



Welcome to the session on
**Rhapsody document generation using RPE,
the easy way.**

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Rational. Software

About the instructor



- Ashirbad Dash
- Ashirbad is an IBM certified solution designer for Rational Rhapsody in C++. He has been a part of the Rational Client Support group in Bangalore for more than 7 years now and has a good understanding of the Software Development Life Cycle and the Rational tools that cater to the needs of the various phases of the SDLC, specifically with respect to the Systems Engineering domain. He has been involved and driving a variety of client engagements successfully for quiet some time now.

Prerequisites

- None...
- General awareness of product / project documentation.

Learning goals and objectives

- This session introduces and explains IBM® Rational® Rhapsody's documentation capability, using the RPE feature.

- Once completed, you should be able to:
 - Explain what it is, why, when and who uses it.
 - Determine where it can be used.
 - Describe how it works.
 - Demonstrate its use within a use case scenario.
 - Execute Problem Determination steps and options.

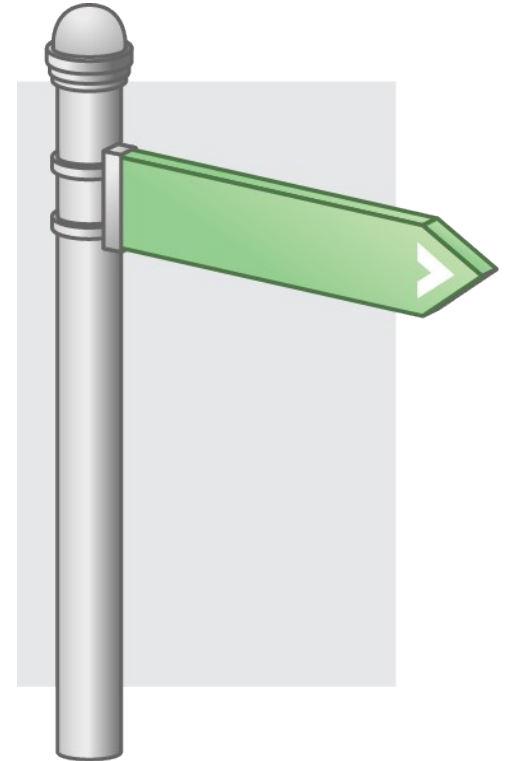
- Duration:
 - 1 hour (beginner's level); can plan for advanced sessions in future.

Demo - Live during presentation (as required)



What's next

- Topic 1 - What, When, Why
- Topic 2 - Rational Rhapsody Schemas
- Topic 3 - Rhapsody Application Server
- Topic 4 - Tool main window/features overview
- Topic 5 - Understanding the schema (Default - UML)
- Topic 6 - Creating templates
- Topic 7 - Generating reports
- Topic 8 - ReporterPLUS to RPE
- Topic 9 - Tips and Tricks



What, When, Why

➤ What is RPE ?

- IBM Rational tool for generating documents from data stored in other software tools.
- In out context; an add-on feature to IBM Rational Rhapsody.
- Eclipse based IDE for designing templates.

➤ When to use RPE ?

- A lot of documentation has already gone into Rhapsody models.
- Don't want to re-do the same task again.

➤ Why to use RPE ?

- Allows users to reuse existing model documentation; saving time and effort.
- Easier and automated document creation process.
- Future of Rational documentation road-map.

