

Advanced Product Quality Planning (AQ9)

BPA Delivery 8 for V5R20SP1 (V5.8)

User's Guide



Modification Tracking

Version	Date	Done by	Modification
D7W35.3	26 Aug 2009	IJK	Modification Tracking Table added
D8W8.1	22 Feb 2010	ETP	Modified with D8 Images
D8W8.2	23 Feb 2010	ETP	Modified with D8 HL

Table of content

Copyright Notice	3
Introduction.....	4
1 Overview of APQP.....	5
1.1 APQP General Features and Configuration.....	5
• System Look and Feel	5
1.2 How to Create a New Project	6
1.2.1 FMEA Definition	6
1.2.2 Control Plan Definition	8
1.3 Project Execution	10
1.3.1 FMEA.....	10
1.3.2 Control Plan	15
2 Prerequisite Settings for New Project.....	21
2.1 Library	21
2.2 Project Template Creation	21
2.2.1 Project Group Creation	21
2.2.2 Template FMEA Definition	23
2.2.3 Template Control Plan Definition	25
3 End User Scenario on APQP.....	28
3.1 End User Operations.....	28
3.1.1 Phase 1: Project Creation	28
3.1.2 Phase 2: Project Definition.....	34
3.1.3 Phase 3: Project Execution	46
3.2 Help About APQP	49

Copyright Notice

© 2010. Dassault Systèmes, All Rights Reserved.

This guide is delivered subject to the following conditions and restrictions:

CONFIDENTIAL - This document contains unpublished, confidential and proprietary information of Dassault Systèmes.

This document or any part thereof shall not be reproduced or transferred to other documents or formats, disclosed to others or used for any purpose other than that for which it is furnished, without the prior written consent of Dassault Systèmes.

It shall be returned to Dassault Systèmes upon request.

Dassault Systèmes is a registered trademark of Dassault Systèmes.

All other trademarks belong to their respective owners.

SMARTEAM is a registered trademark of SMARTEAM Corporation Ltd.

Microsoft Windows and Windows NT are registered trademarks of Microsoft Corporation in the United States and/or other countries.

Introduction

In order to provide an integrated environment to manage FMEA and Control Plan for Engineering department, a solution based on SMARTEAM WEB EDITOR i.e. APQP, is provided to all engineers. This tool should enable users to manage information in database and to share with others.

APQP objectives are:

Support the collaborative management of FMEA, Control Plan, and Gage R&R across worldwide product development teams.

- Support easy edit tool to make Design FMEA and Process FMEA.
- Generate summary screen.
- Generate Gage report and Control Plan report.

The purpose of this document is to help the reader understand how to use the APQP solution.

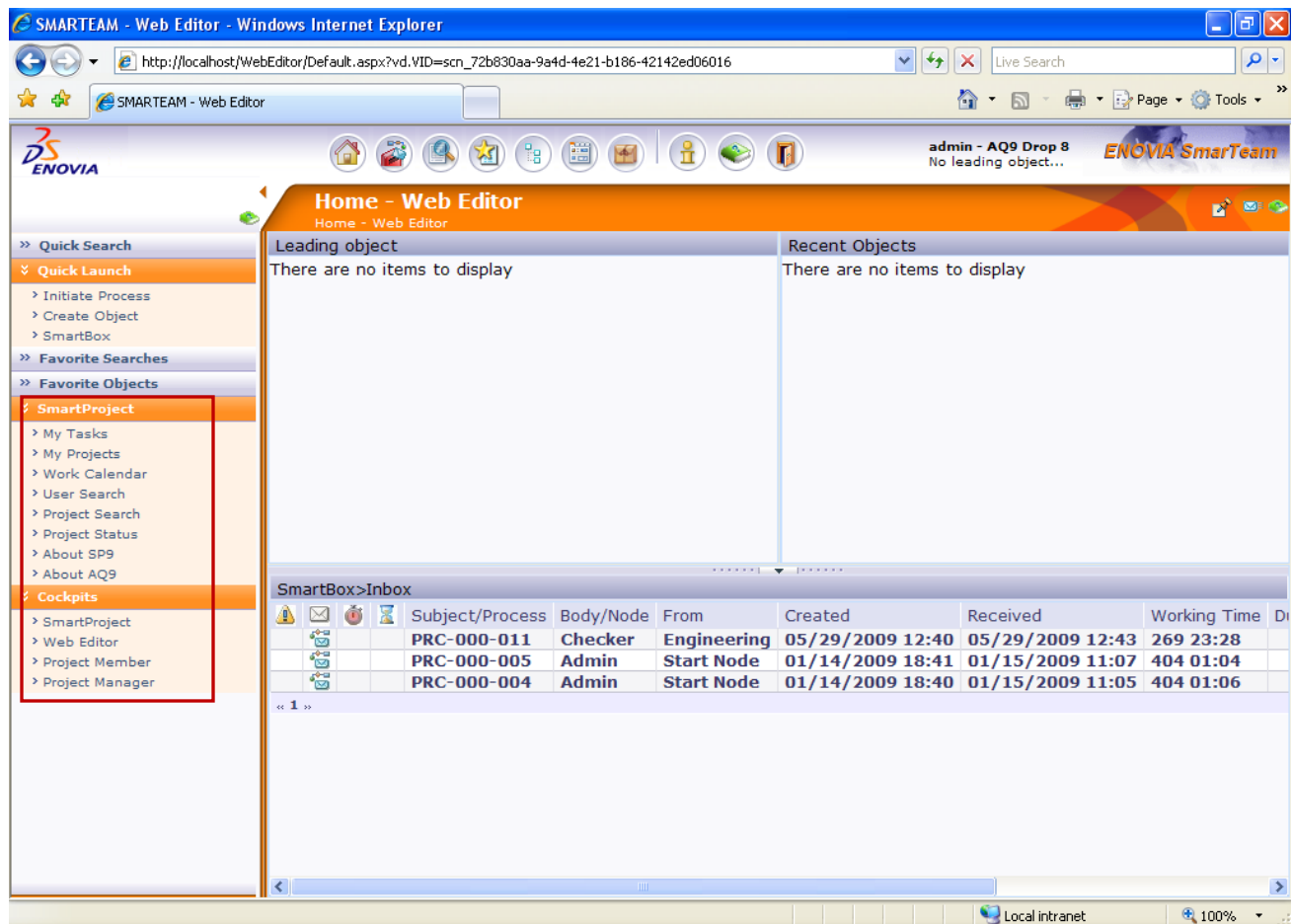
1 Overview of APQP

This chapter describes and explains all the functionalities related to APQP

1.1 APQP General Features and Configuration

• System Look and Feel

APQP's default look & feel is different from SmarTeam Web Editor's look & feel.

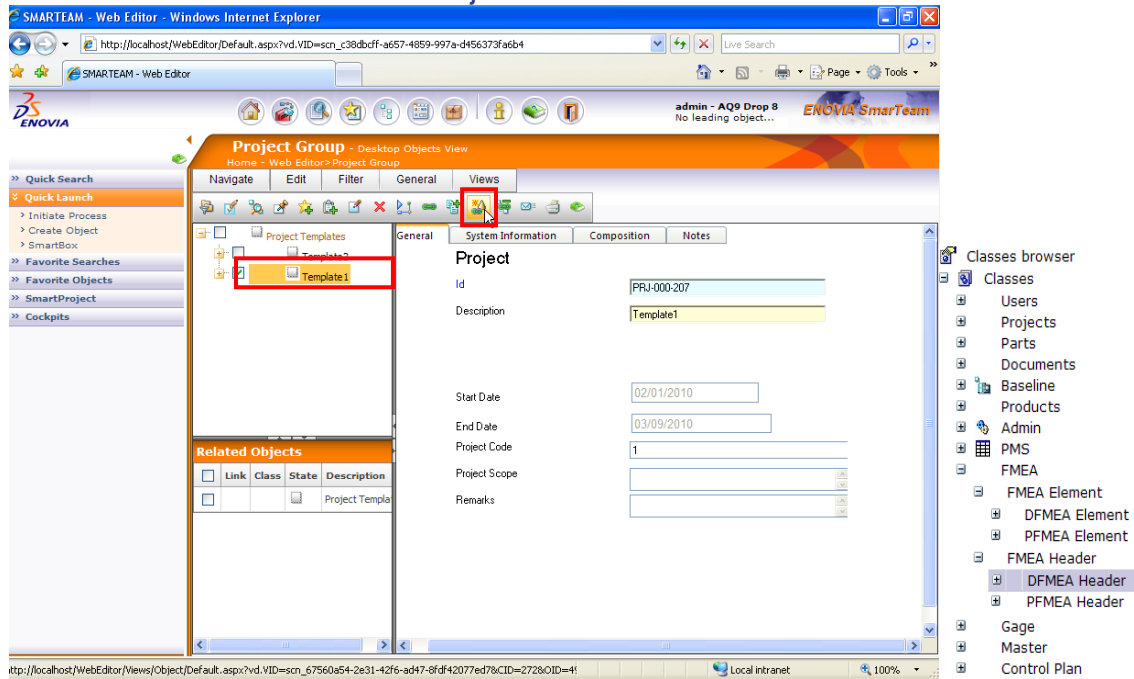


1.2 How to Create a New Project

1.2.1 FMEA Definition

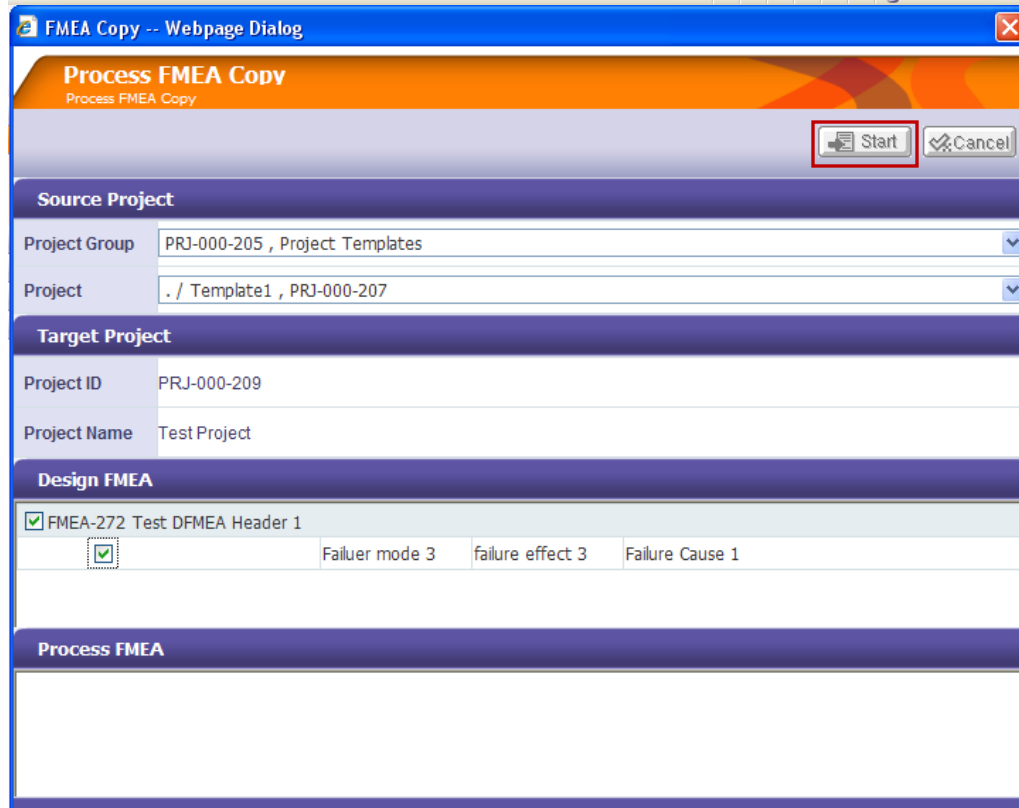
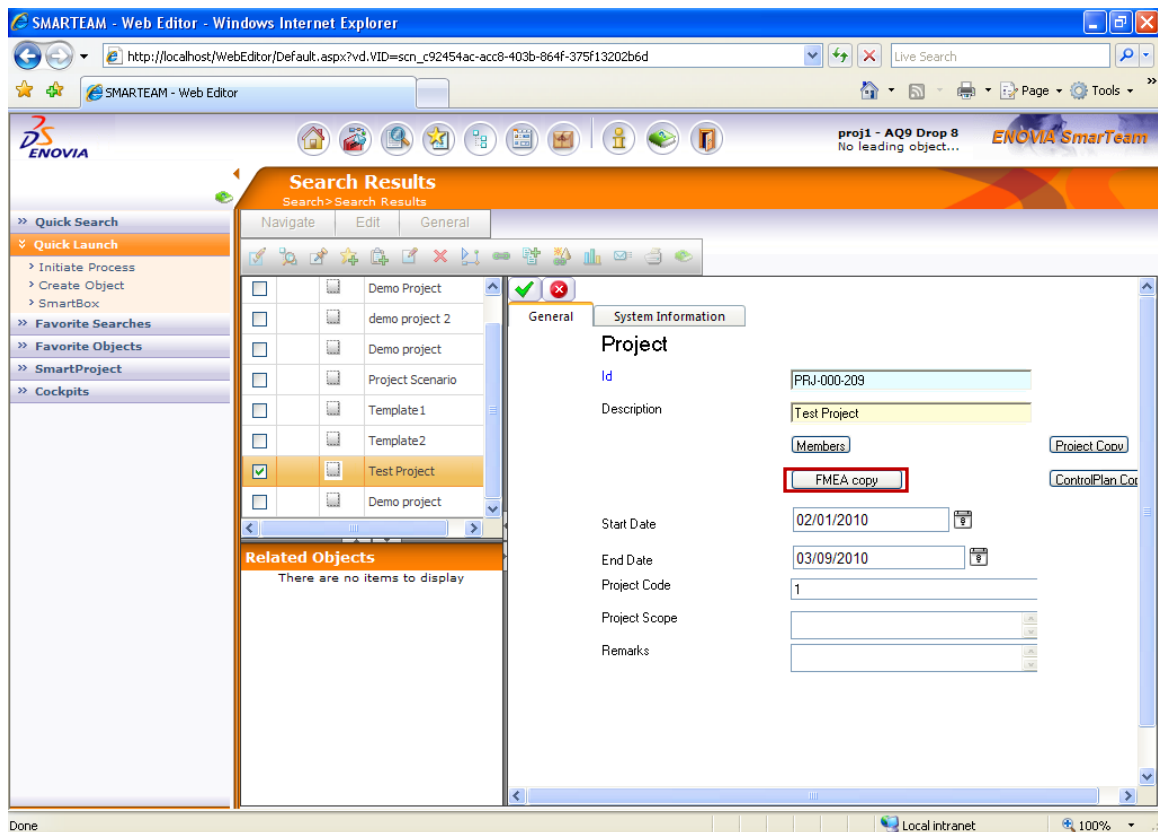
1. From Scratch:

- Create a new project object
- Directly with Web Editor: By using SmarTeam Web Editor standard operation, user can add FMEA Head objects



2. By Reusing an Existing Project:

- Directly with Web Editor.
 - Create a new Project object.
 - Use FMEA Copy tool from the project profile card. From this interface, you can browse the existing projects and select the project you want to copy from.
 - You can copy Design FMEA as well as Process FMEA. If user click on header check box; the FMEA header will get copied. If user clicks on FMEA element check box header will get automatically selected and header along with elements will be copied.



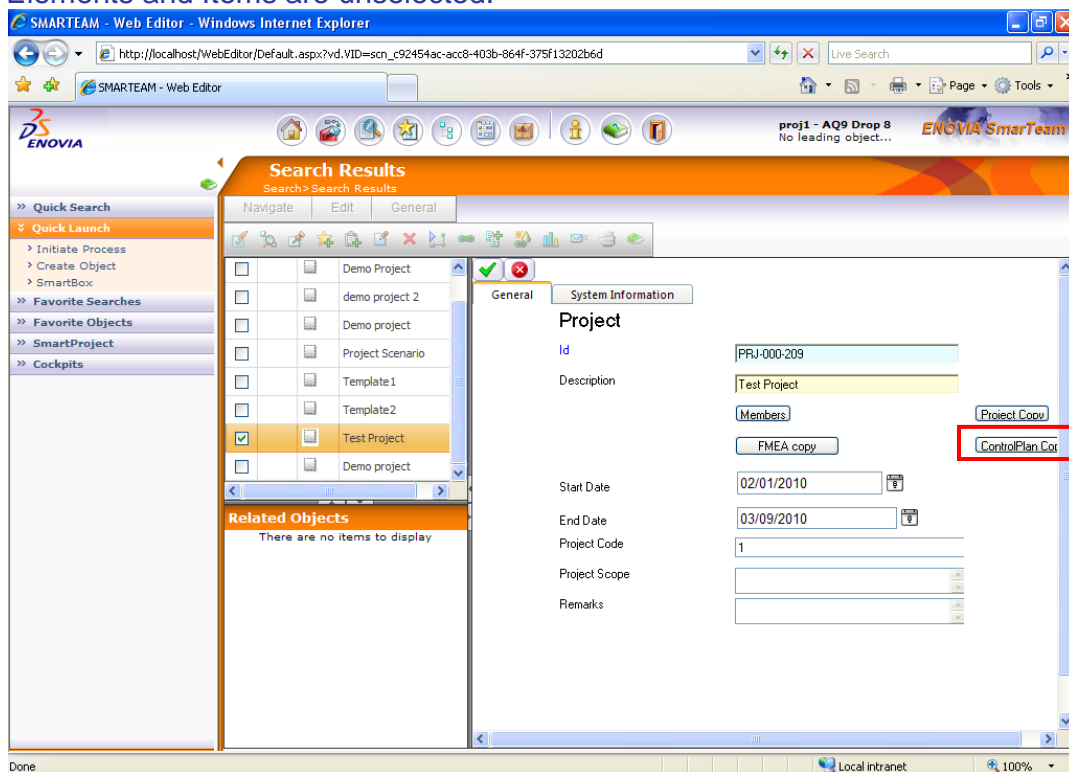
1.2.2 Control Plan Definition

1. From Scratch:

- Create a new Project object.
- Directly with Web Editor: By using SmartTeam Web Editor standard operation, user can add Control Plan Header, Element, and Item objects.

2. By Reusing an Existing Project:

- Directly with Web Editor.
 - Create a new Project object.
 - Use Control Plan Copy tool from the project profile card. From this interface, you can browse the existing projects and select the project you want to copy from.
 - Choose Header, Element, or Item object. If user click Item, system choose upper Header and Element by default. When user unselect Header, sub Elements and Items are unselected.



DFMEA Copy -- Webpage Dialog

Control Plan Copy

Control Plan Copy

Start

Cancel

Source Project

Project Group

PRJ-000-205 , Project Templates

Project

. / Template1 , PRJ-000-207

Target Project

Project ID

PRJ-000-209

Project Name

Test Project

Control Plan

☒
Test Control Plan Header

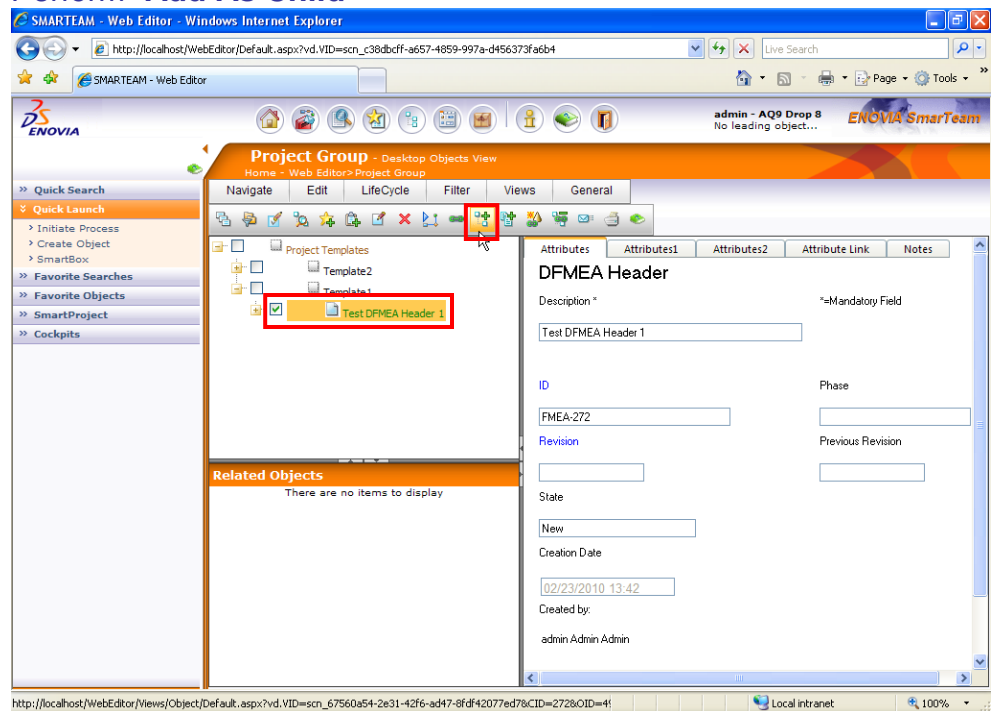
☒
CP Item 1

1.3 Project Execution

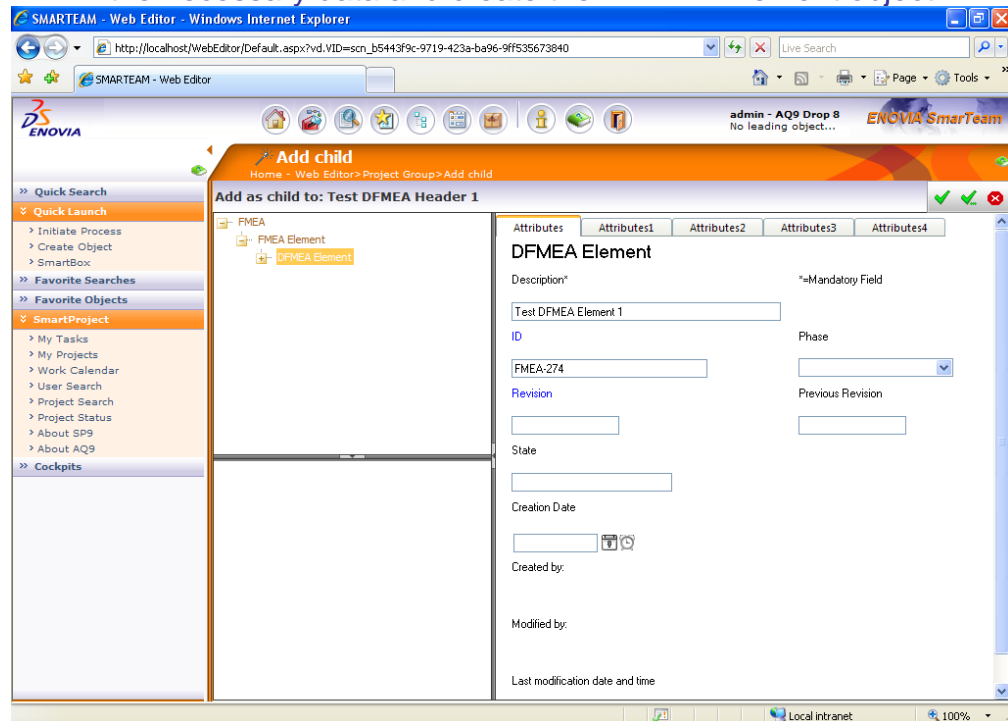
1.3.1 FMEA

1. Create FMEA Elements

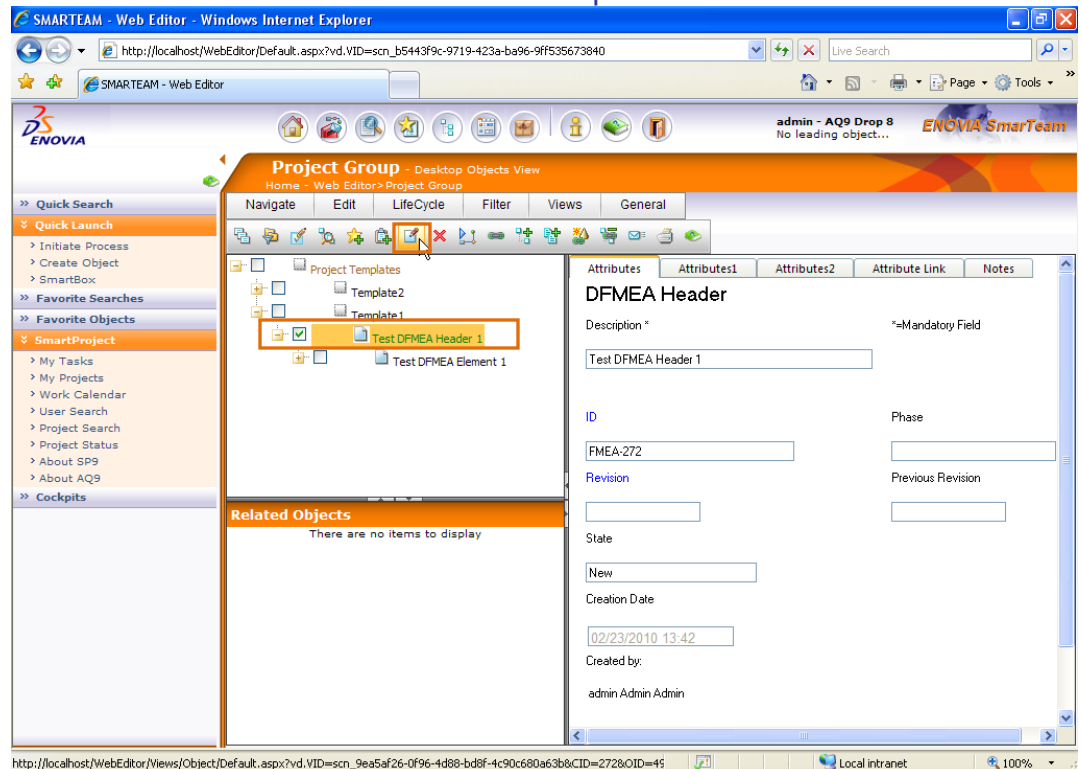
- a. From DFMEA/PFMEA Header, user can add multiple FMEA Elements.
 - Perform “Add As Child”



