• Network: 100 Mbit

### Software Requirements

The following software are minimum requirements for the installation and running of RayFlow.

- Windows Server 2008 R2 or higher
- Microsoft SQL Server 2008 or higher
- IIS 7 or higher
- .NET 4.7.2



#### Note:

Minimum server requirement for .NET Framework 4.7.2 is Windows Server 2008 SP2. Further information on system requirements for .NET Framework 4.7.2, can be found under following link: https://msdn.microsoft.com/en-us/library/8z6watww% 28v=vs.110%29.aspx

Microsoft Report Viewer Runtime (Required to view SSRS Reports)

Please refer to the following links for system requirements related to different versions of Microsoft Report Viewer Runtime

#### **Microsoft Report Viewer 2012 Runtime**

http://www.microsoft.com/en-us/download/details.aspx?id=35747

#### **Microsoft Report Viewer Redistributable 2008**



http://www.microsoft.com/en-us/download/details.aspx?id=577

• Crystal Report Runtime 2010 13.0.14 (Only Required if Crystal Reports are used for reporting)



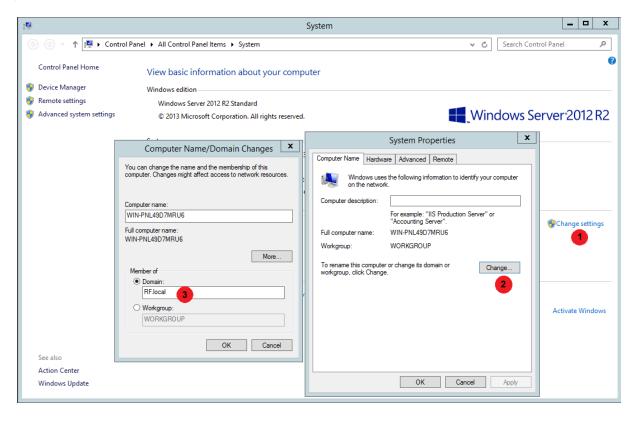
# Preparing the OS

## Domain Join

Join a Domain by:

- 1. In Control Panel -> System and Security -> System select Change settings in the Computer name, domain, and workgroup settings submenu.
- 2. Click **Change** to the **Computer Name/Domain Changes** mask.
- 3. Enter the **complete Domain Name** for the whole network.

**Reboot** the system after entering user credentials (use Domain Administrator) for the domain join.





# Installing the Prerequisites

For successful RayFlow web server setup, there are several prerequisites necessary on the systems.

#### Microsoft .NET Framework

Microsoft .NET Framework 3.5

.NET 3.5 SP1 is a requirement for installation of Microsoft SQL Server 2012 Express Advanced SP2. If your SQL server is on-box; follow the steps to install .NET 3.5 on Windows Server 2012 R2. Note: .NET Framework 3.5 is not part of Windows Server 2012 R2. Hence while trying to install it from the Server Manager UI, you will be asked to specify alternate source path of the installation files.

Start command prompt in administrative mode and enter this:

dism /online /enable-feature /featurename:NetFX3 /all /Source:d:\sources\sxs /LimitAccess

Note: Source should be Windows installation disk. In this case located on D: Microsoft .NET Framework 4.5

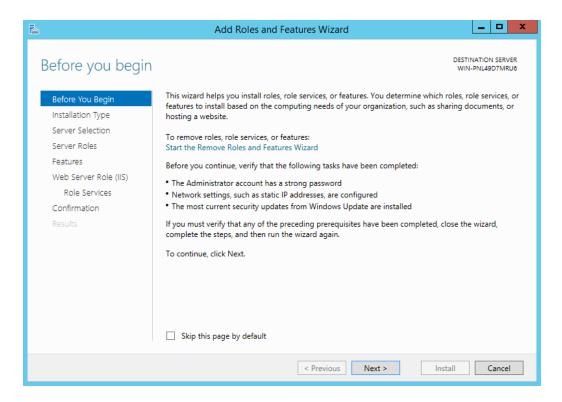
Fully update the Windows Server 2012 R2, as this will add .NET 4.5 which includes .NET 4.0



### Installing the Web Server Role(IIS)

Configure the Web Server Role to support HTTP/HTTPS/FTP transfer and web services. In a Windows environment, this is covered by the Internet Information Services (IIS)

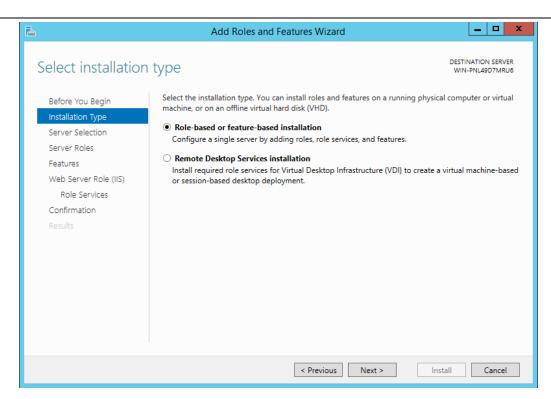
To begin a role or feature installation using the server manager interface, launch Server Manager first. Once launched, selecting the Add Roles and Features option from the Server Manager Command Bar launches the Roles and Features wizard. Upon launch, the Before You Begin pane displays to administrators to provide an overview of the wizard and the operations it can perform.



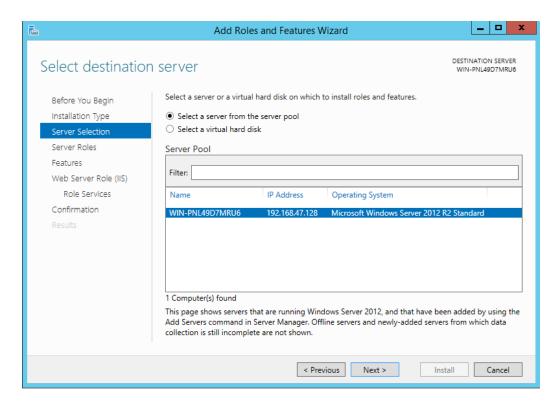
Select Next and proceed to the Select installation type pane.

