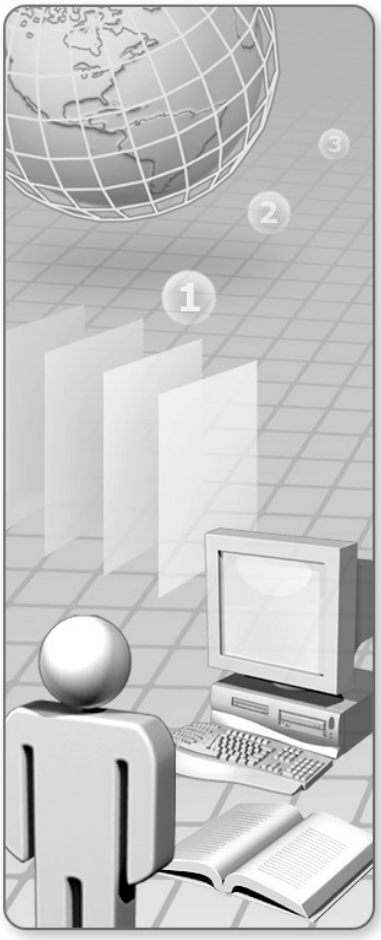
Microsoft

# SQLHOL07: Managing the Reporting Services Infrastructure

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# Before You Begin

## Estimated time to complete this lab

60 minutes

## Objectives

After completing this lab, you will be able to:

- Manage Reporting Services configuration.
- Manage security roles.
- Configure reports by using subscriptions.

## Prerequisites

Before working on this lab, you must have:

- A working knowledge of creating and deploying reports.

## Lab scenario

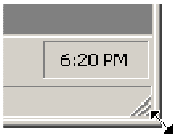
Adventure Works Cycles has used Reporting Services to create a number of reports summarizing sales and other related data. You have been asked to configure subscriptions for one of the reports so that the reports can be delivered against a schedule. You are also tasked with configuring security and integrating some of the reports with Microsoft® Office SharePoint® Server 2007.

## Virtual PC

This lab makes use of Microsoft Virtual PC 2007, which is an application that allows you to run multiple virtual computers on the same physical hardware. During the lab, you will switch among different windows, each of which contains a separate virtual machine running Windows Server® 2003.

Before you start the lab, familiarize yourself with the following basics of Virtual PC:

- To switch the focus for your mouse and keyboard to the virtual machine, click inside the virtual machine window.
- To remove the focus from a virtual machine, move the mouse pointer outside the virtual machine window.
- To mimic the CTRL+ALT+DELETE key combination inside a virtual machine, use RIGHT-ALT+DELETE. In Virtual PC, the RIGHT-ALT key is called the host key.
- To enlarge the size of the virtual machine window, drag the lower-right corner of the window as seen in the screenshot.




- To switch to and from full-screen mode, press RIGHT-ALT+ENTER.

## Computers in this lab

This lab uses one computer as described in the following table. Before you begin the lab, you must start the virtual machines and then log on to the computer. In each exercise, you only have to start the virtual machine that is needed.

| Virtual Machine | Computer Name | User Name | Password |
|---|---|---|---|
| SQL Server 2008 HOLs | MIAMI | Student | Pa$$w0rd |

## Start the virtual machine

1. Launch Microsoft Virtual PC from the **Start** menu or desktop. If the Virtual PC console does not appear, double-click its icon in the notification area.
2. Select **SQL Server 2008 HOLs**, and then click **Start**.
3. When the virtual server is running, in the virtual server window, on the **Action** menu, click **Ctrl+Alt+Del** (or press RIGHT-ALT+DELETE on your keyboard) to send a CTRL+ALT+DEL sequence to the logon dialog box within the virtual server window.
4. Type the following information, and then click **OK**:
   - User name: **Student**
   - Password: **P@ssw0rd**

# Exercise 1: Configuring Reporting Services

In this exercise, you will use Reporting Services Configuration Manager to view and configure Reporting Services settings. Reporting Services Configuration Manager provides a comprehensive configuration tool that you can use to manage all aspects of Reporting Services configuration.