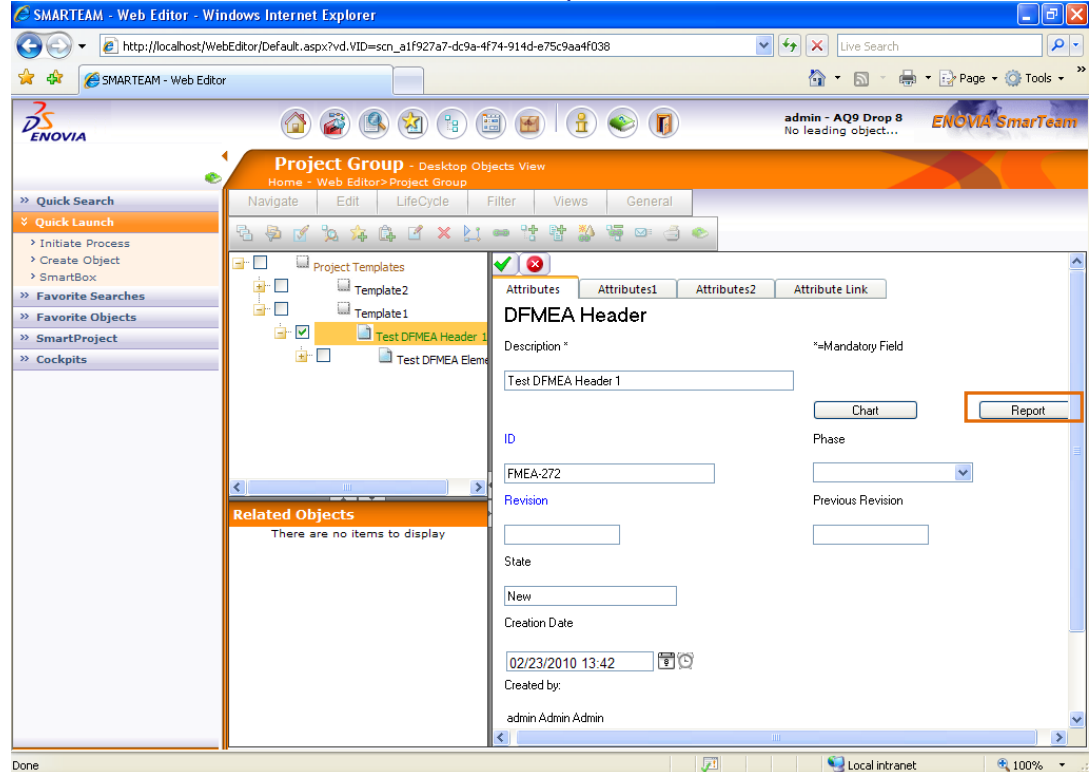
- Fill the necessary data and create the DFMEA Element object.



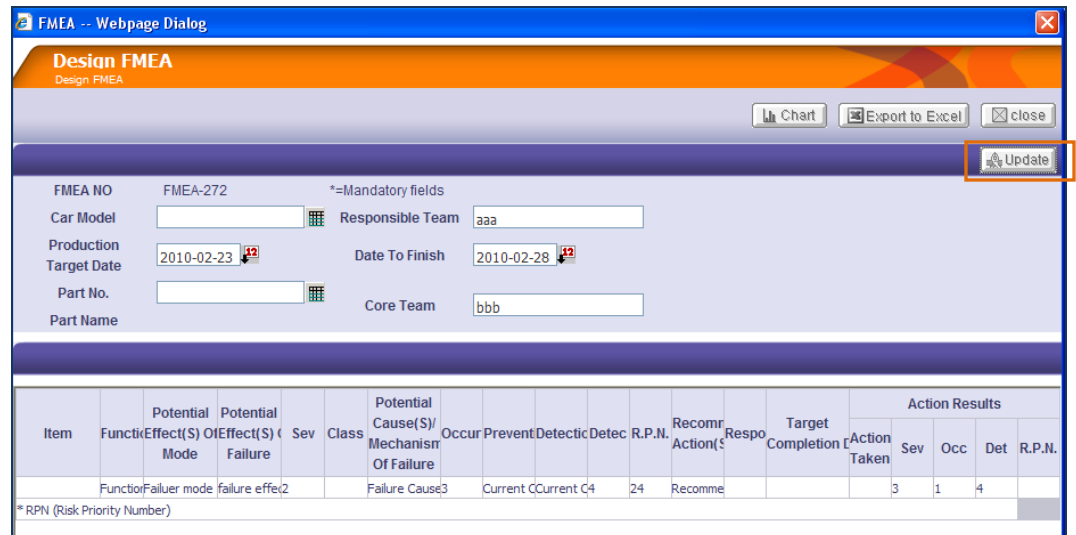
- The element gets added. Number of such elements can be added.
- Go to DFMEA Header and click on “Update”



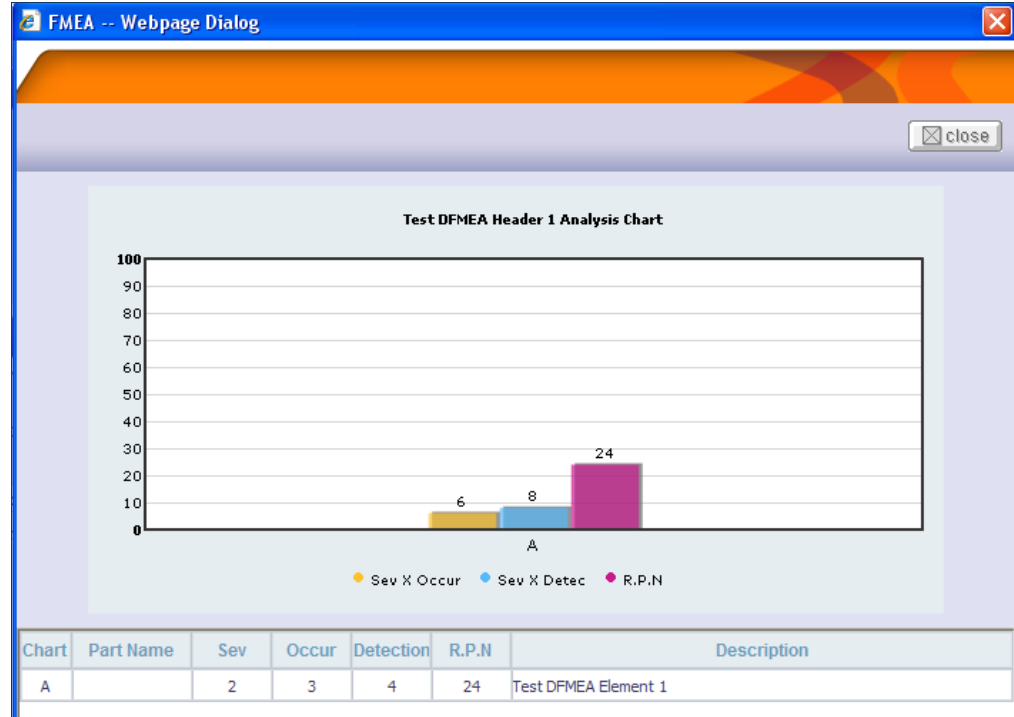
- Click on “Report” button. This will show the DFMEA Header attributes as well as all the DFMEA Elements present under it.



- Any updates on attributes can be done from here. New element cannot be added from here. This action has to be done using ENOVIA SmarTeam Standard command.



- This screen also allows viewing chart for the DFMEA Header using “Chart” button.



b. Export

- This report can be exported to Excel using “Export to Excel” command.

DFMEAExport - Windows Internet Explorer

http://localhost/WebEditor/APQP/FMEAExport.aspx?cid=346&oid=908

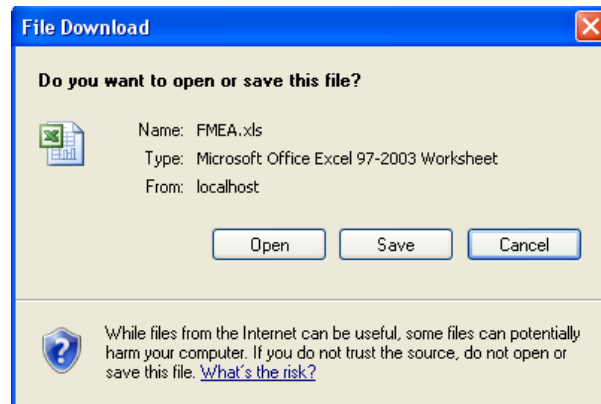
Export to Excel

close

Potential Failure Mode And Effects Analysis (Design FMEA)

FMEA NO	FMEA-272	Responsible Team	aaa	Revision	Date	Major Revision	Prepared(Sign/Date)	Checked (Sign/Date)	Approved (Sign/Date)								
Car Model		Date To Finish	2/28/2010	First Issue													
Production Target Date	2/23/2010	Core Team	bbb														
Part No.																	
Part Name																	
Item/ Function	Potential Effect(S) Of Mode	Potential Effect(S) Of Failure	Sev	Class	Potential Cause(S)/ Mechanism(S) Of Failure	Occur	Current Design Controls		Detec	R.P.N.	Recommended Action(S)	Responsibility Target Completion Date	Action Results				
							Prevention	Detection					Actions Taken	Sev	Occ	Det	R.P.N.
Function 1	Failure mode 3	failure effect 3	2		Failure Cause 1	3	Current Control 1	Current Control 1	4	24	Recommended Action 1		3	1	4		

* RPN (Risk Priority Number)

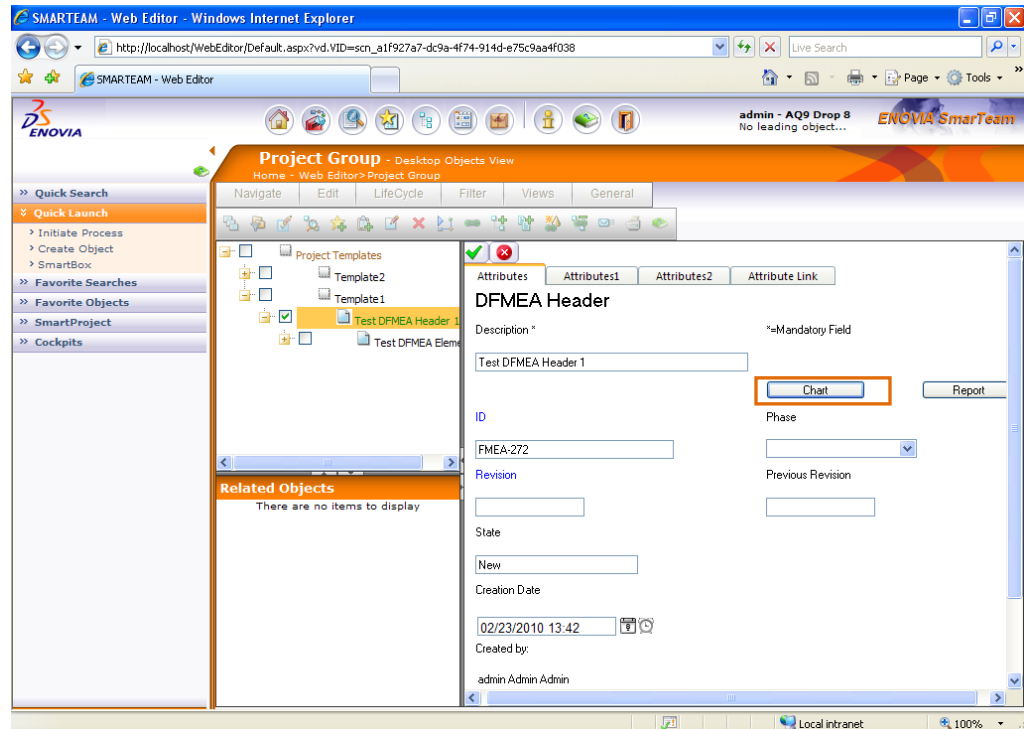


Potential Failure Mode And Effects Analysis (Design FMEA)										
1	FMEA NO	FMEA-272	Responsible Team	aaa	Revision	Date	Major Revision	Prepared(Sign/Date)		
2	Car Model		Date To Finish	2/28/2010	First Issue					
3	Production									
4	Target Date	2/23/2010								
5	Part No.									
6	Part Name		Core Team	bbb						
7	Item/Function	Potential Effect(S) Of Mode	Potential Effect(S) Of Failure	Potential Cause(S)/ Mechanism(S) Of Failure	Current Design Controls	Recommended Action(S)	Responsibility Target Completion Date			
8										
9										
10										
11										
12										
13	Function 1	Failure mode 3	Failure effect 3	2	Failure Cause 1	3	Current Control 1	Current Control 1	4	24
14										

* RPN (Risk Priority Number)

2. Chart

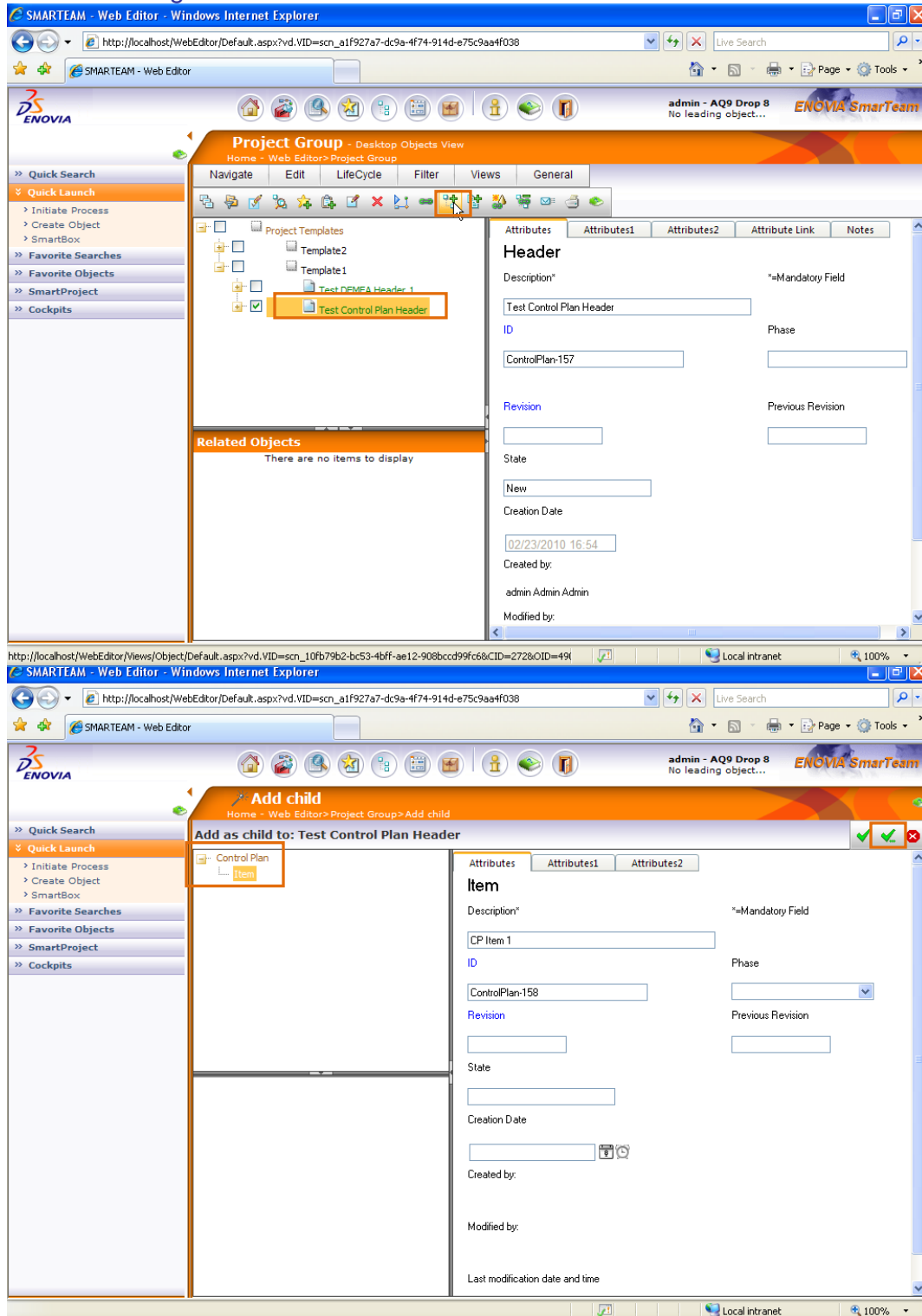
- The same “Chart” functionality is available from DFMEA Header using “Chart” button.



