



## Lab 5: Reporting with RPE

### Objectives

After completing this lab, you will be able to:

- Report on Rhapsody Models and Linked Requirements using Rational Publishing Engine

### Scenario

In this Lab, you will first start the Rhapsody REST server (by starting the Report Publishing Wizard). You will then open Rational Publishing Engine Document Studio and create a simple template to report Use Cases and their linked Requirements. Note that this lab is only intended to show that you can report on linked requirements in RMM models – for a more detailed guide on Reporting on Rhapsody please refer to the RPE for Rhapsody lightning lab and the full RPE for Rhapsody course – contact your IBM representative for details.

It is assumed you are still working in Pete's workspace – and have the model open with linked requirements loaded – following on from the end of Lab 4.

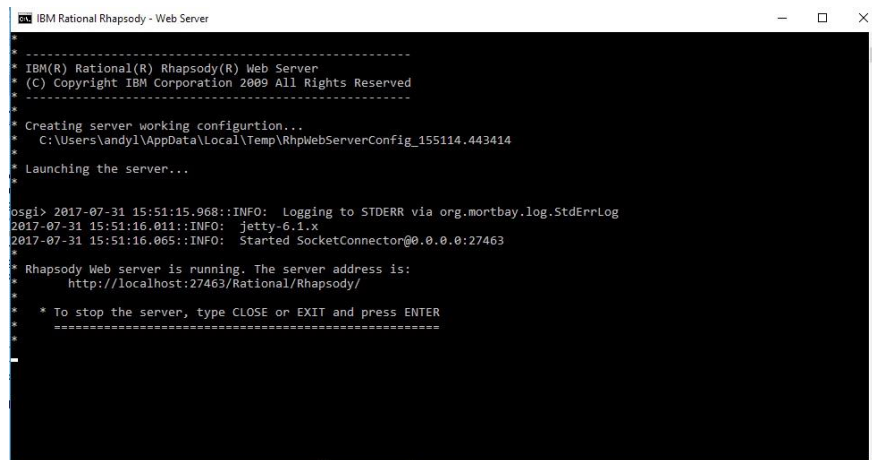
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**Task 1: Start the Rhapsody REST Server**

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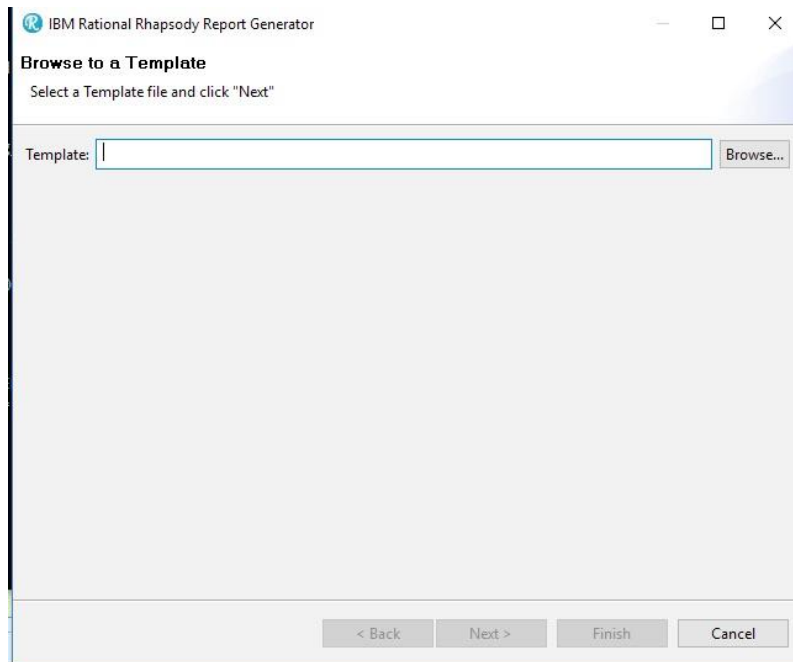
In this task, you will launch the Rhapsody REST Server. The simplest way to do this is to start the IBM Rational Rhapsody Report Generation Wizard – which also launches the server in preparation to generate a report. You will cancel the report generation wizard once the REST server has started. In the next task, you will design a simple template from scratch

1. Start the REST Server:
  - a. Switch to the **Rhapsody** client
  - b. From the menu, select **Tools → Publish → Generate Report**
  - c. Note that this first launches the Rhapsody REST server:



```
IBM Rational Rhapsody - Web Server
* -----
* IBM(R) Rational(R) Rhapsody(R) Web Server
* (C) Copyright IBM Corporation 2009 All Rights Reserved
* -----
* Creating server working configuration...
* C:\Users\andy\l\AppData\Local\Temp\RhpWebServerConfig_155114.443414
* Launching the server...
*
2017-07-31 15:51:15.968::INFO: Logging to STDERR via org.mortbay.log.StdErrLog
2017-07-31 15:51:16.011::INFO: jetty-6.1.x
2017-07-31 15:51:16.065::INFO: Started SocketConnector@0.0.0.0:27463
*
* Rhapsody Web server is running. The server address is:
* http://localhost:27463/Rational/Rhapsody/
*
* * To stop the server, type CLOSE or EXIT and press ENTER
* =====
```

- d. Then the Report Generator Wizard is launched:



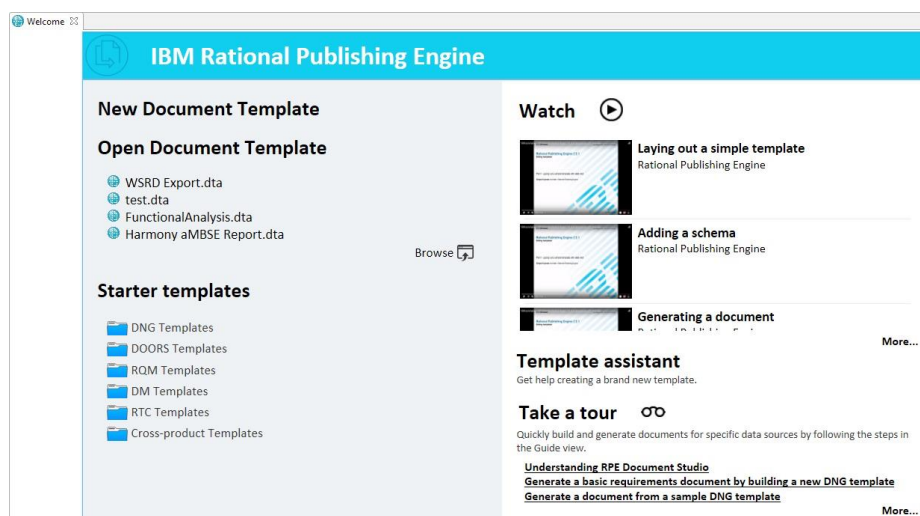
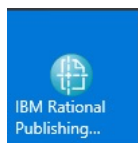
- e. Click **Cancel** to close the RRDG report generator wizard

## Task 2: Create a New Document Template for Rhapsody

In this task, you will start RPE Document Studio, create a new blank template and add Rhapsody as a data source.