## View Reporting Services configuration settings

1. Click **Start**, point to **All Programs**, point to **Microsoft SQL Server 2008**, point to **Configuration Tools**, and then click **Reporting Services Configuration**.
2. When prompted, connect to the **MSSQLSERVER** Report Server instance on **MIAMI**.
3. With **MIAMI\MSSQLSERVER** selected in the **Connect** pane, note that you can use Reporting Services Configuration Manager to view and manage the status of the Report Server service.
4. In the **Connect** pane, click **Service Account** and note that you can use Reporting Services Configuration Manager to view and manage the service account used by Reporting Services.
5. In the **Connect** pane, click **Web Service URL** and note that you can use Reporting Services Configuration Manager to view and manage the Web service used by Reporting Services. Note that the Web service for this instance is configured to listen on port 8080.
6. In the **Connect** pane, click **Database** and note that you can use Reporting Services Configuration Manager to view and manage the database used by Reporting Services and the credentials used to connect to it. This is also where you can see in which mode (*Native* or *SharePoint Integrated*) Reporting Services is configured to run.
7. In the **Connect** pane, click **Report Manager URL** and note that you can use Reporting Services Configuration Manager to view and manage the Web site used to host Report Manager, the Web-based report access and management tool for Reporting Services.
8. In the **Connect** pane, click **Email Settings** and note that you can use Reporting Services Configuration Manager to view and manage the SMTP settings used by Reporting Services to send e-mail messages.
9. In the **Connect** pane, click **Execution Account** and note that you can use Reporting Services Configuration Manager to view and manage the account used by Reporting Services to access resources on remote servers or data sources that do not require credentials.
10. In the **Connect** pane, click **Encryption keys** and note that you can use Reporting Services Configuration Manager to manage the encryption keys used by Reporting Services to encrypt sensitive data.

11. In the **Connect** pane, click **Scale-out Deployment** and note that you can use Reporting Services Configuration Manager to join multiple reporting servers in a Web farm to maximize scalability.

## Back up Reporting Services encryption keys

1. In the **Connect** pane, click **Encryption keys**.
2. In the **Backup** section, click **Backup**.
3. Next to the **File location** box, click the ellipsis, browse to C:\SQLHOLS\Managing the Report Services Infrastructure\Starter, enter the file name **RSKeys.snk** and then click **Save**.
4. In the **Password** and **Confirm Password** boxes, type **Pa$$w0rd** and then click **OK**.

> **Note**: You should back up the encryption keys for your Reporting Services instances. You will need these keys if you move or migrate the report server installation to another computer.

## Configure Reporting Services e-mail settings

1. In the **Connect** pane, click **Email Settings**.
2. In the **Sender Address** box, type **SQLService@adventure-works.com**
3. In the **SMTP Server** box, type **localhost**
4. Click **Apply**.
5. Review the results, and then click **Exit**.

# Exercise 2: Managing Security

In this exercise, you will create system-level and item-level security roles and apply them to report objects by using Report Manager. The ability to create system-level and item-level roles gives Reporting Services a granular security model that you can use to provide users with the level of access they need while securing sensitive data and configuration settings.

## Deploy the AdventureWorks sample reports

1. Click **Start**, point to **All Programs**, point to **Microsoft SQL Server 2008**, and then click **SQL Server Business Intelligence Development Studio**.
2. On the **File** menu, point to **Open**, and then click **Project/Solution**.
3. Browse to C:\SQLHOLS\Managing the Report Services Infrastructure\Starter, click **AdventureWorks Sample Reports.sln,** and then click **Open**.
4. On the **Project** menu, click **Properties**.
5. Change the **TargetServerURL**, to: **http://localhost:8080/reportserver**, and then click **OK**.
6. On the **Build** menu, click **Deploy AdventureWorks Sample Reports**. The solution is built and then deployed to the report server.
7. Close Microsoft SQL Server® Business Intelligence Development Studio.

## Create a Windows user account

1. Click **Start**, right-click **My Computer**, and then click **Manage**.
2. In the navigation pane, expand **Computer Management**, and then expand **Local Users and Groups**.
3. Right-click **Users**, and then click **New User**.
4. In the **New User** dialog box, enter the following settings:
   - User name: **JillianCarson**
   - Password **Pa$$w0rd**
   - Confirm Password**: Pa$$w0rd**
   - User must change password at next logon: **Unselected**
5. Click **Create,** click **Close** to close the **New User** dialog box, and then close the Computer Management console.

## Start SQL Server Management Studio

1. On the **Start** menu, point to **All Programs**, point to **Microsoft SQL Server 2008**, and then click **SQL Server Management Studio**.

