



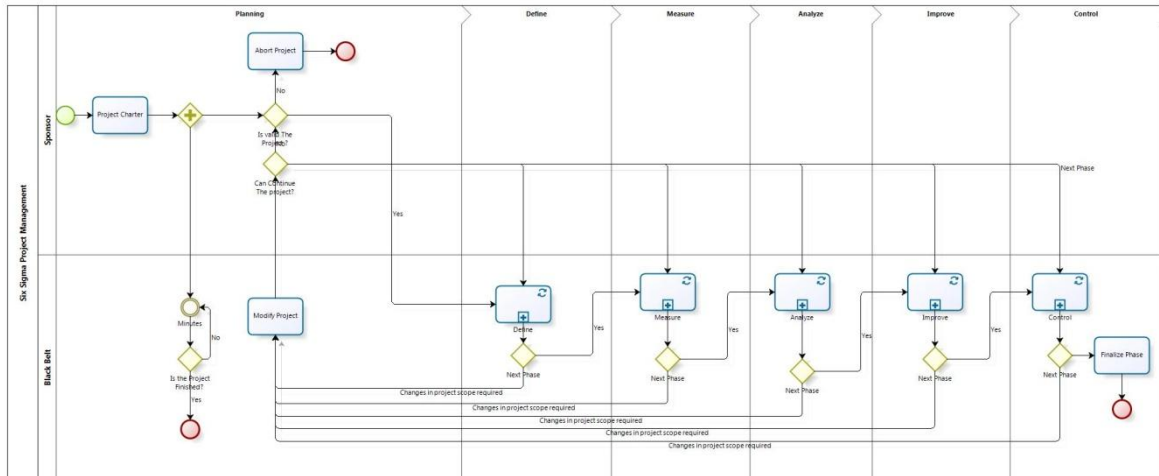
SIX SIGMA PROJECT MANAGEMENT CONSTRUCTION

Bizagi Process Modeler

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1. PROCESS MODEL



Successful companies are always searching for new and better ways to do things. Some have found in the Six Sigma methodology an excellent way to improve their processes.

Six Sigma uses statistical tools to measure processes in terms of defects and variation, transforming them into opportunities for business growth. A company that uses Six Sigma is a company whose main priority is the customer's satisfaction.

Six Sigma uses five phases (DMAIC) to improve the process:

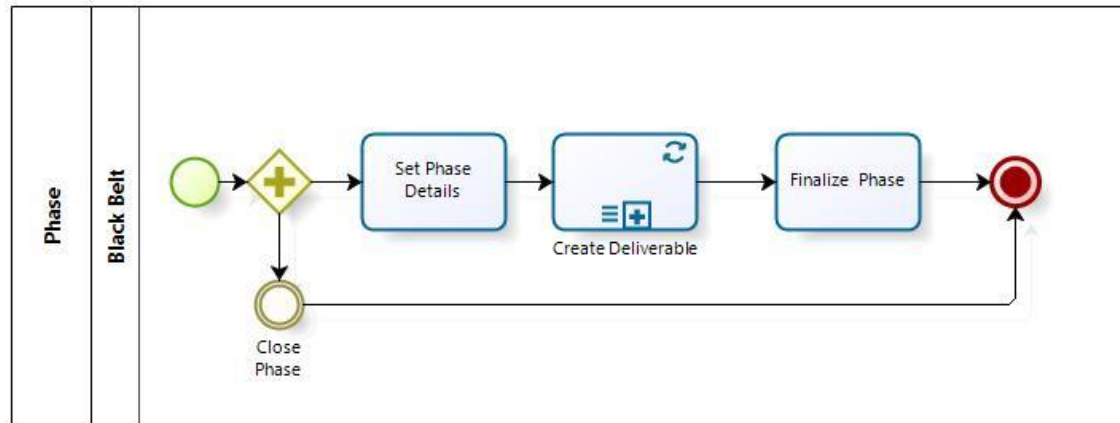
- ✚ The first phase is Define, where a project is chosen and its goal, scope, and deliverables are established.
- ✚ The second phase is Measure, where the current state of the process is measured.
- ✚ In the third phase, Analyze, the root causes of the problems and defects are determined.
- ✚ The fourth phase is to Improve the process, thus a solution is proposed.
- ✚ The last phase is to Control the performance of the process

To help those companies with the Six Sigma Project Management, Bizagi will guide you through the DMAIC cycle easily and quickly.

The first priority for Bizagi always is user's convenience, for that reason, the Six Sigma Project Management uses two sub-processes - Phase and Create Deliverable- in order to standardize the information flow and task execution.

The process includes the possibility to modify or cancel a project, a phase or a deliverable at any time through Cancel Phase or Cancel Deliverable events. It is also possible to attach the minutes from team meetings using the Minute Event. The event will be available whilst the project is incomplete.

1.1 Sub process Phase



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Six Sigma Project Management aims to simplify the control of information by standardizing the activities in each phase.

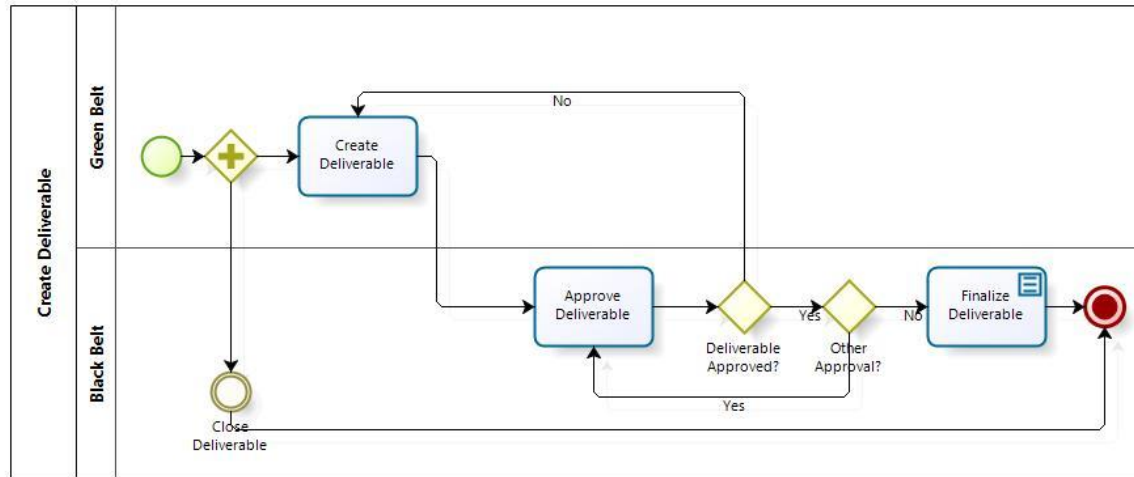
Through the Sub-process Phase, the Black Belt can effectively manage each phase of the project. The sub-process includes two activities and one multiple sub-process.

The two activities help to set the initial and final information of the phase, like the deliverables, start and end dates, conclusions, etc.

The sub-process, creates in a sequence, the deliverables that were selected in the Set phase Details activity.