Select Role-based or feature-based installation as the installation type and click Next.



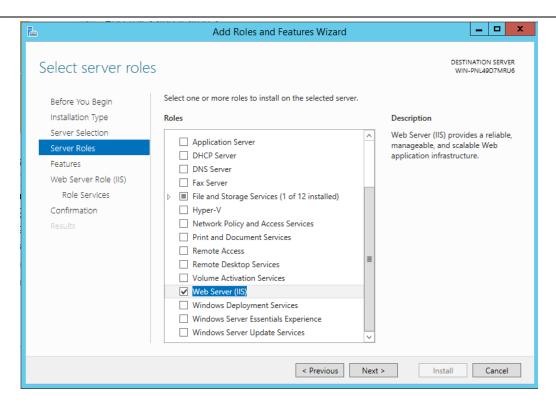


Select the destination server from the server pool and proceed to the Select Server Roles pane by clicking Next:

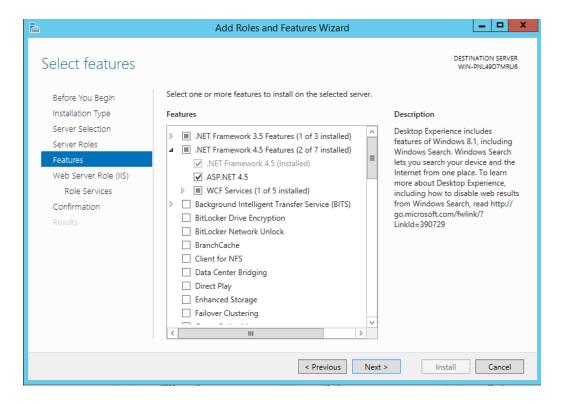


Select Web Server (IIS) in the Server Roles menu and click Next to proceed:



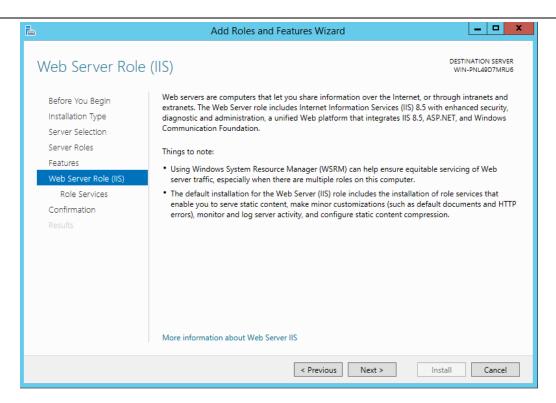


On the Features window, expand the .NET Framework 4.5 Features and then select ASP.NET 4.5



Click on the Next > button.



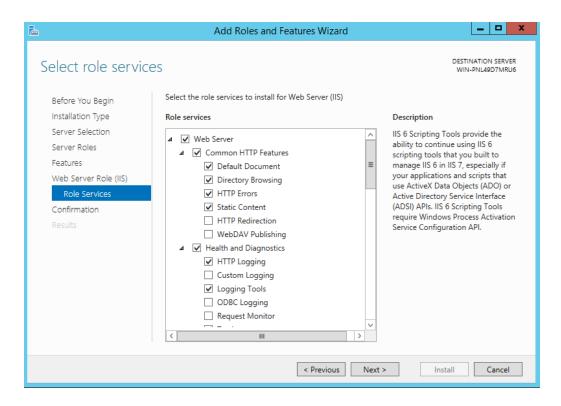


In Role Services, customize the installation by selecting following services and then click on the Next > button.

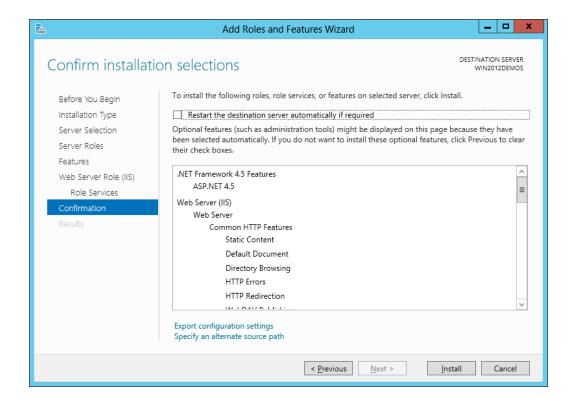


- Web Server
- Common HTTP Features
- ✓ Default Document
- ✓ Directory Browsing
- ✓ HTTP Errors
- ✓ Static Content
- Health and Diagnostics
- ✓ HTTP Logging
- √ Logging Tools
- ✓ Tracing
- o Performance
- ✓ Static Content Compression
- Security
- ✓ Request Filtering
- ✓ Digest Authentication
- Application Development
- ✓ .NET Extensibility 3.5
- ✓ .NET Extensibility 4.5
- ✓ ASP.NET 3.5
- ✓ ASP.NET 4.5
- ✓ ISAPI Extensions
- ✓ ISAPI Filters
- Management Tools
- ✓ ISS Management Console
- ✓ IIS6 Management Compatibility
- ✓ IIS 6 Metabase Compatibility
- ✓ IIS 6 Management Console
- ✓ IIS 6 Scripting Tools
- ✓ IIS6 WMI Compatibility
- ✓ IIS Management Scripts and Tools



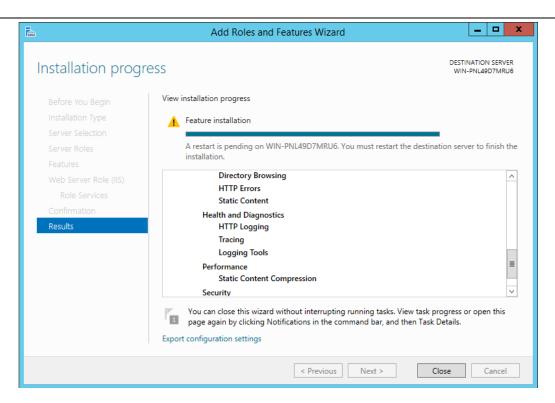


#### Click Install:



When the IIS installation completed, the wizard reflects the installation status:



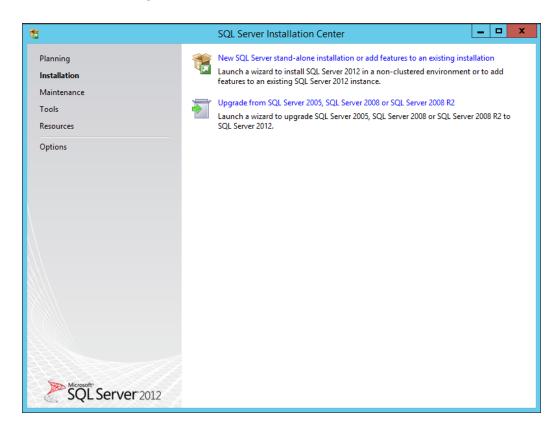


Click Close to exit the wizard and Restart your server.



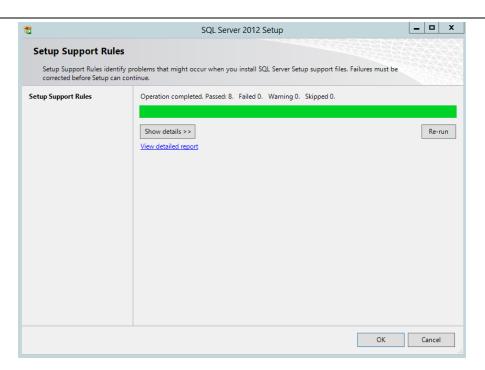
#### **SQL Server Installation**

To initialize the installation start the Setup.exe from DVD/ISO/fileshare Start the installation by selecting the option New SQL Server stand-alone installation or add feature to an existing installation.

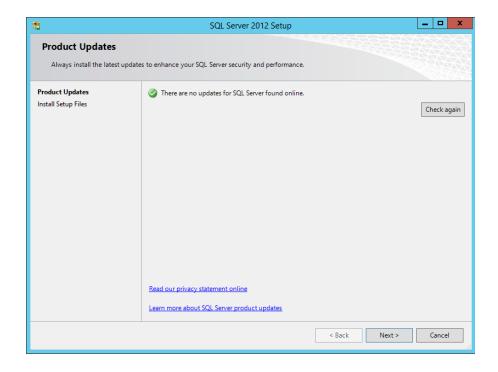


Skip the Setup Support Rules with the OK button when everything has passed In the next window enter the product key/select the version and click OK to proceed further.



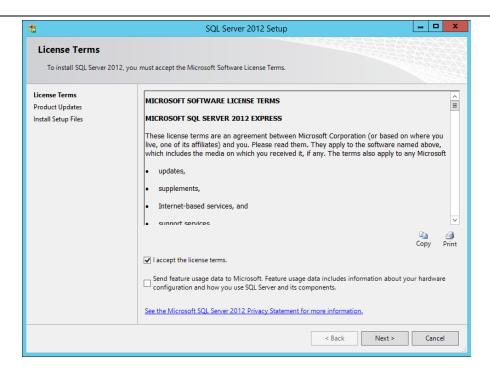


Check for updates if any and then click Next to proceed to the License Agreement window.

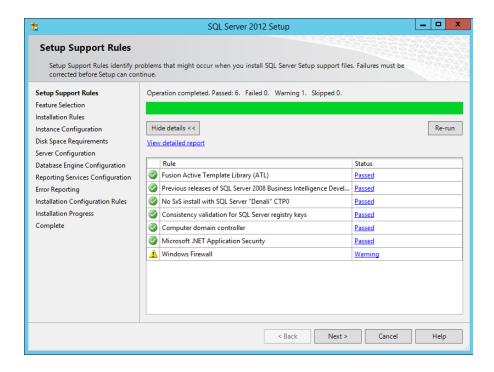


Accept the license terms and proceed further with Next.





Ensure that every Support Rule has passed and ignore the Windows Firewall warning. Click on the Next button.

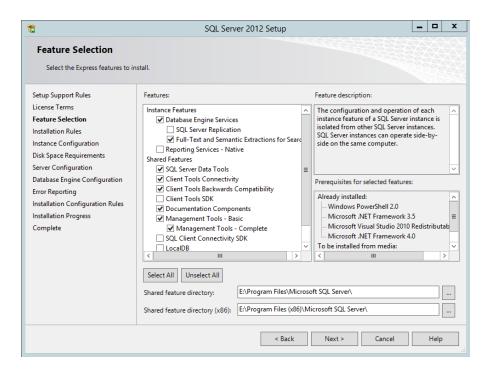


On the Feature Selection window select following features:



- Instance Features
- ✓ Database Engine Services
- ✓ Full-Text and Semantic Extractions for Search
- Shared Features
- ✓ SQL Server Data Tools
- ✓ Client Tools Connectivity
- ✓ Client Tools Backward Compatibility
- ✓ Documentation Components
- √ Management Tools Basic
- √ Management Tools Complete

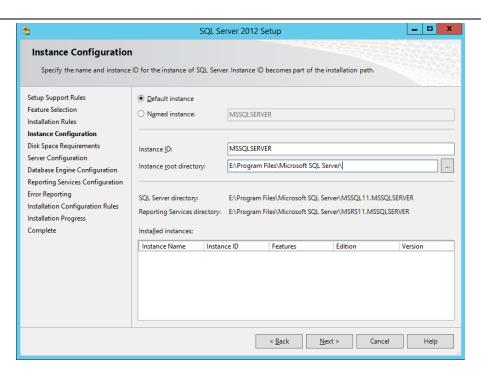
Specify the directory for your installation and click Next to proceed with the installation.