### 1. Start RPE Document Studio:

- a. Launch **Rational Publishing Engine Document Studio 2.1.2** from the Windows start menu:



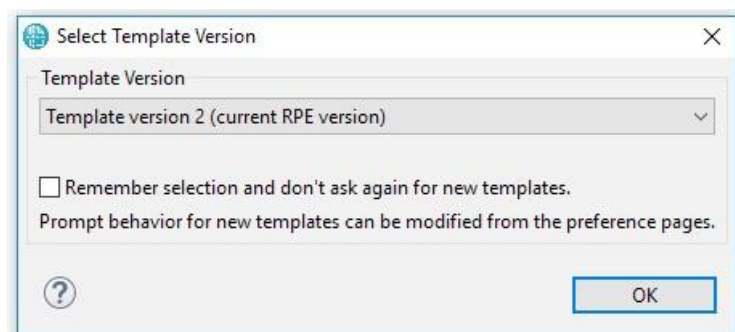
### 2. Create a New Template:

- a. Click the New Document Template link on the Welcome page:



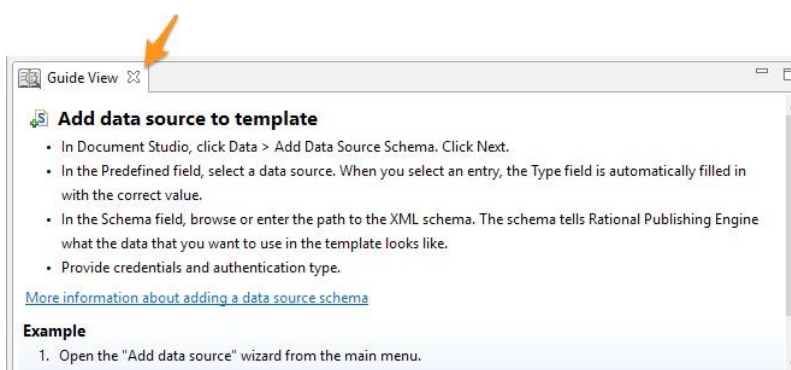
**TIP:** Alternatively, from the menu, select **File** → **New** → **Document Template**. If you use this option then you will be presented with a dialog where you can fill in a Name and Description. Just click Finish (this is metadata that may be filled in later).

- b. Click **OK**:

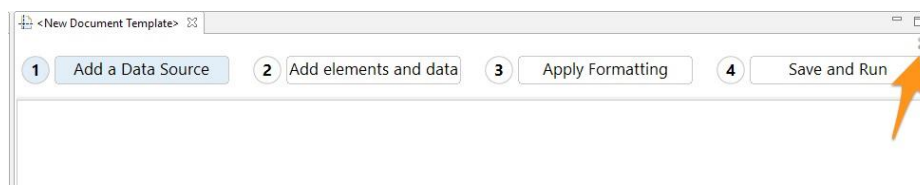


### 3. Close Guide Views:

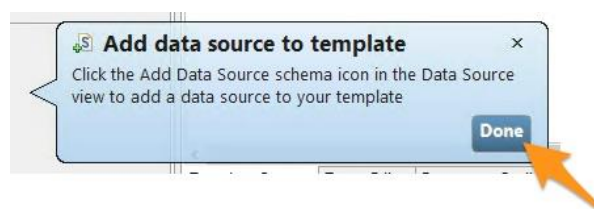
- a. Click the X in the **Guide View** tab to close it



- b. Click the X in the New Document Template **header** to close it:



- c. In the blue **Add data source to template** popup, click **Done**:

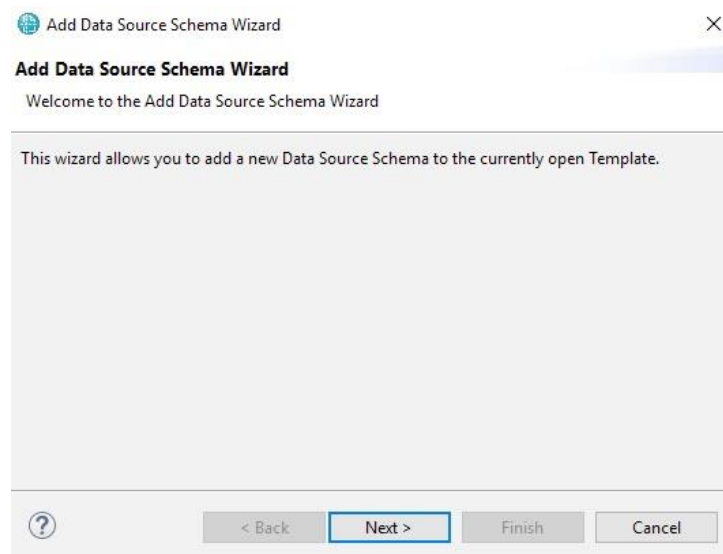


**TIP:** These are useful guides for new users – but since this Lab will guide you – these windows are simply taking up space.

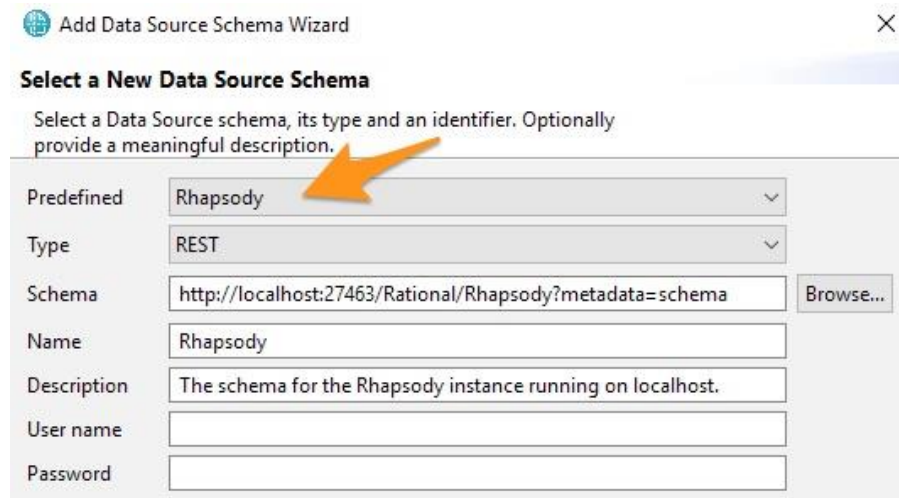
### 4. Add Rhapsody as a Data Source:

- a. From the menu, select **Data → Add Data Source**

- b. Click **Next**:



- c. In the **Predefined** field, select **Rhapsody**:

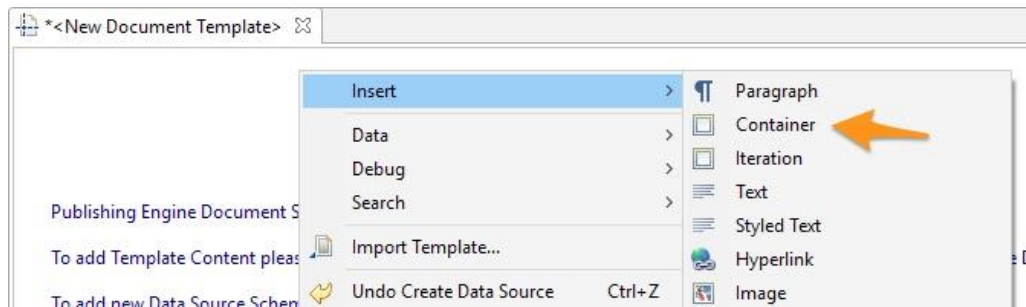


- d. Click **Next**  
e. Click **Finish**

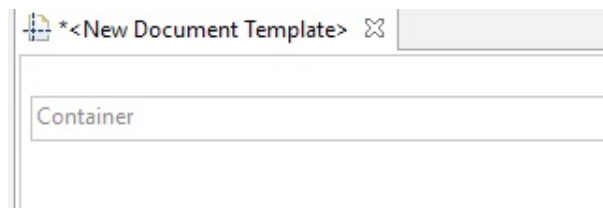
### Task 3: Create a Use Case Report

In this task, you will create a simple report that outputs the names of all the Use Cases in the model. You will then configure the document specification so that RPE can connect to and report on the currently loaded model.