The Six Sigma Project Management provides flexibility in the process; each phase can be ended or modified through the Close Phase event.

1.2 Create Deliverable sub-process

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The Six Sigma Project Management uses a sub-process called Create Deliverable in order to create and approve each deliverable.

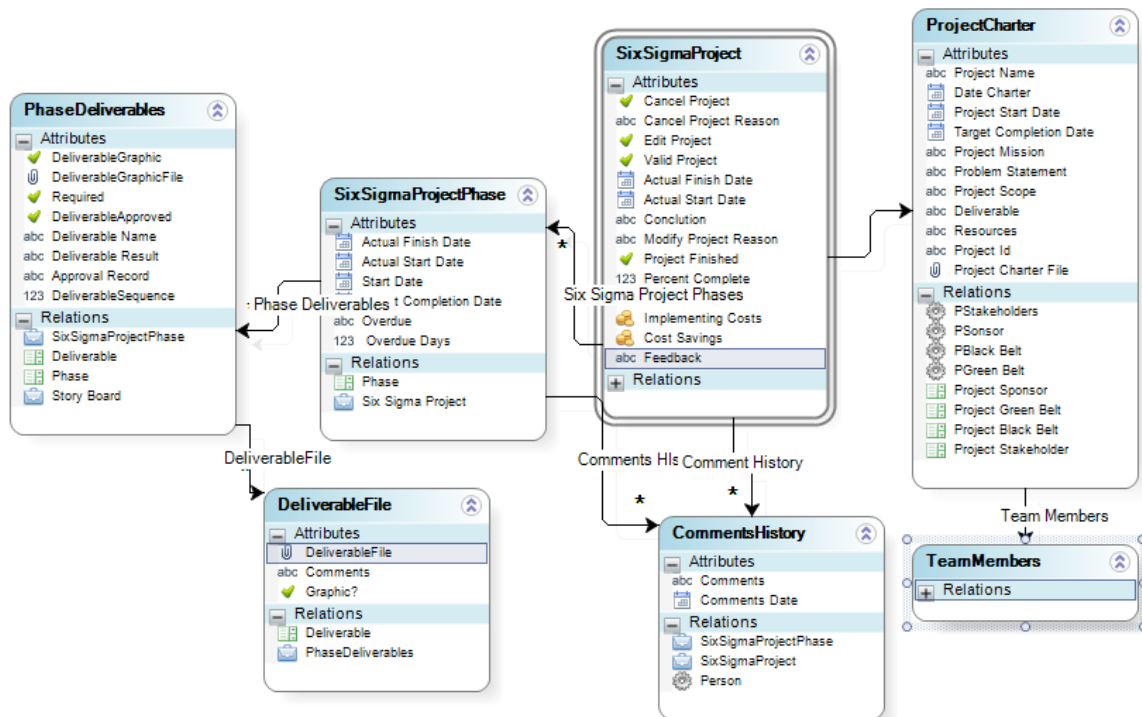
All the information associated with the deliverable can be gathered in an easy way. The approval process can be carried out quickly, because the process assigns the task to the right person at the right time.

2. DATA MODEL

The Business Process entity is the Six Sigma Project, it holds project information such as the Start Date, Target Completion Date, Actual Phase, Next Phase, Valid Project?. The entity is related to Project Charter and the Six Sigma Project Phase entities. With Project Charter the relationship is one to one, and with the Six Sigma Project Phase is one to many, because each project has five phases but only one charter.

The main attributes of the Project Charter are: Project Name, Date, Mission, Scope, Objectives and Team Members (Green Belt, Black Belt, Sponsor, Stakeholders).

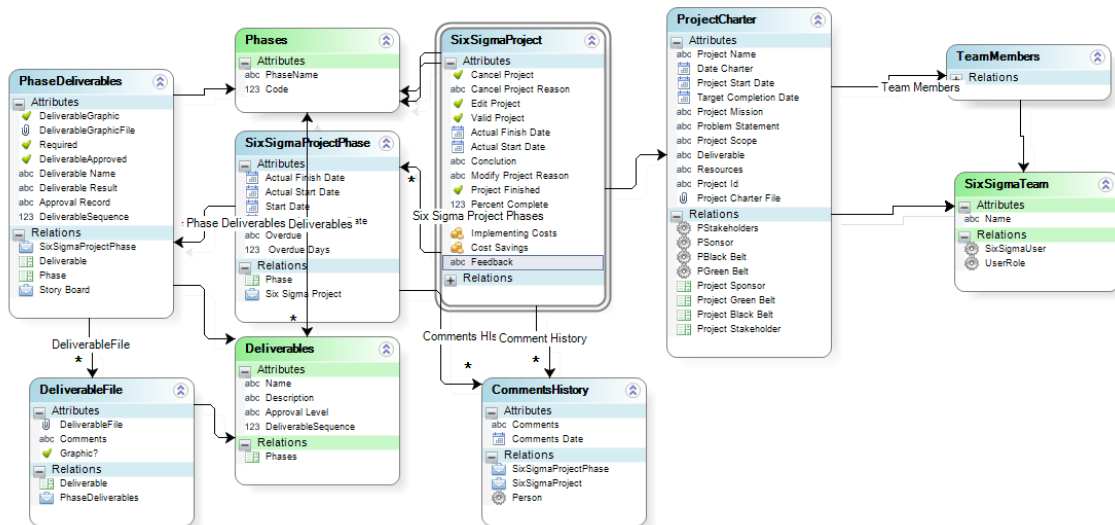
The Six Sigma Project Phase entity holds the information of the phase such: Start Date, End Date. It has a one-to-many relationship with the Phase Deliverables entity, where all the information relating to the deliverable is held.



2.1 Parameter Tables

The model includes three parameter tables. The first entity is called Phases and it holds the five phases of the DMAIC cycle. The second is Deliverables where a list of common Six Sigma tools is held.