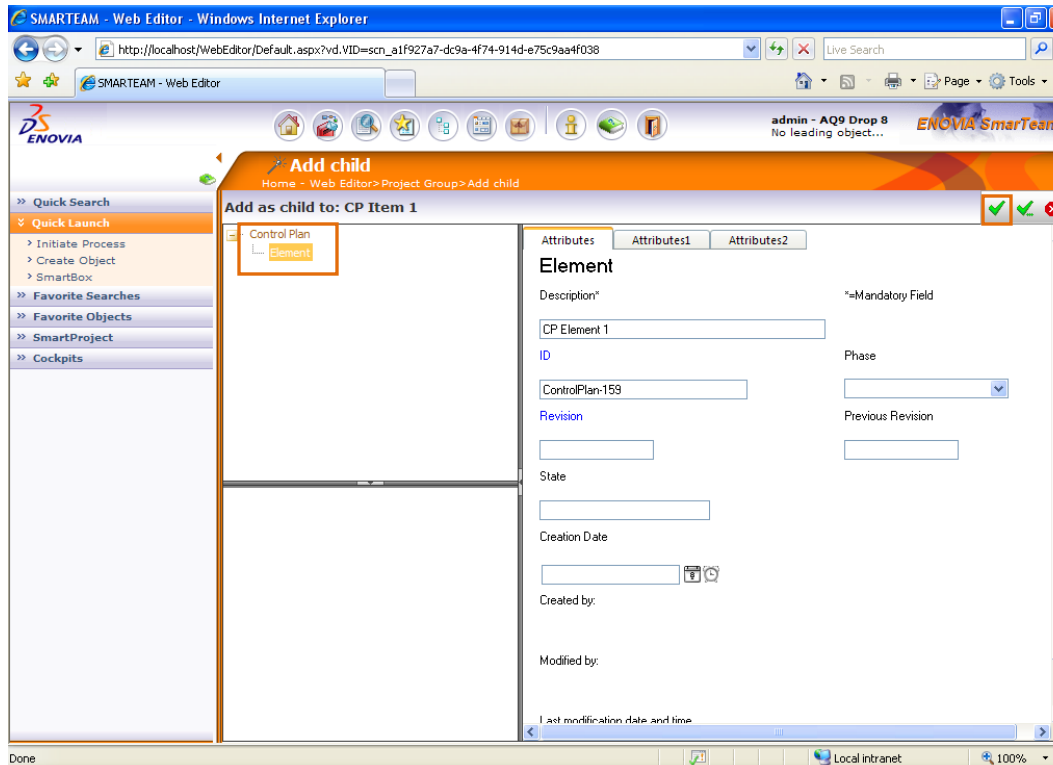
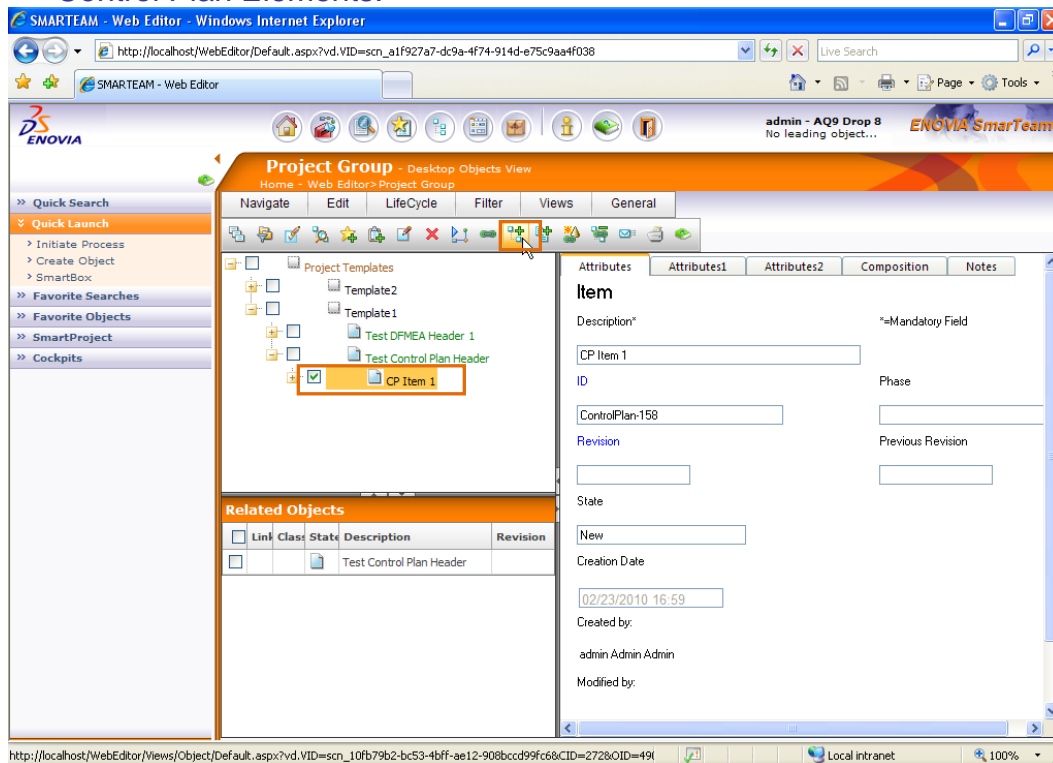
1.3.2 Control Plan

1. Create Control Plan Items/Elements

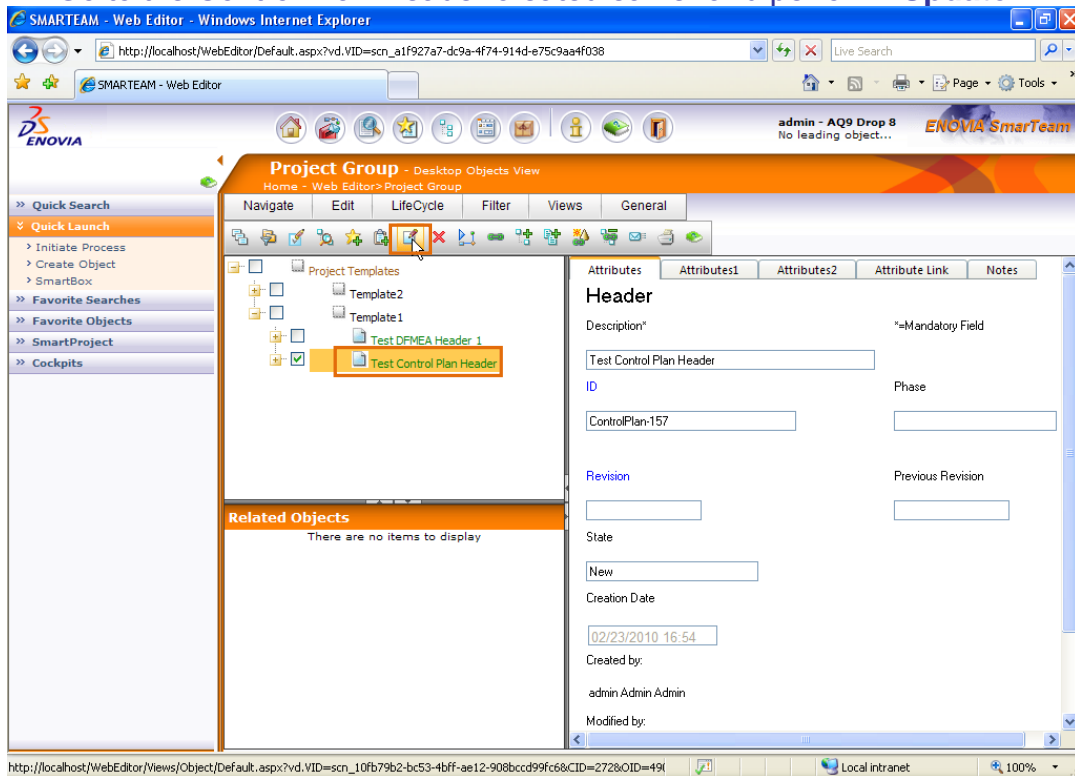
- Select the Control Plan Header and perform **"Add As Child"**. Add the Control Plan Items using this standard SmarTeam command.



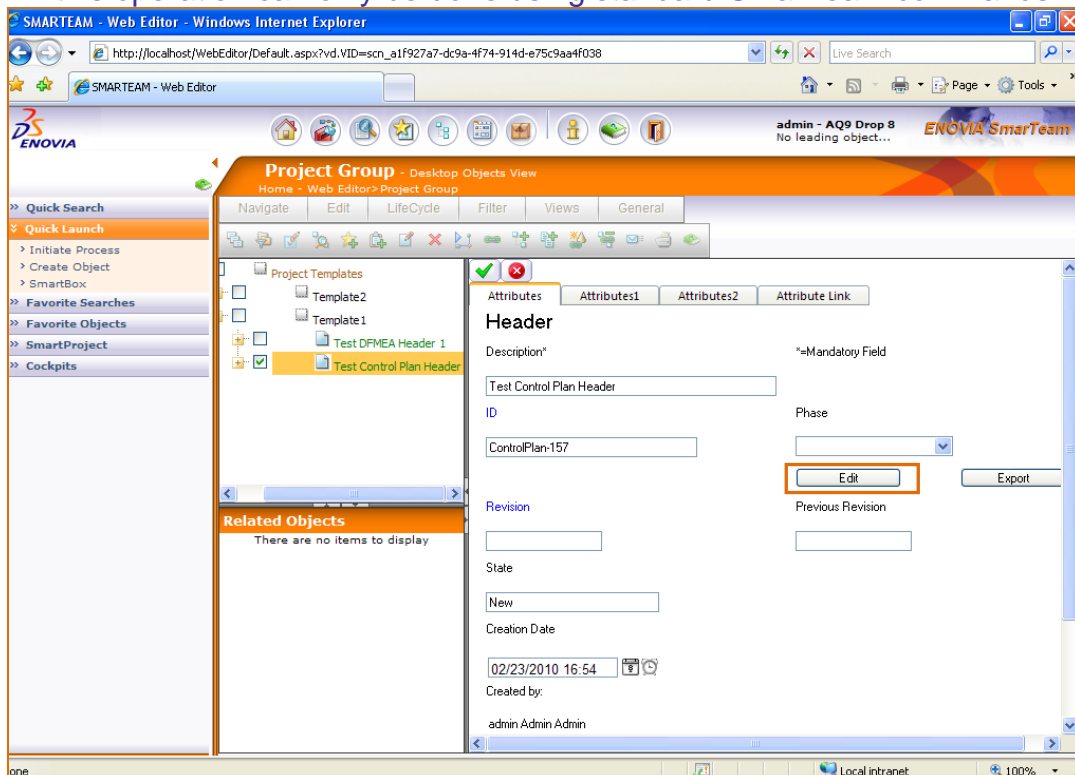
- Select this newly added Control Plan Item and perform “Add as Child” to add Control Plan Elements.



- Go to the Control Plan Header created earlier and perform “Update”



- The “Edit” button will show page where the Control Plan Header/Item/Element attributes can be updated. No new Items/Elements can be added from this page, this operation can only be done using standard SmarTeam commands.



Control Plan
Control Plan

Export to Excel close

Update

Stage: Default Car Model: vehicle 3 Customer Engineering Approval/Date(If Req'D):

Part Number: PRT-000-002 Core Team: aaa Customer Quality Approval/Date(If Req'D):

Part Name: Part 1 Supplier Code: supplier 3 Other Approval/Date(If Req'D): * =Mandatory Fields

Part/ Process Number	Process Flow	Process Name/ Operation Description	Machine, Device, Jig, Tools For Mfg.	No	Charact eristics	Special Charact eristics	Methods				Responsible	Reaction Plan	Remark
							Product/Process Specification/ Tolerance	Evaluation Measurement Technique	Freq.	Control Method			
1		CP Item 1		4	Process	SP	1	NT	23	CM1	QA	RP1	Remark

- From this page, this report can be exported to excel using the “Export to Excel” button.

ControlPlanExport - Windows Internet Explorer

http://localhost/WebEditor/APQP/ControlPlanExport.aspx?cid=349&oid=510

Export to Excel close

Control Plan

Vendor Name :

Stage	Car Model	vehicle 3	No.	Rev. Date	Major Revision	Prepared	Checked	Approved	Established :
Proto	Part Name	Part 1	1						Approval
			2						
			3						
Mass Production	Part Number	PRT-000-002	4						
			5						
			6						

Supplier Code : supplier 3 Customer Engineering Approval/Date(If Req'D) : 1-01-01 Customer Quality Approval/Date(If Req'D) : Other Approval/Date(If Req'D) :

Part/ Process Number	Process Flow			Process Name/ Operation Description	Machine, Device, Jig, Tools For Mfg.	No	Charact eristics	Special Charact eristics	Methods				Responsible		Reaction Plan	Remarks
	Sub	Main	Subcont						Product	Process	Product/Process Specification/ Tolerance	Evaluation Measurement Technique	Freq.	Control Method		
1				CP Item 1		4	V	SP	1	NT	23	CM1		V	RP1	Remark

File Download

Do you want to open or save this file?

Name: ControlPlan.xls
Type: Microsoft Office Excel 97-2003 Worksheet
From: localhost

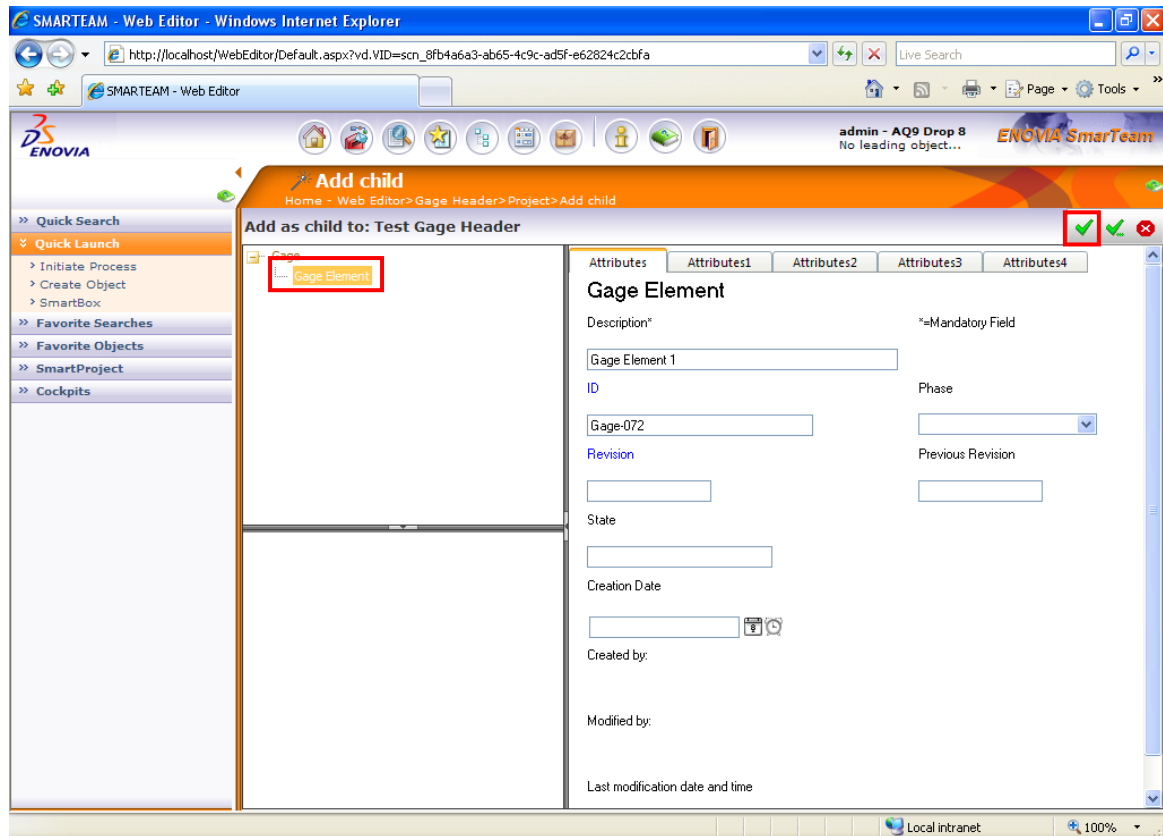
Open Save Cancel

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. [What's the risk?](#)

- This same functionality can be used from Control Plan Header “Export to Excel” button.

1.3.3 Gage R&R Report

1. Create Gage Elements



The screenshot shows the SMARTTEAM - Web Editor interface in a Windows Internet Explorer browser. The address bar displays the URL: `http://localhost/WebEditor/Default.aspx?vd.VID=scn_8fb4a6a3-ab65-4c9c-ad5f-e62824c2cbfa`. The page title is "SMARTTEAM - Web Editor".

The main content area is titled "Add child" and "Add as child to: Test Gage Header". A red box highlights the "Gage Element" option in the "Add as child to" list. The "Gage Element" form is displayed on the right, with the following fields:

- Description***: "Gage Element 1" (Mandatory Field)
- ID**: "Gage-072"
- Phase**: (Dropdown menu)
- Revision**: (Text input)
- Previous Revision**: (Text input)
- State**: (Text input)
- Creation Date**: (Text input with calendar icon)
- Created by:** (Text input)
- Modified by:** (Text input)
- Last modification date and time**: (Text input)

The interface includes a left sidebar with navigation options: Quick Search, Quick Launch (Initiate Process, Create Object, SmartBox), Favorite Searches, Favorite Objects, SmartProject, and Cockpits. The top right corner shows the user "admin - AQ9 Drop 8" and the status "No leading object...". The bottom status bar indicates "Local intranet" and "100%" zoom.

Attributes	Attributes1	Attributes2	Attributes3	Attributes4
Approval Date		101*		
		1		
Effective From		102*		
		2		
Effective Until				
Under Operation				
First revision creator				
admin Admin Admin				
Date of first revision creation				
02/23/2010 17:4				
User which approved				

Attributes	Attributes1	Attributes2	Attributes3	Attributes4
203*			301*	
13			14	
204*			302*	
15			16	
205*				
17				
206*				
18				
207*				
19				
208*				
20				
209*				
21				
210*				

2. Edit

a. From Gage Header, user can call Report View after calling Update.

[Export to Excel](#)
[close](#)

Gage R & R Report

Part		Gage		Trial	
No:		No:	Gage-013	A:	Admin, Admin
Name:		Name:	Gage header	B:	Admin, Admin
Spec:		Tolerance:	5	C:	Admin, Admin
Character:		Etc:			

Operator(m)	Trial(r)	Parts No(n)										Average
		1	2	3	4	5	6	7	8	9	10	
A	1	1	2	3	4	5	6	7	8	9	10	5.5
	2	11	12	13	18	22	26	30	14	15	16	17.7
	3	17	18	19	20	21	22	23	24	25	26	21.5
	Average	9.667	10.667	11.667	14	16	18	20	15.333	16.333	17.333	Xa : 14.9
	Max diff	16	16	16	16	17	20	23	16	16	16	Ra : 17.2
B	1	1	2	3	4	6	7	8	9	10	11	6.1
	2	12	5	13	15	17	18	19	20	21	22	16.2
	3	14	16	23	24	25	26	27	28	29	30	24.2
	Average	9	7.667	13	14.333	16	17	18	19	20	21	Xb : 15.5
	Max diff	13	14	20	20	19	19	19	19	19	19	Rb : 18.1
C	1	21	22	23	24	25	26	27	28	29	30	25.5
	2	11	11	12	13	14	15	16	12	11	18	13.3
	3	13	17	15	16	17	18	19	20	21	22	17.8
	Average	15	16.667	16.667	17.667	18.667	19.667	20.667	20	20.333	23.333	Xc : 18.867
	Max diff	10	11	11	11	11	11	11	16	18	12	Rc : 12.2
Part Avg ($\bar{\bar{X}}_p$)		11.222	11.667	13.778	15.333	16.889	18.222	19.556	18.111	18.889	20.555	Rp : 9.333
$\bar{R} = (\bar{R}_a + \bar{R}_b + \bar{R}_c) / \text{people}$												$\bar{R} : 15.8333$
$\bar{X}_{diff} = \max \bar{X} - \min \bar{X} = R_o$												$R_o : 3.967$
$EV = 5.15 \times \bar{R} / d_2$												$EV = 48.164$
$AV = \sqrt{(Z \times R_o / d_2)^2 - (EV^2 / nr)}$												$AV = 6.0899$

SmartTeam Advanced Product Quality Planning – User Guide –V5.8

Do not reproduce, copy or use without a license from DASSAULT SYSTEMES

© 2010, DASSAULT SYSTEMES K.K, All Rights Reserved

2 Prerequisite Settings for New Project

This chapter explains all the prerequisite Admin Tasks to be performed, related to APQP before starting or creating any new Project.

Note: The below detailed settings are for the scenario that is described in the next chapter, which is just a small example to guide the user.

2.1 Library

2.1.1 Create Reference Objects

There are three groups library.

Failure Cause : List up all failure cause in this class and users can utilize.

Failure Effect : List up all effects from failure

Failure Mode : List up all failure was happened in the past.

Vehicle : List all OEM's vehicle code or name.

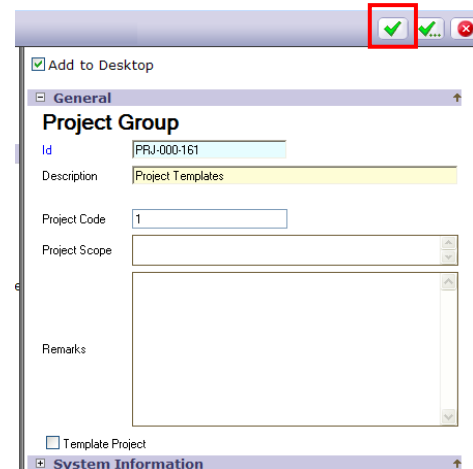
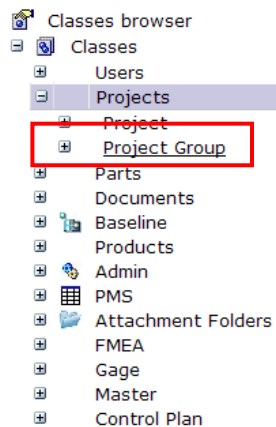
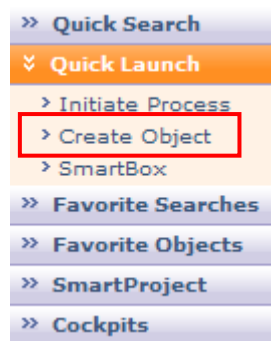
Supplier : List up all suppliers.



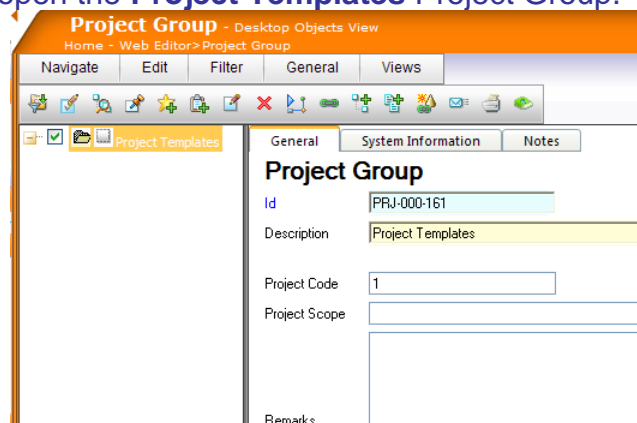
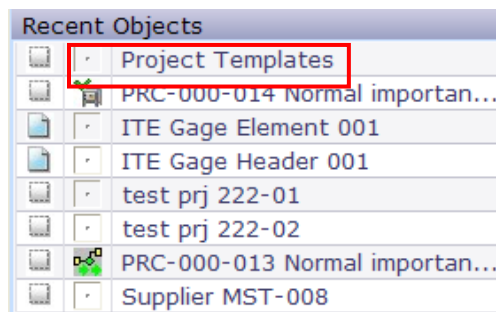
2.2 Project Template Creation

2.2.1 Project Group Creation

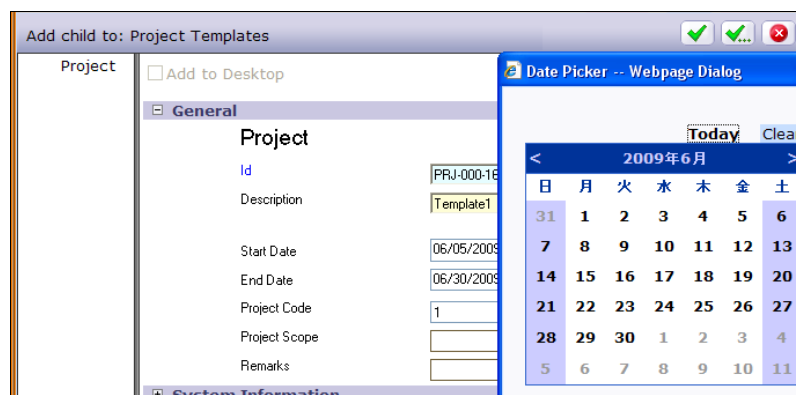
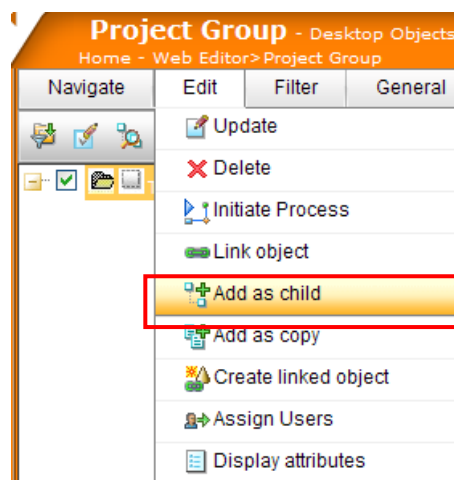
In SMARTEAM Web Editor, click on **Create Object**, select **Project Group** class from the Class Browser. Enter the description **Project Templates** and click on **OK** to Finish.



