Cytiva AB

User Guide for CBS

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# Introduction

The purpose of this document is to describe the requirements Implementation in detail and serve as admin guide for CBS requirements.

# System Description

Magic is a PLM system within Cytiva Life Sciences which facilitates the processes for creation, review, release of engineering information, provides functionality for change control of engineering parts, drawings and Bills of Material. It handles Project, Product and Requirements for Cytiva Life Sciences program. Magic has integrations to its downstream systems.

As part of CBS, there were plenty of different requirements which were implemented by Technia related to Variant Configuration, Engineering Central, Regulatory Requirements, and many Reports as part of CBS implementation

# Functionality

## VCC process from project

This section describes how the Variant Configuration module will be used from the Project Space or Project Concept

**For example:** Connecting the Product Line with Models and then connecting other VCC related objects with Project using the Product Line

### Create Project Concept with Product Line

|  |  |  |  |
| --- | --- | --- | --- |
| Create Project Concept with Product Line | | | |
| **#** | **Steps** | **Background Operations** | **Comments** | |
| **1** | 1. Open Create Project Concept form from toolbar Actions button 2. Select Product Line 3. Select Program 4. Click on Done | 1. The Product Line field will show all the Product Line which are in Complete state 2. The Program field will show all the Program in Active state 3. The newly created Project Concept will be connected to the Product Line with relationship “Project To ProductLine” 4. The Project Concept will be connected to the Program with relationship “Program Project” 5. Multiple Product Lines can be selected in Create Project Concept form. User can use the type ahead for searching the Product Lines. And he can also remove the Product Line by clicking the cross button. 6. User also has the ability to use a custom unique name for the Project Concept if he do not want to use system generated autoname | 1. Create Project Concept Option      1. Create Project Concept | |

### Apply Template

|  |  |  |  |
| --- | --- | --- | --- |
| Apply Template | | | |
| **#** | **Steps** | **Background Operations** | **Comments** | |
| **1** | 1. Open the newly created Project Concept 2. Navigate to Project Concept Details tab and click on Apply Template 3. On click of this command a popup will appear where user can search for the Active Templates which can be applied to the Project Concept | 1. After selecting one or multiple active templates and submitting, the below items will be cloned and connected to the current Project Concept: 2. Folders and connected Documents 3. All Document Templates connected to the Project Concept Template 4. Wiki page of Project Concept Template 5. Task, Milestone, Gate and Phase from Project Concept Template 6. Members of Project Concept Template 7. Bookmarks of Project Concept Template 8. Project Template can be defined the Project Lead such that it can contain the generic information which every project concept should hold | 1. Apply Template | |
|  | Define a new Project Template and view existing ones   1. Open homepage 2. Navigate to Projects🡪 Project Template tab 3. Click on Create Project Template | 1. User can see all the Project Templates in this tab 2. By clicking “Create Project Template” a new Project Template can be created 3. Project Template Type attribute in Project Template can be either of type “Project Concept” or “Project Space”. This will decide whether the template hold true for Project Space or Project Concept 4. This Project Template Type can be changed by the Project User when required | 1. View all existing Project Templates      1. Project Template Creation | |

### Quotes in Concept

|  |  |  |  |
| --- | --- | --- | --- |
| Quotes in Concept | | | |
| **#** | **Steps** | **Background Operations** | **Comments** | |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info tab🡪 Quotes | 1. Quotes tab has 3 views showing different info related to VCC objects in all 3 views. And finally Quote Item or Custom Instrument End Product can be created from the Product Configuration shown on these views 2. Details on each view will be elaborated later in this doc | 1. Quote tab for Project Concept | |

### Quote Package

|  |  |  |  |
| --- | --- | --- | --- |
| **Quote Package** | | | |
| **#** | **Steps** | **Background Operations** | **Comments** | |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info tab🡪 Quote Package tab | 1. This tab will expand to relationships Data Vaults, Sub Vaults, Vaulted Documents Rev2, Project To Product Configuration till lowest level which are either of type “Product Configuration” or not of type “Quote Package”. And on this result, it will remove duplicates 2. On this result, it will also expand on relationship “Product Configuration To ProductDocumentation” to get all Product Documentation connected to Product Configuration 3. This tab will basically show all the documents which are connected to Project through Folders in Folders tab and all the Product Documents which are connected to Product Configurations connected directly to the Project Concept | 1. Quote Package tab | |
|  | 1. Generate Quote Package 2. Open Project Concept 3. Navigate to Related Info tab 🡪 Quote Package tab 4. Select the Documents which you want to make Quote package of and Select Actions🡪 Generate Quote Package | 1. There are some preconditions for creating a Quote Package 2. There must be a document of type Quote Package present in the Folders tab of the Project Concept 3. It should be In Preliminary state 4. There must not be more than 1 document of type Quote Package in Folders 5. Once these preconditions are satisfied, and user clicks on Generate Quote Package, if user selects check box as ticked for pdf, then all the pdfs checked in to the selected documents will be packaged into 1 package and will be checked in the Quote Package Document 6. If you select PDF, then all the pdf files will be renamed with the doc name and will be packaged in the Quote Package 7. If user uncheck PDF from the popup, then all the files except pdf will be packaged in the zip package 8. There will be 1 additional file added to the zip package with name ProjectConceptName\_QuotePackage\_FileIndex\_Revision.doc which will keep all the entries of the files which are present in the package | 1. Create Quote Package      1. Error when Quote Package object is not present in Folder Structure      1. Quote Package Generated      1. Package sample | |

### Project Concept Full Process

|  |  |  |  |
| --- | --- | --- | --- |
| Project Concept Full Process | | | |
| **#** | **Steps** | **Background Operations** | **Comments** | |
| **1** | 1. Create a project Concept by filling Mandatory fields 2. Go to Project Concept Details page and fill Project Approver 3. Go to Lifecycle tab of Project Concept 4. Promote from Concept to Review state 5. Refresh Project Concept Details page, and option “Send for Approval”. Click on that 6. When the Project Concept is Sent for Approval, click on Lifecycle tab, a route task will be created for the Project Approver 7. Project Approver must approve it to promote it to next state | 1. Project Concept as the name signifies, is used for creating a concept for Project but not as the actual project. When all the pre work required to be done for starting a project is done in the Project Concept, then it has to be converted into actual Project 2. When a Project Concept is approved by the approver, then it will be promoted from Review to Approved and as soon as it is promoted to Approved state it will be converted from Project Concept to Project Space | 1. Set Project Approver in Details page      1. In Review state and sent for Approval      1. Approving      1. Project Concept Converted to Project Space | |

## Tag and Part Details for Product Model

### Tag and Part Details View

|  |  |  |  |
| --- | --- | --- | --- |
| Tag and Part Details View | | | |
| **#** | **Steps** | **Background Operations** | **Comments** | |
| **1** | 1. Search for a Product Model from Database search or Index Search 2. Navigate to “Logical Structures”🡪“Tag And Part Details” tab which is present as last tab 3. Here the view will show the Model expanded to Logical Features with relationship “Logical Features”. All the GBOM connected to Logical Features will be shown on expansion of Logical Features 4. If there are EBOM Parts connected with GBOM Parts , those will be shown on expansion of that Part. | 1. This view is the advanced view based on TVC for the other view with label “Tag and Part details”. This will have the capability of expanding and collapsing the GBOM and EBOM Parts individually without refreshing the complete view which is very time consuming. 2. This view was developed to overcome the performance issues in the old view which refreshes every time any connection is added or removed. 3. This view is basically used for maintaining the connectivity between the GBOM and EBOM on multi-level so that tags Info can be maintained between the two relationships. 4. The relationship which will connect GBOM and EBOM is Tag TagPartInformationForReport | 1. Tag and Part Details tab for Model | |