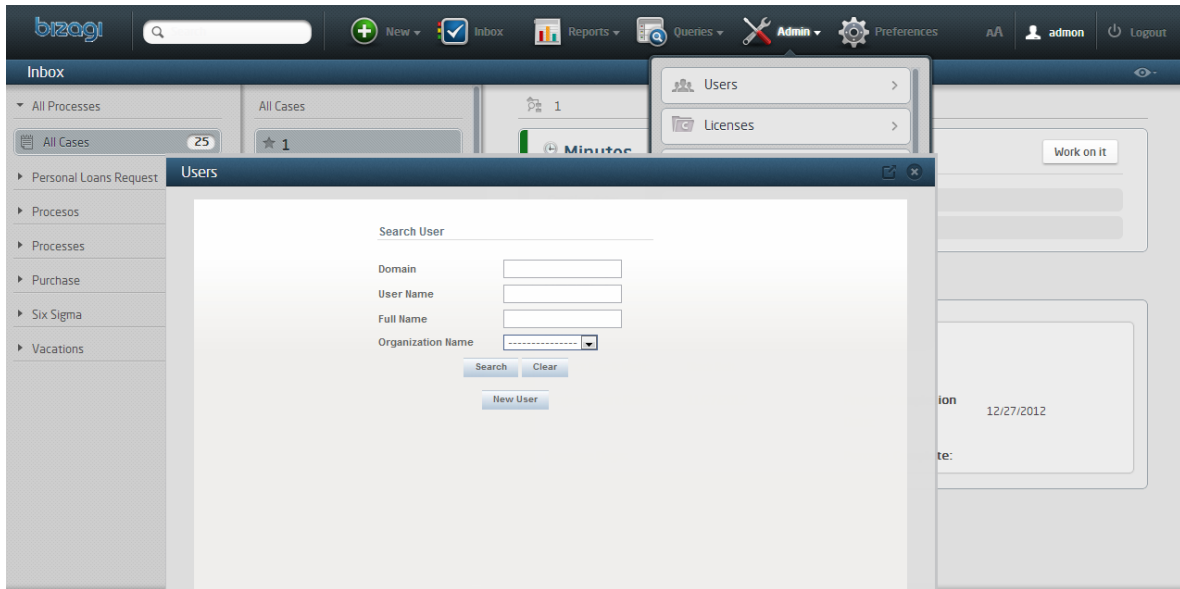
The third table is Six Sigma Team where information about all those who work on the Six Sigma Projects of the company are included. It is very important for the Bizagi Administrator to establish the parametrization of the Six Sigma Team entity. This information is necessary for the correct development of the process: the creation of a project has several fields that obtain information from this table. If it is not parameterized, it will be impossible to move past the first activity.



2.1.1 Six Sigma Team Parameterization

For the parameterization:

Create all the users in the application with the Admin User. Include the user with the New User button. It is necessary to include all the user's information.



Users

Basic Information

Organizations

Configuration User

Name

Green Belt

User Name

Green Belt

Domain

Notify by Email

☒

Contact Email

Office

Azca

Identification Number

City

Barcelona

Authority Level

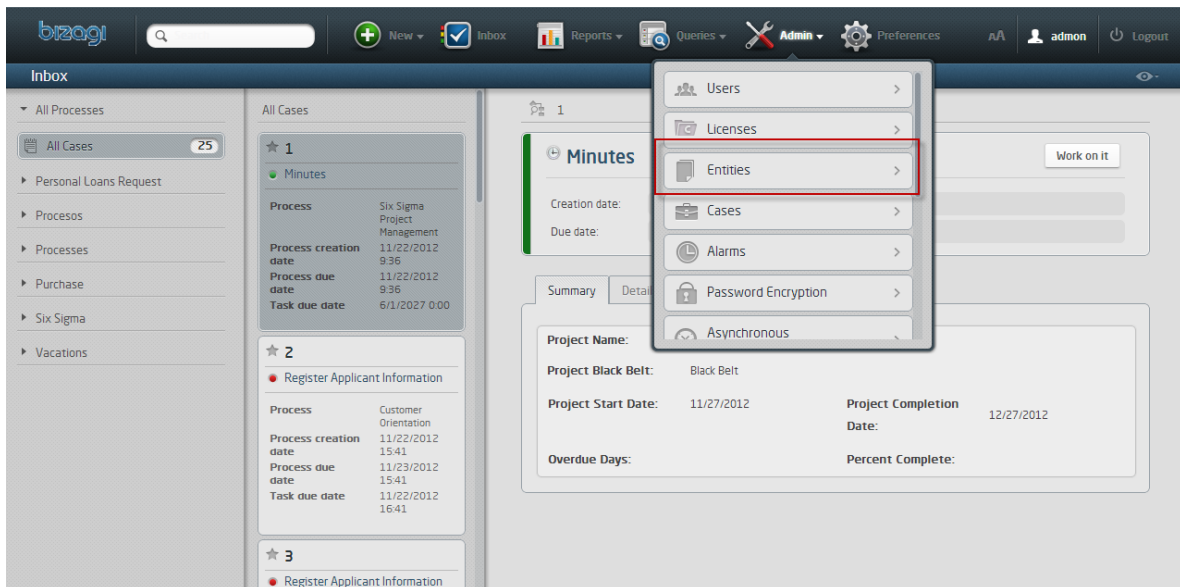
First level

User Authentication

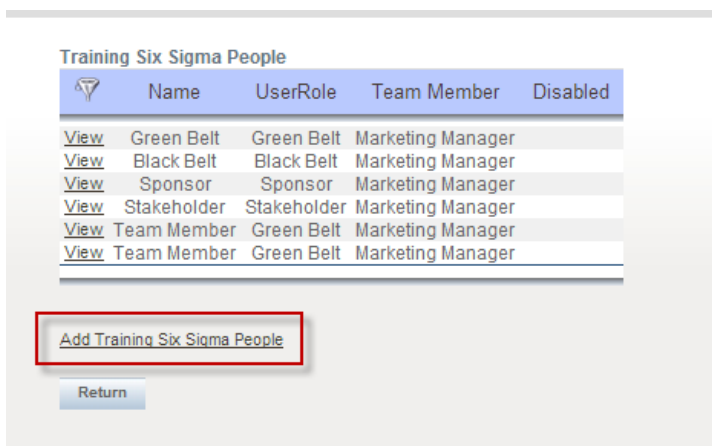
Password

Close

When all the users have been created, go to Admin and click on Entities.



Click on Add Six Sigma Team



Include all the people who work in the Project.

The screenshot shows the 'Add Training Six Sigma People' form. It has four input fields: 'Name' (text), 'UserRole' (dropdown), 'Team Member' (dropdown), and 'Disabled' (checkbox). At the bottom, there are 'Return' and 'Save' buttons.

3. DEFINE FORMS

Six Sigma Project Management includes several forms. The forms support the management of information. All forms include three tabs where the project information is available to any member of the team.

3.1 Project Charter Form

The Charter Form includes all the project information. All the renders are required.

The form automatically loads the five phases of the project. The renders Start Date and the Target Completion Date are required.

All the team members and the people who have the Black and Green Belt role can be choose from the parameter table. The table holds all the information about the people who have the skill to be a part of a project.

Project Charter

> Project Charter

Charter Date: 11/22/2012

Project Name:

Project Sponsor: Sponsor Email:

Project Black Belt: Black Belt Email:

Project Green Belt: Green Belt Email:

Project Stakeholder: Stakeholder Email:

Team Members

No records

+

Project Start Date: 11/23/2012 Project Completion Date: 11/30/2012

Project Mission:

Problem Statement:

Project Scope:

Deliverable:

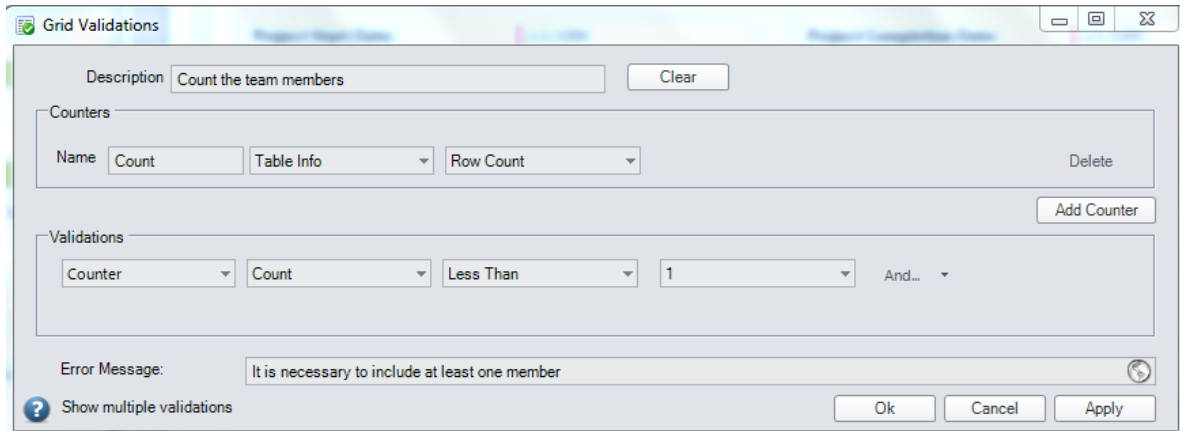
Valid Project: ☐ Yes ☐ No

> Project Phases

Six Sigma Project Phase

Phase	Start Date	Target Completion Date
Define	<input type="text"/>	<input type="text"/>
Measure	<input type="text"/>	<input type="text"/>
Analyze	<input type="text"/>	<input type="text"/>
Improve	<input type="text"/>	<input type="text"/>
Contol	<input type="text"/>	<input type="text"/>

The form contains a grid validation, it is necessary to include at least one member of the team.



The Grid Validations dialog box is used to configure validation rules for a grid. It includes a description field, a clear button, and a section for adding counters. The 'Counters' section has fields for Name, Table Info, and Row Count, with a delete button. The 'Validations' section has dropdowns for Counter, Count, Less Than, and a value field, with an 'Add Counter' button. An error message field and a 'Show multiple validations' checkbox are also present, along with Ok, Cancel, and Apply buttons.

Description: Count the team members

Counters

Name: Count Table Info: Row Count

Validations

Counter: Count Less Than: 1 And...

Error Message: It is necessary to include at least one member

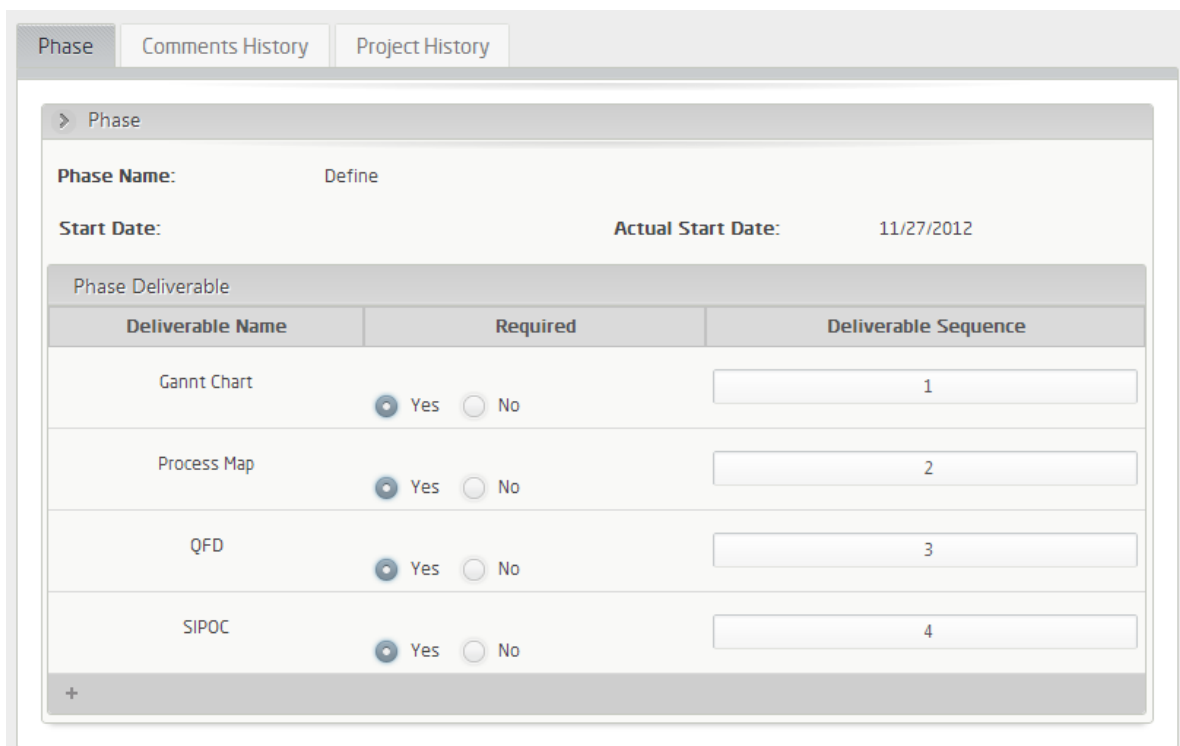
Show multiple validations

Ok Cancel Apply

3.2 Set Phase Details Form

The suggested deliverables are loaded automatically for each phase.

The form has three tabs where the project's information is available to all the team, quickly and easily way. The tabs show the comment history of the project, the files attached and the result of each phase.



The Set Phase Details Form is used to define a phase and its deliverables. It has three tabs: Phase, Comments History, and Project History. The Phase tab shows the Phase Name, Start Date, and Actual Start Date. Below this is a table of Phase Deliverables with columns for Deliverable Name, Required (Yes/No), and Deliverable Sequence.

Phase

Comments History

Project History

Phase Name: Define

Start Date: Actual Start Date: 11/27/2012

Deliverable Name	Required	Deliverable Sequence
Gantt Chart	<input checked="" type="radio"/> Yes <input type="radio"/> No	1
Process Map	<input checked="" type="radio"/> Yes <input type="radio"/> No	2
QFD	<input checked="" type="radio"/> Yes <input type="radio"/> No	3
SIPOC	<input checked="" type="radio"/> Yes <input type="radio"/> No	4

+

The deliverables are loaded from a parameter table, where the sequence of execution is proposed. In order to show the deliverables in the proposed order, the form uses the Order by Attribute property.

The screenshot shows the Bizagi application interface. On the left, the 'Table Properties' dialog is open, displaying the 'Advanced' tab. It includes options for 'Dynamic paging' (set to 'No'), 'Delete options' (set to 'Allow'), and 'Sort' (set to 'DeliverableSequence'). Below this, a list of table columns is shown, including 'Phase', 'Required', 'Deliverable Sequence', 'Six Sigma Project Phase', 'Approval Record', and 'Deliverable File'. On the right, the 'Phase' form is displayed. It has tabs for 'Phase', 'Comments History', and 'Project History'. The 'Phase' tab is active, showing fields for 'Phase Name' (abc), 'Start Date' (1/1/1900), and 'Actual Start Date' (1/1/1900). Below these fields is a table with columns 'Deliverable Name', 'Required', and 'Deliverable Sequence'. The 'Required' column has radio buttons for 'Yes' and 'No'. An 'Edit Columns' button is located at the bottom left of the table.