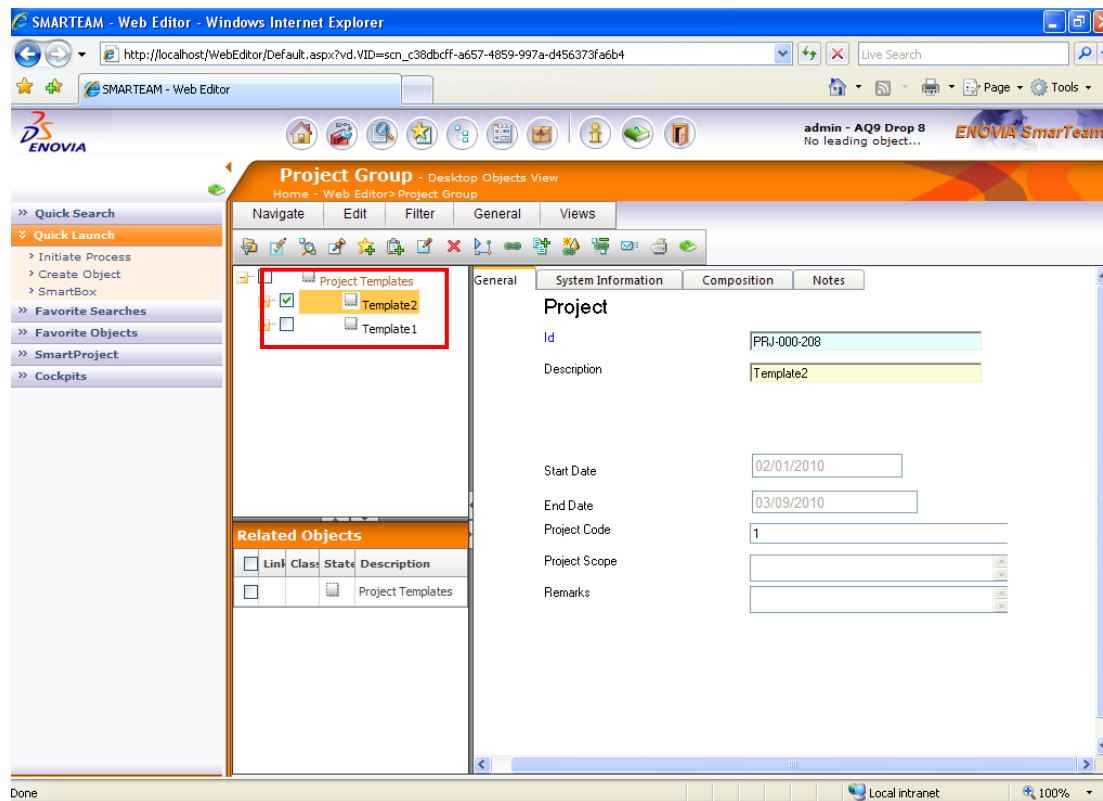
From the Recent Objects list, select and open the **Project Templates** Project Group.



Perform **Add as Child** Action on it to create **Project Template1** under the **Project Templates** Group. Enter the **Description**, **Start Date** and **End Date** fields. Click on OK to finish.



Similarly also create **Template2** under the **Project Templates** Group. **Template1** and **Template2** are seen under the **Project Templates**.

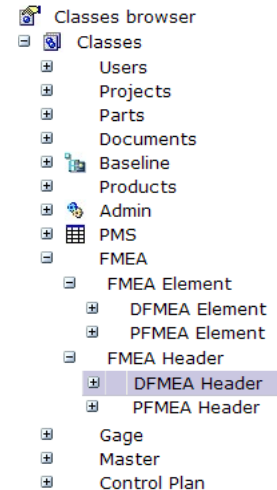
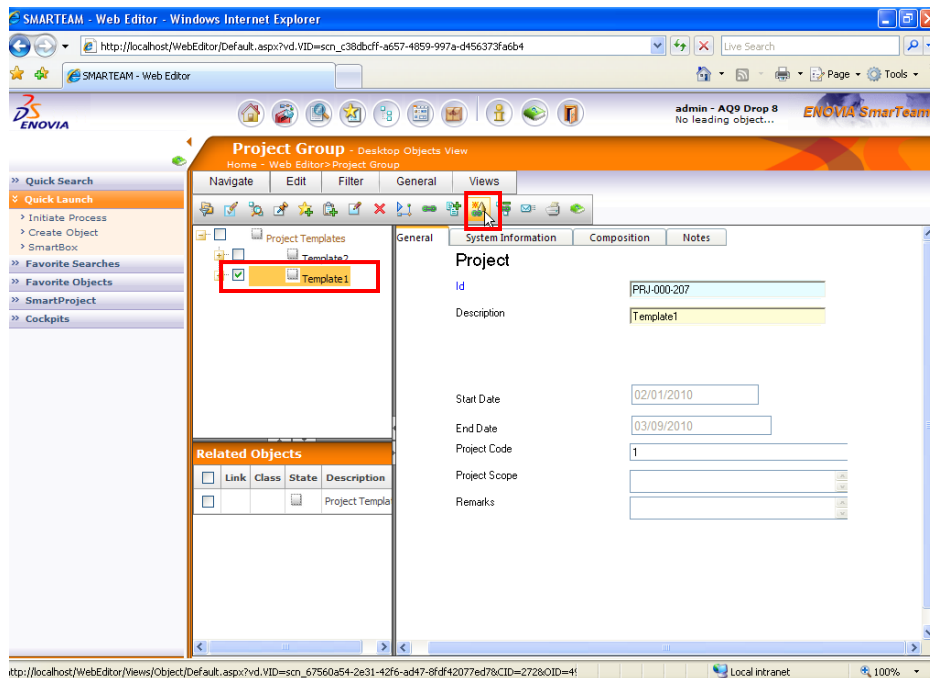


2.2.2 Template FMEA Definition

The user needs to define FMEA for both the projects **Template1** and **Template2**.

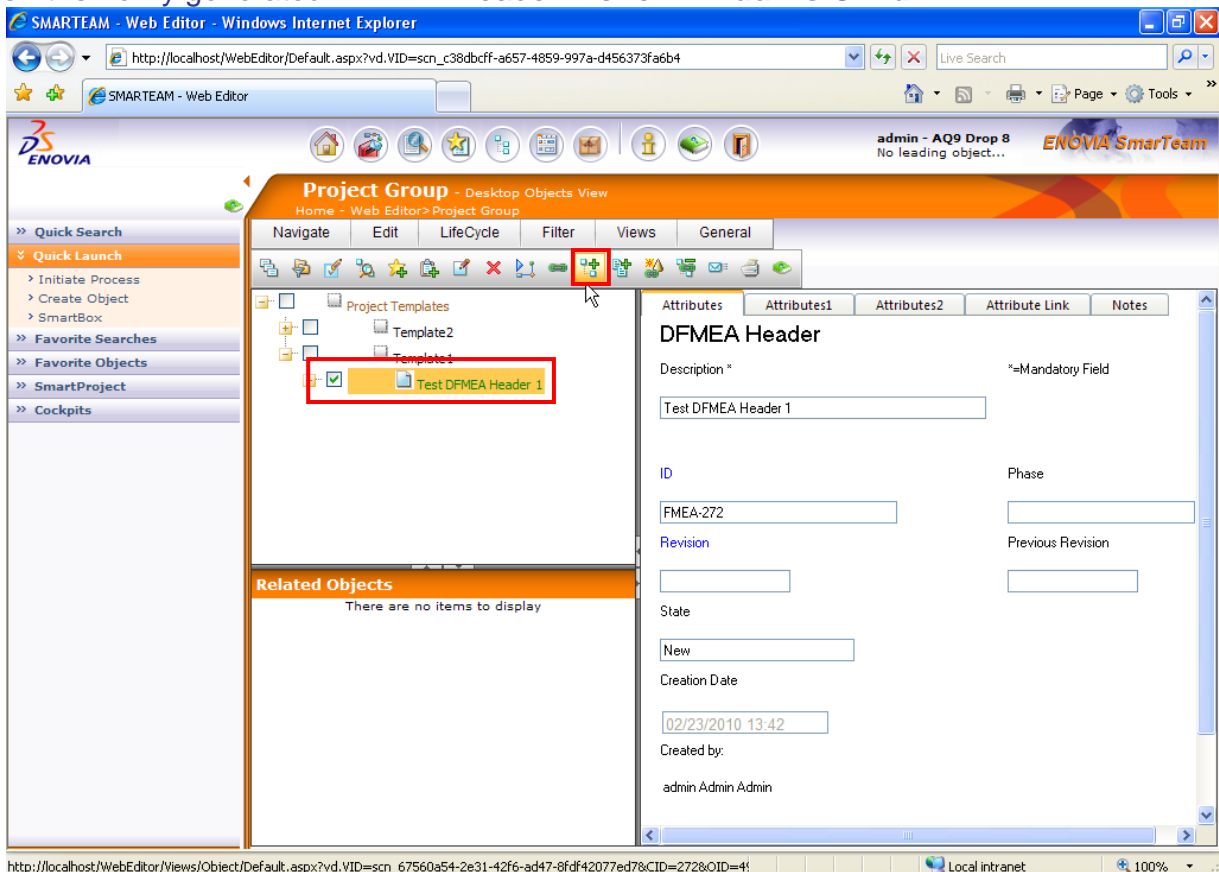
1. for Template1:

Open the **Template1** and perform **Create Linked Objects** Action on it. Select **DFMEA Header** under the FMEA tree.

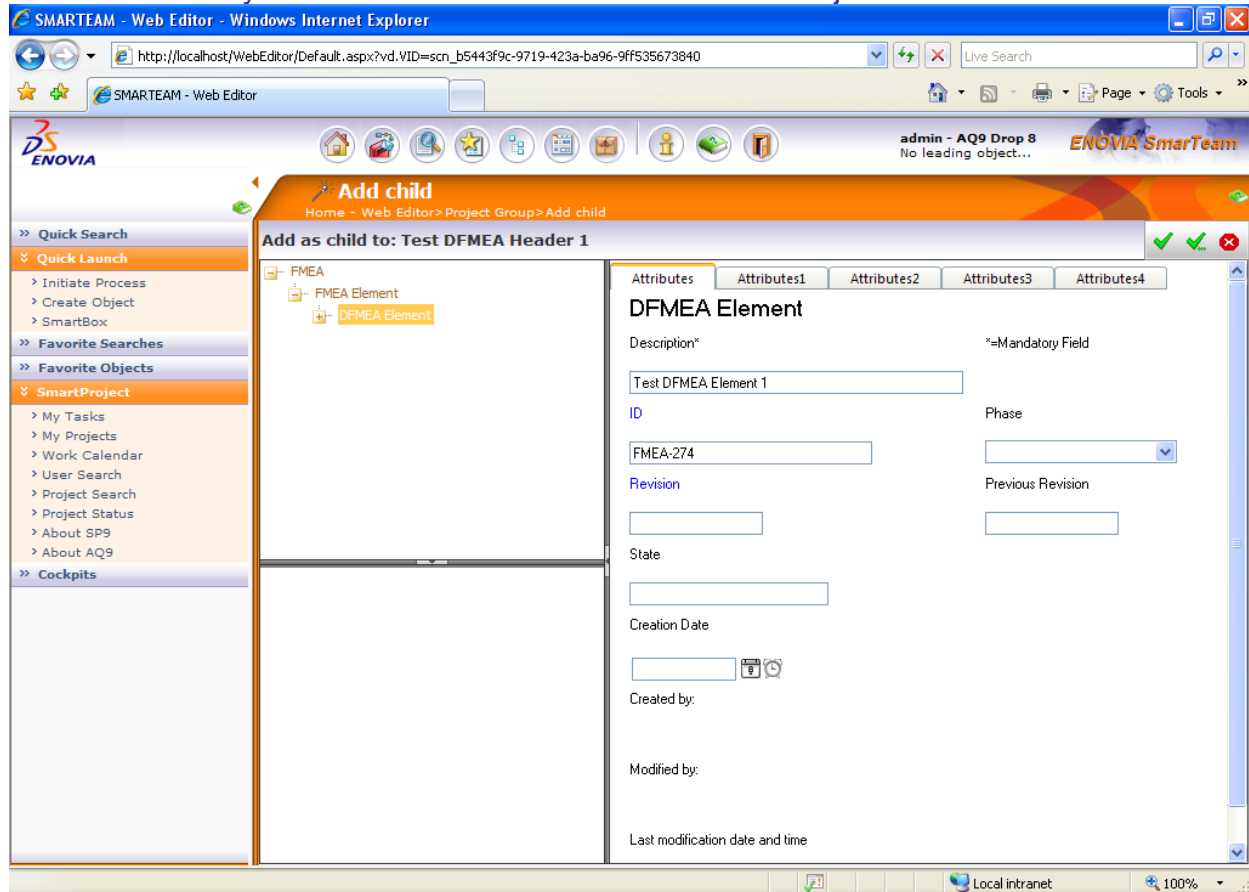


Enter the **Description** and the **Vehicle, Part, Manager, MP Date, Finish Date, Responsible Team, Core Team** fields and click on **OK** to finish.

Open the newly generated DFMEA Header. Perform “Add As Child”



Fill the necessary data and create the DFMEA Element object.



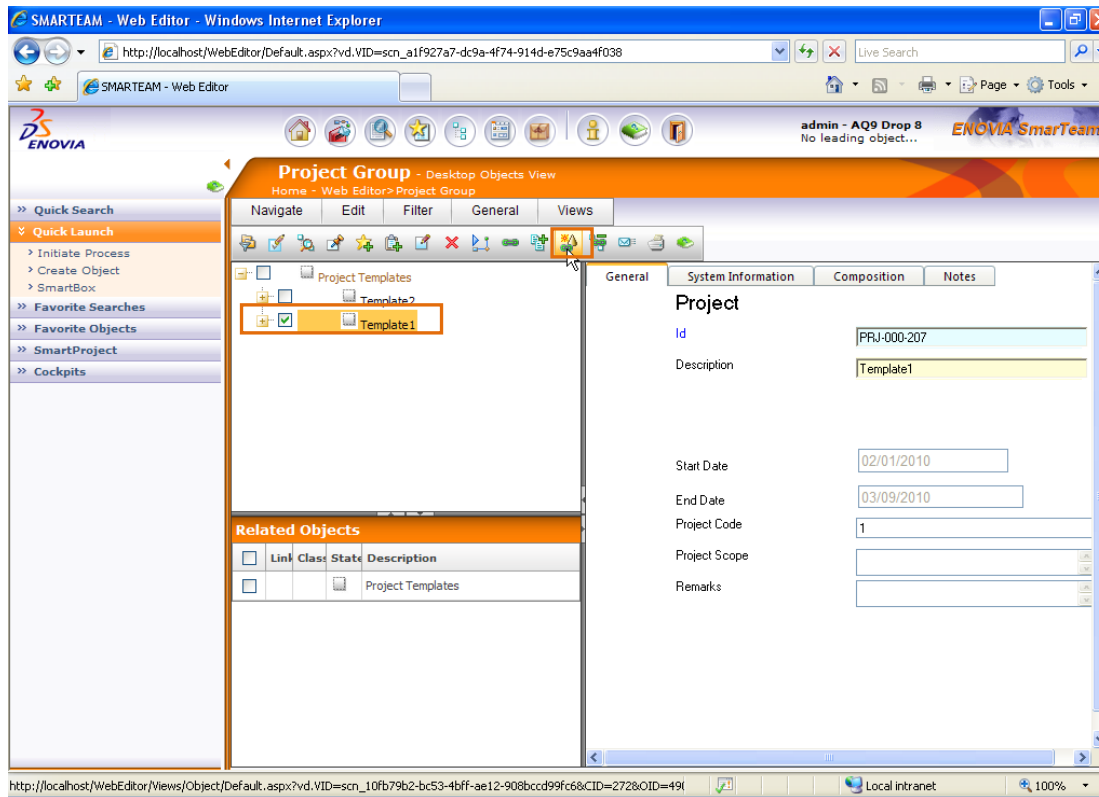
The screenshot shows the ENOVIA SmarTeam Web Editor interface. The main window displays the 'Add child' dialog for creating a new object under the 'Test DFMEA Header 1'. The dialog is titled 'Add as child to: Test DFMEA Header 1'. On the left, a tree view shows the hierarchy: FMEA > FMEA Element > DFMEA Element. The right pane shows the 'Attributes' tab for the 'DFMEA Element'. The attributes include: Description (Test DFMEA Element 1), ID (FMEA-274), Revision, State, Creation Date, Created by, Modified by, and Last modification date and time. There are also dropdown menus for Phase and Previous Revision. The interface includes a top navigation bar with 'Home - Web Editor > Project Group > Add child' and a left sidebar with various search and launch options.

The element gets added. Number of such elements can be added.

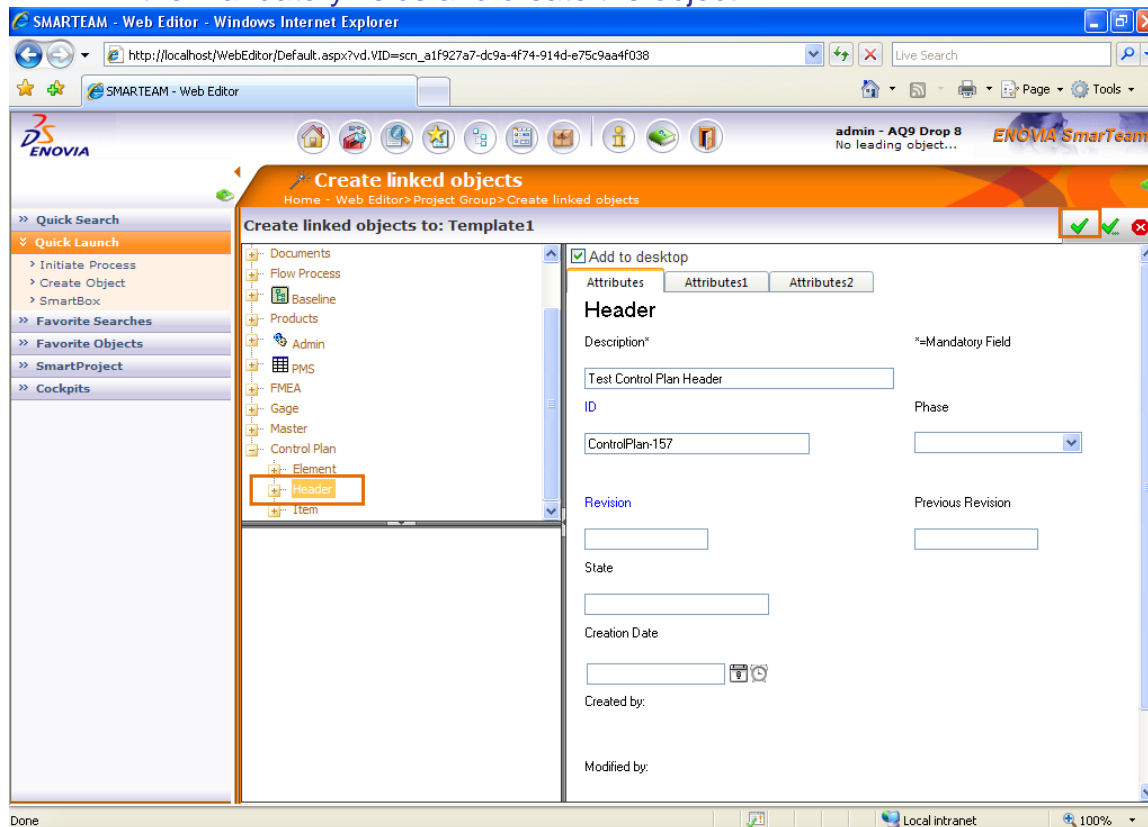
2.2.3 Template Control Plan Definition

1. Control Plan Structure for Template1:

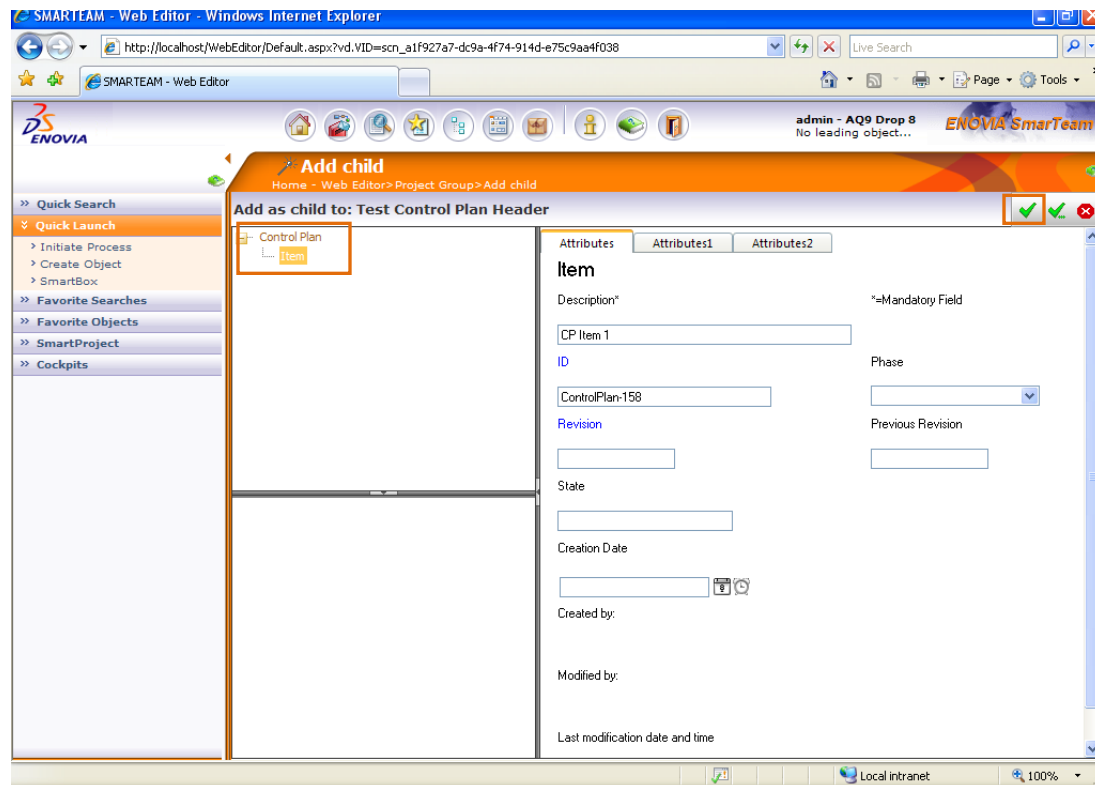
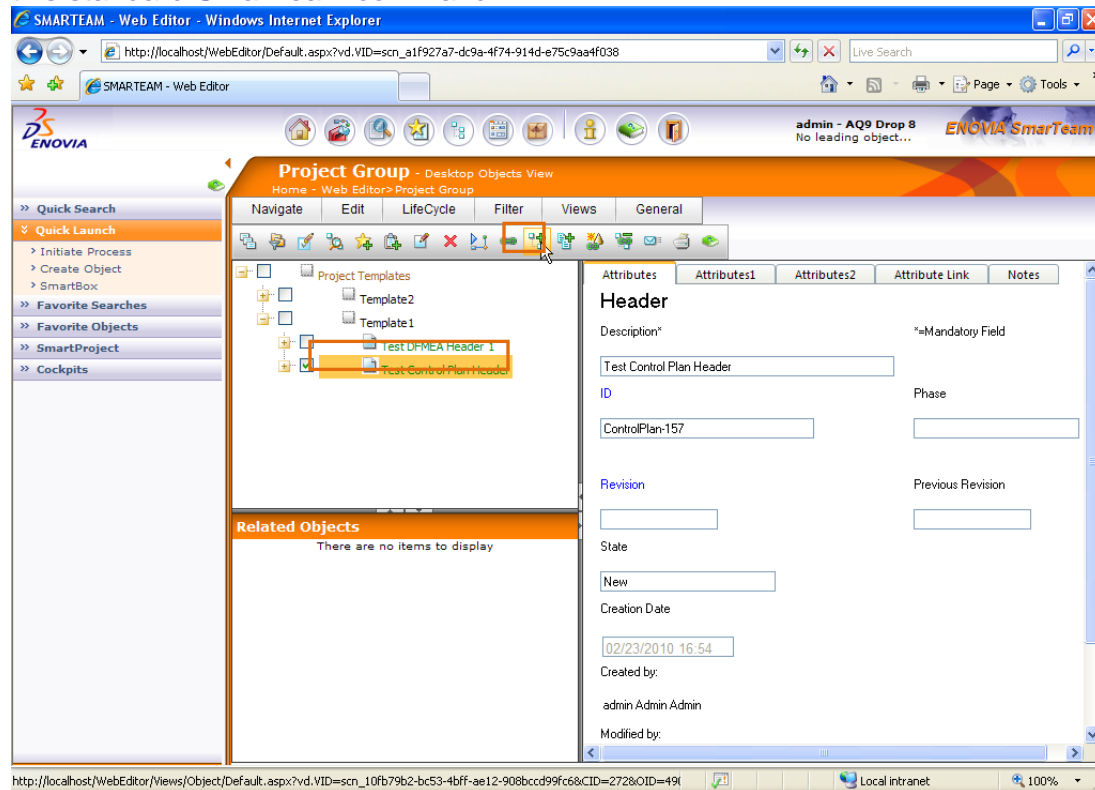
Select and open the **Template1** Project and perform **Create Linked Objects** Action on it, Select Header by expanding Control Plan tree.