### Connect Tag Info

|  |  |  |  |
| --- | --- | --- | --- |
| Connect Tag Info | | | |
| **#** | **Steps** | **Background Operations** | **Comments** | |
| **1** | 1. Open Tag and Part Details View of the Product Model 2. Expand the structure to find the GBOM relationship and then connected EBOM relationships 3. Select a GBOM relationship and then click on Action meny “Connect/Disconnect Tag” | 1. On clicking on this action, a side panel will open showing all the EBOM connections from the GBOM which can be expanded/collapsed on multiple levels 2. On selecting the EBOM Parts on any level, user can click on “Connect Tag Information” for connecting GBOM relationship and EBOM relationship with relationship “TagPartInformationForReport” 3. This relationship has Tag BOM Info attributes such as “On BOM”, “BOM List Remark”, BOM Description”, “BOM Comment”, Tag Number”, “Release For Production”, “Part Of” 4. When this relationship is connected, On BOM attribute will be by default set as Yes. And then user will be able to set other Tag info for that Part by either doing in cell editing or clicking on Multi Edit option in toolbar 5. If Tag Info is connected then only Tag Info Attributes will be editable, otherwise those will not be editable. 6. If connection already exists between the GBOM and EBOM, then a popup message will appear. 7. When user clicks on edit button from the toolbar, it will make all the editable fields editable. And the Tag BOM Info attributes will only be editable when the connection TagPartInformationForReport exists between GBOM and EBOM. This will also be appliable for the lower levels EBOM. | 1. Select GBOM relationship and      1. Action Connect Tag Information      1. On connecting Tag Info      1. Editing Tag Info | |

### Disconnect Tag Info

|  |  |  |  |
| --- | --- | --- | --- |
| Disconnect Tag Info | | | |
| **#** | **Steps** | **Background Operations** | **Comments** | |
| **1** | 1. Open Tag and Part Details View of the Product Model 2. Expand the structure to find the GBOM relationship and then connected EBOM relationships 3. Select a GBOM relationshipwhich has Tag Info relationship connected | 1. If the GBOM and EBOM are not connected, and user tries to Disconnect, then a popup will appear saying Connection does not exists 2. When the connection is established between the GBOM and EBOM, the view will not refresh, rather user needs to collapse and expand on GBOM relationship to show latest info | 1. Select GBOM relationship and click on Connect/Disconnect Tag      1. Action Connect Tag Information      1. On disconnecting Tag Info      1. On disconnecting if relationship doesn’t exist | |

## Quotes tab for Project Concept

### Different Views

|  |  |  |  |
| --- | --- | --- | --- |
| **Different Views** | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept and Navigate to Quotes tab. Switch to Quotes Advanced View | 1. This view will show all the Product Lines, Product Models, Product Configurations which are connected to the Project Space/Project Concept. 2. It will skip Model objects to be shown from this view by using shadow concept. 3. The relationships which will be expanded are: Project to ProductLine, Sub Product Lines, Product Configuration, Product Line Models. 4. But only directly Connected Product Configurations to Project Concept and directly connected Product Models to Project Concept are shown in the Advanced View in structure. 5. For the Product Configuration, if there is a Top Level Part which exists, then it will be shown in Top Level Part column 6. Different objects can be distinguished by seeing the Marketing Name column in the table 7. Marketing Name can be changed by user also, as it is not the unique name allocated to the object by the system which generating the object. | 1. Quotes Advanced View |
|  | 1. Open a Project Concept and Navigate to Quotes tab. Switch to Quotes Simple View | 1. This tab will show all the directly connected Product Configuration with Project Concept/Project Space 2. This view will be useful when user wants to see only the Product Configuration associated with the Project Concept and the corresponding Top Level Part can also be seen In the column called “Top Level Part” | Quotes Simple |
|  | 1. Open a Project Concept and Navigate to Quotes tab. Switch to Quotes Model View | 1. This view will show all the Product Models and Product Configurations which are connected to the Project Space/Project Concept. 2. It will skip all Product Lines and Models in between by using shadow concept. 3. The relationships which will be expanded are: Project to ProductLine, Sub Product Lines, Product Configuration, Product Line Models. 4. This view has been developed for providing the user with a simple view which can be visualized easily without showing the full data model 5. It will also show the Top Level Part in a column and user can navigate to the Top Level Part in a popup by clicking the link in the column. | Quotes Model |

### Add Products

|  |  |  |  |
| --- | --- | --- | --- |
| **Add Products** | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select a Product Line for which you want to add Products 4. Select option “Add Products” | 1. On Clicking this option, user will be given all the options of latest Released Product Models which are not yet connected to the Project Concept. This result will come after expanding the Project Concept with relationships Product Line Models, Sub Product Line, Products 2. For adding Products from Project Concept to Products, user needs to select one or more Products from the options and click on Select. 3. The search result will allow user to see the Marketing Name, Type, Name, Revision and Description in side panel to decide which Product Model he wants to connect to the Project Concept 4. The Product Mode will be connected with the context Project Concept with relationship “Project To Product” in from direction. 5. User can use also Quote Model view to see all the Product Models and Product Configurations connected to it. | Add Products Option    Products options which can be added to Product Line |

### Add Existing Product Configuration

|  |  |  |  |
| --- | --- | --- | --- |
| **Add Existing Product Configuration** | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select a Product for which you want to Add Existing Product Configuration for. 4. Click on Actions🡪 Add Existing PC | 1. The side panel window will open which shows the list of Product Configuration which can be added to Product Model. It will show all the Product Configurations which are connected to the Model with relationship “Product Configuration”, but not connected to the Project Concept yet. 2. Once user selects any of these Product Configuration for making the connection, that Product Configuration will not be shown in this list next time when user tries to use action “Add Existing PC” | 1. Add Existing Option      1. Options to Add PC |

### Create Product Configuration in Background

|  |  |  |  |
| --- | --- | --- | --- |
| Create Product Configuration in Background | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select a Product for which you want to Create Product Configuration. 4. Click on Actions🡪 Create PC in Background | 1. If the selected Product Model is not Latest Released, then user will be given a prompt message that the Latest Released Model is not selected 2. If the selected Model is Latest Released, then Product Configuration will be created and connected to the selected Model 3. Attribute “Project Sequence For PC” will store the number count for Product Configuration to form the PC name. PC name will be combination of “Product Name-Project Sequence Number+1” 4. Marketing Name of PC will be the Product Model name 5. Product Configuration Purpose attribute will hold value Quote 6. Policy will be “Product Configuration” 7. Description will same as Product Model desc 8. The newly created PC will be connected to Product Model with relationship “Product Configuration” 9. All the classes connected with the Product Model and the corresponding Interface attributes will be copied from Product Model to the Product Configuration. The relationship name which will be queried will be “Classified Item” 10. The PC will be connected to the context Project Concept with relationship “Project To Product Configuration” 11. All Document Templates connected with the Product Model will be Cloned and Connected to the PC 12. “Customer Item” relationship will be expanded from Project Concept, if relationship attribute “Type Of Customer” for Customer is set to “Shipping Customer”, the “Distribution Code” attribute for Product Model will be checked, and if that is “R”, then all the Selling Geographies connected to the Product Model will be copied to the Product Configuration 13. Customer Item expanded will be connected to the Product Configuration with relationship “Customer Item” 14. “Comment” attribute in above relationship “Customer Item” will be taken from existing “Customer Item” relationship. Relationship attribute Type of Customer will also be copied to the new relationship. 15. “Mandatory Configuration Features” relationship is queried from Product Model and then connected to newly created Product Configuration with relationship “Selected Options” | 1. Create Product Configuration in Background      1. When Latest Released Model is not selected |