3.3 Global and Summary forms

The process uses global and summary forms. The first contains the phase information and the second, the deliverable results. All the information is not editable.

 PhaseSummaryForm.

The screenshot shows the 'Phase' summary form. It has a tab labeled 'Phase'. Below the tab, there are fields for 'Phase Name' (Analyze), 'Actual Start Date' (11/27/2012), and 'Actual Finish Date' (11/27/2012). Below these fields is a table titled 'Phase Deliverable' with two columns: 'Deliverable Name' and 'Deliverable Result'. The table contains five rows of data:

Deliverable Name	Deliverable Result
Cause and Effect Diagram	Results
Pareto Chart	Results
Design of Experiments	Results
Process Capability	Results
Correlation and Regression Analysis	Results

The forms allow the user to view the progress information of each case when clicking the Stoplight of the pending cases.

date11:30

Process due date11:58

Task due date6/1/2027 0:00

★ 202

● Set Phase Details

● Close Phase

Process	Phase
Process creation date	11/27/2012 12:00
Process due date	11/27/2012 12:00
Task due date	11/27/2012 12:00

★ 203

● Set Phase Details

● Close Phase

Process	Phase
Process creation date	11/27/2012 13:29
Process due date	11/27/2012 13:29
Task due date	11/27/2012 13:29

202

Set Phase Details

Work on it

Creation date:

11/27/2012 12:00

Due date:

11/27/2012 12:00

Close Phase

Work on it

Creation date:

11/27/2012 12:00

Due date:

6/1/2027 0:00

Summary

Details

Assignees

Events

Phase

Phase Name:

Define

Actual Start Date:

 DeliverableSummaryForm

Deliverable Name:	Gannt Chart
Deliverable Result:	Results of the deliverable
Deliverable File	
Comments	Deliverable File
Results of the deliverable	

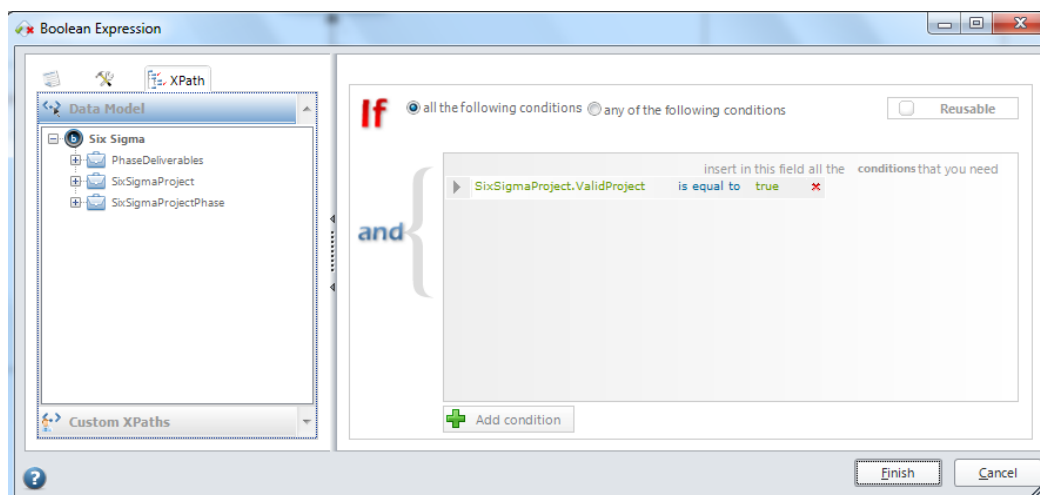
4. BUSINESS RULES

4.1 DEFINE EXPRESSIONS

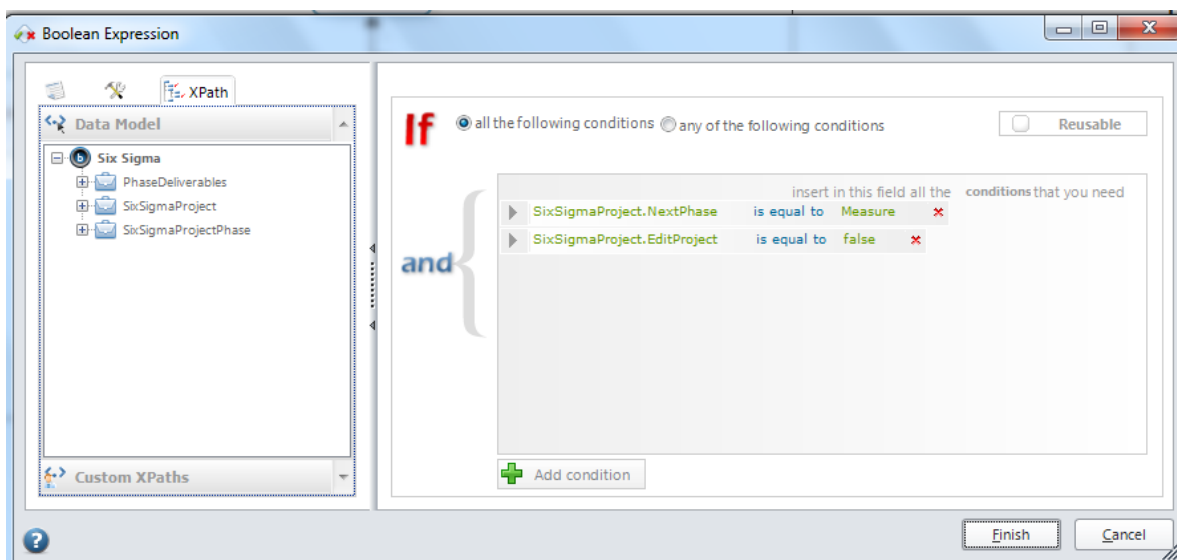
The process uses exclusive Gateways to indicate the process work flow.

✚ The Six Sigma Project Process uses three gateways.