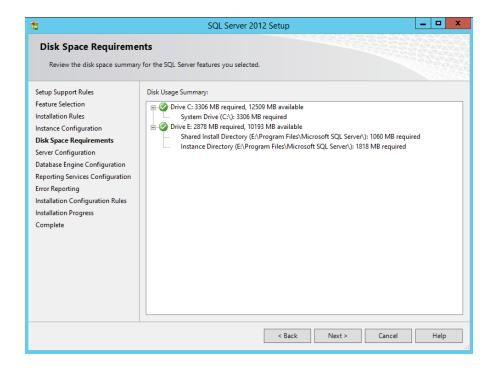
In the next step verify the installation Rules for Passed or Not Applicable and go on with the Next to the Instance Configuration.

Keep the configuration to the Default instance, settings, and directory.



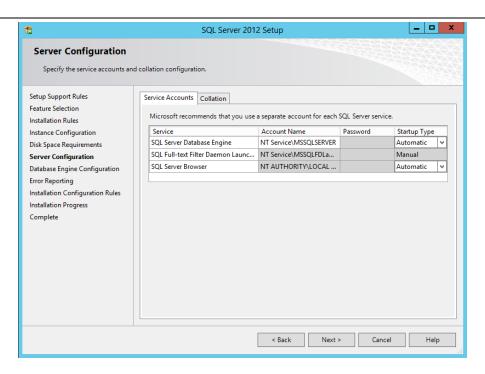


Verify that the Disk Space Requirements are fulfilled and proceed further.

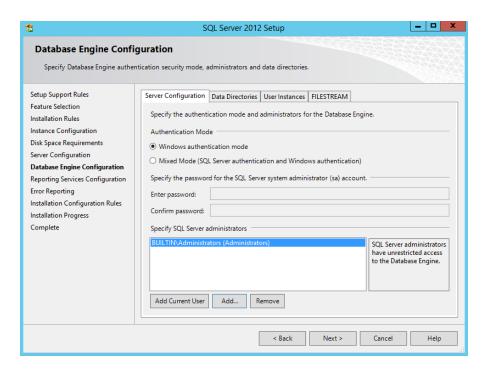


On the Server Configuration window set the SQL Server Browser service`s startup type to Automatic and then click Next to proceed with the installation.



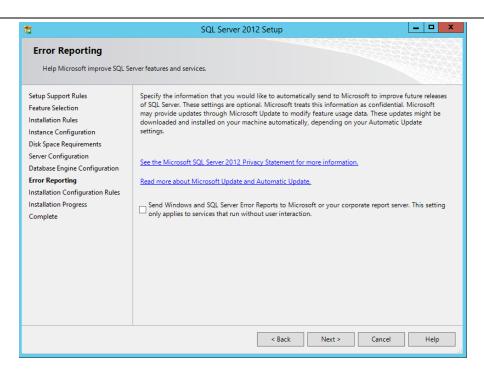


In the Database Engine Configuration set the SQL Server Administrators to Domain Admins and local System Admins and click Next to proceed.



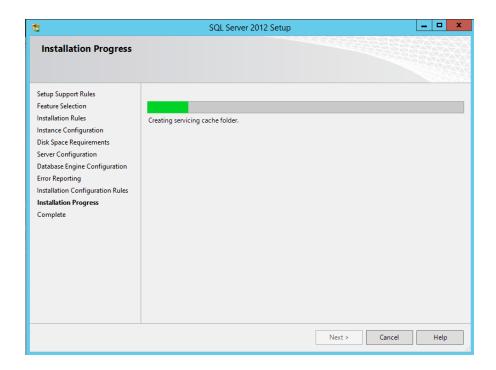
Skip the Error Reporting in next window.





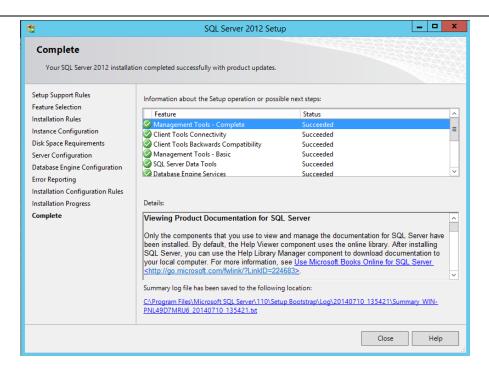
Verify that all the installation Configuration Rules are Passed or Not applicable and check if everything is ready to install in the next window

The Installation Progress is shown.



Verify if the Installation of various SQL Server features succeeded.







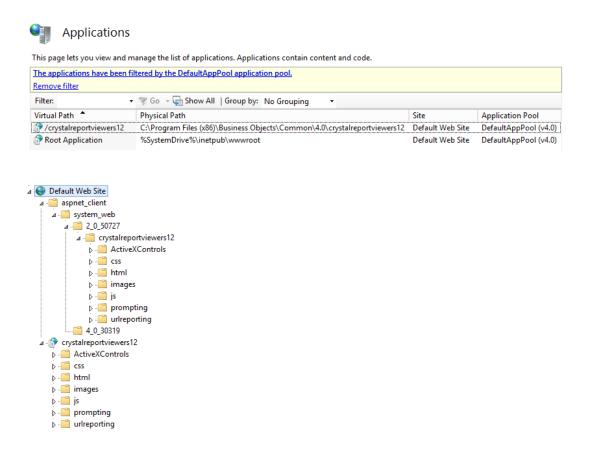
### **Installing Crystal Reports**

Installation of Crystal Reports is only required for users who are using Crystal Reports for Reporting

Install Crystal Reports 12.0 by running the following administrative command line:

```
msiexec.exe /I .\CRRuntime 12 0 mlb.msi /quiet /l*vx E:\crruntime.log
```

Crystal Reports will use the IIS's DefaultAppPool application pool as well as create the following IIS virtual directory and application:





### Installing Microsoft Report Viewer Runtime

Microsoft Report Viewer Runtime is required to view SQL Server Reporting Services (SSRS) reports in RayFlow.

