

11.2.8.a.2.1 EDRS Setup for Multiple Instances of ExamDeveloper



Configure IIS Web Server



Set up SearchService (EDSS) for multiple instances of ExamDeveloper



If you do not plan to use EDSS, you can skip to setting up ExamService.
[Set up ExamService for multiple instances of ExamDeveloper](#)



[ExamDeveloper setup home page](#)



The following is applicable only for ExamDeveloper version 7.1601.0.0 and above.



It is important to ensure that the following is installed and configured before you proceed with the EDRS installation and configuration, so that it works as expected:

- Microsoft Office 2010 (64-bit) or above, or Microsoft Access Database Engine 2010 Redistributable <http://www.microsoft.com/en-in/download/details.aspx?id=13255> (Download and install the file named *AccessDatabaseEngine_x64.exe*).
- Double click the following files found in the `<SVNFolder>\External\Import-Export\` folder. These files install the required registry entries.
JetDriver_ExcelImportSetting_64bitOffice.reg
JetDriver_ExcelImportSetting_64bitOffice_14.0.reg
- For the ED Application Pool in IIS, ensure that **Integrated** is selected for the **Managed pipeline** mode drop-down and **Enable 32-Bit Applications** setting is set to **False** under the **Advanced Settings** from the context menu as mentioned in [step 2 of IIS 7.0 Web Server Configuration](#).
- Reporting Services must be set up and ready as detailed in [Reporting Services Setup](#).

It is possible to run multiple instances of ExamDeveloper and its services on the same host. In such a scenario, each instance of ExamDeveloper needs a distinct installation of the services and a distinct RabbitMQ Virtual Host.



It is extremely important that the same RabbitMQ Virtual Host name should not be shared between different instances of ExamDeveloper, as this can result in issues such as data loss and security breach.

Create and configure additional RabbitMQ Virtual Host with its own user

The message traffic between the web site and services (such as EDRS) must be kept distinct for each instance of ExamDeveloper. This is accomplished using the Virtual Host feature of RabbitMQ. You must create additional Virtual Hosts in the same way as detailed in [Create and configure RabbitMQ Virtual Host](#) of the [RabbitMQ Setup and Configuration](#) page, but with a different Virtual Host name. In our example, this is *ExamDeveloper_New*.

Create a new user *ExamDeveloper_New* with password *Password_New* to access the *ExamDeveloper_New* Virtual Host, similar to how the first user is created in [Create a RabbitMQ user for EDRS](#) section of the [RabbitMQ Setup and Configuration](#) page



Remember

The above Virtual Host name, username, and password must be specified later in the *massTransit.config* files for ExamDeveloper and EDRS.

Install Additional Instance of EDRS

! It is important to ensure that all the values in the config files such as service name, URLs, username, and password are case-sensitive. ExamDeveloper may not run as expected if care is not taken to ensure that case sensitivity is maintained.

1. Create a folder where you want to install the new instance of EDRS, such as *C:\EDRS\ExamDeveloper_New* (henceforth known as *<EDRSinstallDir_New>*) and copy all the contents of *<SVNFolder>\EDRS* to this folder.
2. Update the configuration files for the new instance of EDRS located in *C:\EDRS\ExamDeveloper_New\configs\ (<EDRSinstallDir_New>\configs)* - *connectionStrings.config*, *appSettings.config*, *massTransit.config*, *httpClients.config*, and *log4net.config* - with Notepad or a suitable text file editor.
 - a. Update the *connectionStrings.config* of the new instance of EDRS for the values of the "connectionString" keys "Data Source", "Initial Catalog", "User ID", and "Password" as below:.

! Do not modify the value of "name" from "examDeveloper" to any other value as this will result in EDRS not being able to run.