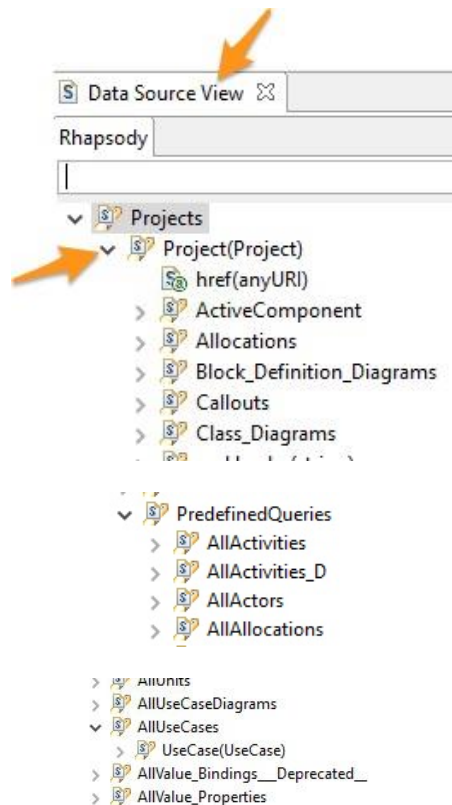
1. Create a Container to Iterate Over All Use Cases:
  - a. Right-click inside the empty template and select **Insert → Container**:



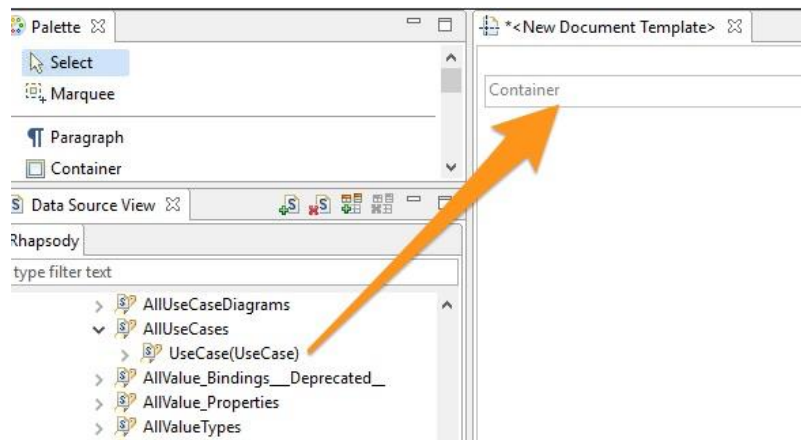
**TIP:** You may also use the tool palette – but note that by default any tool selected stays selected until you click the Select tool. This behavior may be switched off in the preferences



- b. In the **Data Source View**, expand the tree to **Projects → Project → Predefined Queries → AllUseCases**:



- c. Expand the **AllUseCases** node and drag the **UseCase(UseCase)** node from the Data Source View onto the **Container**:

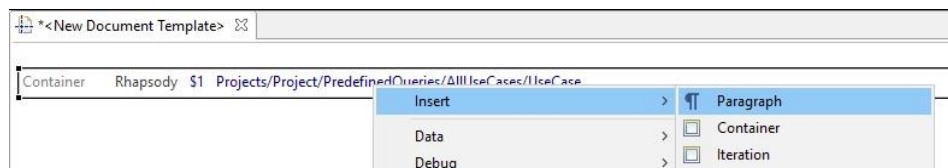


- d. Note that the Container now has the context \$1  
Projects/Project/PredefinedQueries/AllUseCases/UseCase:

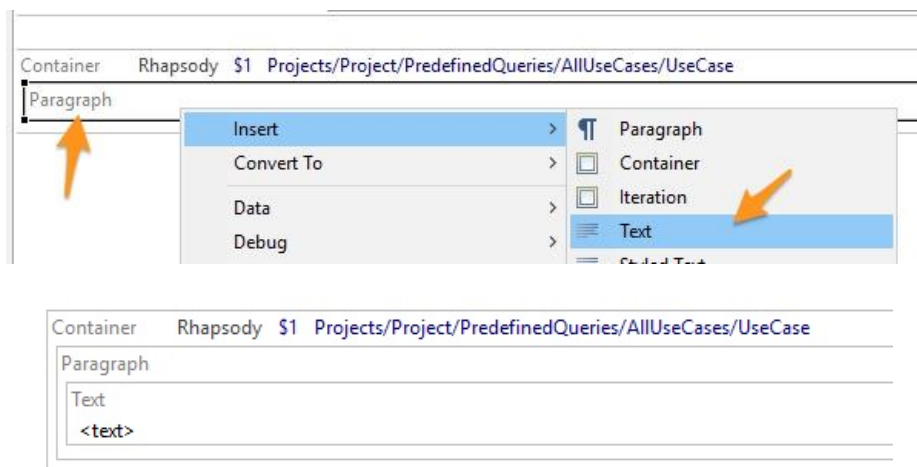


2. Add the Use Case Name:

- a. Right-click the **container** and select **Insert → Paragraph**:



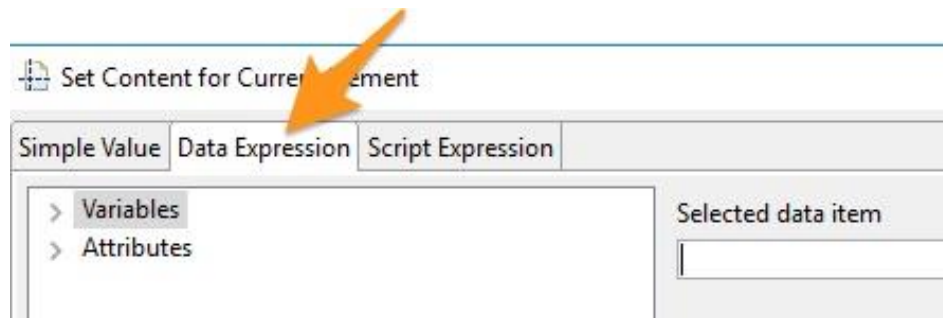
- b. Right-click the new paragraph container and select **Insert → Text**:



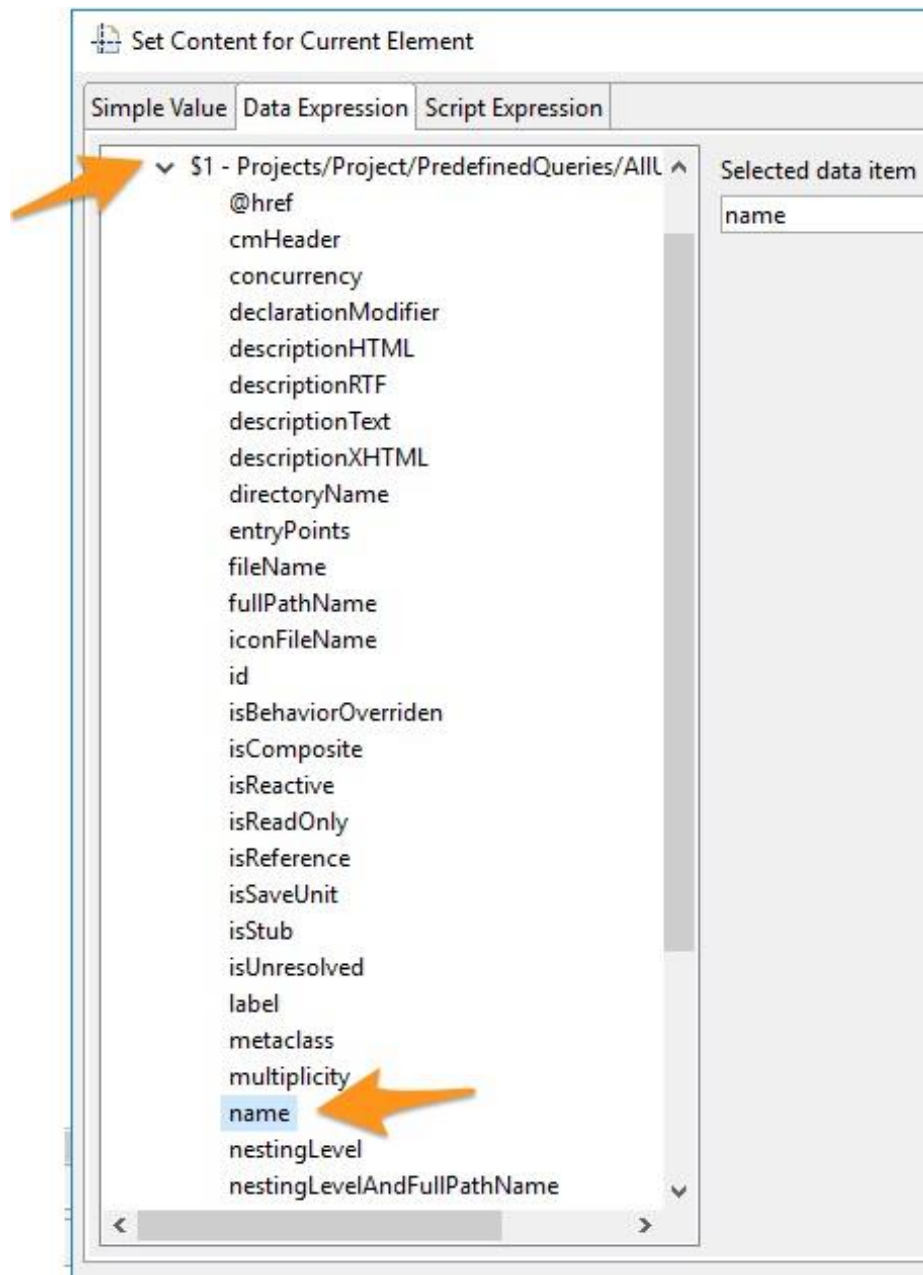
- c. **Double-click** the new **Text** container



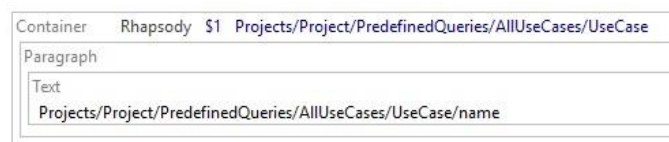
- d. In the **Set Content for Current Element** window, select the **Data Expression** tab:



- e. Expand the **Attributes** section
- f. Expand **\$1 Projects/Project/PredefinedQueries/AllUseCases/UseCase**
- g. Select the **name** attribute:

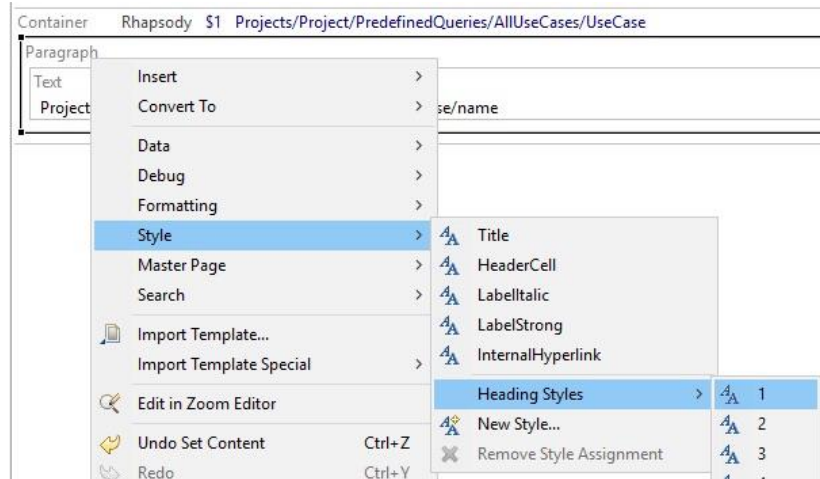


h. Click **OK**:



3. Apply a Style:

a. Right-click the **Paragraph** and select **Styles → Heading Styles → 1**:



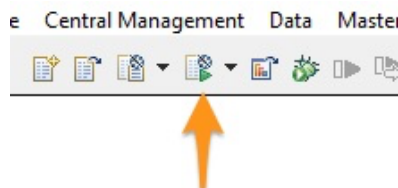
4. Record the Rhapsody REST server URI:
  - a. In the windows taskbar, switch to the Rhapsody REST server console
  - b. Highlight the server URI and right-click to copy it (alternatively simply make a note of it):

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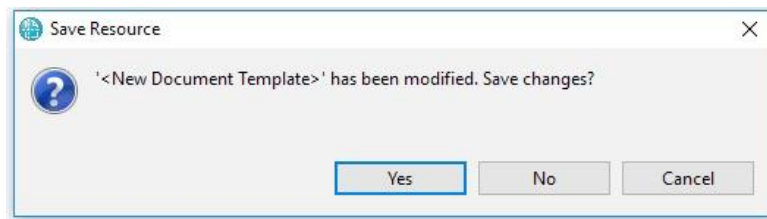
IBM Rational Rhapsody - Web Server