Please refer to the following links for system requirements related to different versions of Microsoft Report Viewer Runtime.

#### **Microsoft Report Viewer 2012 Runtime**

http://www.microsoft.com/en-us/download/details.aspx?id=35747

#### Microsoft Report Viewer Redistributable 2008

http://www.microsoft.com/en-us/download/details.aspx?id=577

#### Report Viewer 2005 Service Pack 1

http://support.microsoft.com/kb/933137

Crystal Report 2008 Runtime (Only Required if Crystal Reports are used for reporting).

Follow the steps to successfully install Microsoft Runtime Viewer 2012.

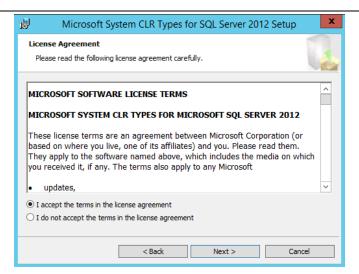
Download Microsoft SQL Server System CLR Types package and install it.

1. Start the CLR Types Installer. Click on the **Next** button.

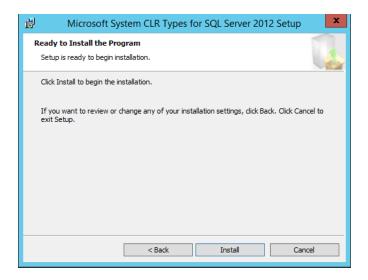


2. Agree to the terms and condition and click on the **Next** button.



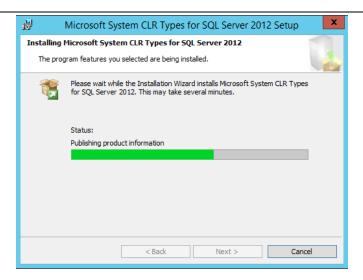


3. Click on the **Install** button.

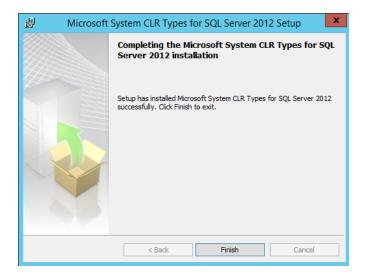


4. Installation progress is shown.





5. Click on the **Finish** button to finalize the installation.



Download Microsoft Report Viewer Runtime (link to the download page is provided at the start of this chapter).

1. Start the runtime installer and click on the **Next** button.



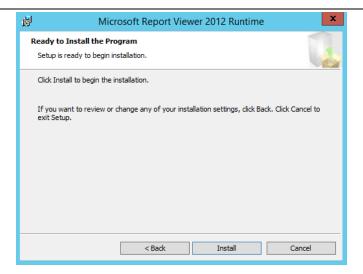


2. Agree to the terms and condition and click on the **Next** button.



3. Click on the **Install** button to initialize the installation routine.





4. Installation progress is shown.



5. Click on the **Finish** button to finalize the installation routine.







# RayFlow Server Deployment

Follow the steps mentioned below to successfully install RayFlow.

After installing the prerequisites for the RayFlow Server start the RayFlow installer.

1. RayFlow installer start-up page is shown. Click on the **Next** button to proceed.

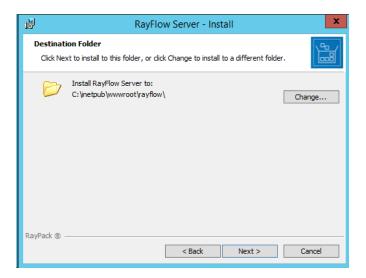


2. Read the license agreement. To proceed accept the license terms (activates the next button) and click on the **Next** button.

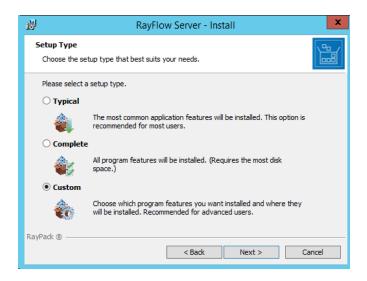




3. If the installation directory is required to be changed then click on the **Change..** button and select the new installation directory. Click on the **Next** button.

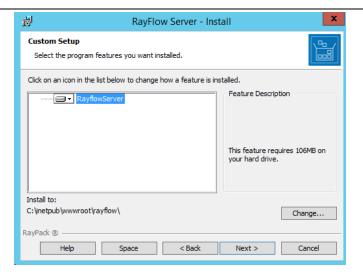


4. Setup type options are shown. Select the type as required.



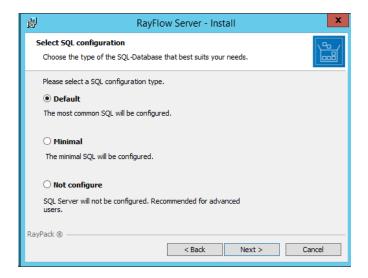
5. When **Custom** is selected as the installation type, The custom setup page is shown. Click on the **Next** button to proceed.





- 6. SQL Configuration options are shown:
- **Default**: When this option is selected, the installer creates RayFlow database and sets up a test project along with the default project into it.
- **Minimal**: RayFlow database is created and only default project.
- **Not Configure**: User can choose to manually configure RayFlow database.

Select the **Default** option and then click on the **Next** button.



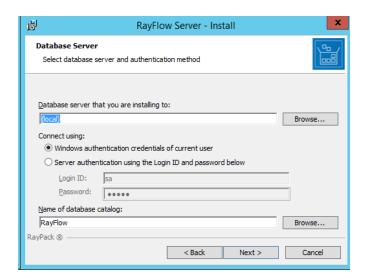
7. Select the SQL database on which RayFlow database will be hosted. If RayFlow server is on the same machine as SQL Server then simply leave default local.