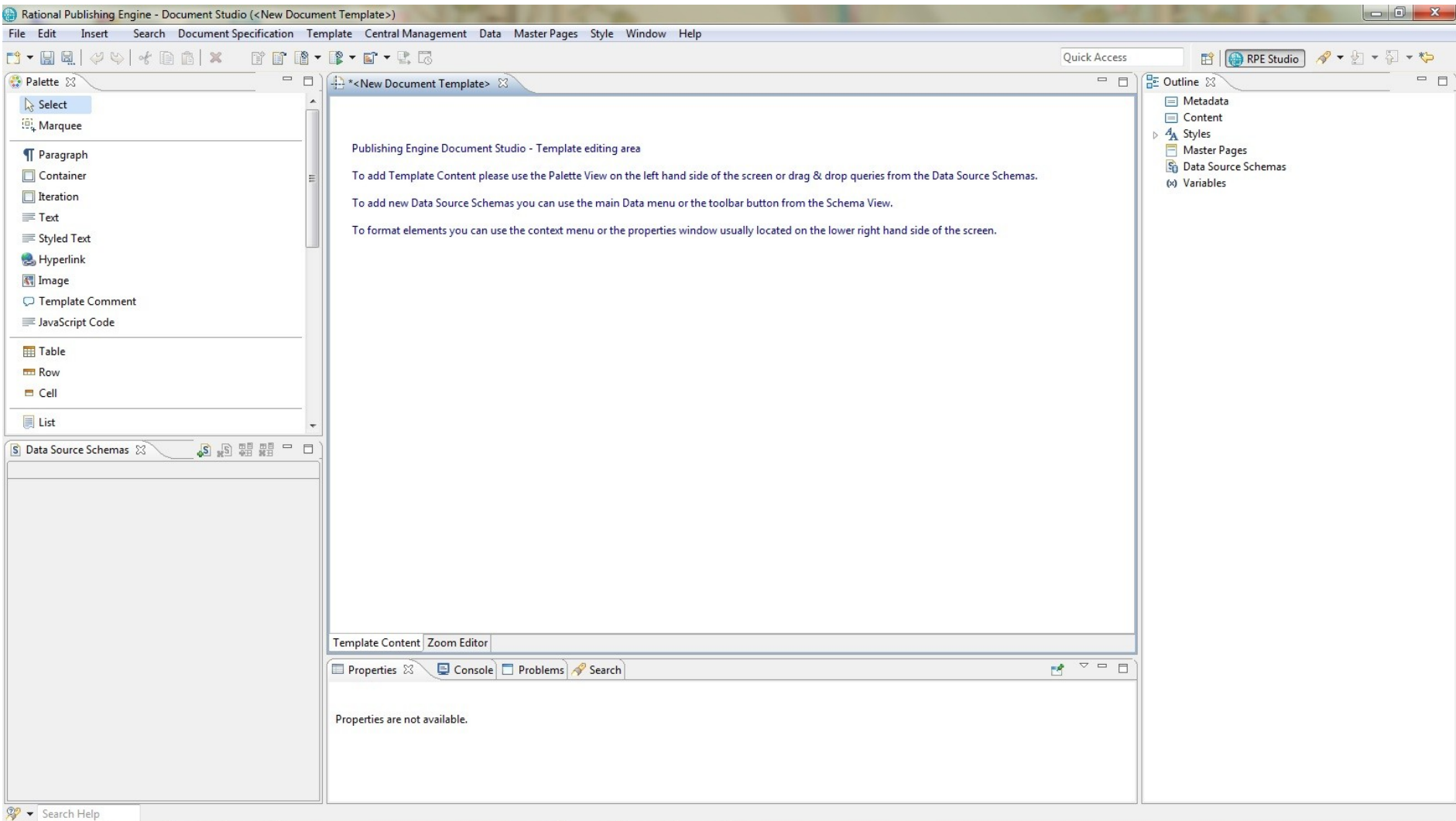
Rational Rhapsody Schemas

- The location <Rhapsody_Install_Path>/Share/RPE/Schemas contains 2 schemas:
 - Default.xsd - the default UML schema.
 - Testingprofile.xsd - schema specific to the testing profile (TestConductor).
- There are many other profile specific schemas also available, like:
 - AutomotiveC
 - AUTOSAR
 - DDS
 - Harmony
 - SysML
 - UPDM
 - etc...
- Each schema is specific to the profile and contains only relevant and profile specific model elements.

Questions?



Tool main window/features overview



Understanding the schema (Default - UML)

The screenshot displays the Rational Publishing Engine - Document Studio interface. The main window is titled "Rational Publishing Engine - Document Studio (<New Document Template>)" and features a menu bar with options: File, Edit, Insert, Search, Document Specification, Template, Central Management, Data, Master Pages, Style, Window, and Help. Below the menu bar is a toolbar with various icons for document operations.

The interface is divided into several panes:

- PaLETTE**: Located on the left, it shows a tree view of the "Rhapsody UML" schema. The tree is expanded to show the "AnchoredElements" property of a "Comment" object. The "AnchoredElements" property is highlighted in blue.
- Template Content**: The central area, titled "Publishing Engine Document Studio - Template editing area". It contains the following text:

To add Template Content please use the Palette View on the left hand side of the screen or drag & drop queries from the Data S

To add new Data Source Schemas you can use the main Data menu or the toolbar button from the Schema View.

To format elements you can use the context menu or the properties window usually located on the lower right hand side of the
- Outline**: Located on the right, it shows a list of document components: Metadata, Content, Styles, Master Pages, Data Source Schemas, and Variables.
- Properties**: Located at the bottom, it shows a table with two columns: "Property" and "Value". The table is currently empty.

Creating templates

The screenshot displays the Rational Publishing Engine - Document Studio interface. The main window shows a 'New Document Template' being created, with a tree view of template elements. The elements are organized into containers and paragraphs, with various text and image placeholders.

Palette: Select, Marquee, Paragraph, Container, Iteration, Text, Styled Text, Hyperlink, Image, Template Comment, JavaScript Code, Table, Row, Cell, List.