Fill in the mandatory fields and create the object.



Select the Control Plan Header and perform **“Add As Child”**. Add the Control Plan Items using this standard SmarTeam command.



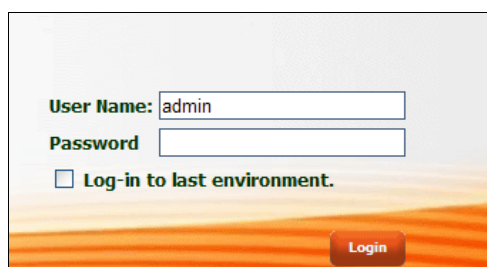
3 End User Scenario on APQP

This chapter gives one small example of APQP application.

3.1 End User Operations

3.1.1 Phase 1: Project Creation

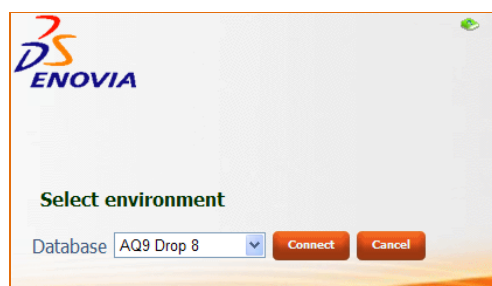
1. Launch SMARTEAM Web Editor.
2. Log in as **admin** and connect to the correct database.



User Name:

Password:

☐ Log-in to last environment.



Select environment

Database:

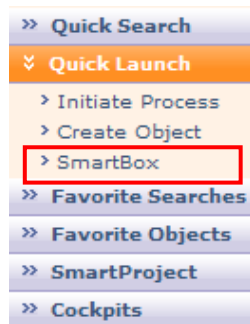
3. Click on **Initiate Process** from **Quick Launch** toolbar and start a **Project Creation Approval** process for the need that has been identified.
 - Fill the Importance field as High Importance.
 - Enter the End Time Date.
 - Click Create.



The screenshots illustrate the steps for creating a Project Creation Approval process:

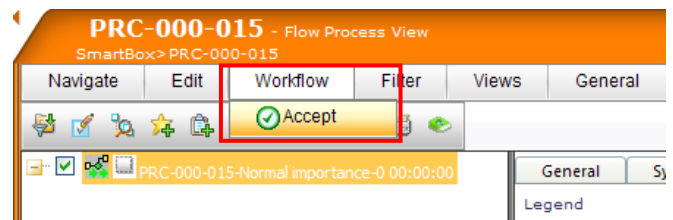
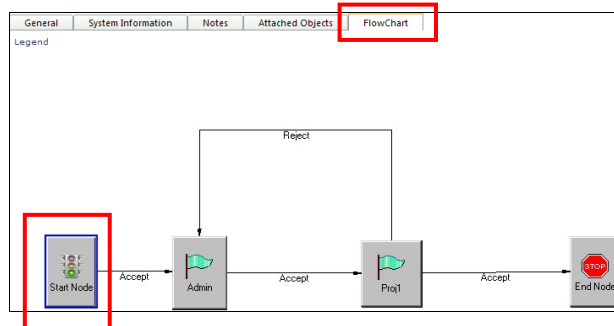
- Quick Launch Toolbar:** The 'Initiate Process' button is highlighted with a red box.
- Flow Process Tree:** The 'Project Creation Approval' process is selected and highlighted with a red box.
- Process Details Form:** The form shows the process name 'Project Creation Approval', description 'Process has been initiated', importance 'High importance', and end time '06/05/2009'. The 'Created by' field is empty, and the 'Creation Date' and 'Last modification date and time' fields are also empty.

4. Click on **SmartBox** from **Quick Launch** toolbar and select the process in Inbox.



SmartBox						
(11 Items, 2 Unread)						
	Subject/Process	Body/Node	From	Created	Received	Working Time
<input checked="" type="checkbox"/>	PRC-000-015	Start Node		06/05/2009 14:14	06/05/2009 14:14	0 00:00
<input type="checkbox"/>	PRC-000-014	proj1	Start	06/05/2009 11:48	06/05/2009 11:50	0 02:24
<input type="checkbox"/>	PRC-000-012	proj1	Start	05/29/2009 17:08	05/29/2009 17:11	6 21:03
<input type="checkbox"/>	PRC-000-011	Checker	Engineering	05/29/2009 16:10	05/29/2009 16:13	6 22:01
<input type="checkbox"/>	PRC-000-009	Start Node		01/15/2009 14:41	01/15/2009 14:41	140 23:33
<input type="checkbox"/>	PRC-000-008	Start Node		01/15/2009 14:39	01/15/2009 14:39	140 23:34
<input type="checkbox"/>	PRC-000-005	Admin	Start Node	01/14/2009 22:11	01/15/2009 14:37	140 23:37

- Switch to Flow Chart tab and view it.
- Perform Accept Action on it.



- Enter some comments and validate with ok.
- Again have a look on Flowchart, it is moved to second node for which user **admin** is only responsible.

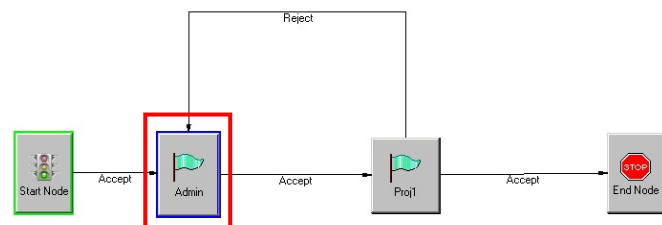
Accept

Insert comment. Click OK to confirm.

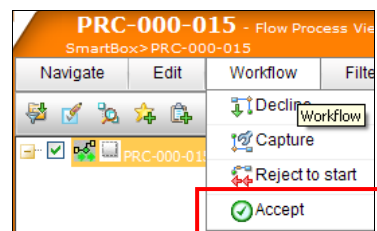
Comment

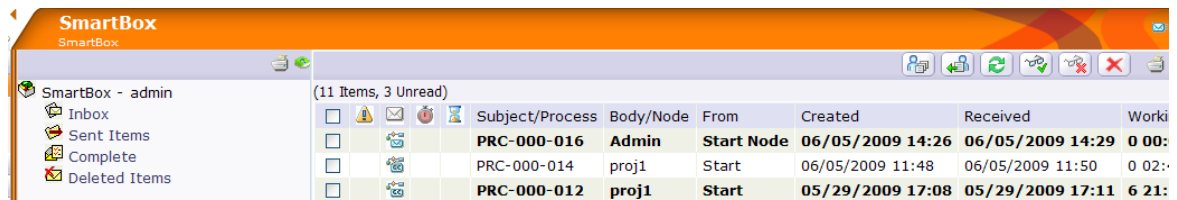
Approved

☐ Send e-mail notification

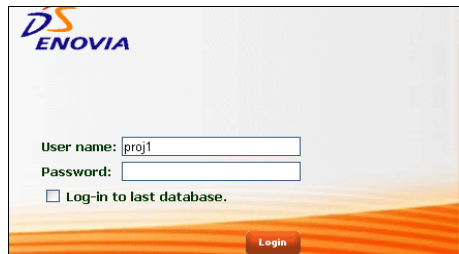


- Again perform Accept on it and validate with ok.
- Check the Inbox. No process will be displayed for admin user.

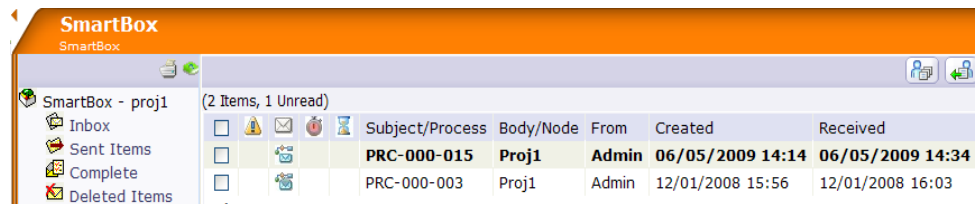
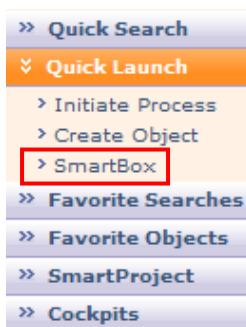




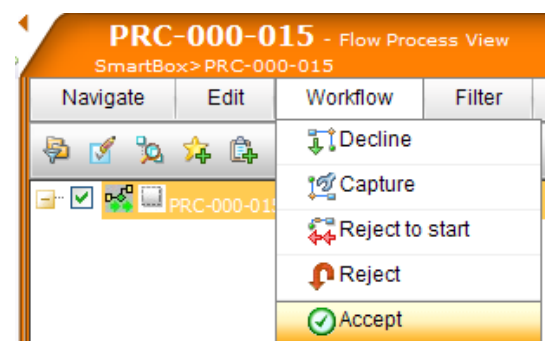
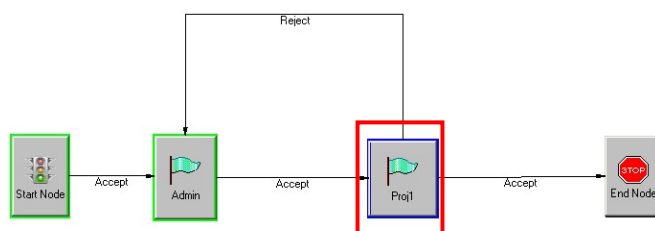
5. Click **Logout**.
6. Log in as **proj1** and connect to the correct database.



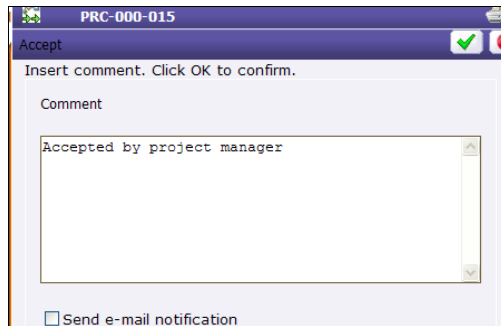
7. Click on **SmartBox** from **Quick Launch** toolbar and select the process in Inbox.



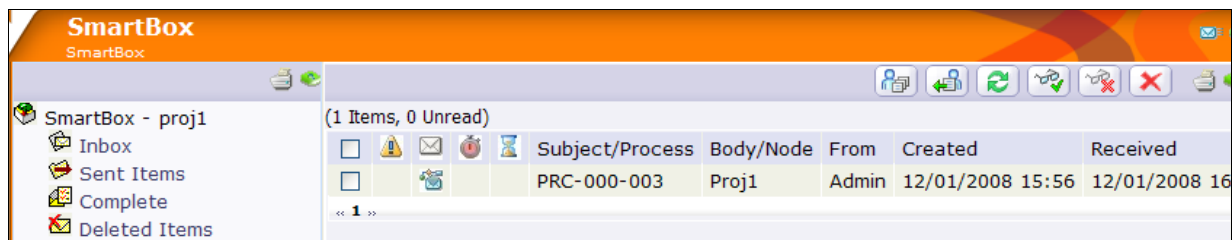
- Switch to Flow Chart tab and view it.
- Perform Accept Action on it.



- Enter some comments and validate with ok.



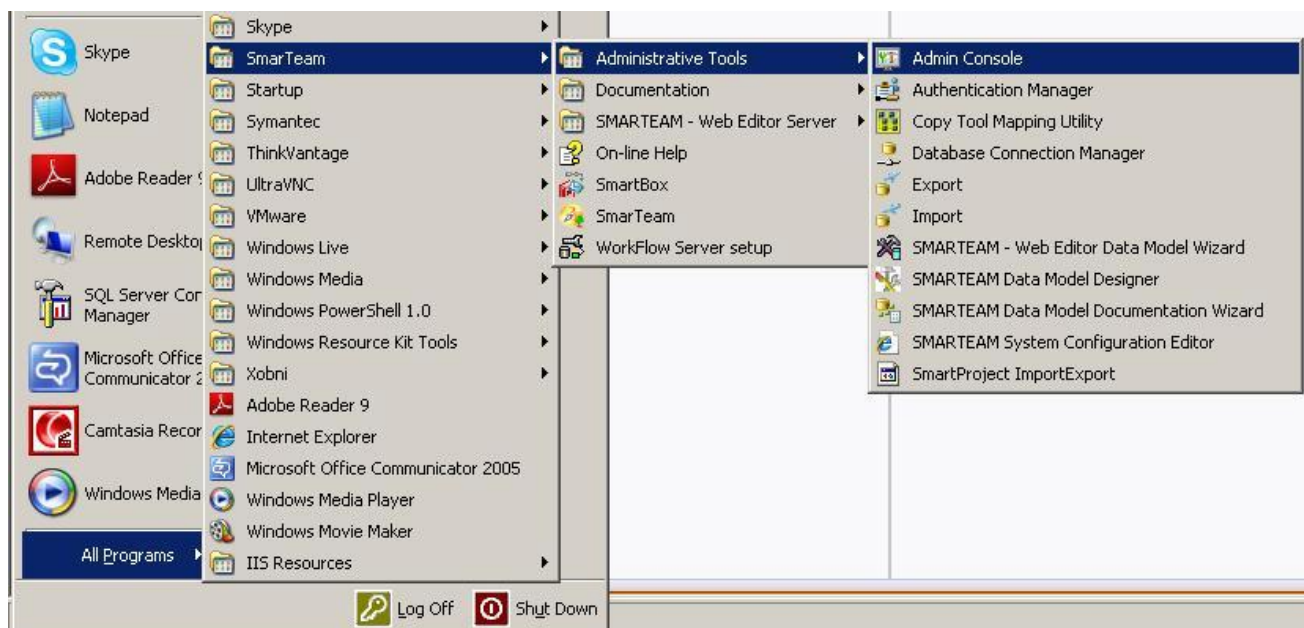
- Check the Inbox. The process “PRC-000-015” will not be displayed for proj1 user.

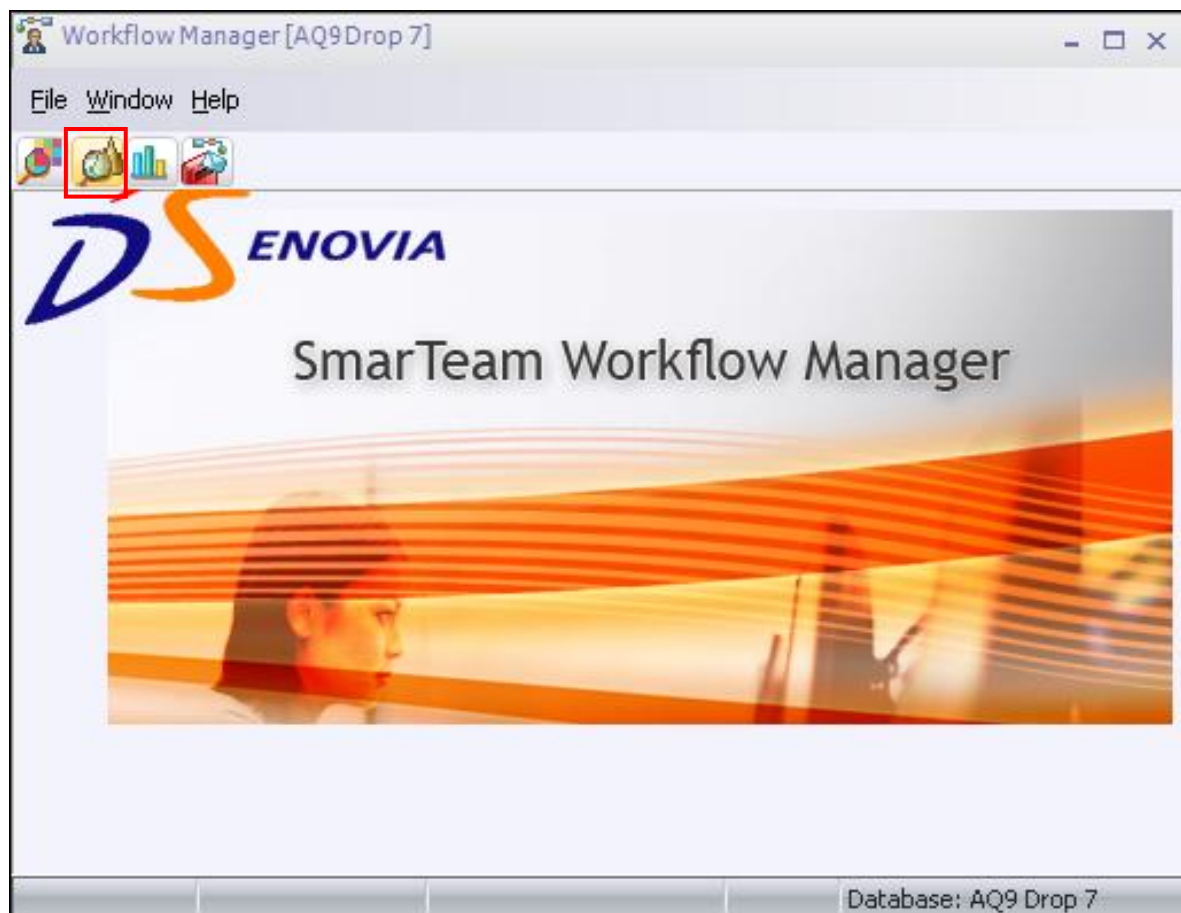
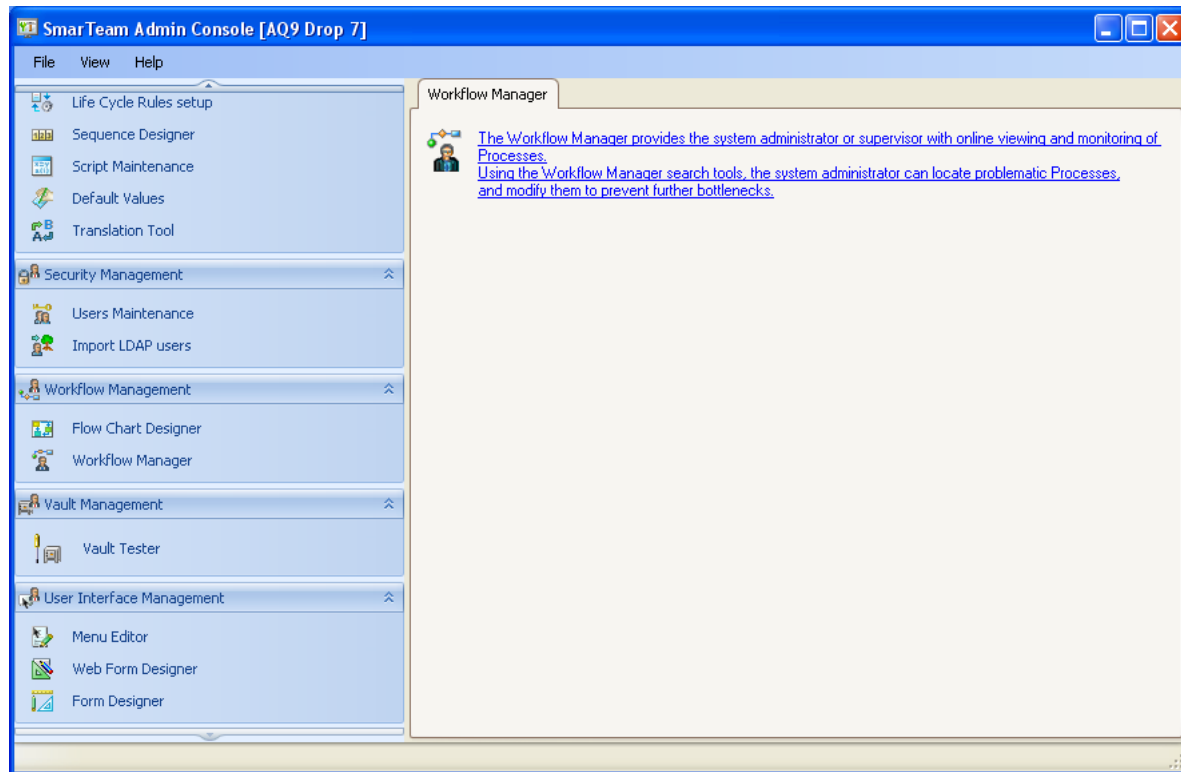


8. Click **Logout**.

Process Progress Check from Administration Client

1. Launch **Workflow Manager** from the **SmarTeam Windows Admin Console** to view the progress of the process.
 - Search for Project Creation Approval process and view it.
 - All the nodes are displayed as completed.
 - Close the Workflow Manager.