In case the connection is made using SQL Server authentication, select the option and enter

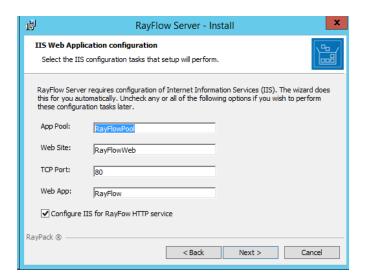


#### Login ID and Password.

Specify the name of the database catalog and then click **Next**.



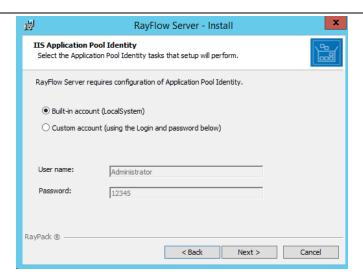
8. The installer checks the connection to SQL database and if successful the IIS Web Application configuration page is shown. Use default or specify the IIS Configuration properties and then click on the **Next** button.



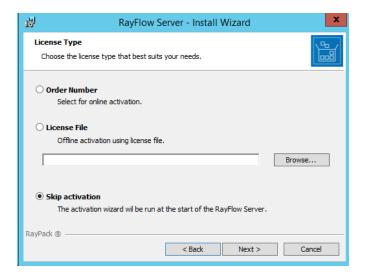
9. Local account can be used as the IIS Application Pool Identity. However, when the server is part of a domain, from security point of view a user can use a domain user as identity by selecting **Custom Account**.

Click on the **Next** button.



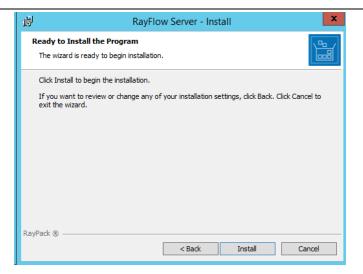


10. RayFlow server registration page is shown. If at hand provide the order number of license file for your RayFlow Server. Otherwise select **Skip activation** to activate later and then click **Next**.



11. Click on the **Install** button to startup the installation routine.



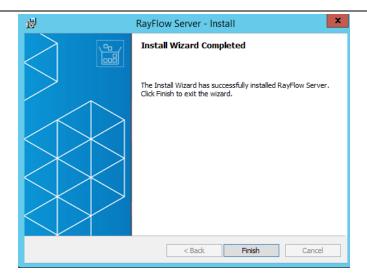


12. Installation progress is shown.



13. Click on the **Finish** button to finalize installation of RayFlow.





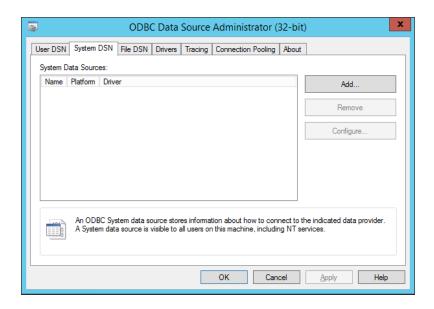
13. Launch RayFlow. The login page is loaded into the view. To continue to work on a project, a user will first need to activate RayFlow with a valid licence. For more information on license activation, please refer to Product Activation chapter of the RayFlow Server User and Administration Guide.



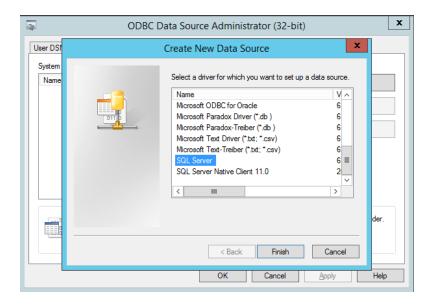
# **Establish ODBC Connection**

ODBC Connection is only required by the Crystal Reports and hence this section of the document is only valid for users who are using Crystal Reports as their reporting solution in RayFlow.

Run C: \Windows\SysWOW64\odbcad32.exe as Administrator in order to create a **System DSN ODBC** connection to the database.



Click on the **Add** button to add a new data source. This will open drivers list, for which you wish to create the data source. Scroll down the list and select **SQL Server** and then click **Finish**.





In the next dialog, as shown in the image below specify the name and description of your data source and then select the server and click **Next** > to proceed.



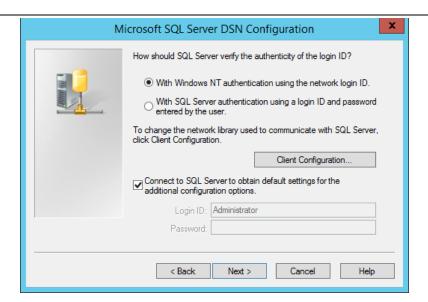
#### Note:

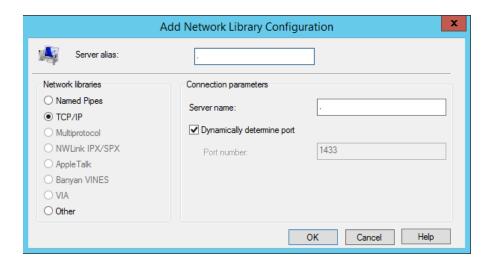
If the SQL Server is not listed in the dropdown list or if the dropdown list fails to load, manually enter the servers name. If the database resides on a named instance, enter server\_name\instance\_name. If a non-default SQL port is to be used, add:port\_number to the **Server** field value.



If a non-default SQL port is to be used, press the **Client Configuration...** button and then uncheck the **Dynamically determine port** check-box and enter the port number into its now active field as shown below. If the standard SQL port (1433) will be used, simply press the **Next** > button.