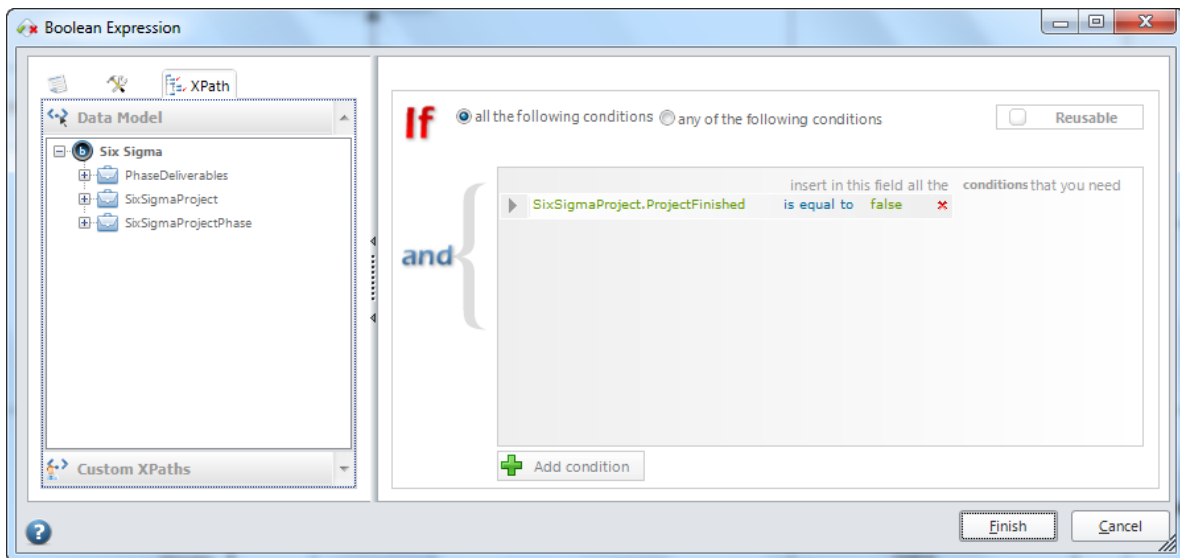
The first one validates the information, if the process is a valid process. If the process is valid, it continues to the first phase, Define.



After one phase is finished, the Gateway determines if it is possible to continue to the next phase or if it is necessary to modify the project.

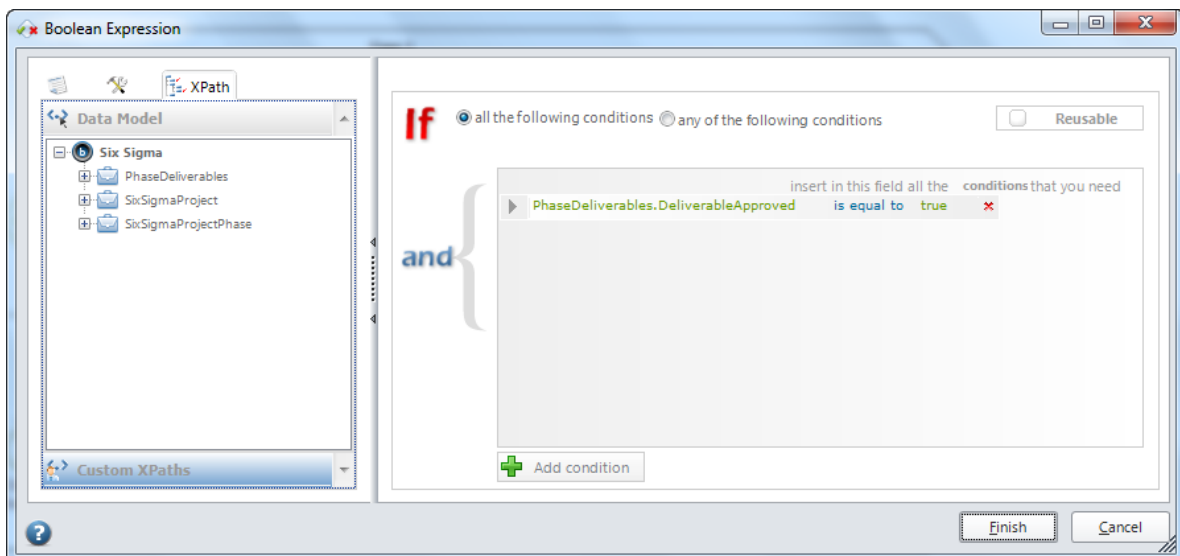


The process includes an event called Minute, which will be available throughout the process until it is finished. For this reason it is necessary to validate if the project is finished.

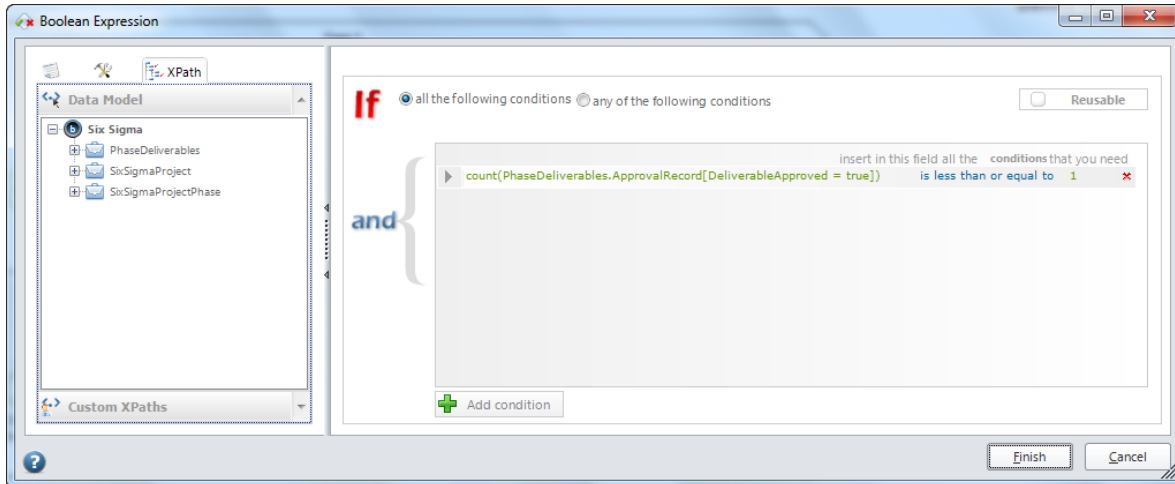


✚ The Create Deliverable sub-process includes two gateways.

The first Gateway validates if the deliverable has been approved. If it is not, the case will be returned to the Create Deliverable activity, if it is approved the case continues to the next validation.



The second validates if an extra approval is necessary. The number of approvals depends on the size of the project and the size of the company. In the template only two approvals are required. If additional approval is necessary, it can be configured easily.



4.2 ACTIVITIES

The process includes several business rules, the most important are:

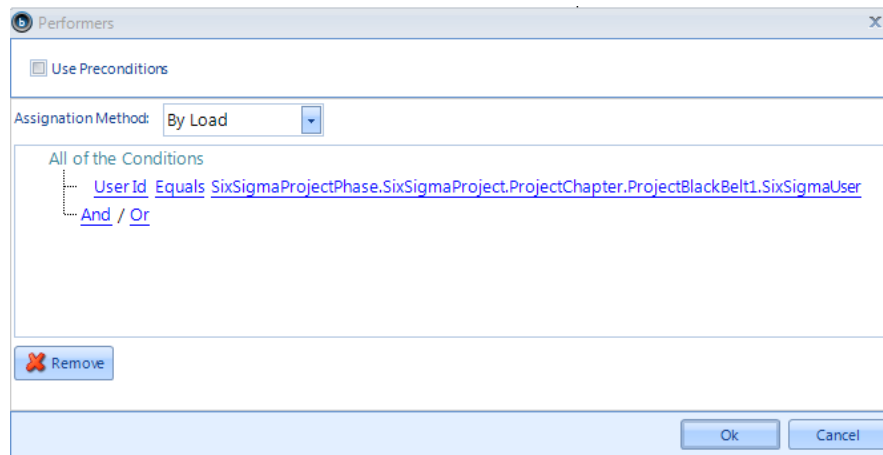
- ✚ On entry to the Project Charter activity, the five phases of the DMAIC cycle are included.
- ✚ In each phase the suggested deliverables are included automatically.
- ✚ It is necessary to delete the deliverables that the user did not select.
- ✚ At the end of the Finalize Deliverable task, the process continues to the next phase. If the project requires modification, the process goes to the Modify Project task. For this reason, it is necessary to update the edit project and next phase renders.
- ✚ It is necessary to include a record for each validation. If at any time the deliverable is not approved, all the approvals record must be deleted.