* -----
* IBM(R) Rational(R) Rhapsody(R) Web Server
* (C) Copyright IBM Corporation 2009 All Rights Reserved
* -----
*
* Creating server working configuration...
*   C:\Users\andy1\AppData\Local\Temp\RhpWebServerConfig_155114.443414
*
* Launching the server...
*
osgi> 2017-07-31 15:51:15.968::INFO: Logging to STDERR via org.mortbay.log.StdErrLog
2017-07-31 15:51:16.011::INFO:   jetty-6.1.x
2017-07-31 15:51:16.065::INFO: Started SocketConnector@0.0.0.0:27463
*
* Rhapsody Web server is running. The server address is:
*   http://localhost:27463/Rational/Rhapsody/
*
* * To stop the server, type CLOSE or EXIT and press ENTER
* =====
  
```

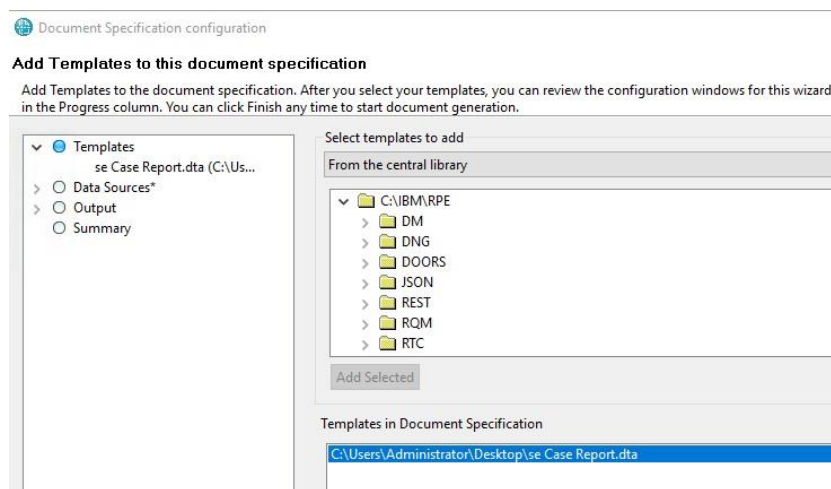
- c. Return to RPE Document Studio
5. Start the Report Configuration and Generation Wizard:
  - a. On the toolbar, click the **Configure and Generate Document** button:



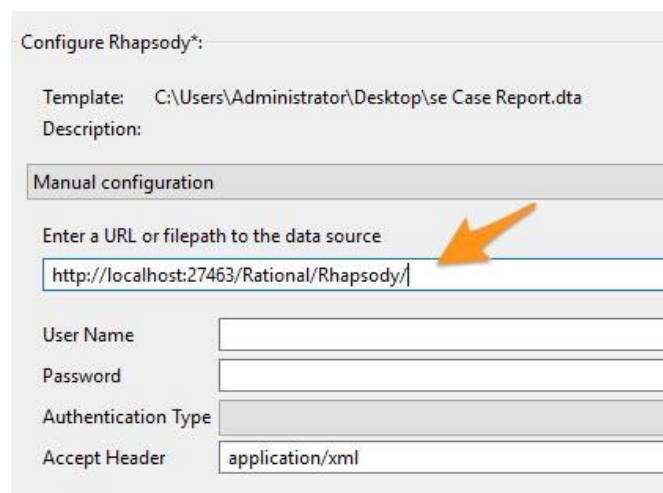
- b. Click **Yes** to save the template:



- c. Choose a location and a filename for the template (in this sample you can name it Use Case Report) and click **Save**
- d. The configuration wizard then starts:

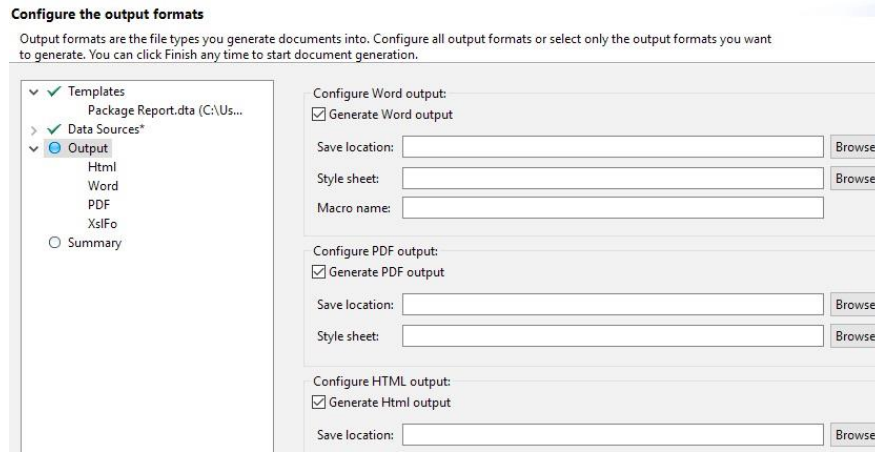


- e. Click **Next**
- f. In the **Enter a URL or filepath to the data source** field, paste (or type in) the Rhapsody REST server address:

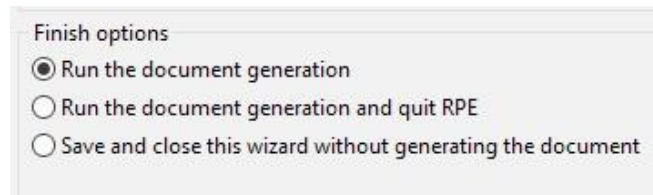


- g. Click **Next**

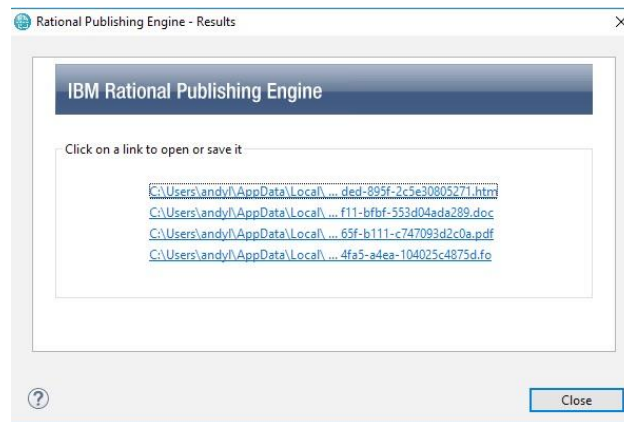
- h. Note that four output documents will be generated (in parallel). For each output a save location and a style sheet may optionally be selected:



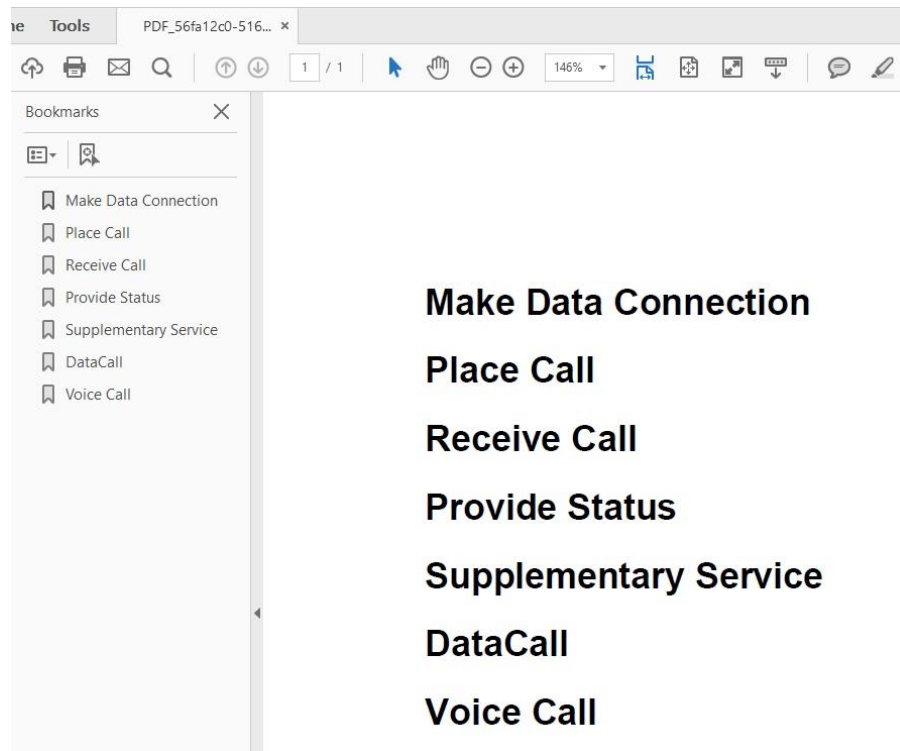