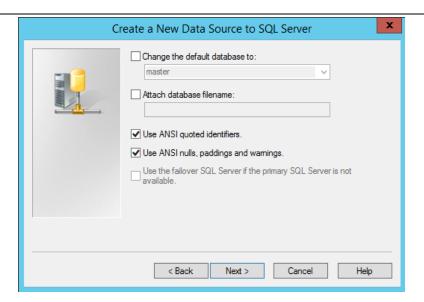




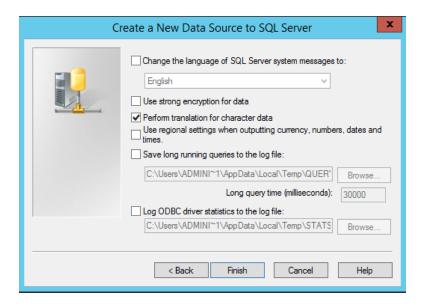


Click **Next** > to proceed.



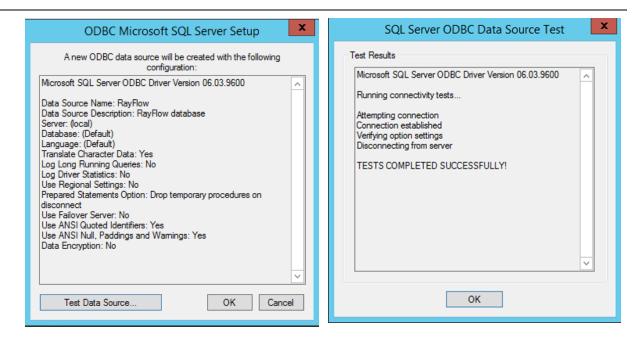


Click **Finish** to finalize adding the data source.

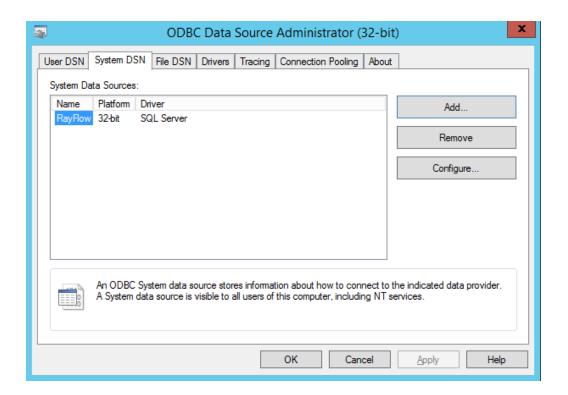


A dialog with summary of configuration is shown. Click on **Test Data Source** to test the connectivity.





Click **OK**, a new data source is now listed in the **ODBC Data Source Administrator**.





# Web.config

The following areas within the \RayFlow\web.config file need to be modified.

#### **Connection String**

A connection string is a string that specifies information about a data source and the means of connecting to it.

#### **Data Source**

.\ or localhost or servername or IP Address can be used if SQL is on-box. Servername or IP Address can be used if SQL is off-box. For named SQL instances, add a backslash and then enter the instance name (Data Source=servername\instancename).

To add the SQL port number use a comma followed by the port number (Data Source=servername,portnumber).

#### **Network Library**

If this parameter is left out, then Winsock TCP/IP (dbmssocn) will be used by default. If the SQL Native Client is configured to accept a different protocol, then include that parameter along with the relevant protocol name:

```
Named Pipes = dbnmpntw
Shared Memory = dbmslpcn
Winsock TCP/IP = dbmssocn
```

#### **Initial Catalog**

Enter the database name as this parameters value. If the database name has spaces, enter the name as-is (test database) instead of encapsulating ("test database").

#### Authentication

The Integrated Security=True parameter and value is used for Windows authentication.

For SQL authentication, use the following parameters with their required values: User ID=sql\_user\_name; Password=enter\_password

#### **Connect Timeout**

If this parameter is not included, then a .Net ADO connection timeout of 15 seconds is used by default.



#### Keep me signed in

It is possible to enable/disable the "Keep me signed in" checkbox on the RayFlow login page. When this checkbox is checked while login, a login cookie is issued in addition to the session management cookie.

This checkbox can be enabled/disabled via the web.config file.

```
<appSettings>
    <!-- AllowRememberMe = true: Show "Keep me signed in" checkbox
on the login page -->
    <add key="AllowRememberSetting" value="true" />
    </appSettings>
```

#### **SSL Cookies**

If your security standards require SSL Secured Cookies, you can enable the enforcement of SSL by setting the following flag: requireSSL="true"

```
<authentication mode="Forms">
     <form loginUrl="~/AccountLogin" timeout="2880"
cookieless="UseCookies" requireSSL="true" />
  </authentication>
```

Please note this flag is not set by default and requires the use of an SSL Certificate.



# RayFlow Server Upgrade

This chapter of the document is meant to help users upgrade from their existing RayFlow version to RayFlow 7.3.

# Migration from 1.x RayFlow Servers

If migrating from a 1.x RayFlow server to RayFlow 7.3, it is recommended to ask for the help of our consultants.

# Migration from 2.x RayFlow Servers or Higher to 7.3

### 1. Make a Backup of the Current System

(This step is optional but strongly recommended)

- A. Uninstall the Previous Version of RayFlow Server:
  - Start the SQL Server Management Studio.
  - Right-click on the existing RayFlow database and select Task > Back Up from the context menu.
- B. Backup the File System:
  - Go to the RayFlow Server Installation directory (%INSTALLDIR%).
  - Right-click on the directory and select Send To > Compressed Zip Folder.
  - Store the database and the file backups at a safe location.



#### Note:

The content of the previous related web.config file will later be needed for the edition of the new web.config file.

### 2. Uninstall the Previous RayFlow Server



#### Warning:

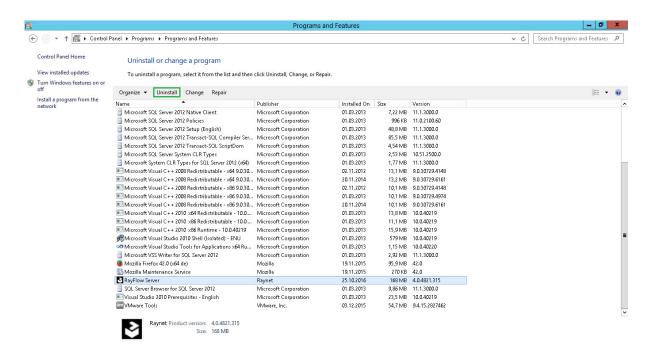
If step 1 has been skipped, make sure that the web.config file of the previous installation is kept available in a safe location.