5. PERFORMERS

A Wizard is used to define the Performers in the process. In the fifth step of the Wizard, click on Define Performers

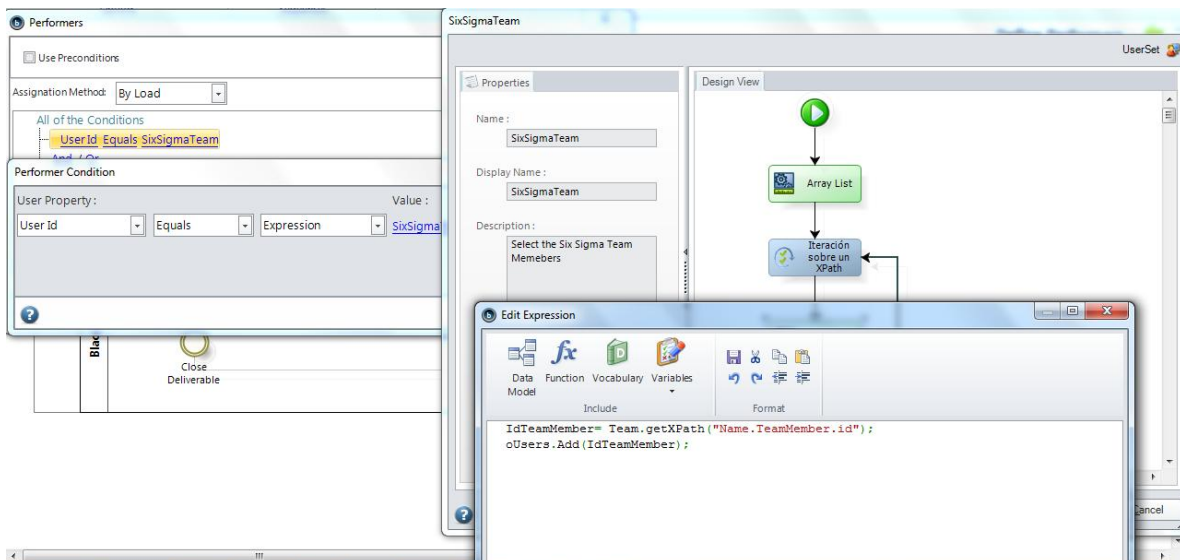


- ✚ Modify Project, Set Phase Details and Finalize Project Phase are performed by the person with a Black Belt role



The Performers dialog box is shown with the 'Use Preconditions' checkbox checked. The 'Assignment Method' is set to 'By Load'. Under 'All of the Conditions', there is a single condition: 'User Id Equals SixSigmaProjectPhase.SixSigmaProject.ProjectChapter.ProjectBlackBelt1.SixSigmaUser'. Below this, there is an 'And / Or' label. At the bottom, there is a 'Remove' button and 'Ok' and 'Cancel' buttons.

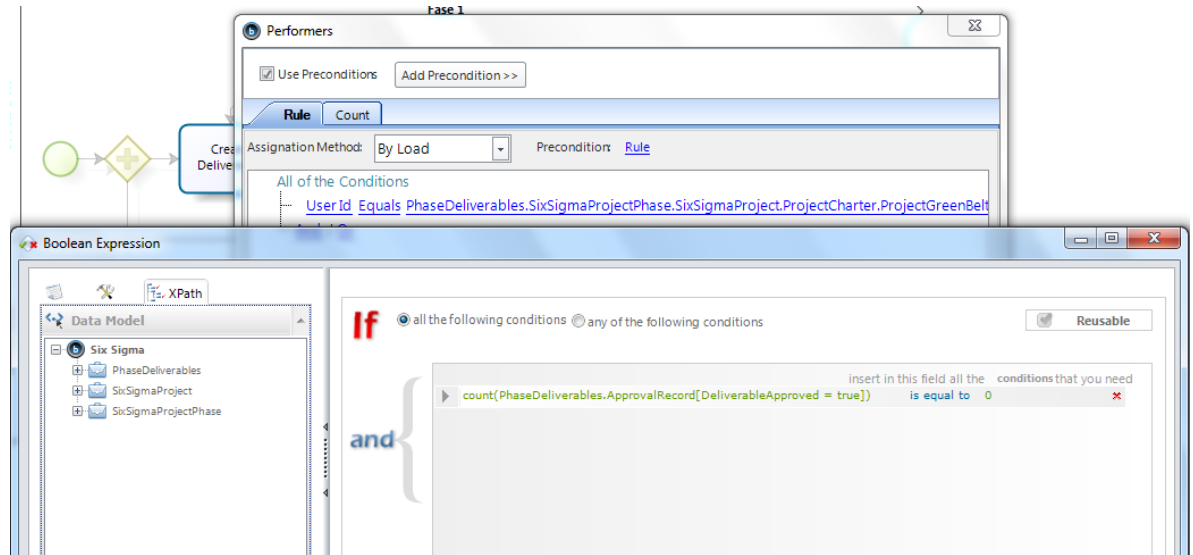
- ✚ The Create Deliverable task is performed by one member of the Six Sigma Team.