Search Processes

File Help

Name & Location Date Past Due Node Advanced

Name:

Class: All

Status: All

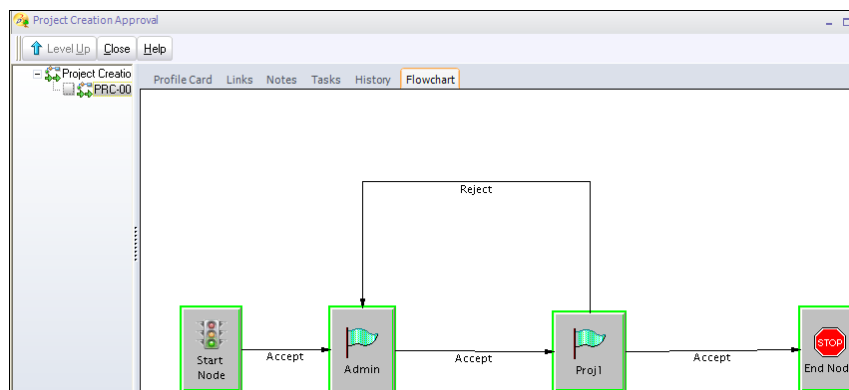
Importance: All

Supervisor:

Find Now

New Search

Class	Name	State	Creation Date	Created by:	Modified by:	Last modification date and time	Description	End Time	Process Status	Importance	Time Limit	Security level of new attached o	Work
1	PRC-000-001		11/28/2006 18:5	Admin , Admin	Admin , Admin ,	11/28/2006 18:50			Process has been	Normal impor	0	Object attached to FlowProcess	
2	PRC-000-002		11/21/2008 15:5	Admin , Admin	Project , Manag	11/21/2008 15:56	project creatio	11/21/2008	Process has ende	Normal impor	0	Object attached to FlowProcess	
3	PRC-000-003		12/01/2008 15:5	Admin , Admin	Admin , Admin ,	12/01/2008 15:57	prj creatio	12/01/2008	Process is flowing	Normal impor	0	Object attached to FlowProcess	
4	PRC-000-004		01/14/2009 22:1	Admin , Admin	Admin , Admin ,	01/15/2009 14:35			Process is flowing	Normal impor	0	Object attached to FlowProcess	
5	PRC-000-005		01/14/2009 22:1	Admin , Admin	Admin , Admin ,	01/15/2009 14:37			Process is flowing	Normal impor	0	Object attached to FlowProcess	
6	PRC-000-006		01/14/2009 22:1	Admin , Admin	Admin , Admin ,	01/14/2009 22:13			Process has been	Normal impor	0	Object attached to FlowProcess	
7	PRC-000-007		01/14/2009 22:1	Admin , Admin	Admin , Admin ,	01/14/2009 22:14			Process has been	Normal impor	0	Object attached to FlowProcess	
8	PRC-000-008		01/15/2009 14:4	Admin , Admin	Admin , Admin ,	01/15/2009 14:39			Process has been	Normal impor	0	Object attached to FlowProcess	
9	PRC-000-009		01/15/2009 14:4	Admin , Admin	Admin , Admin ,	01/15/2009 14:41			Process has been	Normal impor	0	Object attached to FlowProcess	
10	PRC-000-010		05/29/2009 15:5	Admin , Admin	Project , Manag	05/29/2009 16:06	project creatio	05/29/2008	Process has ende	Normal impor	0	Object attached to FlowProcess	
11	PRC-000-011		05/29/2009 16:1	Admin , Admin	Admin , Admin ,	05/29/2009 16:11	Document Val	06/02/2008	Process is flowing	Normal impor	0	Object attached to FlowProcess	
12	PRC-000-012		05/29/2009 17:0	Admin , Admin	Engineer , , eni	05/29/2009 17:13	doc validation	05/29/2008	Process has ende	Normal impor	0	Object attached to FlowProcess	
13	PRC-000-013		06/05/2009 11:1	Admin , Admin	Project , Manag	06/05/2009 11:29		06/05/2008	Process has ende	Normal impor	0	Object attached to FlowProcess	
14	PRC-000-014		06/05/2009 11:1	Admin , Admin	Engineer , , eni	06/05/2009 11:54	ITC Document	06/05/2008	Process has ende	Normal impor	0	Object attached to FlowProcess	
15	PRC-000-015		06/05/2009 14:1	Admin , Admin	Project , Manag	06/05/2009 14:47		06/05/2008	Process has ende	Normal impor	0	Object attached to FlowProcess	
16	PRC-000-016		06/05/2009 14:2	Admin , Admin	Admin , Admin ,	06/05/2009 14:29		06/05/2008	Process is flowing	Normal impor	0	Object attached to FlowProcess	



9. Log in as **admin** into SMARTEAM Web Editor and connect to correct database.

User Name:

Password:

☐ Log-in to last environment.

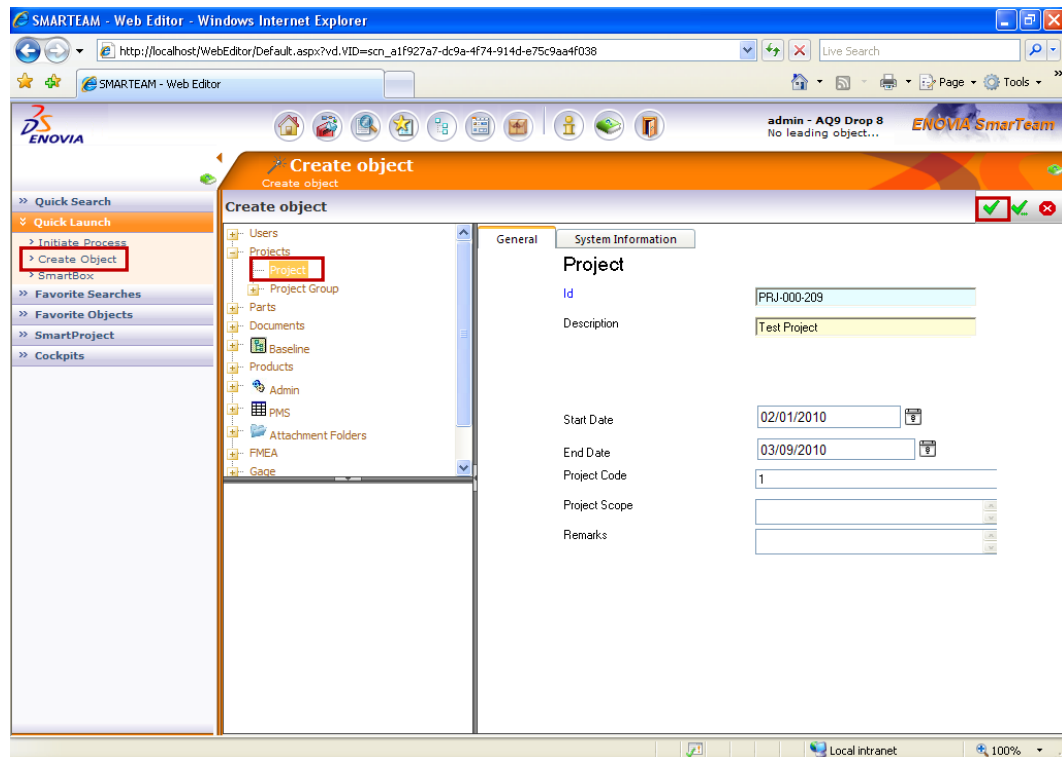
Login

3 ENOVIA

Select environment

Database:

10. Click on **Create Object**; select **Project** class from the Class Browser.
 - Enter the Description Test Project, the Start Date and the End Date.

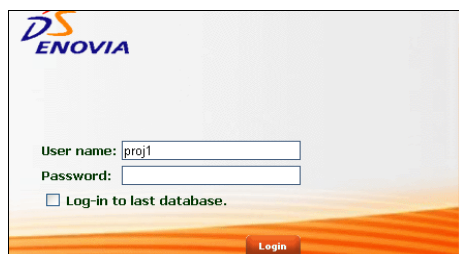


- Click on **OK** button.

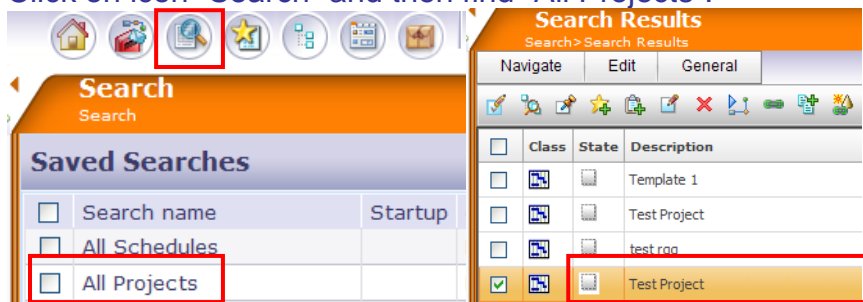
11. Click **Logout**.

3.1.2 Phase 2: Project Definition

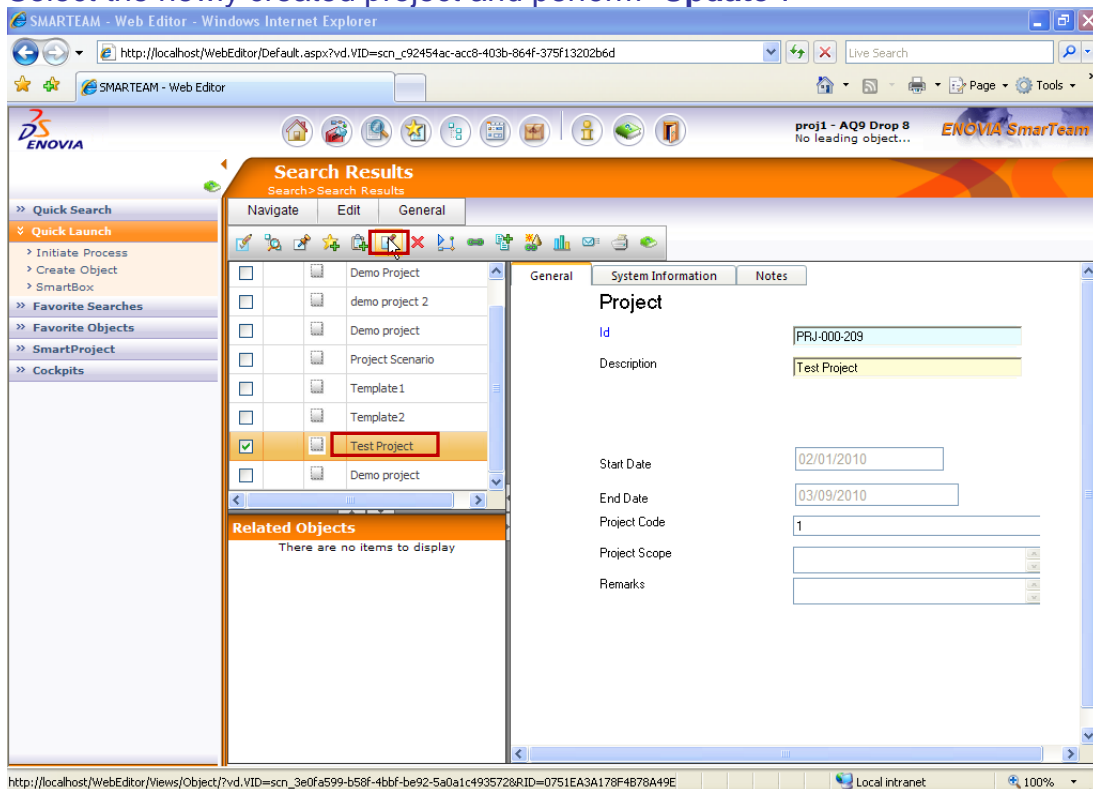
1. Log in as proj1 and connect to the correct database.



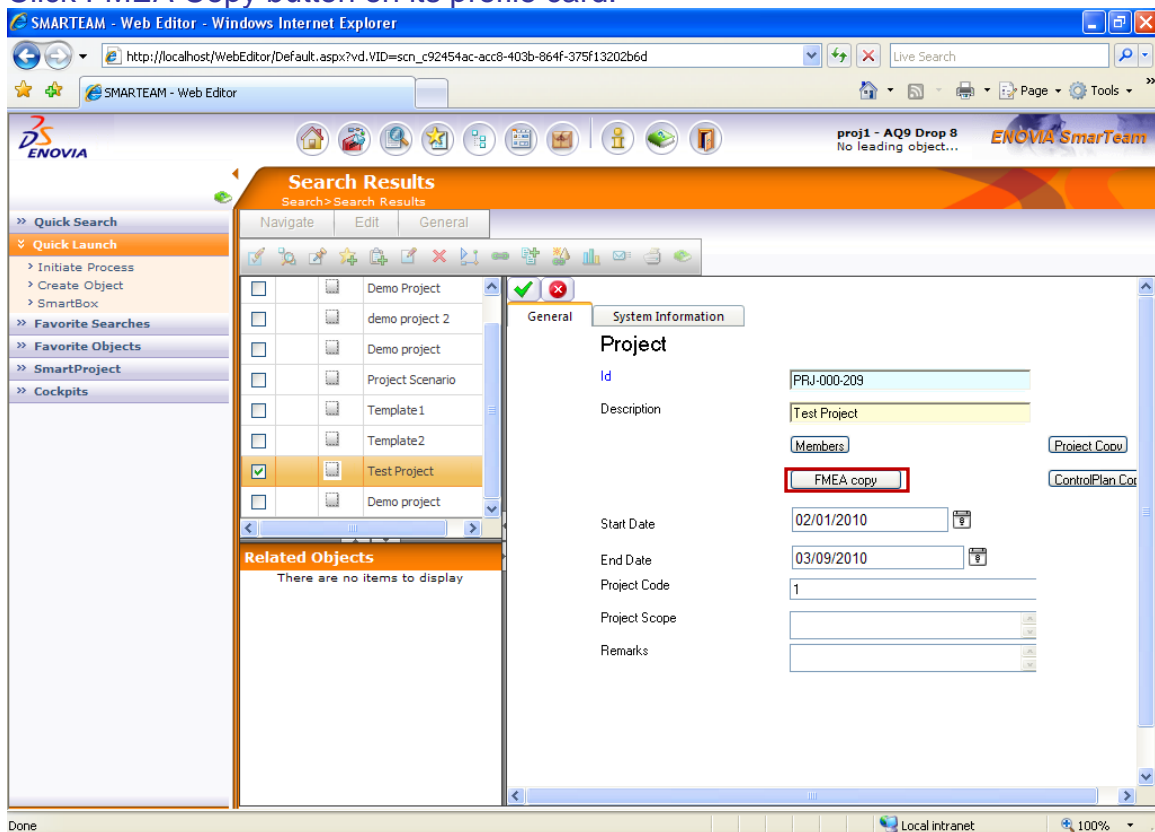
- Click on icon “Search” and then find “All Projects”.



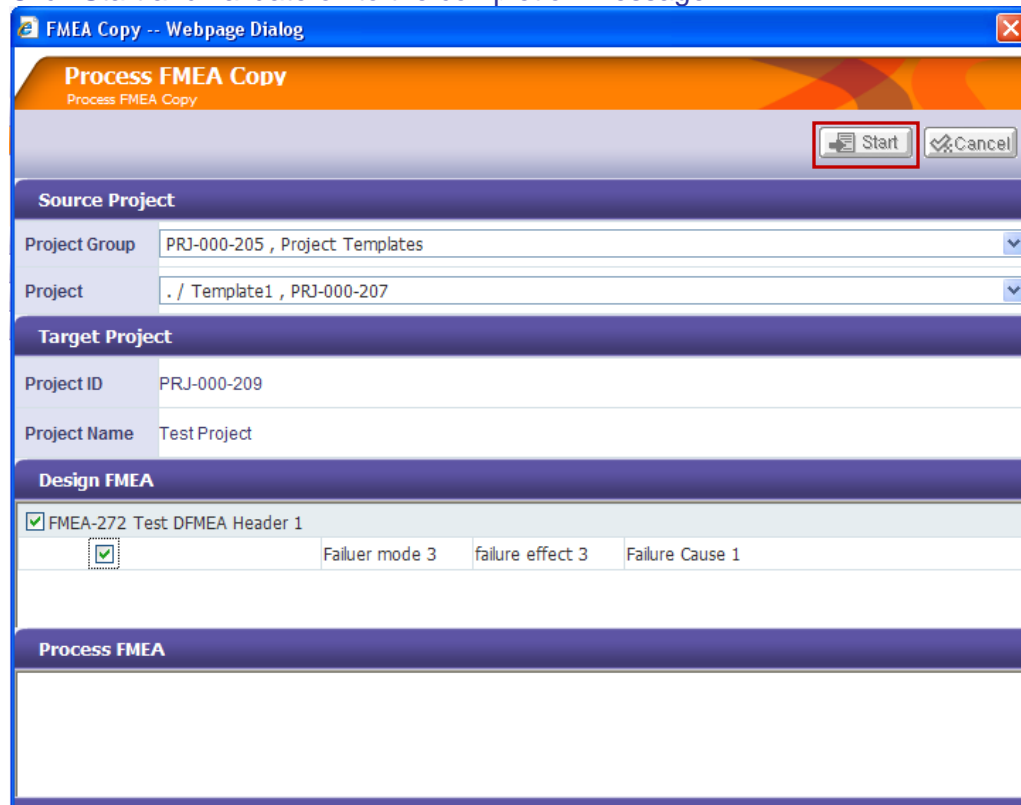
- Select the newly created project and perform “Update”.



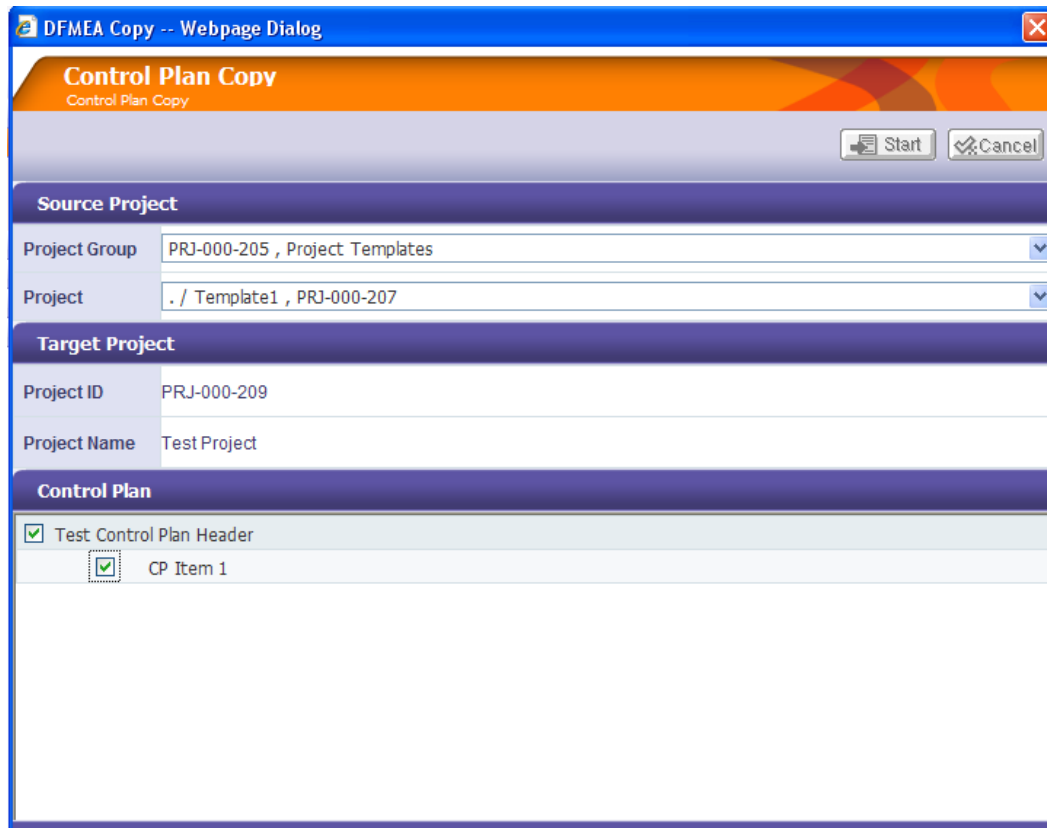
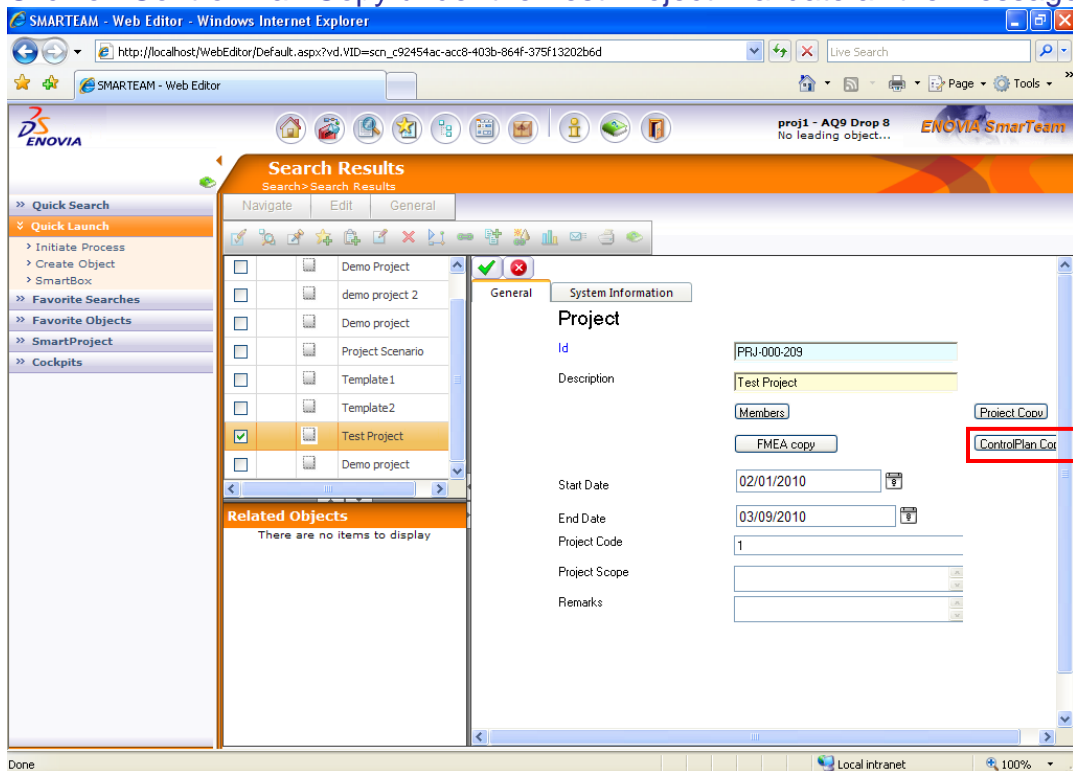
4. Click FMEA Copy button on its profile card.