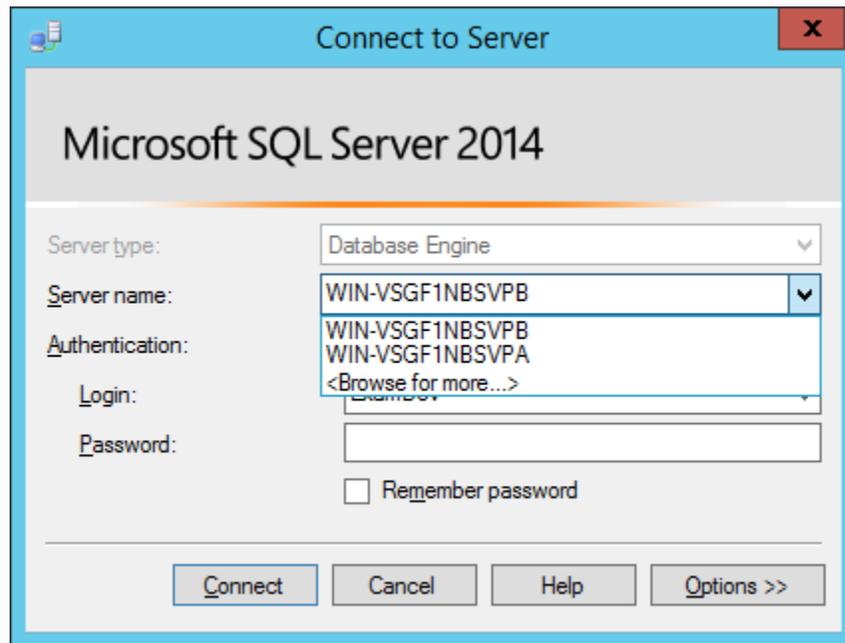
```
<add name="examDeveloper" connectionString="Data Source=WIN-VSGF1NBSVPB;Initial Catalog=ExamDeveloper_New;Persist Security Info=True;User ID=ExamDev_New;Password=P@s$w0rd_New"/>
```

where,

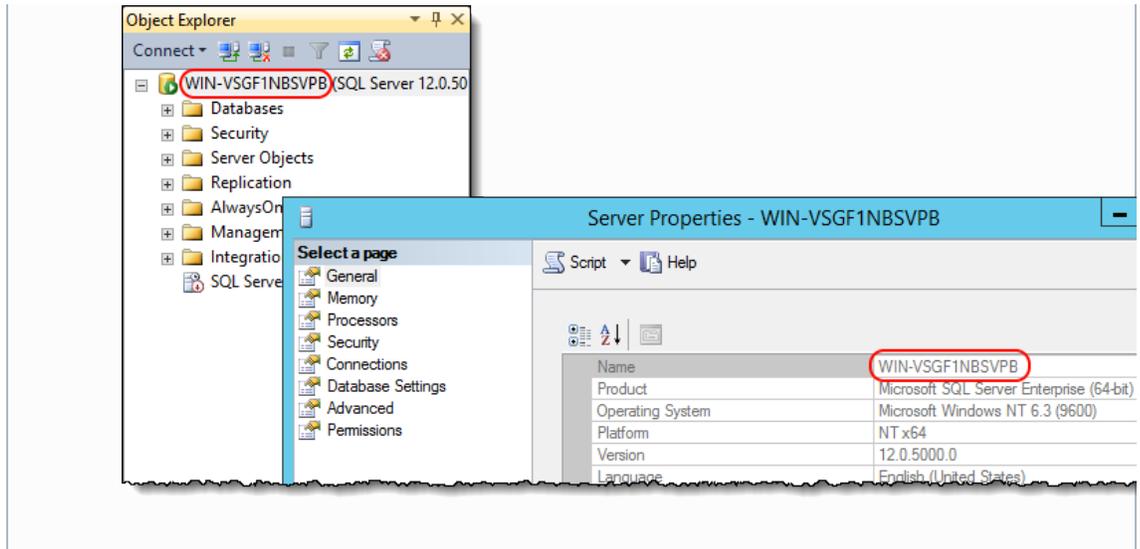
- *Data Source* = Name of SQL Server instance. You can identify the name of the SQL Server instance being used for the new instance of ExamDeveloper as detailed in [SQL Server Database Setup](#).

i [To learn how to identify the SQL Server instance when there are more than one instances, click here to expand...](#)

If you have more than one instances of SQL Servers, then you must select the one you need to connect to use with ExamDeveloper as shown in the Connection window below.



You can later identify the name of the SQL Server instance by right-clicking the Server node in the SQL Server, clicking **Properties**, then selecting **General** page in the left pane of the **Server Properties** page, and observing the **Name** in the right pane as shown below.