### Create Top Level Part

|  |  |  |  |
| --- | --- | --- | --- |
| Create Top Level Part | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select a Product Configuration for which you want to Create Top Level Part. 4. Click on Actions🡪 Create Top Level Part | 1. The Product Model connected with The Product Configuration will be queried. If the Model is not latest Released, then a popup message will appear asking the confirmation from user whether he wants to create Top Level Part when the Model is not latest released. If user selected yes, then Top Level Parts creation will continue. If selection is No, then nothing will happen. 2. Before showing confirm message, a dataobject is created in background named “createTopLevelPartData” which stores the pipe separated object Ids for Product Configuration and Project Concept for the context user. This will be used when user selects Yes in above point 1. 3. If user does point 1 again for any other Project and the Model is not Latest released, then the data object “createTopLevelPartData” will be updated with the current Project Concept and Product Configuration id value so that it stores the latest value every time. 4. The selected Product Configuration is expanded to select the Product Model, and is queried for attributes “Type of Product”, “Statistical Type”, “Policy for End Product”, Product Owner”, “Product Group”, “Product Centre”, “Business Area” 5. If the “Type of Product” comes as “End Product Physical” or “End Product Non Physical” then type will be set as “Statistical Type”. If Statistical type is blank, then alert will be shown saying Statistical Type is blank and Top Level Part will not be created. Policy will be set as set in attribute “Policy for End Product” of Model 6. If “Type of Product” is set as “Quote Item Physical” the type of Top Level Part will also be set as “Quote Item Physical” and policy as “Quote Item Physical” 7. If “Type of Product is set as “Quote Item Non Physical”, then type of Top Level Part will also be set as “Quote Item Non Physical” and policy as “Quote Item Physical” 8. If “Type of Product” is blank, an error message will be shown saying “Type of Product is blank. Unable to Create Part” 9. All the attributes from Product Model are queried and all the attributes present in the type selected in 4 will be queried 10. If type is not “DS/PS Product” then attribute “Unit of Measure” will be set as Each 11. If the attribute is Product Group, then the object id for the corresponding Product Hierarchy in Active state and which is latest is queried and set as Product Group attribute for Top Level Part 12. If attribute is Product Center or Business Area then the same value will be stored for Top Level Part attribute also. 13. Top Level Part will be created and Material Compliance attributes will also be copied to the newly created Part 14. Desc of Part will be set same as Product Configuration desc 15. Interface attributes from the Product Configuration will be copied to Top Level Part 16. All the Product Documentation connected to the Product Configuration with relationship “Product Configuration to Product Documentation” will be connected to the Top Level Part if those are not already connected 17. RDO connected with Product Model with relationship “Design Responsibility” will be connected to Top Level Part with same relationship 18. Requirements connected to Product Model with relationship “Uses Hierarchy” will be connected to Top Level Part with same relationship. 19. Project will be connected to Part with relationship Project Part, and attribute Quoted RSP and Quoted PC from “Product Configuration” will be set as “Recommended Sales Price” and “Quoted Product Cost” on relationship “Project Part” 20. Document Templates connected to the Product Model with relationship “Product to Document Template” with relationship attribute “Connect Existing” set as True and if type is kind of Document, will be connected to the Part with relationship Product Documentation 21. If type of Document Template is of Type Document Template, and Document connected to this Template with relationship Assigned to is fetched for attributes “Include in Hardware Doc” and “Generate PDF” and these attributes are set to the Cloned Docs create from the templates 22. If type of Assigned To relationship Object connected with Document Template is kind of Project Documentation, then policy will be Project Documentation Approval and if the type is having Documentation(Biosciences) policy then that will be the policy 23. With the above info from 14 the Document will be cloned and connected to Part with relationship Product Documentation 24. RDO and Requirements from Product Model will be copied to Part with relationship “Design Responsibility” and “Uses Hierarchy” 25. All files from Document Templates will also be copied to cloned Documents with CDM model 26. 12, 13 and 14 points from 3.3.4 will be same for Part creation also 27. DS/PS Product creation: 28. Product Owner will be fetched from Product Model 29. Object of Type DS/PS Product will be made with policy Product Master 30. This object will be connected to Part with relationship “Product To Part” 31. Product Group will be fetched. Product Hierarchy object id will be fetched for the corresponding Product Hierarchy which is Active and Latest 32. If the above object id is not empty, it will be connected to the DS/PS Product with relationship Product Hierarchy 33. The last.id from the Product Hierarchy which is got from 19.d and if this is not connected to the DS/PS Product with relationship Parellel Product Hierarchy, then this last.id will be connected with DS7PS Product with relationship Parellel Product Hierarchy 34. Attribute GEHC\_Sellling Geography will be fetched from Product Configuration and will be set to DS/PS Product also 35. Company Hierarchy relationship from Product Configuration will be fetched and connected to the newly created DS/PS Product 36. If the Policy is Quote Item, then the Top Level Part will be approved for Signature MakePreOrderable | 1. Create Top Level Part from PC      1. Created Top Level Part |

### Edit Options

|  |  |  |  |
| --- | --- | --- | --- |
| Edit Options | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Project Concept 2. Navigate to Related Info🡪 Quotes 3. Select Product Configuration and click Actions🡪 Edit Options 4. A dialog will open | 1. The popup will show the Configuration Features from which user needs to select the Configuration Options 2. Once the Configuration Options are selected, those will be visible next time as set in the Product Configuration | 1. Edit Options      1. Popup for Edit Options |

### Compare Configurations

|  |  |  |  |
| --- | --- | --- | --- |
| Compare Configurations | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select 1 or more Product Configurations 4. Click on Actions🡪 Compare Configurations | 1. Compare Configuration option is used to compare the values for Configuration options selected from Configuration Features for many Product Configurations. 2. The same Compare window can be used for setting the Configuration Options of the Product Configurations by clicking on the edit button in the column top | 1. Option for comparing 2 or multiple Configurations      1. Compare Configurations      1. Edit option in Compare window |

### Preview EBOM Parts from Model

|  |  |  |  |
| --- | --- | --- | --- |
| Preview EBOM Parts from Model | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select a Product Configurations 4. Click on Actions🡪 Preview EBOM | 1. This option will show all the Logical Features connections from the Product Configurations. 2. This popup will allow user to connect Parts in Logical Feature or replace existing Parts to other Parts. 3. Here user also has option to Generate EBOM which will Generate the full EBOM and will connect to the Top Level Part | 1. Preview EBOM Option      1. Preview EBOM |

### Clone PC

|  |  |  |  |
| --- | --- | --- | --- |
| Clone PC | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select a Product Configurations 4. Click on Actions🡪 Clone PC | 1. It will create a new Product Configuration with a new name using the Project Sequence for PC attribute from Project Concept and increment it 2. From relationship cloning: 3. All the from connections from the selected Product Configuration will be connected to the new Product Configuration also, with same relationships. 4. Except Top Level Part Relationship as that relationship should not connect to multiple Product Configuration. 5. For Product Configuration to Product Documentation relationship, the existing files will also be checked out and checked in in newly created documents and will be connected to the new Product Documentation 6. To relationship cloning: 7. Will not copy Customer Item relationship and Product to Product Configuration relationship 8. For Classified Item relationships, it will also copy the attributes to new Product Configuration 9. Copy object to relationship “Selected Options” to set the Selected Options for the selected Product Configuration to new Product Configuration 10. Project to Product Configuration will be connected from Project which selected Product Configuration is connected to and connect it to the newly created Product Configuration. 11. “Customer Item” connected to Project will be connected to the new PC. Also, the Company Hierarchy attribute will be parsed to get the object Ids of the Company Hierarchy and will be set in the attribute “Company Hierarchy” of Product Configuration. 12. After the Product Configuration gets cloned, it will be shown connected with the current Model to which selected Product Configuration is connected to. 13. User also has option to enter more than 1 in No of Copies field, so that the selected Product Configuration will be Cloned multiple times. | 1. Clone PC Option      1. Clone PC Popup |