- i. Click **Next**
- j. Note the Finish options:



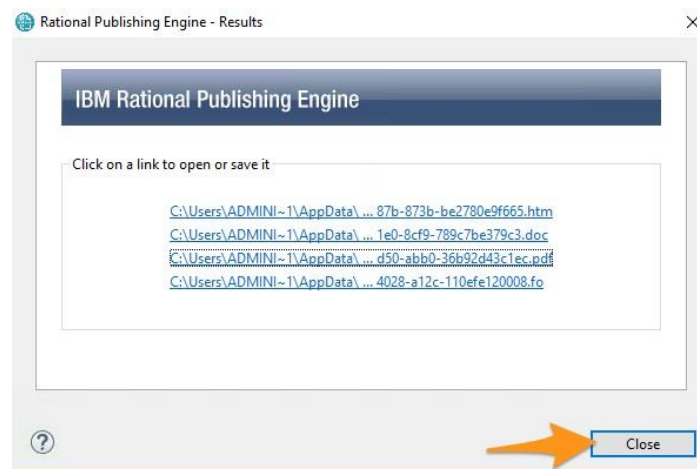
- k. Click **Finish**
- l. The document is now generated in all four output formats and a results window appears:



- m. Click the result with the .pdf extension to open the generated PDF document:



- n. Close **Acrobat Reader**
- o. Click **Close** to close the results generation window:



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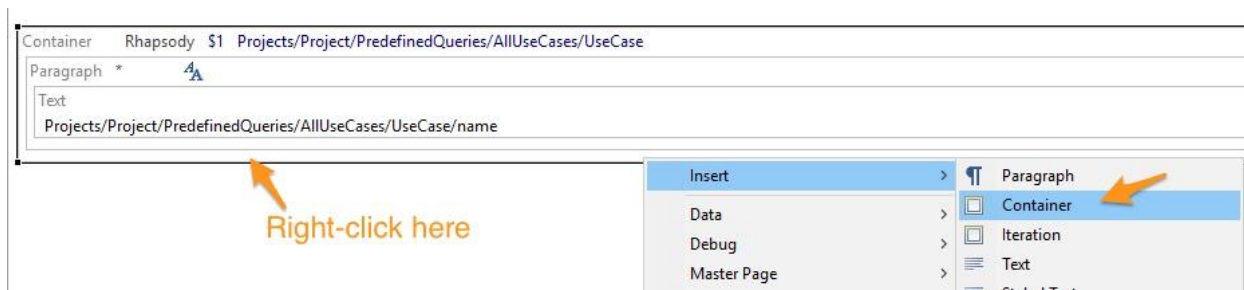
## Task 4: Report on Linked Requirements

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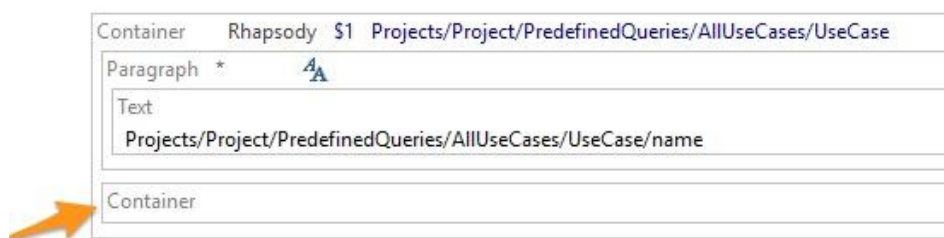
In this task, you will complete this simple template – adding a container that will report on the Remote Requirements linked to the Use Cases.

1. Add a Container to Iterate Over Dependencies:

- a. Right-click inside the \$1 Container – **after** the Paragraph – and select **Insert → Container**:

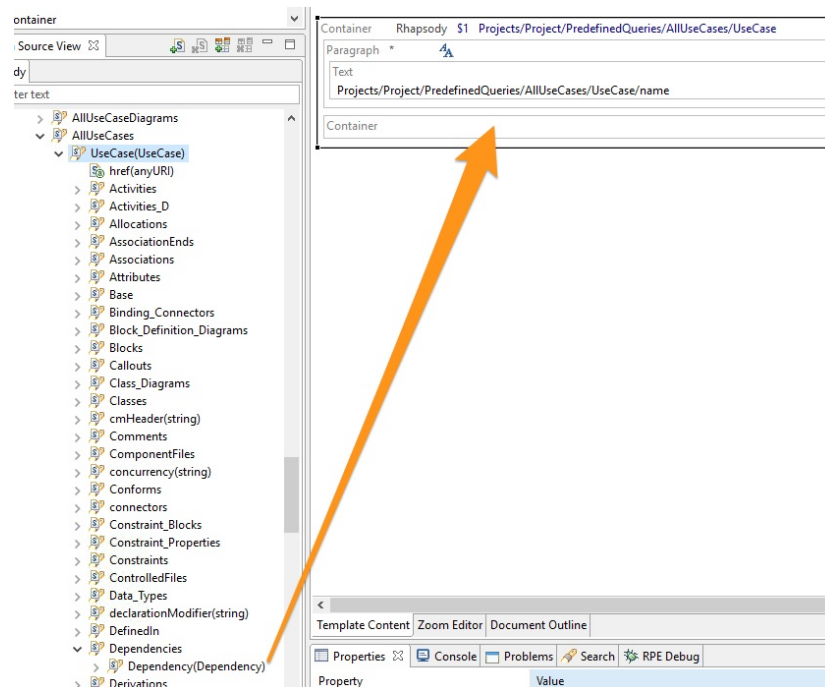


**TIP:** This should insert a container inside the \$1 container – after the paragraph:

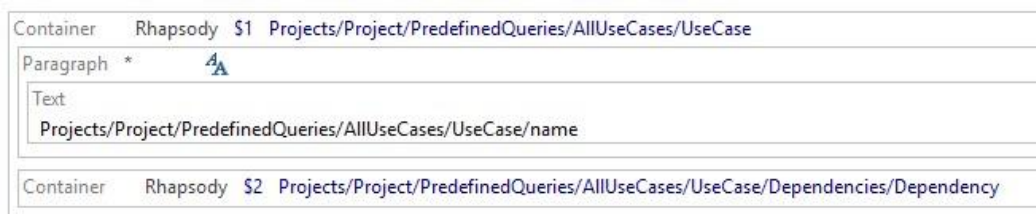
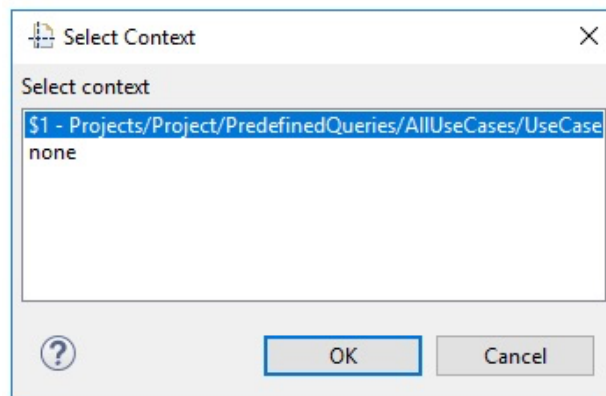


## 2. Iterate over Dependencies:

- a. In the **Data Source View** panel, scroll down and expand the **Dependencies** node (make sure you are looking at the child nodes of UseCase(UseCase))
- b. Drag the **Dependency(Dependency)** node onto the new container:



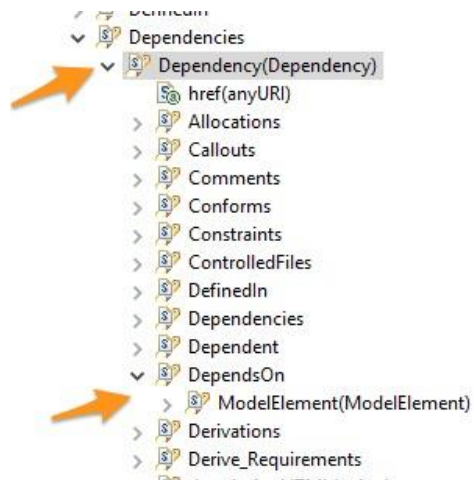
- c. In the **Select Context** window, click **OK**:



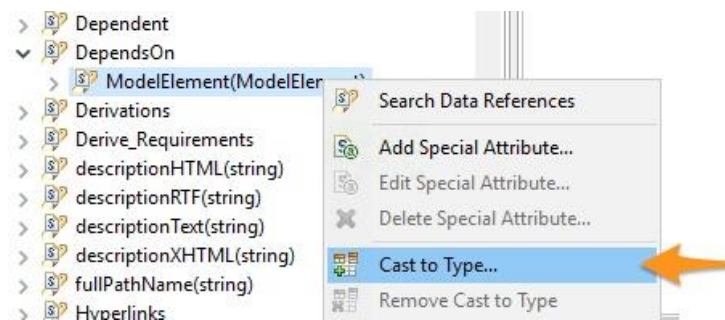