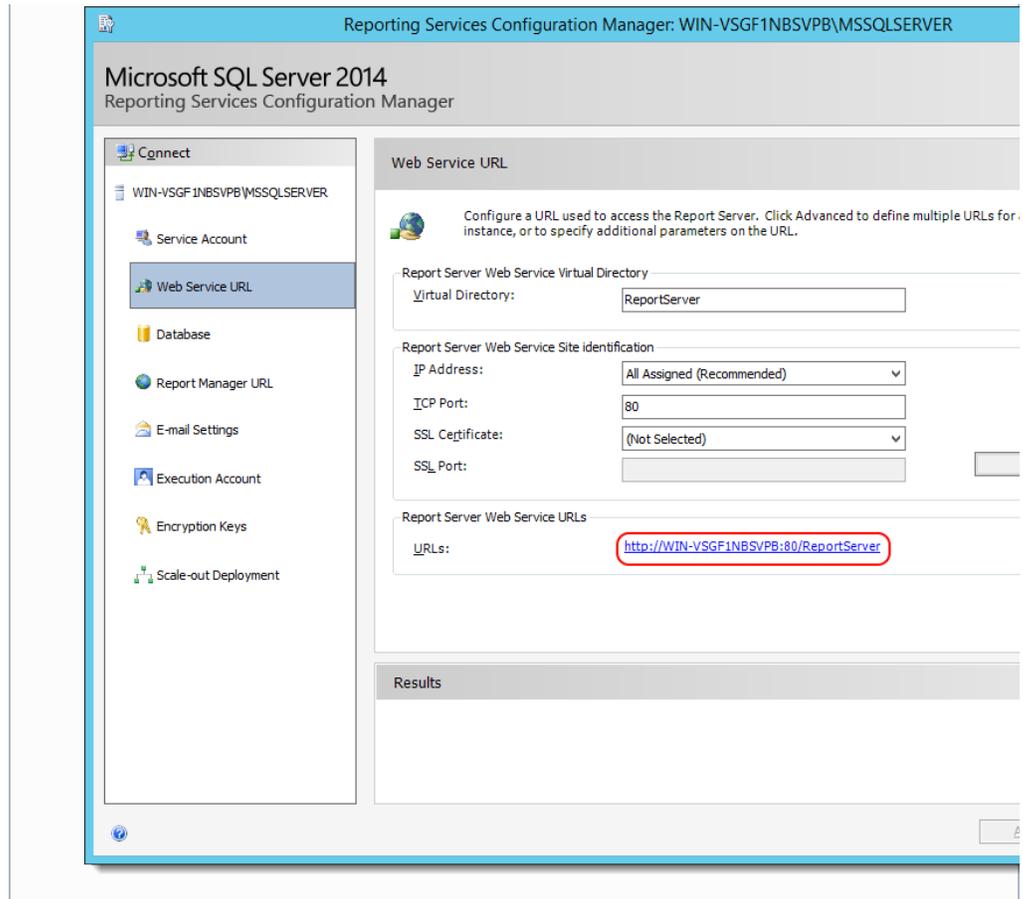
- **Initial Catalog** = ExamDeveloper_New (which is the new instance **ExamDeveloper Database**).
- **User ID** = Username of the SQL Server User who owns the database. This was created during **SQL Server Database Setup** under **SQL Server user management**. In our example, this is "ExamDev_New".
- **Password** = Password of the SQL Server who owns the database. This was created during **SQL Server Database Setup** under **SQL Server user management**. In our example, this is "P@s\$w0rd_New".

This connection string needs to match the new instance application's connection string from the ExamDeveloper *connectionStrings.config* as shown in **step 9 of Configure ExamDeveloper**.

b. Update the key values in *appSettings.config* of the new instance of EDRS as below:

- Update the *appSettings.config* for the keys related to the Report Server in the new instance ExamDeveloper *appSettings.config* as shown in **step 6 of Configure ExamDeveloper**. This includes values for "reportServerUrl", "reportServerUserName", "reportServerPassword", and "reportServerDomainName".
 - **reportServerUrl** = Report Server Web Service URL shown on the **Web Service URL** tab of the **Reporting Services Configuration Manager**.
 - ▼ [Where is the Report Server Web Service URL? Click to learn...](#)

i The Report Server Web Service URL can be found by clicking the **Web Service URL** link on the left as shown below. If the URL is too long, some part of the URL may not be visible. In such a case, you can hover the mouse cursor over the URL and note it down from the tool tip.