### Clone PC from Existing

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| --- | --- | --- | --- |
| Clone PC from Existing | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Click on Actions🡪 Clone PC from Existing | 1. This will allow user to select an existing Product Configuration from the system and connect to the context Project. 2. All the connections will be same as 3.3.9 | 1. Clone PC from Existing      1. Clone PC from Existing popup |

### Disconnect PC or Product

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| --- | --- | --- | --- |
| Disconnect PC or Product | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select Product Model or/and Production Configuration or combination of these 4. Click on Actions🡪 Disconnect PC or Product | 1. This will allow user to disconnect the selected Product Model and Product Configurations from the context Project. 2. This action will not disconnect the selected Product Configuration and Product Model from the Product Model or Product Line as those need not be disconnected. 3. In this view, disconnect icon on toolbar is not available, because we should not disconnect the actual connection between Line Items🡪 Product Model🡪Product Configurations. Instead, the connections of the selected object should be removed from the Project Concept. | 1. Disconnect PC or Product |

### Delete

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| Delete | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select Product Model or Production Configuration or combination of these 4. Click on Actions🡪 Disconnect PC or Product | 1. This will allow user to delete the selected object if the user has access to delete it according to the policy definition 2. This command will remove the selected object from the database permanently. So user should use this option only when he is really sure to delete it. | 1. Delete |

### Replace with Latest Released Model

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| --- | --- | --- | --- |
| Replace with Latest Released Model | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select a Product Model. 4. Click on Actions🡪 Replace with Latest Released Model | 1. User need to select 1 or more Product Model from this view to perform this action. 2. If user selects any of the other type of object, he will be alerted with a popup to select objects of type Product Model. 3. If the user selects Product Models which are already Latest Released, then no operation will be performed. 4. If the any of the selected Product Model is not Latest Released, this command will replace the connection between Product Line and Model and will replace the Product Model with the latest Released Model present in the Product Evolutions | 1. Replace with Latest Released Model option |

### Reconnect to Latest Released Model

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| --- | --- | --- | --- |
| Replace with Latest Released Model | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Project Concept 2. Navigate to Related Info🡪 Quotes tab 3. Select a Product Configuration. 4. Click on Actions🡪 Reconnect with Latest Released Model | 1. User need to select 1 or more Product Configurations from this view to perform this action. 2. If user selects any of the other type of object, he will be alerted with a popup to select objects of type Product Configuration. 3. If the user selects Product Configurations which are already connected to Latest Released Product Model, then no operation will be performed. 4. If the any of the selected Product Configuration is not connected to the Latest Released Product Model, this command will reconnect the selected Product Configuration to the latest Released Model present in the Product Evolutions. | 1. Reconnect to Latest Released Model |

## Pricing Tool

### Update from Pricing Tool

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| **Update from Pricing Tool** | | | | |
| **#** | **Steps** | **Background Operations** | | **Comments** |
| **1** | 1. Create a new Pricing Tool or open existing Preliminary Pricing Tool Document 2. Navigate to Details tab and Click on “Update From Pricing Tool” | | 1. There will be an xls template which needs to be checked in to the Pricing Tool Document object which should have all relevant information related to the shown attributes in a sheet 2. Below attributes were newly added to the excel and Document Details form  * Total Manhours ELD * Total Manhours SERV * Total Manhours TD * Total Manhours CTO * Total Manhours RnD * Total Manhours SAT * Total Manhours EXT  1. When user click on Update from Pricing Tool command, then that checked in excel will be read using emxDocument JPO and the corresponding attributes will be updated for the current Document object 2. When Pricing Tool will be promoted to Release, there will be an action trigger which will be fired, and that trigger will call this “Update from Pricing Tool” command and update the attributes. | 1. Update from Pricing Tool      1. New Attributes added to Pricing Tool Details form |

## Financial Document

### Update from Negotiation Tool

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| Update from Negotiation Tool | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Create a new Financial Document or open existing Preliminary Financial Document 2. Navigate to Details tab and Click on Update from Negotiation Tool | 1. The Financial Document should be connected to a Project in the Folders tab. And this Project should have a Part connected to it with Project Part relationship. 2. When this command “Update form Negotiation Tool” is used by the user, it will checkout the excel which is checked in to the Document and will read the Part number and corresponding attributes from the excel 3. The program emxDocument will look for the corresponding Part with this part number connected to the Project with relationship Project Part and will update all the attributes of the Part 4. Sample template has been attached in Comments column | 1. Update from Negotiation Tool      1. Updation of Project Part      1. Sample excel template      1. Attributes to be read from this sheet of excel |

## Custom Instrument

This section briefs about how the Supplier Portal will handle the Issues in different views

### Replace with Latest Revision

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| --- | --- | --- | --- |
| Replace with Latest Revision | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
|  | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Select any Part from the view which is of older revision and click on Replace with latest Revision | 1. This command when selected after selecting one or more Parts in this view will change the relationship to replace the selected Parts with Latest Revision of the Part. 2. This would happen only if the Part selected is not of Latest Revision 3. The older Part will be disconnected after it gets replaced with Latest Revision | 1. EBOM Replace with Latest Revision |

### Replace with Latest Released Revision

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| --- | --- | --- | --- |
| **Replace** with Latest Released Revision | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Select any Part from the view which is of older revision and click on Replace with latest Released Revision | 1. This command when selected after selecting one or more Parts in this view will change the relationship to replace the selected Parts with Latest Released Revision of the Part. 2. This would happen only if the Part selected is not of Latest Released Revision 3. The older Part will be disconnected after it gets replaced with Latest Released object | 1. Replace with Latest Released Revision |

### Generate BOM List

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| Generate BOM List | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Click on command BomList Options🡪 Generate BOM List | 1. This option will generate BOM List for only one revision of Part. And once generated to any revision, it will give error message for other revisions and suggest user to use "Add Part to BOM List" option. For handling this a hidden attribute on relationship “Bom List” has been used namely "Generated BOM List On Revision" 2. If the BOM List can be generated as per point 1, then first the program will fetch all the Logical Features associated with the context Top Level part. Relationships which will be fetched using expression to[Top Level Part].to[Product Configuration].from[Logical Features] 3. The Top Level Part will be expanded on relationship EBOM and Bom List 4. If the relationship is EBOM, then the Part which came from expansion will be queried for “TagPartInformationForReport” rel to rel connection between GBOM and EBOM. It will fetch all the relationship attributes and form a map storing all relationship attribute values with EBOM relationship id as the Map key 5. If the relationship is BOM List, it will fetch the attribute “EBOM on BOM List” relationship attribute and will store it in a map with EBOM part id and key and the above said attribute as value. If any BOM List relationship is found duplicate, it will be removed 6. The existing BOM List connections will be removed if there are any present for the context Part 7. After collecting both Logical Features🡪 Tag Info For Report data and BOM List data, new BOM List connections will be made by combi | 1. Generate BOM List |