After the old web.config file has been saved uninstall the old version of RayFlow Server.

To uninstall RayFlow Server use the Windows Control Panel. In the **Uninstall or change a program** section, select the entry for RayFlow Server. Right-click on the entry and select



#### Uninstall from the context menu.



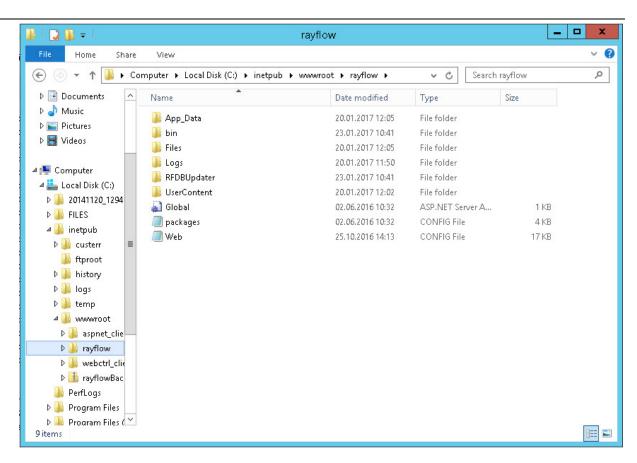


#### Be aware:

Folders which contain customized data (icons, license files, files uploaded to tasks, etc.) will not be deleted by this action and will remain in the %INSTALLDIR% or in its subfolders.

In the screenshot below there is an example of data that will remain after uninstalling the old RayFlow Server.





### 3. Installation of RayFlow Server 7.3

Install the current version of the RayFlow Server to the %INSTALLDIR% folder using the MSI installer. Detailed information on how to install the new RayFlow Server can be found in the chapter RayFlow Server Deployment in this guide.



#### Warning:

Skip the database creation during the installation!

## 4. Edition of the New Web.config File

Open the web.config file which is located in the %INSTALLDIR% in a text editor and replace the connection string with the connection string of the old web.config file (see either the first or the second step). Save the changes to the new web.config file.

#### Example:



providerName="System.Data.SqlClient"/>
</connectionStrings>

### 5. Upgrade the RayFlow Database

The database needs to be updated using the RayFlow-Updater. This is a simple console program which contains the four parameters which are necessary to update the RayFlow database to the latest state without the use of SQL scripts.

```
rfDBUpdater.exe -path %INSTALLDIR%\RFDBUpdater\ -upgrade -wait
```

The application itself is located in the following directory of the RayFlow Server installation: % INSTALLDIR%\RFDBUpdater\

#### Example of how to launch an update from a local folder:

```
rfDBUpdater.exe -upgrade -wait
```

#### Example of hof to launch an update from any folder:

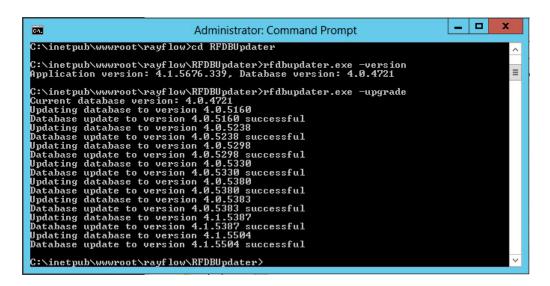
rfDBUpdater.exe -path %INSTALLDIR%\RFDBUpdater\ -upgrade -wait (with full path %
INSTALLDIR%)



#### **List of Arguments:**

-path: The path containing the RayFlow Server installation. It is necessary for the Database/ Connection string which will be taken from the web.config in the given path. At the same time, the path is the address of the SQL Scripts folder which also resides in the same folder. The path can be omitted if the command is launched from the RayFlow Server installation folder.

- -upgrade: Using this parameter will update the database to the latest state.
- -version: Get the current version of RayFlow.
- -wait: Wait for a key action.





#### Note:

If any errors are reported, please contact the support team.

## 6. Manual Configuration

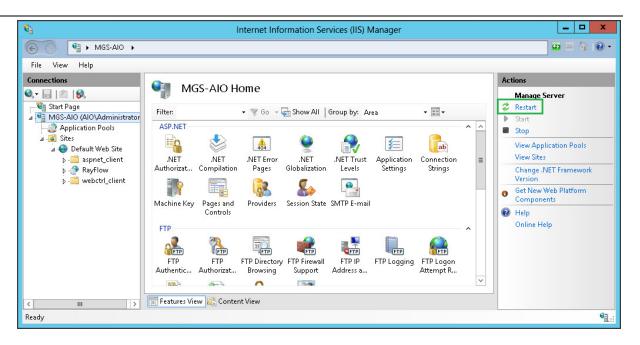
(The necessity of these steps depends on the environment.)

Internet Information Services (IIS) Restart

Restart the Internet Information Services either using the Internet Information Services Manager or via Command Prompt using the iisreset command line.

**Internet Information Services Manager:** 





#### "iisreset" Command Line:

```
Administrator: Command Prompt

Microsoft Windows [Version 6.2.9200]
(c) 2012 Microsoft Corporation. All rights reserved.

C:\Users\Administrator\istreset

Attempting stop...
Internet services successfully stopped
Attempting start...
Internet services successfully restarted

C:\Users\Administrator\_
```

#### RayFlow License

If the previously installed RayFlow Server version has been a version prior to 4.0, it will be necessary to activate the RayFlow Server using a new .rsl license file instead of the old .license files that were used previously to 4.0. In this case, reactivate your RayFlow license by using the license activation tool or contact the Support Team using our <a href="Support templates">Support templates</a>. Information on how to reactivate a Raynet Product License can also be found in our <a href="KnowledgeBase">KnowledgeBase</a>.



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