2. Enter the following settings in the **Connect to Server** dialog box, and then click **Connect**:
   - **Server type**: Reporting Services
   - **Server name**: localhost
   - **Authentication**: Windows Authentication

## Create a system-level role

1. Expand **Security**, right-click **System Roles**, and then click **New System Role**.

> **Note**: In a Reporting Services infrastructure, you use system-level roles to give selected users the capability to perform tasks that affect the report server site as a whole. In this instance, you will create a system role that enables selected users to manage schedules and view report server properties.

2. In the **Name** box, type **Report Analyst**
3. In the **Description** box, type **Can manage shared schedules and view report server properties**
4. Select **View report server properties**, **View shared schedules**, and **Manage shared schedules**.
5. Click **OK**.
6. Minimize SQL Server Management Studio.

## Assign a user to the system-level role

1. Start Microsoft Internet Explorer®, and then browse to http://localhost:8080/reports.
2. Click **Site Settings**, and then click **Security**.
3. Click **New Role Assignment**.
4. In the **Group or user name** box, type **MIAMI\JillianCarson**
5. Select **Report Analyst**, and then click **OK**. The user is added with the system-level permissions of a **Report Analyst**.
6. Close Internet Explorer.

## Test the system-level role

1. Click **Start**, point to **All Programs**, right-click **Internet Explorer**, and then click **Run as**.
2. In the **Run As** dialog box, select **The following user**, and then start the program as **JillianCarson** with the password **Pa$$w0rd**.

3. Browse to http://localhost:8080/reports. When prompted, enter the user name **JillianCarson** and the password **Pa$$w0rd**. Turn on the Internet Explorer Phishing Filter if prompted. Click **OK** on any message boxes that are displayed.
4. In Report Manager, note that no folders or reports are visible.
5. Click **Site Settings**. Note that this user can manage schedules but no other settings are available.
6. Close Internet Explorer.

## Create an item-level role

1. Maximize SQL Server Management Studio, right-click **Roles**, and then click **New Role**.

> **Note**: In a Reporting Services infrastructure, you use item-level roles to apply permissions to a report, folder, report model, resource, or shared data source. In this instance, you will create an item-level role that enables users to view objects in the **Adventure Works Sample Reports** folder.

2. In the **Name** box, type **ReportViewer** and then select **View reports**, **View resources**, **View folders**, and **view models**.
3. In the **Description** box, type **Can view but not modify server objects**
4. Click **OK**.
5. Close SQL Server Management Studio.

## Assign a user to the item-level role

1. Start Internet Explorer, and then browse to http://localhost:8080/reports.
2. Click **AdventureWorks Sample Reports**, and then click the **Properties** tab.
3. Click **Security**, and then click **Edit Item Security**.

> Permissions are inherited from their parent folder by default. Changing the default permissions opens an information dialog box that asks users if they want to change the inheritance of these permissions.

4. In the Microsoft Internet Explorer message box, click **OK**.
5. Click **New Role Assignment**.
6. In the **Group or user name** box, type **MIAMI\JillianCarson**
7. Select **ReportViewer**, and then click **OK**. The user is added with the item-level permissions of a **Report Viewer**.
8. Close Internet Explorer.

## Test the item-level role

1. Click **Start**, point to **All Programs**, right-click **Internet Explorer**, and then click **Run as**.
2. In the **Run As** dialog box, select **The following user**, and then start the program as **JillianCarson** with the password **Pa$$w0rd**.
3. Browse to http://localhost:8080/reports. When prompted, enter the user name **JillianCarson** and the password **Pa$$w0rd**. Click **OK** on any message boxes that are displayed.
4. In Report Manager, note that **JillianCarson** cannot view the contents of the Home folder, because this user is not assigned to any roles with permission to view items in that folder.
5. In Internet Explorer, browse to http://localhost:8080/reports/Pages/Folder.aspx?ItemPath=/AdventureWorks+Sample+Reports. Verify that **JillianCarson** can see reports because the user is assigned to the **ReportViewer** role for this folder.
6. Close Internet Explorer.

# Exercise 3: Managing Subscriptions

In this exercise, you will create a standard subscription to deliver a report by email and a data-driven subscription to deliver a report to a file share.

Subscriptions provide powerful report distribution capabilities that you can use to deliver reports to the users who need them, where and when they need them. Users can manage their own standard subscriptions, or Report Services administrators can create and maintain data-driven subscriptions to deliver reports to multiple users, each with their own delivery or format requirements.