### Validate BOM List

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| --- | --- | --- | --- |
| **Validate** BOM List | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Click on command BomList Options🡪 Validate BOM List | 1. For validating the BOM List, the Context Part should not be of first revision otherwise it will give popup message that "The selected Part for the operation should not be the First revision" 2. This command will basically check if all the Tags which are present in the First revision of the context part are present in the current part Tag numbers also or not. Tag Number is the attribute in BOM List relationship between 2 Parts 3. If there is any Tag number in BOM List which matches with another Tag number, or in other words, if the Tag number is not unique. Then it will give message "Tag numbers are not unique, or not set on the current/first revision." 4. "New revision contains all the tags from the first revision" this message will appear if all the Tag numbers from select Part and present in first revision also 5. “Following tags from the First Revision are missing in the current revision. Tag number” This message will appear showing the Tag numbers which are missing in current Part from the first revision of Part. | 1. Validate BOM List |

### Copy BOM List Attributes

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| **Copy BOM List Attributes** | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Click on command BomList Options🡪 Copy BOM List Attributes | 1. For copying the BOM List Attributes, the Context Part should not be of first revision otherwise it will give popup message that "The selected Part for the operation should not be the First revision" 2. A list will be fetched for getting all the BOM List attributes from context Part and first revision of Part making a data structure with Tag number as the Key and object having all BOM List attributes in the Value of the data structure 3. All the BOM List attributes from the first revision will be set to the BOM List relationship of the Context Part revision 4. If any of the Tag number from First revision of Part is missing in context Part, then an alert will come saying as below: "Cannot find the following tab numbers on the First Revision :Tag numbers, other tag are copied.” | 1. Copy BOM List Attributes |

### Clear BOM Connections

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| **Clear BOM Connections** | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Click on command BomList Options🡪 Clear BOM List Attributes | 1. This option will allow us to blank out one of the Bom List relationship attribute “EBOM On BOMList” between Part and BOM List Parts, so that the EBOM connection between the Parts connected with BOM List can be removed | 1. Clear Bom List Attributes |

### Purchase BOM

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| **Purchase BOM** | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Select a Preliminary Subassy Part and Click on command BomList Options 🡪 Purchase BOM | 1. This option is used for creating a subassembly of Parts below Subassy Preliminary Part for the Parts which are decided to be Released for Production and can be Purchased 2. User should select a Subassy Part from EBOM for creating Purchase BOM 3. The selected Subassy should not have any EBOM connection from it then only it will be able to create Purchase BOM 4. If selected Subassy Part is in Release state and context Custom Instrument is in Preliminary state 5. If Subassy Part last revision is in Preliminary state, then Purchase BOM will be created for that Preliminary Subassy and that will be connected to the context Part by removing the Release Subassy part. All relationship attributes will also be copied to new connection. 6. If Subassy Part last revision is also in Release state, then the Subassy will be revised and the Preliminary Part which came after revision will be connected to context Custom Instrument. All relationship attributes will also be copied to new connection 7. For creating the Purchase BOM of the Subassy selected Part, the context Part Custom Instrument will be expanded with relationship “BOM List” and will check for relationship attribute “Release for Production”. 8. If 4 point is set as Yes, then those BOM List Parts will be connected to the selected Subassy Part with relationship EBOM and F/N will start from 10010 and increment by 10 for each Part added. | 1. Purchase BOM option      1. Alert when using Purchase BOM and EBOM already exists for the selected Subassy      1. BOM List view where Release for Production is set as Yes      1. EBOM connection from Subassy after using Purchase BOM option |

### Add Parts to BOM List

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| **Add Parts to BOM List** | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Select one or more Parts and Click on command BomList Options 🡪 Add Parts to BOM | 1. This option will allow user to connect the select Part(s) with the context Part with relationship “BOM List”. The EBOM relationship attribute named Quantity will be used to decide the number of connections to be made between the selected Part and the context Part with relationship “BOM List” 2. This command can be used by the user to add the missing BOM List connections when comparing it using compare command. | 1. Add Parts to Bom List |

### Bill of Material Report

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| **Bill of Material Report** | | | |
| **#** | **Action** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Click on command BomList Options 🡪 Bill of Material Report | 1. Bill of Material Report will generate BOM List report containing BOM List related information. 2. The dataset for this report will be the BOM List attribute “On BOM” which is set as Yes 3. If there are same Parts which are connected multiple times in the BOM List relationship with different Tag Numbers, then the report will consolidate all the Tag Numbers and show with Line separator in the Tag Number Column of the Report 4. Likewise, the report will have other columns having Part Of, Description and Remark information. 5. Part of will hold info of attribute “Part of” from BOM List relationship 6. Description populates BOM List Description attribute of the Part 7. Remark will hold info of attribute “BOM List Remark” from BOM List relationship | 1. Bill of Material Report      1. Generated Report with data |

### BOM Compare Report

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| **BOM Compare Report** | | | |
| **#** | **Action** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Click on command BomList Options 🡪 Bom Compare Report | 1. This report will allow user to compare the BOM List relationship and EBOM relationship Parts as to whether the quantities of Part in BOM List and EBOM are same or different 2. Dataset will be calculated by BOM List relationship having “On BOM” set as Yes 3. There will be 6 columns in the BOM Compare Report-  * BOM Data-this will show the Part number which is connected to context Part with relationship “BOM List” * Description-It will show the description of the Part * BOM Qty-It will show the total number of the connections between BOM List Part and the context Part * Exists in EBOM- It will show whether this BOM List Part is present in the EBOM structure of the Part or not. Will show Yes or No * Total Qty in EBOM- This will show the quantity of the EBOM. This will be calculated by the number of occurrences of the Part in EBOM structure regardless of any level. Also, the quantity will be considered for calculating the total quantity * Status- This will show th value among "QTY MISMATCH”, "CORRECT", or "MISSING" depending on the values in column BOM Qty and Total Qty in EBOM. If both matches, it will show CORRECT, if BOM Qty is greater than 0 and Total Qty is 0 then it will say MISSING. And if in other cases when both the values do not match, it will show “QTY MISMATCH” | 1. BOM Compare Report      1. BOM Compare Generated Report |

### Material Conformity Report

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| Material Conformity Report | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Click on command BomList Options 🡪 Material Conformity Report | 1. This report will give the Material Conformity Related Information 2. Dataset will be calculated by expanding the context Part with EBOM relationship to the lowest level and get the relationship attribute “Wetted Part” and “Pressure Retaining Part”. If the Part coming after expansion is Wetted Part or Pressure Retaining Part, then that will be taken into consideration for the Material Conformity Report. 3. Columns which will be visible in report are  * Tag Number-It will show the BOM List relationship attribute named “Tag Number” between the Part and context Part. If the Part is connected multiple times in BOM List, it will show multiple Tag Numbers separated by line * Part of-It will show the BOM List relationship attribute named “Part of” between the Part and context Part. If the Part is connected multiple times in BOM List, it will show multiple Part of separated by line * Description- This will show the Material Conformity Description attribute of the Part * 21 CFR- If the Part is connected to “21 CFR 177” Requirement, then it will show Yes, otherwise it will show - * USP Class- If the Part is connected to “USP 88 Class VI/ISO10993-6,10-11” Requirement, then it will show Yes, otherwise it will show - * Animal Origin- - If the Part is connected to any of the Animal Origin Requirement among “Animal Origin|EMA 410/01|ADCF”, then it will show Yes, otherwise it will show - * Wetted Finish- This will show the value of Part attribute Finish | 1. Material Conformity Report      1. Material Conformity Report |