- *reportServerPath* = the folder name and path of the reporting services application folder created in **step 7 of Setting up Reporting Services application folder**, which is /ExamDeveloper/ in our example.
- *reportServerUserName* = the administrative username used to log into the *Report Manager*, in **step 8 of Setting up Reporting Services application folder**.
- *reportServerPassword* = the password for the administrative username used to log into the *Report Manager*, in **step 8 of Setting up Reporting Services application folder**.
- *reportServerDomainName* = domain property specifies the domain or realm to which the user name belongs. Typically, this is the host computer name where the reporting services runs or the user domain for the user configured.

These values need to match the values in the new instance ExamDeveloper *appSettings.config* as shown in **step 6 of Configure ExamDeveloper**.

ii. Modify

```
<add key="serviceDisplayName" value="Unique EDRS DisplayName"/>
```

to

```
<add key="serviceDisplayName" value="UniqueEDRSServiceDisplayName_New"/>
```

where *UniqueEDRSServiceDisplayName_New* is the unique display name given to the new instance of EDRS service. This name needs to be unique per install and must not contain spaces.

iii. Modify

```
<add key="serviceName" value="Unique EDRS Name"/>
```

to

```
<add key="serviceName" value="UniqueEDRSServiceName_New"/>
```

where *UniqueEDRSServiceName_New* is the unique name given to the new instance of EDRS service. This name needs to be unique per install and must not contain spaces.

iv. Modify

```
<add key="outputDirectory" value=""/>
```

to

```
<add key="outputDirectory" value="C:\ExamDeveloper\AppData\ExamDeveloper_New\Reports"/>
```

You need to ensure that the value of the "outputDirectory" key specified in the *appSettings.config* of the new EDRS instance must match the value for the "EdrsOutputDirectory" specified from the *appSettings.config* of ExamDeveloper_New (that will be using this instance of EDRS) as stated in [step 7 of Configure ExamDeveloper](#). This is the location where reports generated by EDRS are stored.

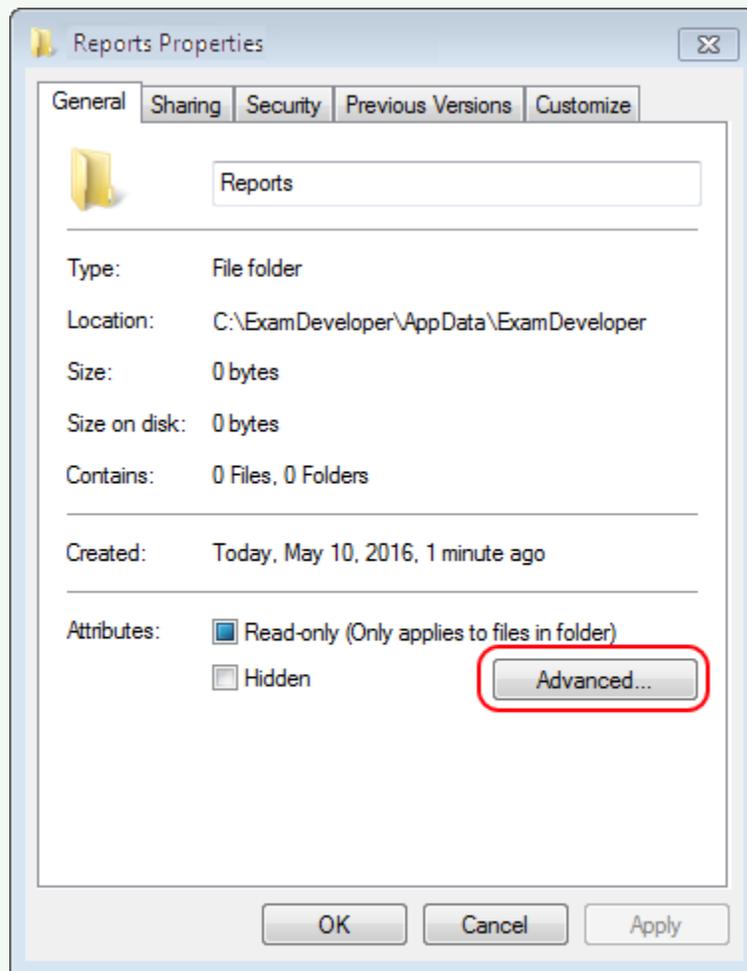
Both, the new instance of EDRS and the new instance of ExamDeveloper application must have access to this folder, which can be achieved in a way similar to how it is detailed in [Grant Write Access for the Application Data Folder to Network User](#).