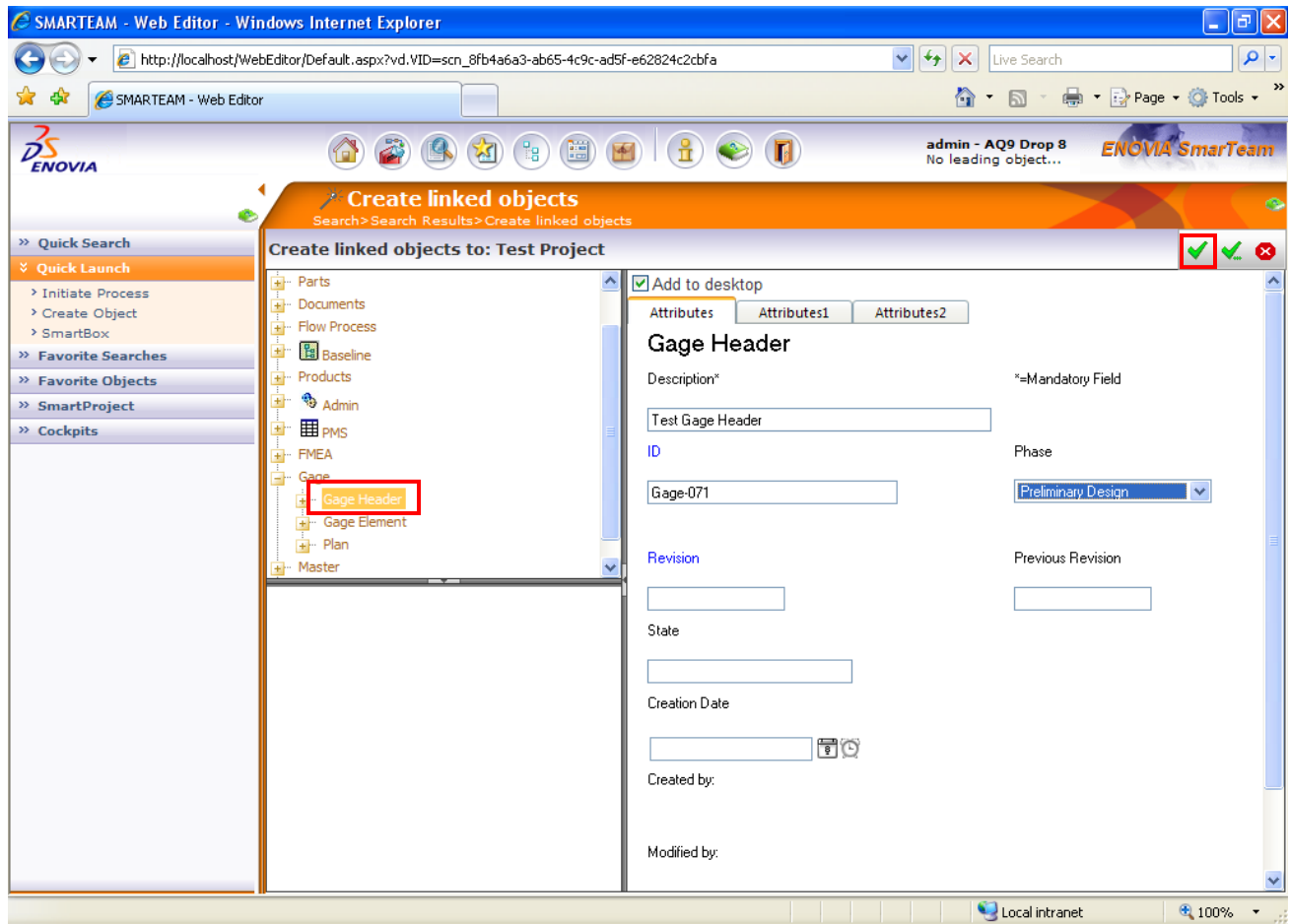
- Select “Project Templates” and “Template1” for the Source Project.
- Click Start and validate ok to the completion message.



- Click on Control Plan Copy under the Test Project. Validate all the messages.



6. Logout from SmarTeam WED.
7. Login as “admin”
8. Click on icon “Search” and then find “All Projects”. Select “Test Project”.
9. Perform Create Linked Objects Action and select Header under the Gage tree. Enter the Description and others (Tolerance value is mandatory) and click Finish



10. Open the Gage Header and perform Add as child Action, Select Gage Element from the class tree under Gage. Click Create and Finish after filling in Description & other information.

SMARTeam - Web Editor - Windows Internet Explorer

http://localhost/WebEditor/Default.aspx?vd.VID=scn_8fb4a6a3-ab65-4c9c-ad5f-e62824c2cbfa

SMARTeam - Web Editor

admin - AQ9 Drop 8
No leading object...

ENOVIA SmartTeam

Add child
Home - Web Editor > Gage Header > Project > Add child

Add as child to: Test Gage Header

Gage Element

Attributes Attributes1 Attributes2 Attributes3 Attributes4

Gage Element

Description* "=Mandatory Field"

Gage Element 1

ID

Gage-072

Phase

Revision

Previous Revision

State

Creation Date

Created by:

Modified by:

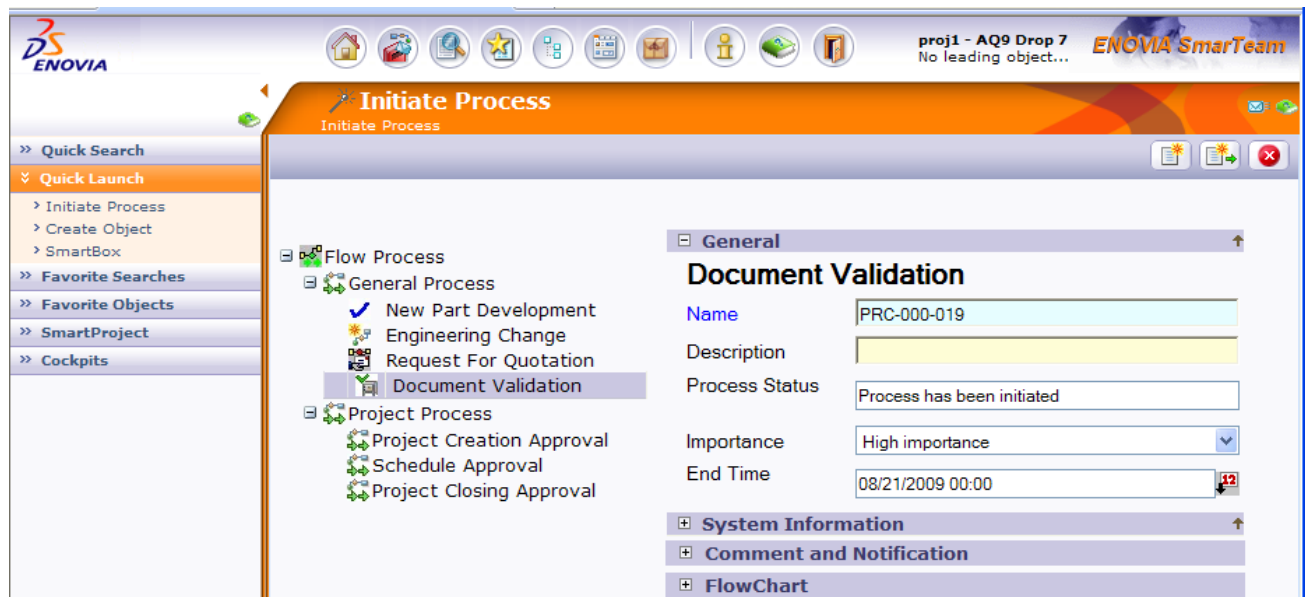
Last modification date and time

Local intranet 100%

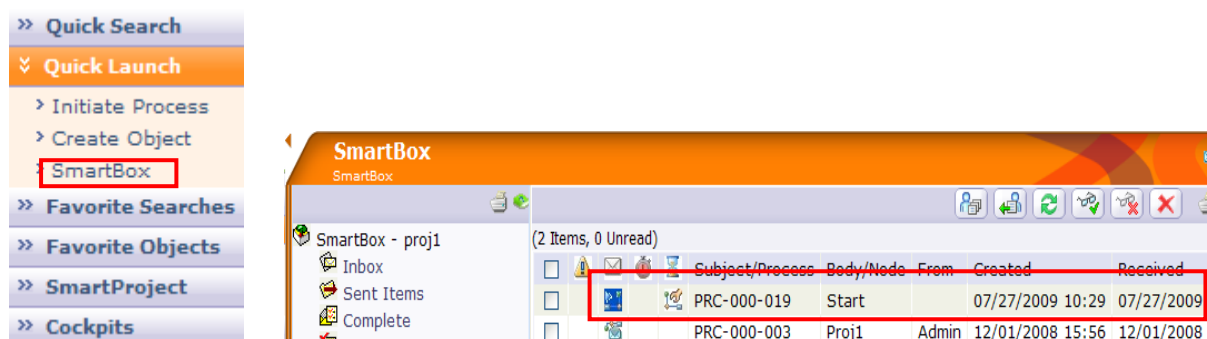
Attributes	Attributes1	Attributes2	Attributes3	Attributes4
Approval Date		101*		
		1		
Effective From		102*		
		2		
Effective Until				
Under Operation				
First revision creator				
admin Admin Admin				
Date of first revision creation				
02/23/2010 17:4				
User which approved				

Attributes	Attributes1	Attributes2	Attributes3	Attributes4
203*		301*		
13		14		
204*		302*		
15		16		
205*				
17				
206*				
18				
207*				
19				
208*				
20				
209*				
21				
210*				

11. Logout from SmarTeam WED.
12. Login as “proj1”.
13. Click on Initiate Process from Quick Launch toolbar and start a Document Validation process to confirm the Project Definition from the assignees.
 - Fill the Importance field as High Importance.
 - Enter the End Time Date.
 - Click Finish.

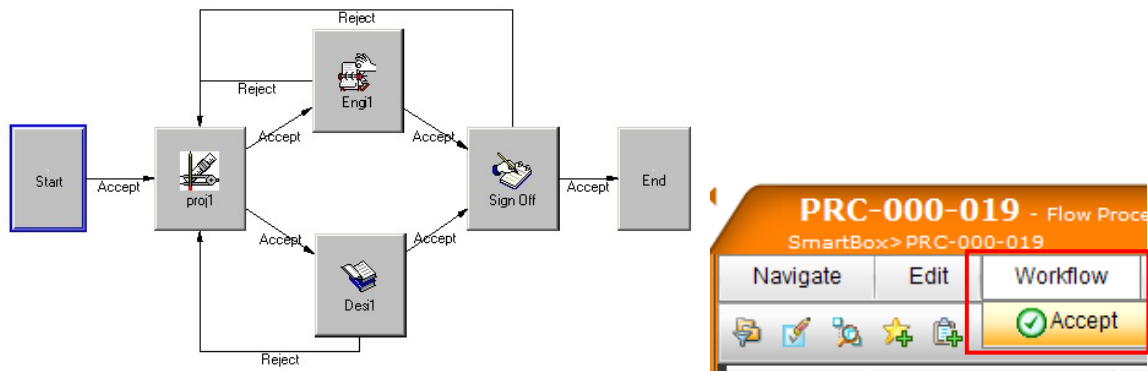


14. Click on SmartBox from Quick Launch toolbar and select the process in Inbox.

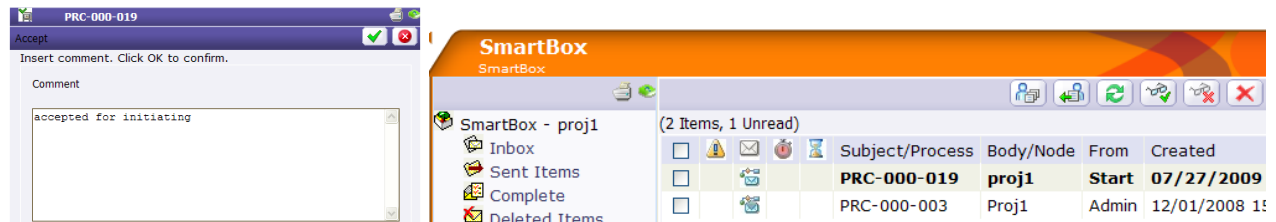


- Switch to Flow Chart tab and view it.
- Perform Accept Action on it.

Document Validation Process

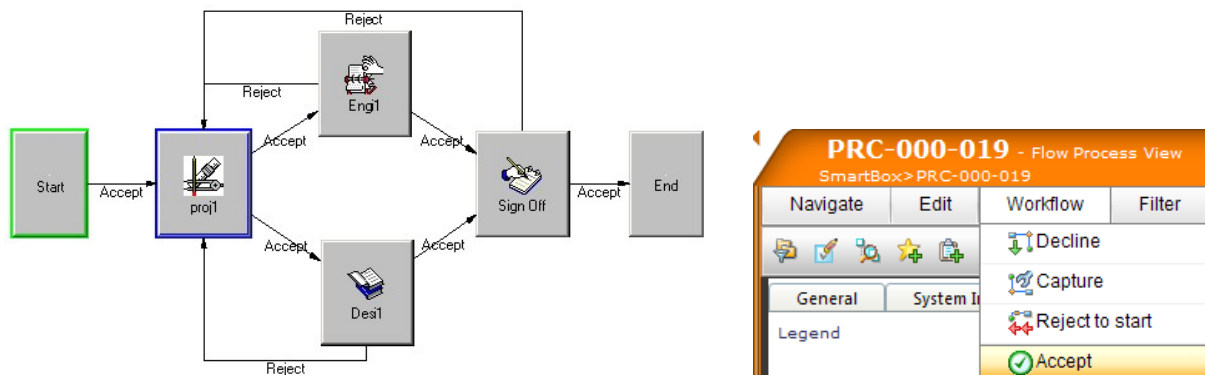


- Enter some comments and validate with ok.
- Check the Inbox and select the process in Inbox.

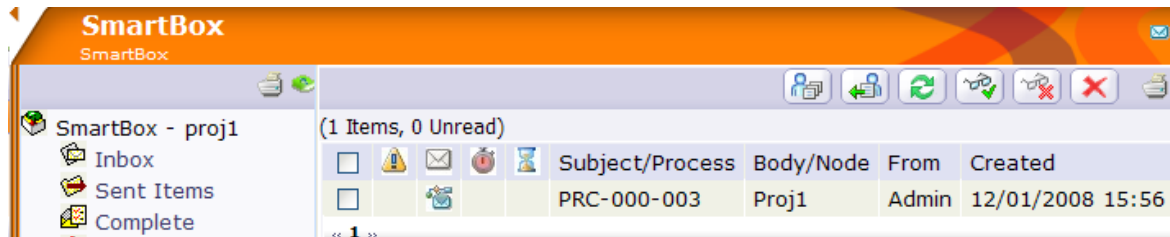


- Switch to Flow Chart tab and view it.
- Perform Accept Action on it.

Document Validation Process



- Enter some comments and validate with ok.
- Check the Inbox. No process will be displayed for proj1 user.

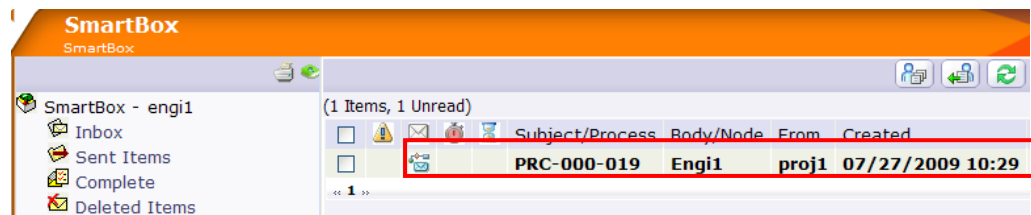


15. Click Logout.

16. Log in as engi1 and connect to the correct database.

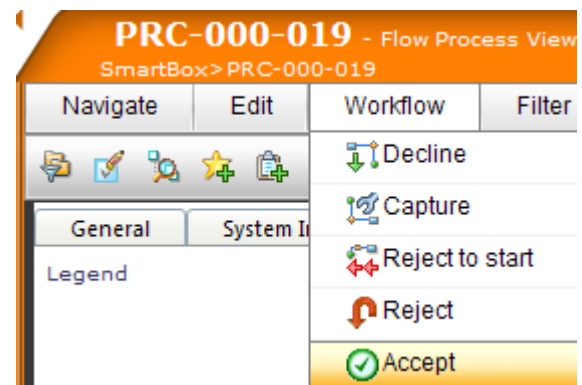
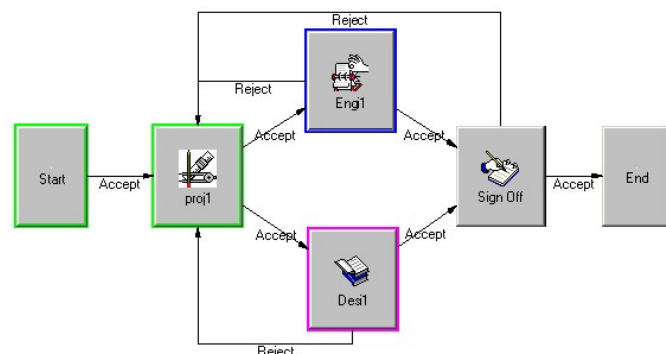


17. Click on SmartBox from Quick Launch toolbar and select the process in Inbox



- Switch to Flow Chart tab and view it.
- Perform Accept Action on it.

Document Validation Process



- Enter some comments and validate with ok.
- Check the Inbox. No process will be displayed for admin user.



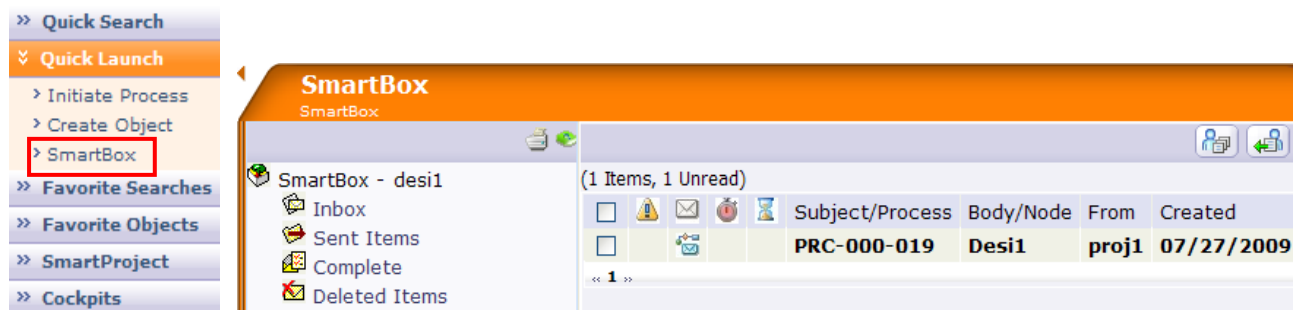
18. Click Logout.

19. Log in as desi1 and connect to the correct database.

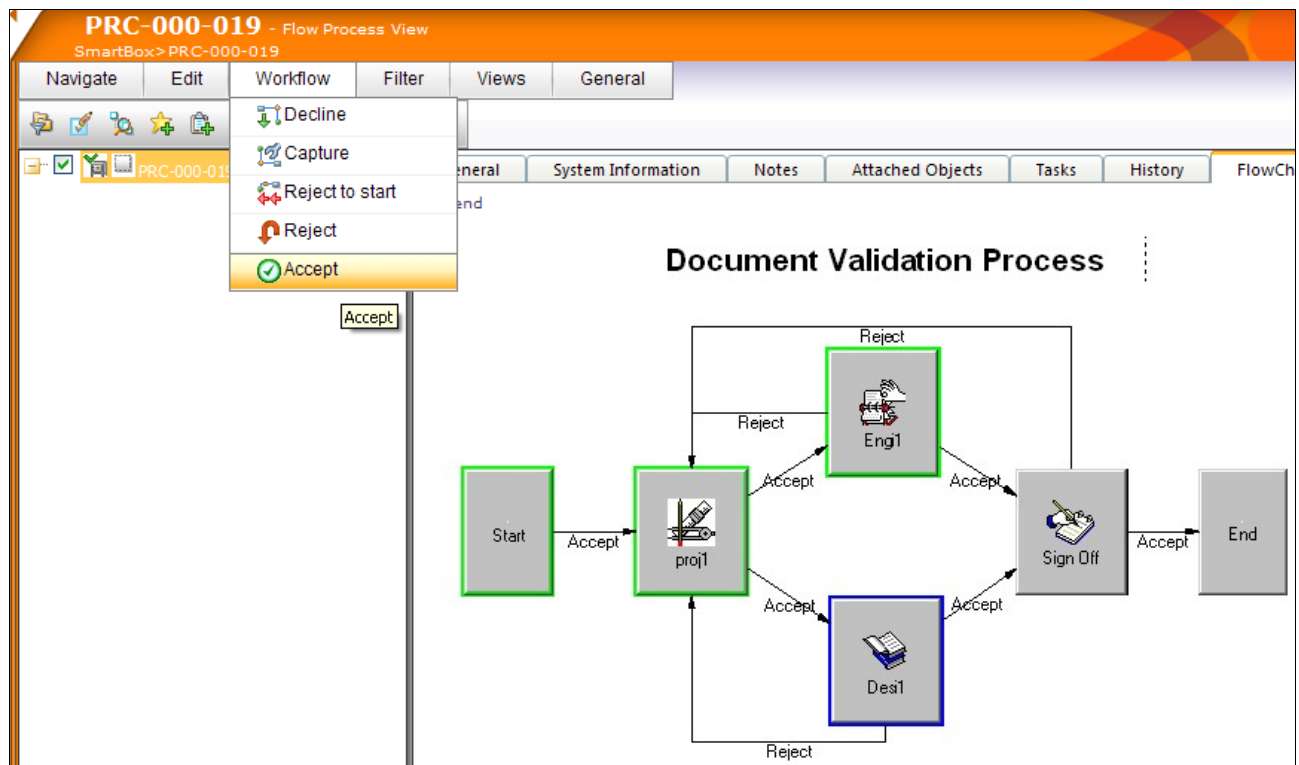


20. Click on SmartBox from Quick Launch toolbar and select the process in Inbox

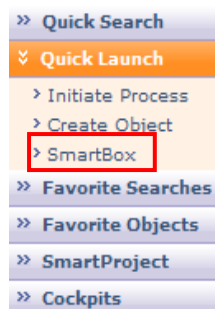
- Switch to Flow Chart tab and view it.



- Perform Accept Action on it.



- Enter some comments and validate with ok.
- Check the Inbox and select the process in Inbox.