### Material Conformity Report New

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| Material Conformity Report New | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to EBOM 🡪 EBOM tab 2. Click on command BomList Options 🡪 Material Conformity Report New | 1. This is a newly made Material Conformity Report for both VCC and CBS team 2. This is a custom report for which a new relationship has been created between the Dataset Parts and the context Part named MaterialConformityReportTemp 3. The tvc report action has been customized to beginCreateActionMaterialConfReport for creating the relationship named MaterialConformityReportTemp 4. When starting to generate this report, the program will check if this relationship already exists or not. If it already exists, it will remove all these connections. 5. All these operations will be done using history off, so that this temporary relationship update is not confused by users by checking history 6. Data will be evaluated for the EBOM connection to be shown in report, if the EBOM attribute “Cert. To Customer” is set as “Structural”, “Biopharmaceautical” or Structural,Biopharmaceautical” 7. This custom action will have an attribute called Find Number Custom in relationship MaterialConformityReportTemp which will store the Find Number values sorted acc to the structure in EBOM. 8. If there is BOM List relationship between the EBOM connection Parts then BOM List relationship will be evaluated for relationship attributes Tag Number, EBOM on BOM List and Part Of and those will be evaluated to store the values of these attributes in the new relationship 9. Other EBOM attributes will be fetched from EBOM relationship, such as “Ref Des”, “Wetted Finish”, “Pressure Retaining Part”. 10. The report will be grouped with a Part number header highlighted with grey column which will be the Parent part number of the current part. | 1. Material Conformity Report New      1. Report Sample |

### PC Options

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| PC Options | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| 1. | 1. Open a Preliminary Custom Instrument Part 2. Navigate to EBOM🡪 EBOM tab 3. Select a Part and Click on Command BOMList Options🡪 PC Options🡪 Edit Options | 1. This option can be used by user to see and set the Configuration Features and Configuration Options of the Product Configuration which is associated with the selected Part | Edit Options |
|  | 1. Open a Preliminary Custom Instrument Part 2. Navigate to EBOM🡪 EBOM tab 3. Select a Part and Click on Command BOMList Options🡪 PC Options🡪 Preview EBOM | 1. This option can be used by user to see and connect the Logical Features of the Product Configuration which is associated with the selected Part | Preview EBOm |
|  | 1. Open a Preliminary Custom Instrument Part 2. Navigate to EBOM🡪 EBOM tab 3. Select a Part and Click on Command BOMList Options🡪 PC Options🡪 Sync Options | 1. This option can be used by user to see Sync Options of the Product Configuration which is associated with the selected Part | Sync Options |

### BOM List view

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| PC Options | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Preliminary Custom Instrument Part 2. Navigate to EBOM🡪 EBOM tab. Select BOM List view | 1. This view will show all the Parts which are connected to the context Part with relationship “BOM List” and all the BOM List attributes will be shown. 2. If the Part has not reached Release state, user can edit the BOM List attributes if the user has rights to edit those. 3. BOM List relationship will be only one level connection between Custom Instrument and Part, although EBOM can be on multiple levels. 4. There is a hidden attribute called “EBOM On BOMList” which will store the EBOM relationship id for which the BOM List has been created. 5. If there is a BOM List connection between the EBOM Part and Custom Instrument, then only user can edit it in EBOM Wide table and then only it will be shown in BOM List view of this tab | 1. BOM List View      1. EBOM Wide to edit BOM List attributes |

## Product Documentation for Custom Instrument

### Create Hardware Package

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| Create Hardware Package | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |

| **1** | 1. Open Custom Instrument, Navigate to Documentation tab 2. Go to Product Documents tab. 3. Click on command Actions🡪 Create Hardware Package | 1. This tab will be showing all the Product Documents connected to the Custom Instrument 2. This command will require File Manager to be enabled in the browser 3. This will zip files of all the Released Product Documents which are having the attribute “Include in HWPD” set as Yes 4. If the Product Document has pdf files, then it will take only the pdf files and package those in the Hardware Package and it will ignore all the other extension files 5. If the Product Document do not have any pdf file, then it will take all the other extension files and add in the package 6. There will be an additional file named “FileIndex.docx” which will keep information about the list of all files which are packaged in the package 7. If the Document Type is among below, then it will change the name of the Files according to the attributes “Display Number”, “Display Name”, “Display Name(Free Text)”  * Documentation binder * Digital Media File * Operation Instructions * Printed Matter File * Site preparation guide * Software   Note: If any other document is added with the above mentioned 3 attributes, then that will also considered for calculating the file name based on those attributes for Hardware Package   1. File Name of the files in package will be “Part number+Display Name+Display Number+Revision`+extension of file in Document” of the document.   Note: Display Name(Free Text) will be taken if that is set and then Display Name will be ignored   1. If these attributes are not set, then File Name will be “Part Number+Document Type+Document Number+Document Revision | 1. Create Hardware Package      1. File name parameters      1. Files to be packaged      1. Hardware Package |
| --- | --- | --- | --- |

### Create Transmittal Package

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| --- | --- | --- | --- |
| Create Transmittal Package | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument, Navigate to Documentation tab 2. Go to Product Documents tab. 3. Select Product Documents from the tab and Click on command Actions🡪 Create Transmittal Package | 1. This package will be similar to Hardware Package, the only difference is that, this is created on the selected Product Documents rather than all the Documents in the tab Product Documents | 1. Create Transmittal Package |

### Convert to Normal Policy

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| Convert to Normal Policy | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument, Navigate to Documentation tab 2. Go to Product Documents tab. 3. Select one or more Product Document. Click on command Actions🡪 Convert to Normal Policy | 1. This command will allow user to convert the policy of the Product Document from “Prototype Documentation” to “Documentation(Biosciences)” 2. If the selected Document are of policy Prototype, then only those will be changes to Documentation(Biosciences)” policy 3. If the current state of selected Document is Prototype then the owner will be changed to current owner. | 1. Convert to Normal Policy |

### Replace with Latest Revision

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| --- | --- | --- | --- |
| Replace with Latest Revision | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to Documentation 🡪 Product Documents tab 2. Select any Document from the view which is of older revision and click on Replace with latest Revision | 1. This command when selected after selecting one or more Product Documents in this view will change the relationship to replace the selected Documents with Latest Revision of the Part. 2. This would happen only if the Document selected is not of Latest Revision 3. The older Document will not be connected anymore after replacing | 1. Product Documentation Replace with Latest Revision      1. **Replace with Latest revision** |

### Replace with Latest Released Revision

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| Replace with Latest Released Revision | | | | |
| **#** | **Steps** | **Background Operations** | | **Comments** |
| **1** | 1. Open an existing Custom Instrument Part and navigate to Documentation 🡪 Product Documents tab 2. Select any Document from the view which is of older revision and click on Replace with latest Released Revision | | 1. This command when selected after selecting one or more Documents in this view will change the relationship to replace the selected Documents with Latest Released Revision of the Part. 2. This would happen only if the Documents selected is not of Latest Released Revision 3. The older Documenst will not be connected anymore after replacing | 1. Replace with Latest Released Revision |

### Create New Revision

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| --- | --- | --- | --- |
| Create New Revision | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument, Navigate to Documentation tab 2. Go to Product Documents tab. 3. Select one or more Product Documents. Click on command Actions🡪 Create New Revision | 1. This command will allow user to create a new revision of the selected Document. 2. This command will also copy all the files from the selected Documents to the newly revised Documents | 1. Create New Revision |

### Revision Log Report

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| Revision Log Report | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument, Navigate to Documentation tab 2. Go to Product Documents tab. 3. Select one or more Product Documents. Click on command Actions🡪 Revision Log Report | 1. This report will show the list of all the selected Documents according to the revisions. 2. Grey header will show the Details of the Document such as Type, Name and Revision 3. Below the header, it will show all the revisions of the Document and will show the Remark and Author for the Document | 1. Revision Log Report      1. Revision Log Report for 1 Document      1. Revision Log Report for 2 Documents |