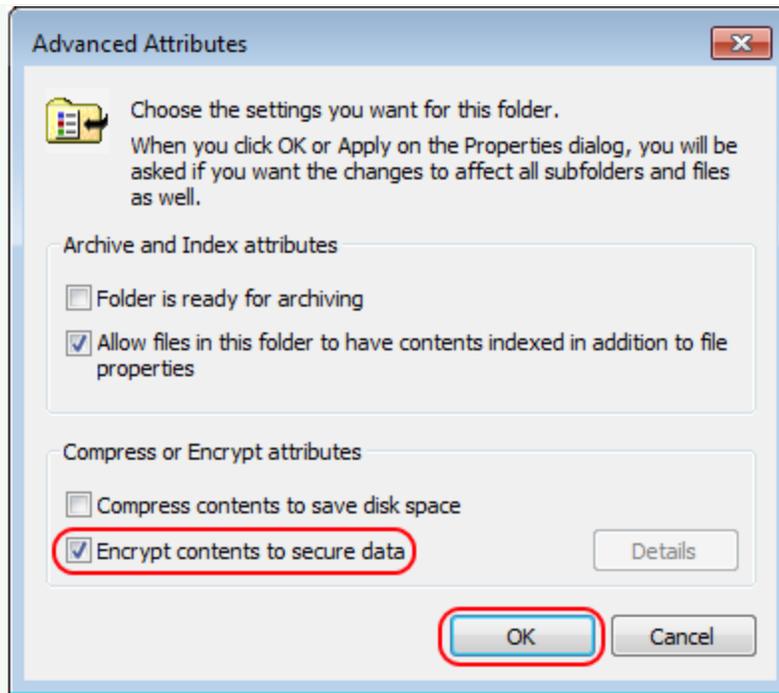
It is prudent, in the interest of data security, to encrypt the folder where EDRS stores its output. This can be done as follows:

▼ [How to encrypt the folder where EDRS stores its output? Click to expand...](#)

1. Open **File Explorer** in Windows and right-click the folder specified in the "outputDirectory" key of the EDRS *appSettings.config* file and click **Properties**.
2. In the folder **Properties** dialog, click the **Advanced** button.



3. In the **Advanced Attributes** dialog box that appears, check the **Encrypt contents to secure data** option and click **OK**.



4. Click **OK** to close the folder Properties window.

The current contents of the selected folder are now encrypted and any files or folders that are placed into it in the future will also be encrypted.



Step 2.b.v is applicable only for **ExamDeveloper version 7.1604.0.0 and above**.

- v. Ensure that the values of the keys *basicAuthUserName* and *basicAuthPassword* match the values from the new instance ExamDeveloper *httpClients.config* of the keys "userName" and "password" respectively for the line with httpClientConfig name "EDRS" as in [step 11 of Configure ExamDeveloper](#).

```
<add key="basicAuthUserName" value="examDeveloper_New"/>
<add key="basicAuthPassword" value="Dummy_Password_New"/>
```

- vi. If a line with the key "useSsl" exists, set the value to "true" as follows:

```
<add key="useSsl" value="true"/>
```

- vii. If a line with the key "relativeUri" exists, set the value to "UniqueEDRSServiceName_New" as follows:

```
<add key="relativeUri" value="UniqueEDRSServiceName_New"/>
```

where *UniqueEDRSServiceName_New* is the name of the new instance of the EDRS service.

- c. Update the *massTransit.config* file of the new instance of EDRS as shown below:

- i. Update the *massTransit/host/rabbit@hostAddress* attribute to append the name of the new Virtual Host created in **Configure and install additional RabbitMQ Virtual Host** accessible to the new user *ExamDeveloper_New* with password *Password_New*.

e.g., if the default value is *rabbitmq://hostname*, and your new Virtual Host is named *ExamDeveloper_New*, the new host Address attribute value would become

```
<"rabbitmq://localhost/ExamDeveloper_New", username="ExamDeveloper_New", and password="Password_New"/>
```



If RabbitMQ is installed on a separate server, then you must substitute "localhost" with the hostname of that server. If *RabbitMQ-URL* is the server hostname where RabbitMQ is installed, then the line becomes as below:

```
<rabbit hostAddress="rabbitmq://RabbitMQ-URL/ExamDeveloper_New" username="ExamDeveloper_New" password="Password_New"/>
```



It is extremely important that the same RabbitMQ Virtual Host name should not be shared between different instances of ExamDeveloper, as this can result in issues such as data loss and security breach. It is important to ensure that the RabbitMQ Virtual Host name, username, and password are case-sensitive. You will encounter an error while trying to log into ExamDeveloper if care is not taken to ensure that both are specified exactly as they are in the new RabbitMQ Virtual Host and user setup for this instance of the ExamDeveloper application.