### 3. Cast Dependent Element to Requirement:

- a. In the **Data Source View**, expand the **Dependency(Dependency)** node - then scroll down and expand the **DependsOn** node:

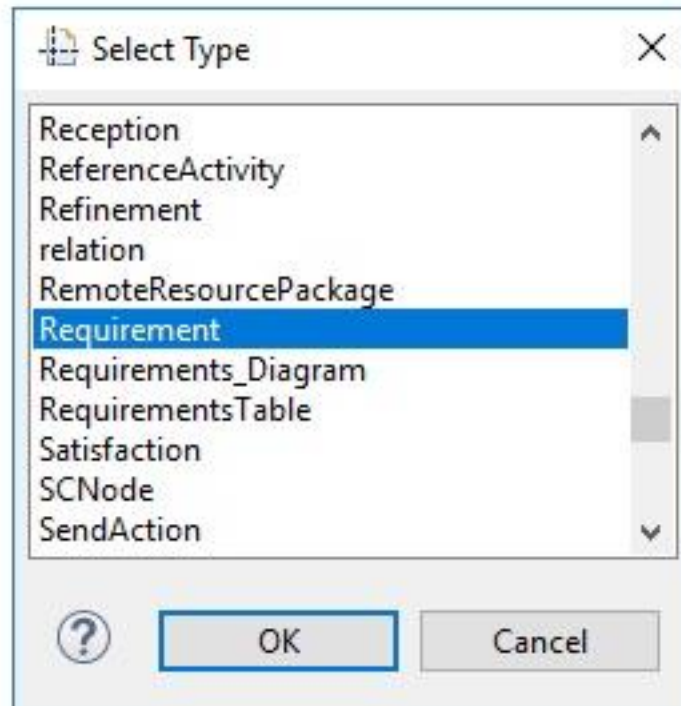




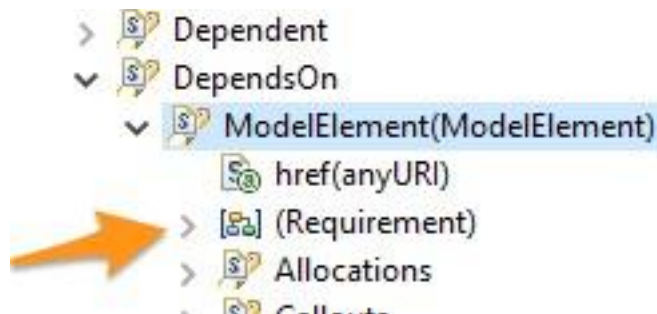
- b. Right-click the ModelElement(ModelElement) node and select **Cast to Type**:



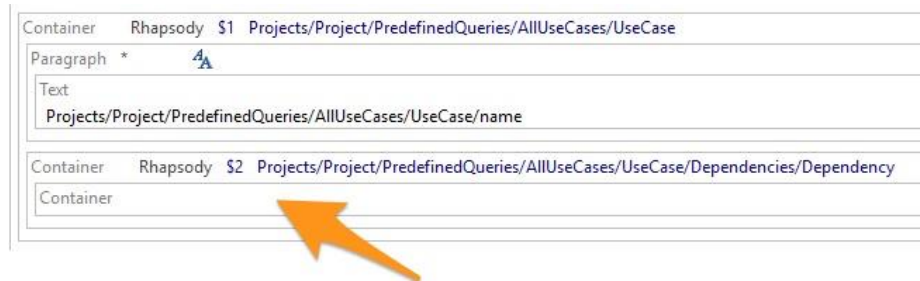
- c. In the **Select Type** window, select **Requirement** and click **OK**:



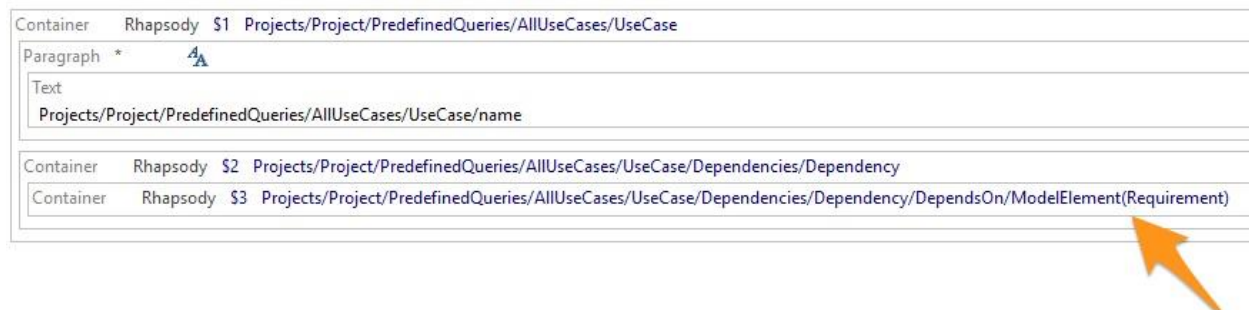
- d. In the **Data Source View** panel, expand the **ModelElement(ModelElement)** node and note that Requirement appears as a **node** under ModelElement:



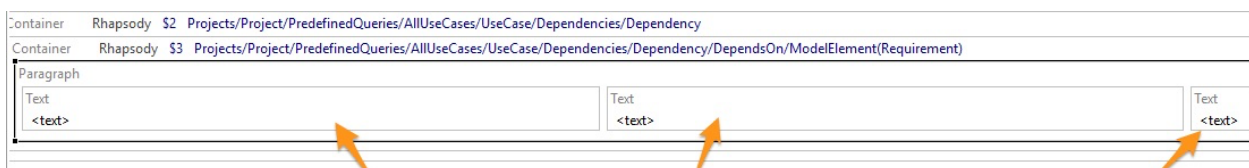
4. Add a Container to report on Requirements:
- In the Template, right-click the **\$2 Container** and select **Insert → Container**:



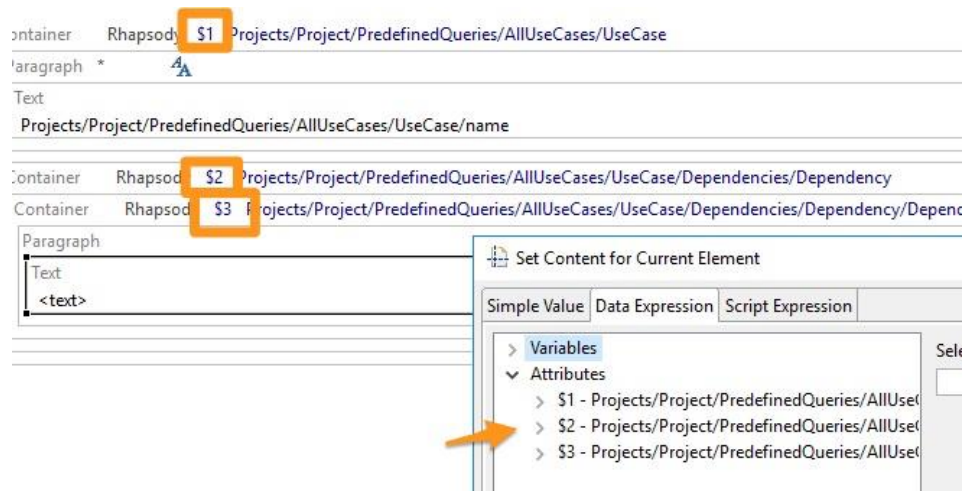
- b. Drag the **Requirement** node from the Data Source View to the new Container and click **OK** in the **Select Context** window:



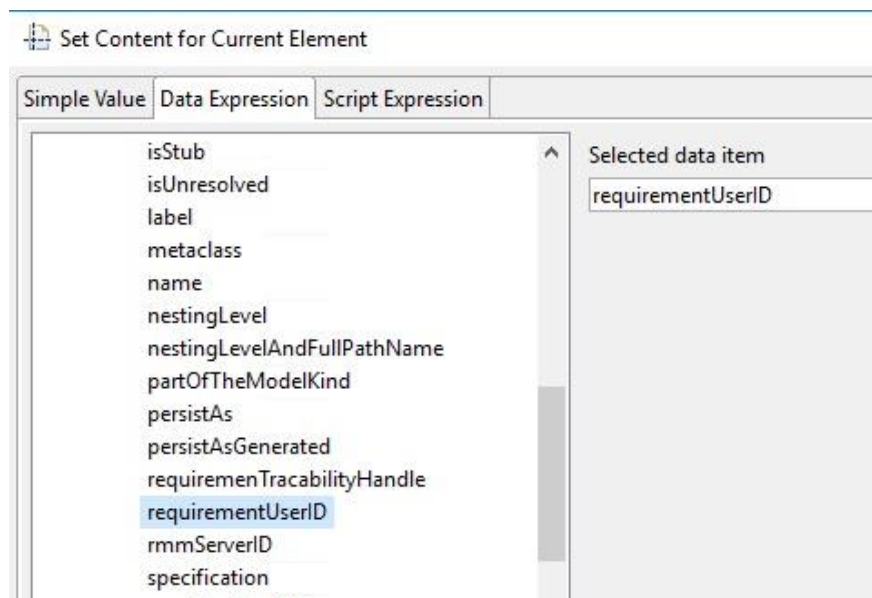
- c. Right-click the **\$3 Container** and select **Insert → Paragraph**
- d. Right-click the new **Paragraph** and select **Insert → Text**
- e. **Repeat** step (d) **twice** more – you should now have three text elements inside the Paragraph:



5. Report the Requirement ID:
- Double-click the **first Text** container
  - In the **Set Content for Current Element** window, select the **Data Expression** tab
  - Expand the **Attributes** section
  - Note that you may select attributes from any of the three contexts in the template:



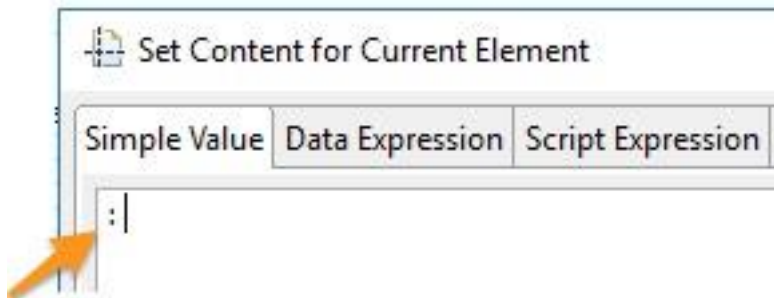
- e. Expand the \$3 context and select **requirementUserID**:



- f. Click **OK**

6. Report the Requirement Specification:

- a. Double-click the **third Text** container and repeat the above steps – this time selecting the **specification** attribute
- b. Double click the **second Text** container and in the Simple Value tab, type : (that is a space, followed by a colon, followed by another space – this is to separate the ID and the Specification in the report):



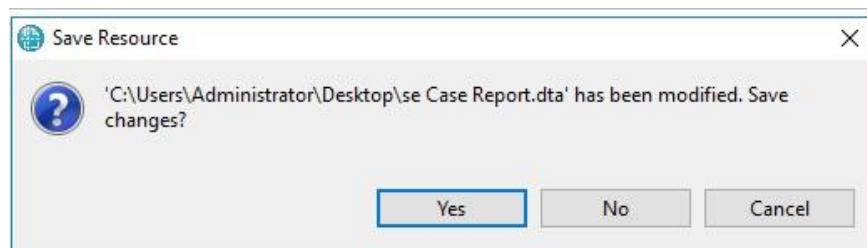
c. Click **OK**

7. Generate the Report:

a. On the toolbar, click the **Configure and Generate Document** button:



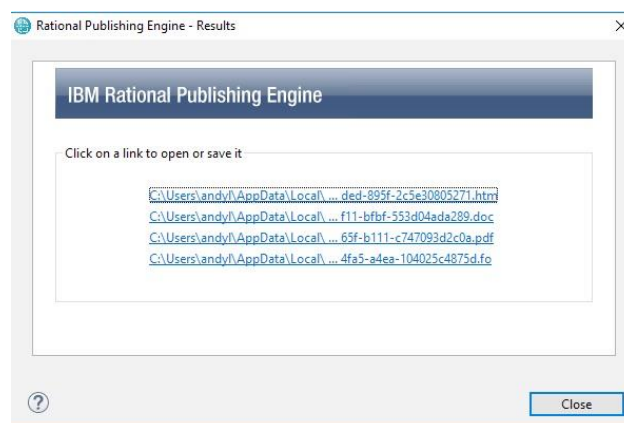
b. Click **Yes** to save the template:



c. The configuration wizard then starts

d. Click **Finish**

e. The document is now generated in all four output formats and a results window appears:



f. Click the result with the .pdf extension to open the generated PDF document – note the linked requirements in the report:

**Receive Call**

**Provide Status**

**Supplementary Service**

**DataCall**

107 : The system shall admit pre-authorized vehicles

**Voice Call**

**Make Data Connection**

108 : The system shall admit unexpected vehicles when there are unutilized spaces.

114 : The system shall allocate parking spaces to guests

115 : The system shall provide information on availability of parking spaces

- g.** Close Adobe Acrobat Reader
- h.** Close Rational Publishing Engine
- i.** Close the REST server console window.