### Download Files

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| --- | --- | --- | --- |
| Download Files | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument, Navigate to Documentation tab 2. Go to Product Documents tab. 3. Select one or more Product Documents. Click on command Actions🡪 Download Files | 1. For the selected Documents user will be able to package all the files based on different criteria such as to download all files in zip, all files without zip, pdf files with zip, pdf files without ip 2. User can select these options and will be packaged acc to selected options 3. This option will require user to have TVC File Manager | 1. Download Files      1. Selection popup for Download Files |

### Create/Connect ECO

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| --- | --- | --- | --- |
| Create/Connect ECO | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument, Navigate to Documentation tab 2. Go to Product Documents tab. 3. Select one or more Product Documents. Click on command Actions🡪 Create/Connect ECO | 1. This will allow user to select one or more Product Documents and create a Change Order on those Product Documents if required. 2. The connected ECO for the Product Documents will be shown in the Table column as shown in Image 3 | 1. Create/Connect ECO      1. Side Panel for Create/Connect ECO      1. Created Product Documents |

### Hidden Attributes in Documentation for Product Configuration

|  |  |  |  |
| --- | --- | --- | --- |
| Hidden Attributes for Product Documentation | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Product Configuration and add Standard CBS Class to it by editing it from Basic tab 2. Add 1 or more Product Documentation to the Product Configuration from Product Document Tab 3. Edit Standard CBS attributes in Class Attributes tab of Product Configuration 4. Check the hidden attributes of Product Document 5. Open the Document and click on “Update Document Properties” command in Document Details tab, the field properties of the file which is checked in to the Document will be updated according to the hidden attributes of Doc | 1. When these attributes are updated in the Product Configuration, the same gets updated in the hidden attributed for Product Document also. Mapped attributes from Product Configuration to Product Document  * Customer Reference🡪Doc Customer Reference * Product Configuration Name🡪 Doc Product Code * Product Model Revision 🡪 Doc Product Model Revision * Product Name🡪 Doc Product Name * Product Type 🡪 Doc Product Type * Reference🡪 Doc Reference * Serial Number🡪 Doc Serial Number  1. These attributes mapped to Document are hidden because they are not required to be shown in the UI in the Magic application 2. These attributes will be used by the Document Properties of the Document which is uploaded to Product Document. Whenever the properties for the document are updated, the Doc properties will be populated | 1. Standard Class Attributes in Product Configuration      1. Product Document added in Product Configuration      1. Hidden Doc Attributes      1. Update Document Properties |

### Hidden Attributes in Documentation for Custom Instrument End Product

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| --- | --- | --- | --- |
| Hidden Attributes for Product Documentation | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Custom Instrument 2. Add 1 or more Product Documentation to the Custom Instrument from Product Document Tab 3. Edit the 4. Check the hidden attributes of Product Document 5. Open the Document and click on “Update Document Properties” command in Document Details tab, the field properties of the file which is checked in to the Document will be updated according to th 6. e hidden attributes of Doc | 1. When these attributes are updated in the Custom Instrument, the same gets updated in the hidden attributes for Product Document also. Mapped attributes from Custom Instrument to Product Document  * Customer Reference🡪Doc Customer Reference * Custom Instrument Name🡪 Doc Product Code * Product Model Revision 🡪 Doc Product Model Revision * Product Name🡪 Doc Product Name * Product Type 🡪 Doc Product Type * Reference🡪 Doc Reference * Serial Number🡪 Doc Serial Number  1. These attributes mapped to Document are hidden because they are not required to be shown in the UI in the Magic application 2. These attributes will be used by the Document Properties of the Document which is uploaded to Product Document. Whenever the properties for the document are updated, the Doc properties will be populated | 1. Standard Class Attributes in Custom Instrument      1. Product Document added in Custom Instrument      1. Hidden Doc Attributes      1. Update Document Properties |

### Updation of Hidden Attributes for Product Documentation

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| --- | --- | --- | --- |
| Updation of Hidden Attributes for Product Documentation | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open a Custom Instrument / Product Configuration 2. Add Class “Standard CBS” to Product Configuration if you are using Product Configuration 3. Go to Product Document tab 4. Create/Connect New Product Document by using the Toolbar Action commands such as Create/Connect Product Document or Create/Connect Product Design Document | 1. When a new Product Document is created and connected then it will fetch all the below attributes from the corresponding Product Configuration or Custom Instrument to which this new Document is being added and will be stored to the Product Doc attributes  * Customer Reference🡪Doc Customer Reference * Custom Instrument Name🡪 Doc Product Code * Product Model Revision 🡪 Doc Product Model Revision * Product Name🡪 Doc Product Name * Product Type 🡪 Doc Product Type * Reference🡪 Doc Reference * Serial Number🡪 Doc Serial Number | 1. Product Document Create Connect from PC      1. Product Document Create Connect from Custom Instrument      1. Hidden Doc Attributes |
|  | 1. Open a Custom Instrument / Product Configuration 2. Add Class “Standard CBS” to Product Configuration if you are using Product Configuration 3. Go to Product Document tab 4. Add existing Product Document | 1. When an existing Product Document is connected then it will check for all the connections it has with Custom Instrument and Product Configurations with relationship Product Documentation 2. Then it will check for all attribute values in Product Configuration and Custom Instrument as below and will combine all the values and will map to the Document attribute value  * Customer Reference🡪Doc Customer Reference * Custom Instrument Name🡪 Doc Product Code * Product Model Revision 🡪 Doc Product Model Revision * Product Name🡪 Doc * Reference🡪 Doc Reference * Serial Number🡪 Doc Serial Number | 1. Product Document Create Connect from PC      1. Product Document Add Existing      1. Hidden Doc Attributes |

## Spare Part

### Related Product

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| Related Product | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument 2. Go to EBOM🡪 EBOM tab. 3. Select Spare Part View | 1. There exist 3 filters for Spare Part View  * Spare Part- Shows all the EBOM Parts * All Components- Shows all the EBOM Parts * On EQL- Shows all BOM List Parts with attribute On BOM set as Yes  1. Spare Part Table shows the Spare Part connected to the Part and the corresponding Spare Part attributes such as “Rec. for SP” and “Rec. for PM”. User can open the Spare part link to see the further details of that Spare Part 2. Spare Parts are connected to the Part with relation “Related Part” 3. There are BOM List attributes such as Tag Number and Part Of also shown in this Spare Part Table | 1. Spare Part View      1. Filters available      1. Table showing Spare Part Details      1. Spare Parts in the Table |
|  | 1. Open Custom Instrument 2. Go to Related Product🡪 Related Product tab. | 1. This view will show all the Spare Parts connected with the Part with relationship “Related Product” | 1. Related Products |

## Manufacturing Documentation for Custom Instrument

### Manufacturing Documentation for Custom Instrument

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| Manufacturing Documentation for Custom Instrument | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument, Navigate to Documentation tab 2. Go to Manufacturing Documents tab. | 1. This tab will show all the Documents connected with the Part with relationship “Manufacturing Specification” 2. If the type of Manufacturing Specification is among the below types, those will be again expanded with relationship “Reference Document”  * Production Method and Batch Protocol * Manufacturing Instruction * Batch Protocol  1. If the “Reference Document” is of type among the below, then only it will be shown for above 3 Manufacturing Specification  * Standard Operation Method * Variable Recipe | 1. Manufacturing Documentation      1. Manufacturing Documentation having expanded Document |