- ii. You need to ensure that the address specified in the *massTransit.config* of the new EDRS instance must match the address specified in the corresponding *massTransit.config* of ExamDeveloper_New (that will be using this instance of EDRS) as stated in [step 10 of Configure ExamDeveloper](#).



Step 2.d is applicable only for **ExamDeveloper version 7.1604.0.0 and above**.

- d. Update the *httpClient.config* of the new instance of EDRS for the line with the "name" as "ExamDev" entry as shown below:

```
<httpClientConfig name="ExamDev" url="https://ED-HostName_New/ExamDeveloper_New" userName="examDeveloper_New" password="Dummy_Password_New" />
```

The values of the keys "username" and "password" have to be same as the values from the new instance ExamDeveloper's *appSettings.config* of the keys *ApiAuthenticationUserName* and *ApiAuthenticationPassword* respectively as mentioned in [step 8 of Configure ExamDeveloper](#).

The value of "url" is the server hostname *ED-HostName_New* where the new instance of ExamDeveloper is installed, with the name of the new instance of the ExamDeveloper application *ExamDeveloper_New* appended to it. It is important to ensure that "https" and not "http" is used in the "url" value.

For example, if the application URL is *https://examdev-new.pearsonvue.com/ExamDeveloper_New*, then the line will appear as below:

```
<httpClientConfig name="ExamDev" url="https://examdev-new.pearsonvue.com/ExamDeveloper_New" userName="examDeveloper_New" password="Dummy_Password_New"/>
```



The port number need not be specified here and is deemed to be "443", which is determined from the usage of "https" in the "url" value.

In the unlikely scenario where a different port number has been specified for the new instance of the ExamDeveloper application in IIS, you will need to specify that port number over here. For example, if the port number is "11401" the line will appear as below:

```
<httpClientConfig name="ExamDev" url="https://ED-HostName_New/ExamDeveloper_New" userName="examDeveloper_New" password="Dummy_Password_New" port="11401"/>
```

Or if the URL for the new instance of ExamDeveloper is *https://examdev.pearsonvue-new.com/ExamDeveloper_New*, then the line will appear as below:

```
<httpClientConfig name="ExamDev" url="https://examdev.pearsonvue-new.com/ExamDeveloper_New:11401" userName="examDeveloper_New" password="Dummy_Password_New" />
```



The below modifications of EDRS *httpClient.config* are applicable only for **ExamDeveloper version 7.1701.0.0 and above**.

- i. For the line with the "name" as "UserService" entry, the values of the keys "userName" and "password" have to be same as the values from the new instance User service *appSettings.config* of the keys "basicAuthUserName" and "basicAuthPassword" respectively as mentioned in [step 4 of the new instance User service setup](#).

```
<httpClientConfig name="UserService" url="https://App-HostName_New/UniqueUserName_New"
userName="examDeveloper_New" password="Dummy_Password_New"/>
```

The value of "url" is the server hostname *App-HostName_New* where the new instance of User service is installed, with the new instance User service name appended to it, which is "UniqueUserName_New" in our example. It is important to ensure that "https" and not "http" is used in the "url" value. For example, if the hostname where the new instance User service is installed is *examdevapp.pearsonvue-new.com*, then the line will appear as below:

```
<httpClientConfig name="UserService" url="https://examdevapp.pearsonvue-new.com/UniqueUserName_New"
userName="examDeveloper_New" password="Dummy_Password_New"/>
```

- ii. For the line with the "name" as "ProjectService" entry, the values of the keys "userName" and "password" have to be same as the values from the new instance Project service *appSettings.config* of the keys "basicAuthUserName" and "basicAuthPassword" respectively as mentioned in [step 4 of the new instance Project service setup](#).

```
<httpClientConfig name="ProjectService" url="https://App-HostName_New/UniqueProjectServiceName_New"
userName="examDeveloper_New" password="Dummy_Password_New"/>
```