## Create a standard subscription

1. Open Internet Explorer, and then browse to http://localhost:8080/reports.
2. In Report Manager, click **Data Sources**.
3. Click **AdventureWorks**.
4. Under **Connect using**, select **Credentials stored securely in the report server**.
5. In the **User name** box, type **Student**
6. In the **Password** box, type **Pa$$w0rd**
7. Select **Use as Windows credentials when connecting to the data source**, and then click **Apply**.
8. On the **Dependent Items** tab, click **Show Details** to view the details of reports that depend on this data source.
9. Click the **Edit** icon to edit the properties of the **Employee Sales Summary** report.
10. On the **Subscriptions** tab, click **New Subscription**.
11. Configure the following properties:
    - **Delivered by**: E-Mail
    - **To**: student@adventure-works.com
    - **Include Report**: Checked
    - **Render Format**: Excel
12. Click **Select Schedule**.
13. In the **Daily Schedule** section, select **Every weekday**, set the time to two minutes from the time currently displayed in the clock in the notification area, and then click **OK**.
14. In the **Employee** drop-down list, select **Shu Ito**, and then click **OK**.
15. Wait until the time that you scheduled the subscription to run, and then refresh the Web page. Note the **Last Run** value for the subscription.

16. Click **Start**, point to **All Programs**, and then click **Outlook Express** and view the contents of the inbox.
17. If report has not been delivered, click **Send/Receive** until it appears in the inbox.
18. View the email indicating that the report has been run, and then open the **Employee Sales Summary.xls** attachment in this email to view the report in Microsoft Office Excel®.
19. Close Microsoft Office Excel and Microsoft Office Outlook® Express.

## Create a data-driven subscription

1. In Windows Explorer, in the C:\SQLHOLS\Managing the Report Services Infrastructure\Starter folder, create a folder named **RSShare**.
2. In Windows Explorer, right-click the **RSShare** folder, and then click **Sharing and Security**. Share the folder, click **Permissions**, ensure that the **Everyone** group has **Change** permissions on the share, click **OK**, and then click **OK** to close the **RSShare Properties** dialog box.
3. In Report Manager, ensure you are still viewing the **Subscriptions** page for the **Employee Sales Summary** report, and then click **New Data-driven Subscription**.
4. In the **Description** box, type **Sales summary per employee**
5. In the **Specify how recipients are notified** drop-down list, click **Windows File Share**.
6. Select **Specify a shared data source**, and then click **Next**.
7. In the **Location** box, type **/Data Sources/AdventureWorks** and then click **Next**.
8. In the query text area, type the following code.

```
SELECT      E.EmployeeID, C.FirstName + N' ' + C.LastName AS Employee
FROM        HumanResources.Employee E INNER JOIN
            Sales.SalesPerson SP ON E.EmployeeID = SP.SalesPersonID INNER JOIN
            Person.Contact C ON E.ContactID = C.ContactID
ORDER BY    C.LastName, C.FirstName
```

> **Note**: You can copy and paste the code from sql.txt in the C:\SQLHOLS\Managing the Report Services Infrastructure\Starter folder.

9. Click **Validate**. If the query fails validation, check your code and try again.
10. Click **Next**.
11. Configure the following delivery extension settings:
    - **File name**: Get the value from the database (**Employee**)
    - **Path**: Specify a static value (**\\localhost\RSShare**)

- **Render Format**: Specify a static value (**Excel**)
- **Write mode**: No value
- **File Extension**: Specify a static value (**True**)
- **User name**: Specify a static value (**Student**)
- **Password**: Specify a static value (**Pa$$w0rd**)

12. Click **Next**.
13. Configure the *Employee* parameter to **Get the value from the database**, select **EmployeeID** from the drop-down list, and then click **Next**.
14. Select **On a schedule created for this subscription**, and then click **Next**.
15. Select **Every weekday**, set the time to two minutes from the time currently displayed in the clock in the notification area, and then click **Finish**.
16. Wait until the time that you scheduled the subscription to run, and then refresh the Web page. Note the **Last Run** value for the subscription.
17. In Windows Explorer, navigate to **\\localhost\RSShare**, and then wait for the employee reports to appear.
18. Double-click a report to view it.
19. Close all open applications.
20. Close Virtual PC and discard changes.