## Show Product Documentation Portal

### Show Product Documentation Portal

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| --- | --- | --- | --- |
| Show Product Documentation Portal | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open the below url to Navigate to Product Information Portal   <https://magic.health.ge.com/3dspace/tvc-action/showProductDocumentation>   1. User will only be able to access if he logs in with his SSO credentials 2. User with Limited Access role will also be able to login. 3. After login, Location Selection page will be shown where user need to select location to get into the shown portal | 1. From this portal, user will be able to search for below 3 2. 1st text box- User can enter the name of the End Product. The result will show the Product Documents for the entered Part  * It will search the End Product which is latest and in state Release, Obsolete or Maintenance with the name entered by user * If above do not return anything, then it will look for End Product types “Main instrument or Custom Instrument” which are latest and in state among Release, Obsolete or Maintenance and which has attribute “Serial Number” set as the value entered by user * If above also do not return anything, then it will look for type “Product Configuration” with attribute “Serial Number” set as value in text box * If above also do not return anything, then it will look for type “Product Configuration” having name as the value entered in the textbox * If still there is not result, then it will give alert message saying “No product exist”  1. 2nd text box-User can enter the name of the latest End Product in state Release, Obsolete or Maintenance  * The result will show the Supporting Documents of the Part entered in the text box  1. 3rd text box-User can enter the name of the Document  * This will allow user to search for latest Release Documentation and user can then see the files and download files from the new tab | 1. Show Product Documentation      1. End Product , Product DOcument Search from 1st text Search      1. Document Search from 2nd text search      1. Supporting Document Search from 3rd text search |

## DataSheet View for Part

### DataSheet View

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| DataSheet View | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument 2. Go to EBOM🡪 EBOM tab. 3. Select DataSheet View | 1. This view will show all the Parts connected with EBOM which has Reference Document of type DataSheet connected to it, so that user can see in the full structure where all the DataSheet is present´ 2. The EBOM Part which do not have Data Sheet connected in the lowest level will not be shown in this view, but if Data Sheet is there in any level below it, then it will be considered to be shown | 1. DatsSheet view in EBOM |

## General Specification

### Copy/Update Attributes

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| Copy/Update Attributes | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open existing General specification Document in Preliminary State 2. Navigate to Details tab 3. Click on command “Copy/Update Attributes” | 1. This command will   Copy Update attributes for general Specification   * If Doc connected to Part or Product Configuration with relationship “Product Documentation” or “Product Configuration To ProductDocumentation”, then read values from Highest revision of Part or Product Configuration. * If doc not connected to Part or Product Conf, read previous Doc Revision and if that is connected to Part or PC read values from latest revision of that  1. Find out the Part or Product Configuration and fetch the class connected to that Part or PC with relationship “Classified Item”.  * This General Specification will also be connected to this Class and it will also have the values of the Class attributes set same as which is set in Part or Product Configuration | 1. Copy/Update Attributes |

## Build Bom List from File

### Build BOM List from File

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| Build BOM List from File | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Select Actions button from top toolbar 2. Click on command Engineering 🡪 Build BOM List from File 3. It will open a popup where user can select an excel file for Building Bom List relationships. 4. Template attached can be used for building Bom List from file | 1. This command is used to Create BOM List Relationship using File. User can create BOM List using "xls, CSV or txt" file). 2. The RootBOMListObject will be connected to the ChildEBOMListObject with relationship BOM List 3. Columns which need to be defined in file are: RootBomListObjectName;RootBomListObjectRev;ChildEBOMListObjectName;ChildEBOMListObjectRev;Quantity;Find Number;Part Reference;Remark;Wetted Part;Pressure Retaining Part;Traceability Class;ChildBOMListObjectName;ChildBOMListObjectRev;BOMListRemark;LongLeadItem;OnBOM;TAGNumber;part of;BOMComment 4. All the corresponding BOMList attributes will also be set For attribute EBOMOnBOMList there is a specific handling that that we check for EBOM Relationship among the from and to part ids and create HashMap of toFromId and StackOfRelIds And as soon as BOMList relationship among those 2 parts is created, then the item gets popped from the Stack. | 1. Build BOM List from File command      1. Popup of command      1. Sample template |

## Compliance Status

### Evidence Concept

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| Evidence Concept | |
| **1** | For Compliance Status to show Part as Compliant, it should satisfy the Requirement having Confomity Report Document connected and should be in Release State. If any of the Requirement which need to be considered for Compliant Calculation is either not having any Confomity Report connected or if any Confomity Report is not in Release state, then it means that the Part is not Compliant |

### Requirement Status

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| Requirement Status | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument. 2. Go to Compliance 🡪 Requirement Status tab. 3. Select Compliance Status View | 1. This tab “Requirement Status” will show all the list of Requirements which are connected to the Part. User can add or remove requirements from Part Details tab by editing the Part 2. Here user also have option to  * Create/connect– For Creating and Connecting Conformity Report to the selected Requirement * Add Existing – For adding existing Conformity Report to selected Requirement * Connect Material Statement – Add the Material Statement Requirement * Disconnect Conformity Report- Disconnect the Conformity Report * Disconnect Material Statement – Disconnect Material Statement  1. Valid Certificate column will be evaluated according to the Compliance  * If Requirement has “Compliant Calculation” attribute set as Yes then only it will be considered for Compliance calculation, otherwise it will say N/A * If there is a Conformity Report connected to the relationship between Part and Requirement “Uses Hierarchy” and all Conformity Report Document are in Release state, then that Requirement is Compliant for that Part and will show green star in Valid Certificate column * If any of the Conformity Report Document is in Preliminary state, then Valid Certificate will show Yellow Star in Valid Certificate Column and it means the Part is not Compliant * If any Conformity Report Document is not connected to the Requirement, then Valid Certificate will show Red star and it means the Part is not Compliant | 1. Requirement Status      1. Actions from Requirement Status tab      1. Calculation of Compliance based on Attribute on Requirement |

### From EBOM Compliance Status View

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| --- | --- | --- | --- |
| From EBOM Compliance Status View | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument. 2. Go to EBOM🡪 EBOM tab. 3. Select Compliance Status View 4. Select table Compliance Status | 1. This view will show the Compliance Status of the Full EBOM Structure which is present in the EBOM 2. If the Child Part in EBOM is not Compliant then Parent Part will also not be Compliant. 3. If child Parts are Compliant, then it will check for current Part whether it is compliant and if both children and current Part are Compliant, then the current Part is also Compliant 4. The Compliance Status will be calculated using bottom up approach 5. If Compliant, it will show Green tick 6. If non-Compliant, it will show red cross | 1. Compliance Status |

### Conformity Report

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| --- | --- | --- | --- |
| Conformity Report | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument 2. Go to EBOM🡪 EBOM tab. 3. Select Compliance Status View 4. Select table Conformity Report | 1. This Table will show the Compliance Status along with all the other things such as Requirement Objects, Conformity Report Documents Data corresponding to each Requirement and Valid Certificate which shows the calculation of compliance using each Requirement | 1. Conformity Report |

### Product Based

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| --- | --- | --- | --- |
| Product Based | | | |
| **#** | **Steps** | **Background Operations** | **Comments** |
| **1** | 1. Open Custom Instrument 2. Go to EBOM🡪 EBOM tab. 3. Select Compliance Status View 4. Select table Product Based | 1. This Table will show the Compliance Status based on the Top Level Product. 2. If the Top Level Product is having a Requirement connected to it, then all the lower level Parts connected in the EBOM Structure, will check for only Compliance of the Top Level Part in that particular Part. 3. All the Parts in lower level should have at least the Requirement which is connected to the Top Level Part and should have all Evidence in Release State to be Compliant | 1. Compliance Status Product Based |