The value of "url" is the server hostname *App-HostName_New* where the new instance of Project service is installed, with the new instance Project service name appended to it, which is "UniqueProjectServiceName_New" in our example. It is important to ensure that "https" and not "http" is used in the "url" value. For example, if the hostname where the new instance Project service is installed is *https://examdevapp.pearsonvue-new.com/*, then the line will appear as below:

```
<httpClientConfig name="ProjectService" url="https://examdevapp.pearsonvue-new.com/UniqueProjectServiceName_New"
userName="examDeveloper_New" password="Dummy_Password_New"/>
```

- iii. For the line with the "name" as "ItemBankService" entry, the values of the keys "userName" and "password" have to be same as the values from the new instance ItemBank service *appSettings.config* of the keys "basicAuthUserName" and "basicAuthPassword" respectively as mentioned in [step 4 of the new instance of ItemBank service setup](#).

```
<httpClientConfig name="ItemBankService" url="https://App-HostName_New/UniqueItemBankServiceName_New"
userName="examDeveloper_New" password="Dummy_Password_New"/>
```

The value of "url" is the server hostname *App-HostName_New* where the new instance of ItemBank service is installed, with the new instance ItemBank service name appended to it, which is "UniqueItemBankServiceName_New" in our example. It is important to ensure that "https" and not "http" is used in the "url" value. For example, if the hostname where the new instance ItemBank service is installed is *https://examdevapp.pearsonvue-new.com/*, then the line will appear as below:

```
<httpClientConfig name="ItemBankService" url="https://examdevapp.pearsonvue-new.com/UniqueItemBankServiceName_New"
userName="examDeveloper_New" password="Dummy_Password_New"/>
```

- iv. Add the following line below `<httpClientConfig name="ItemBankService".../>` (if not already present):

```
<httpClientConfig name="AssignmentService" url="https://localhost/assignment" userName="examDeveloper"
password="Dummy_Password"/>
```

- e. Update the values in the `<log4net>` section of the *log4net.config* file as shown below to indicate the path where the log file for the new instance of EDRS is to be located.

```
<log4net>
  <appender name="RollingFile" type="log4net.Appender.RollingFileAppender">
    <file value="C:\ExamDeveloperData\Logs\EDRS_New\ReportService.log" />
```

Here, the log file *ReportService.log* will save to the EDRS folder by default (*C:\EDRS\ExamDeveloper_New* in our example). You can specify a different path to save it by modifying the value to something like *"C:\ExamDeveloperData\Logs\EDRS_New\ReportService.log"* as shown above.

3. Open an Administrator command prompt and run the following command:

```
netsh http add urlacl url=https://+:443/UniqueEDRSServiceName_New user=Everyone
```

where *UniqueEDRSServiceName_New* is the name of the new instance of the EDRS service.



If you get an error stating "Url reservation add failed" on running the above command, please ignore it as it means that this has

already been taken care of.

4. Install the new instance of the EDRS service:

To do this, open an Administrator command prompt (click the **Start** button, type "*command*" in the search box, right click **Command Prompt** in the search results that appear, and click **Run as administrator** from the context menu), navigate to *<EDRSinstallDir_New>*, and run the following command:

```
edrs.exe install --sudo --localservice
```

Here, *edrs.exe* is the name of the EDRS service executable file. This file may be available with any other name in the format *[Application Name].exe* such as *edrs.exe*.

5. Start the new instance of the EDRS service:

After installing the EDRS service, open the Administrator command prompt, navigate to *<EDRSinstallDir_New>* and run the following command:

```
edrs.exe start
```

▼ [If you need to stop or uninstall the EDRS service, click here to learn how...](#)

Stop the EDRS service

1. Open the Administrator command prompt and navigate to *<EDRSinstallDir_New>*.
2. To stop the installed service, run the following command:

```
edrs.exe stop
```

Uninstall the EDRS service

1. Open the Administrator command prompt and navigate to *<EDRSinstallDir_New>*.
2. First stop the service by running the following command:

```
edrs.exe stop
```

3. To uninstall the new instance of the service, run command:

```
edrs.exe uninstall --sudo --localservice
```



Please visit [EDRS Configuration Settings](#) to learn more about the various settings mentioned above.

[Return to the top of the page.](#)



[Set up SearchService \(EDSS\) for multiple instances of ExamDeveloper](#)



If you do not plan to use EDSS, you can skip to setting up ExamService.
[Set up ExamService for multiple instances of ExamDeveloper](#)



[Configure IIS Web Server](#)



[ExamDeveloper setup home page](#)