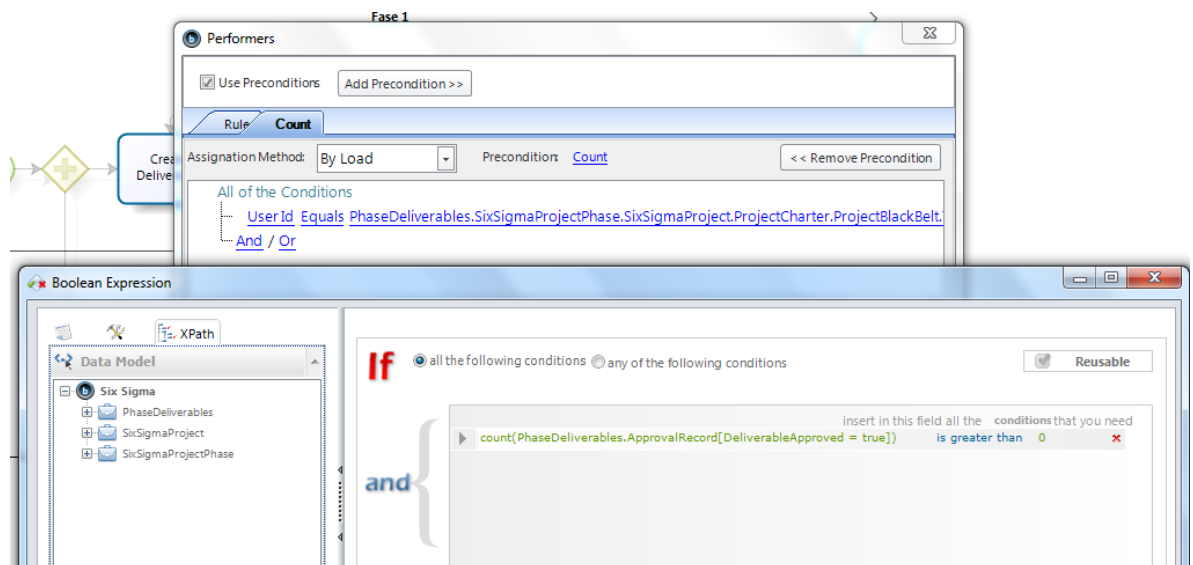
This composite screenshot shows three overlapping windows in the Bizagi software. The background window is the 'Performers' dialog, showing the 'User Id Equals SixSigmaTeam' condition. Overlaid on the bottom left is the 'Performer Condition' dialog, which shows 'User Id' selected as the property, 'Equals' as the operator, and 'SixSigmaTeam' as the value. Overlaid on the right is the 'SixSigmaTeam' task configuration window. It shows a 'Design View' with a flow starting from a green play button, through an 'Array List' task, and then to an 'Iteración sobre un XPath' task. In the foreground, the 'Edit Expression' window is open, displaying the following code:

```
IdTeamMember= Team.getXPath("Name.TeamMember.id");  
oUsers.Add(IdTeamMember);
```


- The Approval Deliverable task is performed by the Green Belt and Black Belt of the project. Because the Deliverable needs two approvals, it is necessary to use a precondition. It counts the number or approvals made. If there is only one, the task is performed by the Green Belt.



- If the Deliverable has only one approval, the task must be performed by the Black Belt.



6. E-MAIL CONFIGURATION

The Six Sigma Project Management process includes four e-mails, which send information about the project's progress.

- On Exit to the Modify Project, the next e-mail is sent to the Sponsor, Black Belt, Green Belt and team members of the project.

The screenshot shows the 'e-Mail Definition Window' with the following configuration:

- Include:** XPath Field, HyperLink, Static Grid, Expression Field, Dynamic Grid, Picture.
- Format:** Arial, 12.
- Advanced:** Copy to current assignee, Multiple Messages.
- To:** <SixSigmaProject.ProjectChapter.ProjectBlackBelt1.SixSigmaUser.contactEmail>; <SixSigmaProject.ProjectChapter.ProjectGreenBelt1.SixSigmaUser.contactEmail>;
- CC:** <SixSigmaProject.ProjectChapter.TeamMembers.Name1.SixSigmaUser.contactEmail>;
- BCC:**
- Subject:** Changes in the project
- Body:**

Dear Team

Please note that there have been some changes made to the project

Please read the comment history and the project chapter.

<SixSigmaProject.ProjectChapter.ProjectBlackBelt.userName>

Thank you
- Buttons:** Apply, Save, Cancel.

- On exit to the Abort Project task, the team members are informed of the reason for cancelling the project.

The screenshot shows the 'e-Mail Definition Window' with the following configuration:

- Include:** XPath Field, HyperLink, Static Grid, Expression Field, Dynamic Grid, Picture.
- Format:** Arial, 13.
- Advanced:** Copy to current assignee, Multiple Messages.
- To:** <SixSigmaProject.ProjectChapter.ProjectBlackBelt1.SixSigmaUser.contactEmail>; <SixSigmaProject.ProjectChapter.ProjectGreenBelt1.SixSigmaUser.contactEmail>; <SixSigmaProject.ProjectChapter.TeamMembers.Name1.SixSigmaUser.contactEmail>;
- CC:** <SixSigmaProject.ProjectChapter.TeamMembers.Name1.SixSigmaUser.contactEmail>;
- BCC:**
- Subject:** Cancel Project
- Body:**

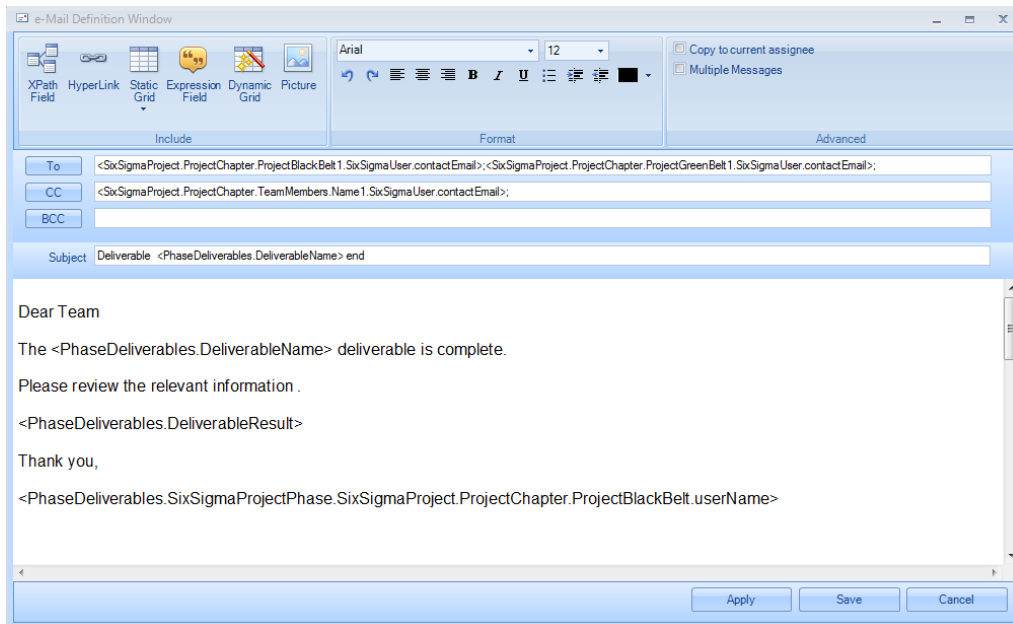
The <SixSigmaProject.ProjectChapter.ProjectName> Project was aborted because

<SixSigmaProject.CancelProjectReason>

<SixSigmaProject.ProjectChapter.ProjectSponsor.userName>

Thank you,
- Buttons:** Apply, Save, Cancel.

On Exit to the Finalize Deliverable, one email is sent with the result.



The Project is initialized with the sending of emails enabled, but it does not have the company's customization. It is therefore necessary to configure the SMTP e-mail server that your company uses.

In Bizagi Studio, enter the Configuration tab. Click on Environment and select the Popular option. Enable the box to send notifications and type the name of the SMTP server and the account from which the emails are to be sent, as shown in the diagram below

For further information refer to the following articles

Environment Configuration: http://wiki.bizagi.com/en/index.php?title=Environment_Configuration

SMTP server: http://wiki.bizagi.com/en/index.php?title=Find_SMTP_Server_in_Outlook