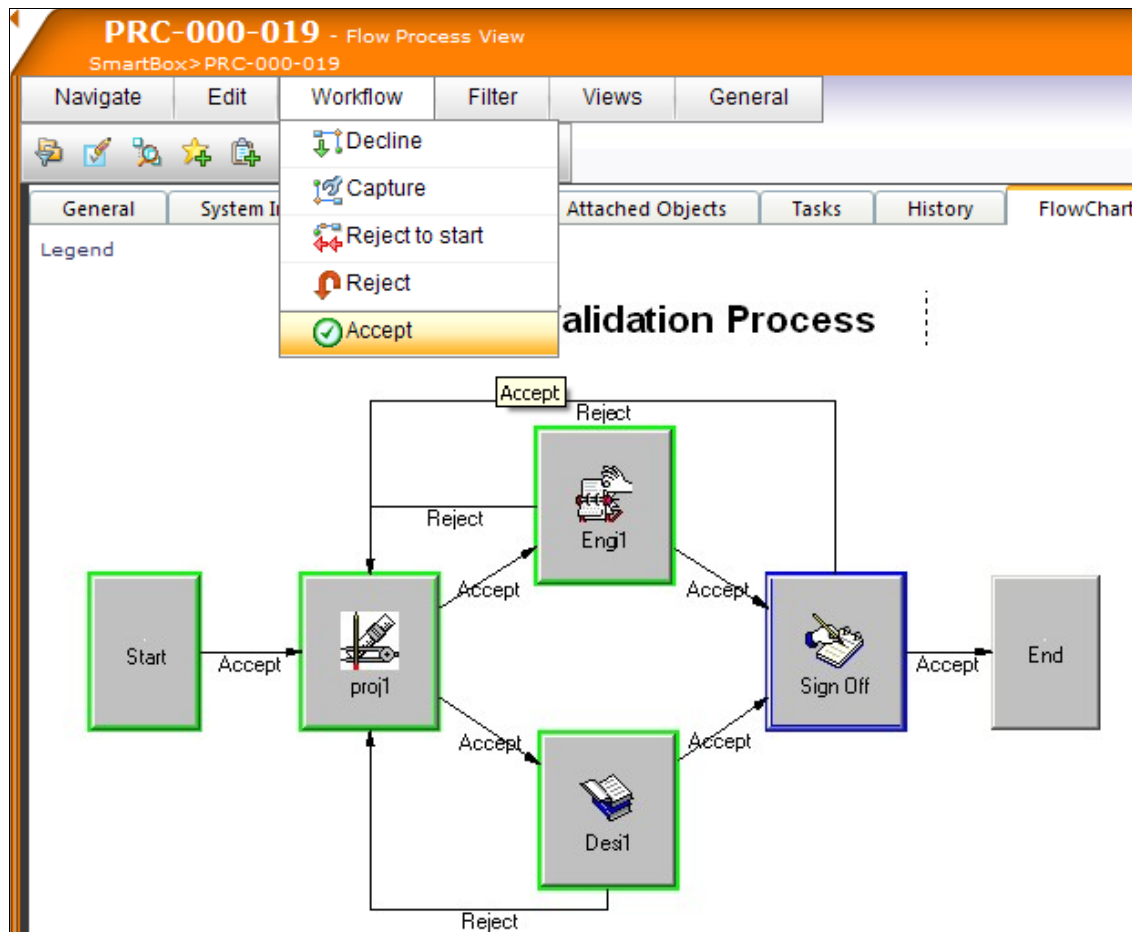


SmartBox

SmartBox - engi1 (2 Items, 2 Unread)

	Subject/Process	Body/Node	From	Created
<input type="checkbox"/>	PRC-000-020	Sign Off	Engi1, Desi1	07/27/2009 12:00
<input type="checkbox"/>	PRC-000-019	Sign Off	Engi1, Desi1	07/27/2009 10:00

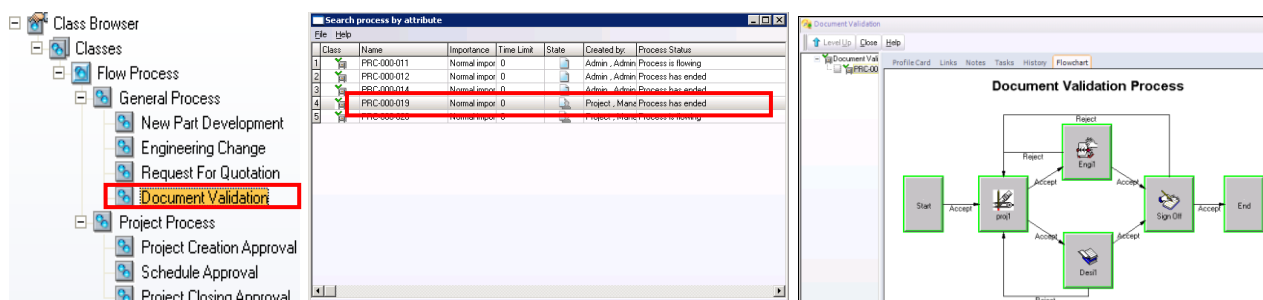
- Switch to Flow Chart tab and view it.
- Perform Accept Action on it.
- Check the Inbox. No process will be displayed for admin user.



21. Click Logout.

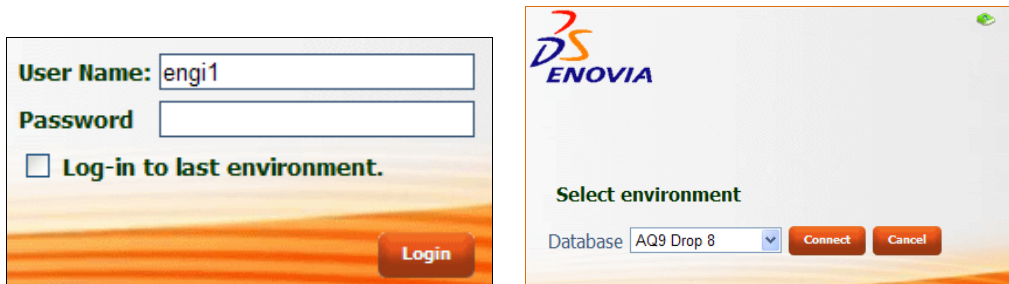
22. Launch Workflow Manager to view the progress of the process.

- Search for Document Validation process
- Select the process and view it.
- All the nodes are displayed as completed.
- Close the Workflow Manager.



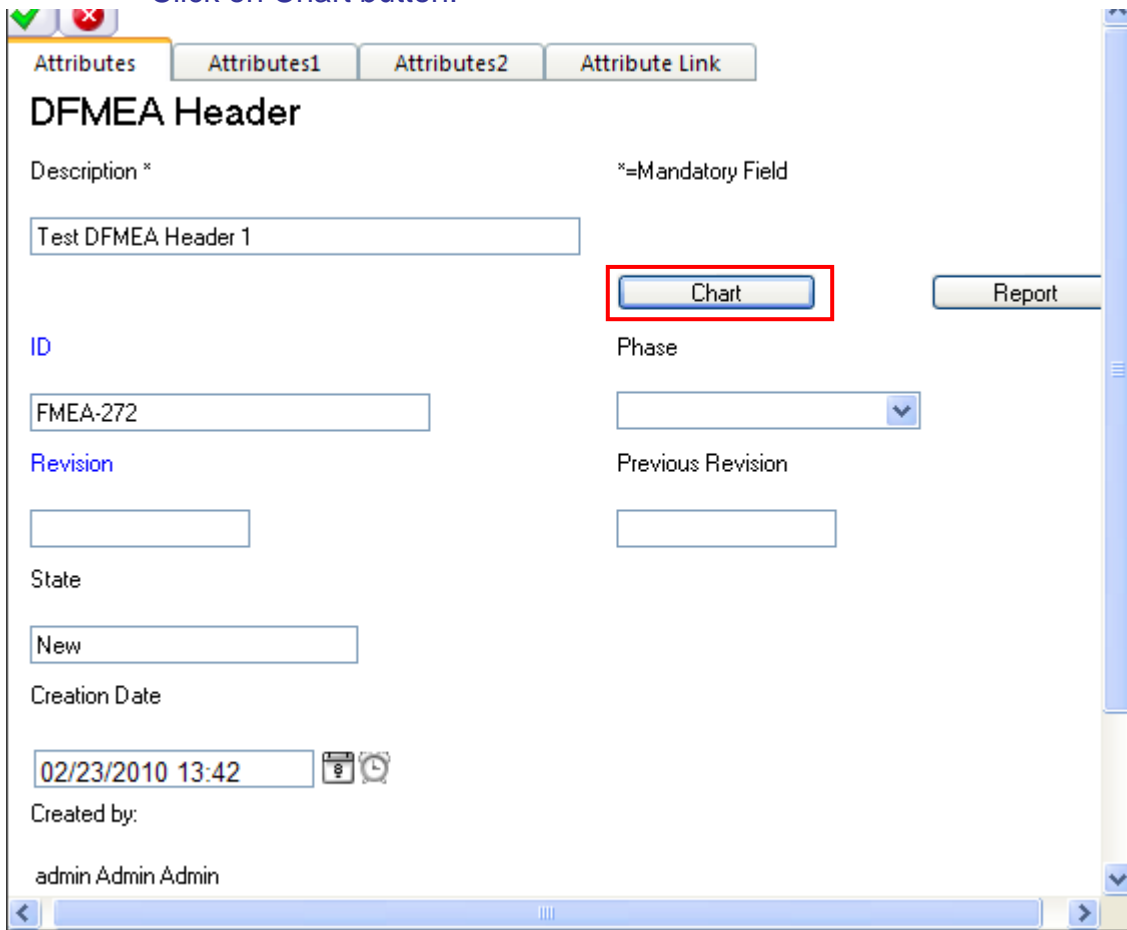
3.1.3 Phase 3: Project Execution

1. Log in as **engi1** and connect to the correct database.

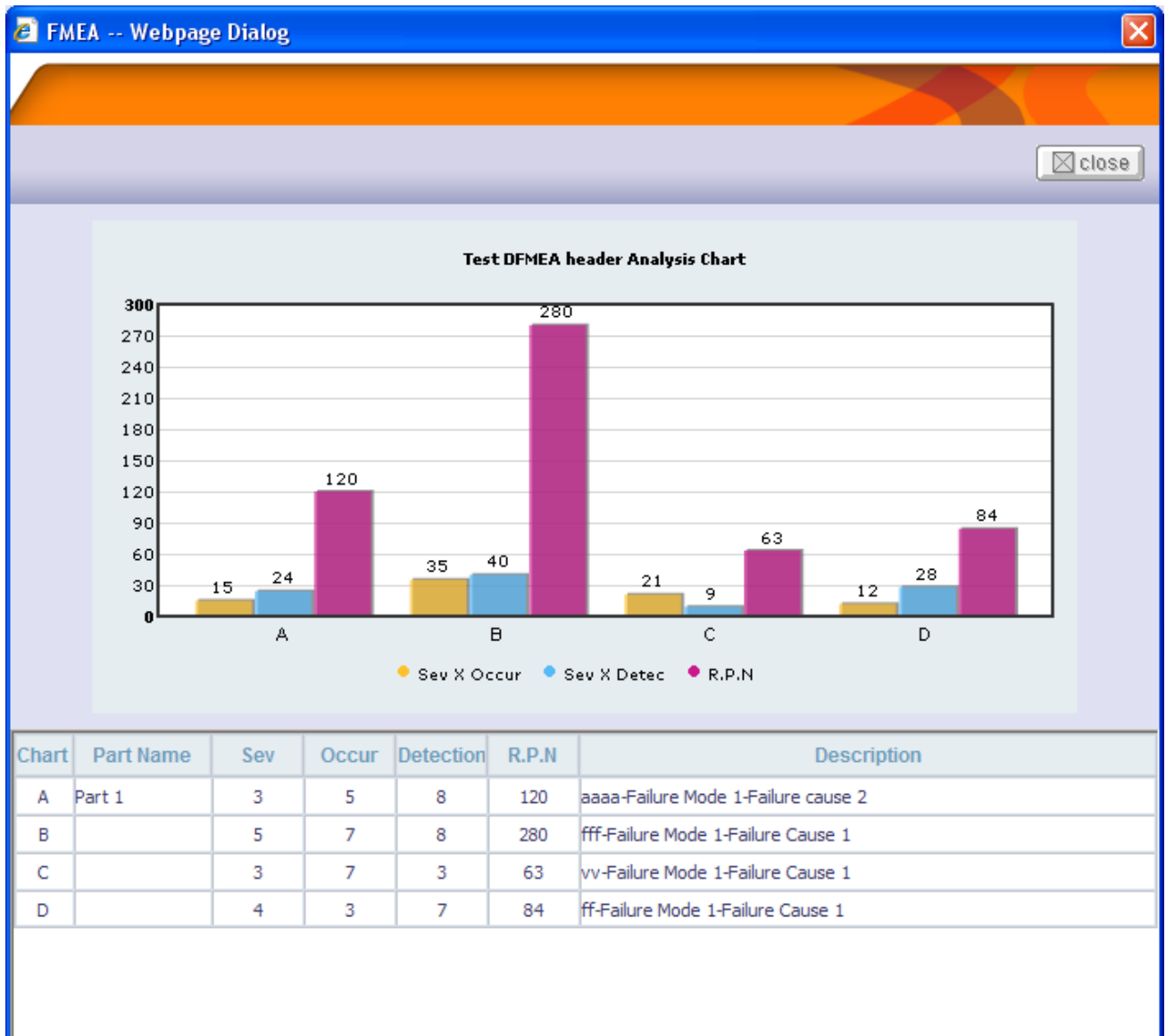


The image shows two side-by-side screenshots from the ENOVIA software interface. The left screenshot is a login form with fields for 'User Name' (containing 'engi1') and 'Password'. Below these is a checkbox labeled 'Log-in to last environment.' and a 'Login' button. The right screenshot shows the 'Select environment' dialog. It features the ENOVIA logo at the top, a 'Database' dropdown menu set to 'AQ9 Drop 8', and 'Connect' and 'Cancel' buttons.

- Click on the test project created.
- Choose FMEA Header.
- Click on **“Update”** and select the **“Chart”** button.
- Click on Chart button.



The image shows a screenshot of the 'DFMEA Header' form in the ENOVIA software. The form has tabs at the top: 'Attributes', 'Attributes1', 'Attributes2', and 'Attribute Link'. The 'Attributes' tab is active. The form contains several fields: 'Description *' (with the value 'Test DFMEA Header 1'), 'ID' (with the value 'FMEA-272'), 'Revision' (empty), 'State' (with the value 'New'), 'Creation Date' (with the value '02/23/2010 13:42'), and 'Created by:' (with the value 'admin Admin Admin'). There are also fields for 'Phase' and 'Previous Revision'. A red box highlights the 'Chart' button, which is located next to the 'Report' button. A legend indicates that '*' denotes a mandatory field.



- Choose Control Plan Header.
- Click on Export button.

ControlPlanExport - Windows Internet Explorer

http://apms01/WebEditor/APQP/ControlPlanExport.aspx?id=349&uid=1424

FileEditViewFavoritesToolsHelp

Export to Excelclose

Control Plan

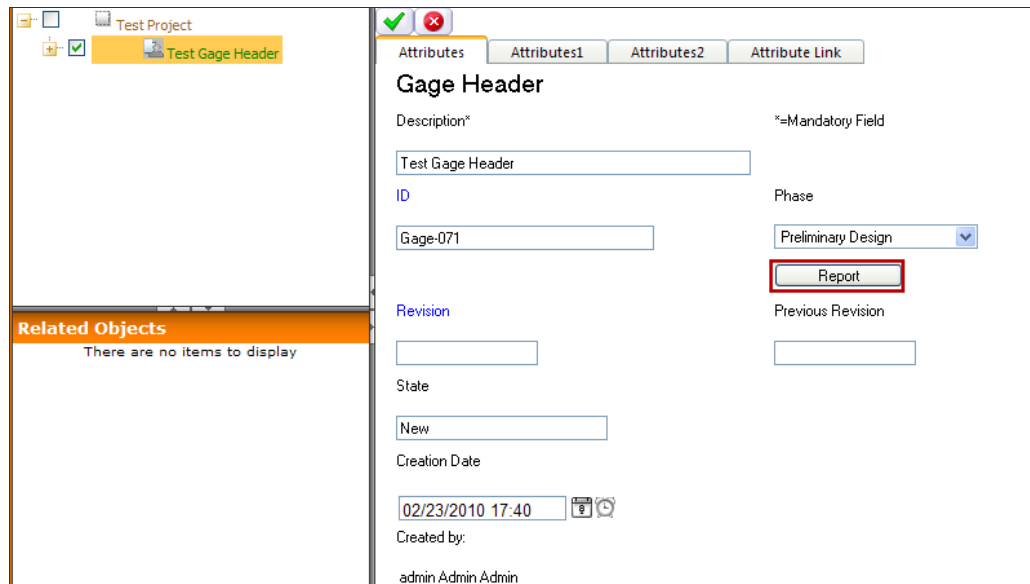
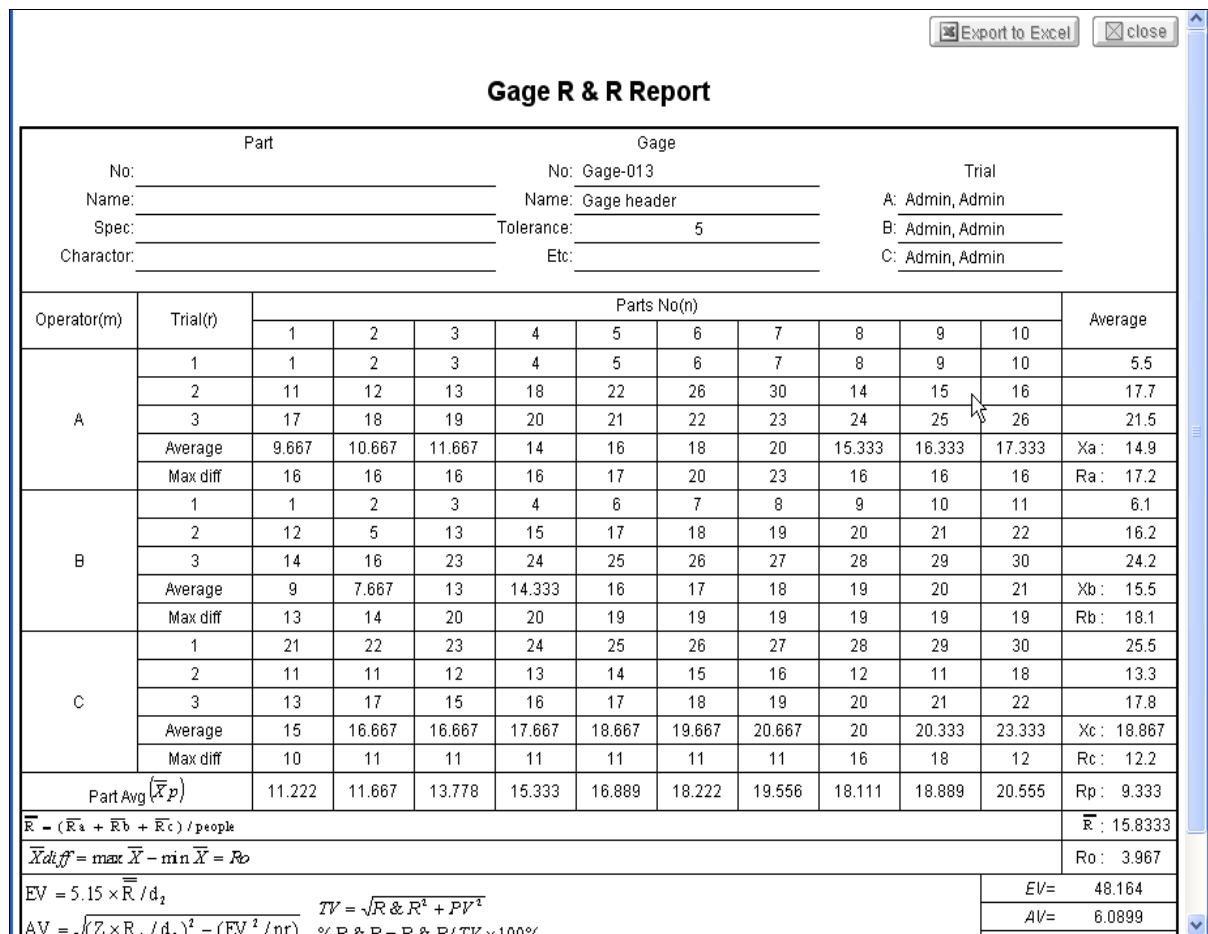
Vendor Name :

Stage	Car Model	Vehicle 1	No.	Rev. Date	Major Revision	Prepared	Checked	Approved	Established
Proto	Part Name	Part 1	1						Prepared
	Part Number	PRT-000-002	2					Checked	
			3						
Mass Production	Core Team	AAA	4					Approved	
			5						
			6						

Supplier Code : Supplier MST-008Customer Engineering ApprovalDate(If Req'D) : 2009-06-12Customer Quality ApprovalDate(If Req'D) : 2009-06-19Other ApprovalDate(If Req'D) : 2009-06-26

Part/Process Number	Process Flow			Process Name/Operation Description	Machine Device, Jig Tools For MFG.	No	Characteristics		Special Characteristics	Methods				Responsible		Reaction Plan	Remarks
	Sub	Main	Subcont				Product	Process		Product/Process Specification/Tolerance	Evaluation Measurement Technique	Freq	Control Method	Production	QA		
1				1234567890	ABC1	123	V		as	2		23		V			
2				www	eee	4556	V		55	7		28		V			

- Choose Gage Header.
- Click on “Update” and click the “Report” button.

Export to Excel Close

Gage R & R Report

Part		Gage										Trial	
No:		No: Gage-013										A: Admin, Admin	
Name:		Name: Gage header										B: Admin, Admin	
Spec:		Tolerance: 5										C: Admin, Admin	
Character:		Etc:											

Operator(m)	Trial(r)	Parts No(n)										Average
		1	2	3	4	5	6	7	8	9	10	
A	1	1	2	3	4	5	6	7	8	9	10	5.5
	2	11	12	13	18	22	26	30	14	15	16	17.7
	3	17	18	19	20	21	22	23	24	25	26	21.5
	Average	9.667	10.667	11.667	14	16	18	20	15.333	16.333	17.333	Xa: 14.9
	Max diff	16	16	16	16	17	20	23	16	16	16	Ra: 17.2
B	1	1	2	3	4	6	7	8	9	10	11	6.1
	2	12	5	13	15	17	18	19	20	21	22	16.2
	3	14	16	23	24	25	26	27	28	29	30	24.2
	Average	9	7.667	13	14.333	16	17	18	19	20	21	Xb: 15.5
	Max diff	13	14	20	20	19	19	19	19	19	19	Rb: 18.1
C	1	21	22	23	24	25	26	27	28	29	30	25.5
	2	11	11	12	13	14	15	16	12	11	18	13.3
	3	13	17	15	16	17	18	19	20	21	22	17.8
	Average	15	16.667	16.667	17.667	18.667	19.667	20.667	20	20.333	23.333	Xc: 18.867
	Max diff	10	11	11	11	11	11	11	16	18	12	Rc: 12.2
Part Avg ($\bar{\bar{X}}_p$)		11.222	11.667	13.778	15.333	16.889	18.222	19.556	18.111	18.889	20.555	Rp: 9.333
$\bar{R} = (\bar{R}_a + \bar{R}_b + \bar{R}_c) / \text{people}$												R: 15.8333
$\bar{X}_{diff} = \max \bar{X} - \min \bar{X} = R_0$												Ro: 3.967
$EV = 5.15 \times \bar{R} / d_2$												EV= 48.164
$AV = \sqrt{(\bar{Z} \times R_a / d_2)^2 - (EV^2 / nr)}$												AV= 6.0899
$TV = \sqrt{R^2 + PV^2}$												
$\%R \& R = R \& R / TV \times 100\%$												

3.2 Help About APQP

1. Click on the SmartProject Application bar.
2. Now click on About AQ9 link.