Data Source Schemas: RhapsodySchema, Project (Project), href (anyURI), ActiveComponent, Class_Diagrams, cmHeader (string), Comments, CommunicationDiagrams, ComponentDiagrams, Components, Constraints, ControlledFiles, DefaultPackage, DefinedIn, Dependencies, DeploymentDiagrams, Derivations, descriptionHTML (string), descriptionRTF (string).

Template Elements:

- IsStub: Projects/Project/SequenceDiagrams/SequenceDiagram/isStub
- Paragraph: Text * (Metaclass: Projects/Project/SequenceDiagrams/SequenceDiagram/metaclass)
- Paragraph: Text * (RequirementTraceabilityHandle: Projects/Project/SequenceDiagrams/SequenceDiagram/requiremenTracabilityHandle)
- Container: RhapsodySchema \$29 Projects/Project/SequenceDiagrams/SequenceDiagram/Pictures
- Container: RhapsodySchema \$30 Projects/Project/SequenceDiagrams/SequenceDiagram/Pictures/Picture
- Image: IMG
- Paragraph *: Figure Caption * (<script>)
- Container: RhapsodySchema \$31 Projects/Project/SequenceDiagrams/SequenceDiagram/ContainedElements
- Paragraph *: Text
- Table *: Contained elements:
- Row *: Cell (Text *), Cell (Text *)
- Text: Element name
- Text: Element type

Tooltip: Container, Data Source ID: RhapsodySchema, Data Source Handle: \$29, Query: Projects/Project/SequenceDiagrams/SequenceDiagram/Pictures

Properties: Properties are not available.

Questions?



Generating reports

The screenshot displays the IBM Rational Publishing Engine (RPE) interface. The main window shows the 'Document Specification' tree on the left, with 'Data source: Rhapsody UML - REST*' selected. The 'Publishing Document' dialog box is open, showing a progress bar and the message 'Finalizing document generation. Writing output files...'. The 'Run in Background' button is highlighted. The 'Results' window is also open, displaying the output files:

```
IBM Rational Publishing Engine

Click on a link to open or save it

C:\Users\IBM_AD-1\AppData\... 9a6-b564-aeb9250085cb.htm
C:\Users\IBM_AD-1\AppData\... bd7-bc76-d7ac681dd522.doc
C:\Users\IBM_AD-1\AppData\... 8a5-ba41-6e84975d503e.pdf
C:\Users\IBM_AD-1\AppData\... 4f52-ad37-36d3f89cf17f.fo
```

The console window shows the following log output:

```
CRRPE0321I RPE License - The license is ...
CRRPE0282I Document Studio has started.
IBM AD
IBM AD
file
a cont
ublish
nfigur
mplate
a cont
g Eng
a cont
ion...
CRRPE1007I Document generation finished
CRRPE1022I The process was completed in
CRRPE1023E The document could not be ge
CRRPE1020I The document will be publish
CRRPE1064I Starting run...
CRRPE1064I Invalid data source configur
CRRPE1064I Processing document template
CRRPE3101W Data source Rhapsody UML is not configured correctly so its queries are ignored.
CRRPE1064I 0 publishing commands are processed. 0 publishing commands remain to be processed.
CRRPE3097I The document template is processed. If there are no more templates to process, output files are being written.
CRRPE1064I Total number of input elements processed: 0
CRRPE1064I Finalizing document generation. Writing output files...
CRRPE1064I Document generation finished in 5 seconds.
CRRPE1022I The process was completed in 5.897 seconds.
```

The Properties window shows the following details for the selected data source:

Property	Value
name*	Rhapsody UML
description	
type*	REST
configuration required	uri
driver	eval
default URI	
allow read ahead	true
URI*	http://localhost:27463/Rational/Rhapsody/
username	
password	
authentication	
accept header	application/xml, */*
command	
ignored	false

ReporterPLUS to RPE

- RPE is the current solution. There are no enhancements for Rhapsody ReporterPLUS.
- RPE supports multiple data sources, including DOORS and any REST tool. This support enables traceability reports across data sources.
- Multiple templates can be used to generate one document.
- RPE scales better with model size.
- Loads only the part of the model required for generation.
- Performance is vastly superior.
 - For example - Generation speed increases as only the required part of model gets loaded. ReporterPLUS loads the complete model first.

Tips and Tricks

- You can open multiple templates in the same instance of the Document Studio application. Each template appears as a separate tab in the template content editor.
- Each template is associated with one document specification. A document specification can have more than one template specified within it.
- From the Document Specification view, you can right-click a data source and select Preview data to see the XML data that will be included in your report before you generate it.
- Type casting refines the results of a query and allows Rational® Publishing Engine to treat .xsd schema types as being from a different type, similar to cast operations in programming languages.

Questions?

