

PUBLIC

Deep dive into SAP Business Technology Platform Workflow Management – Model Investment Approval Workflow DEV-264

Exercises / Solutions
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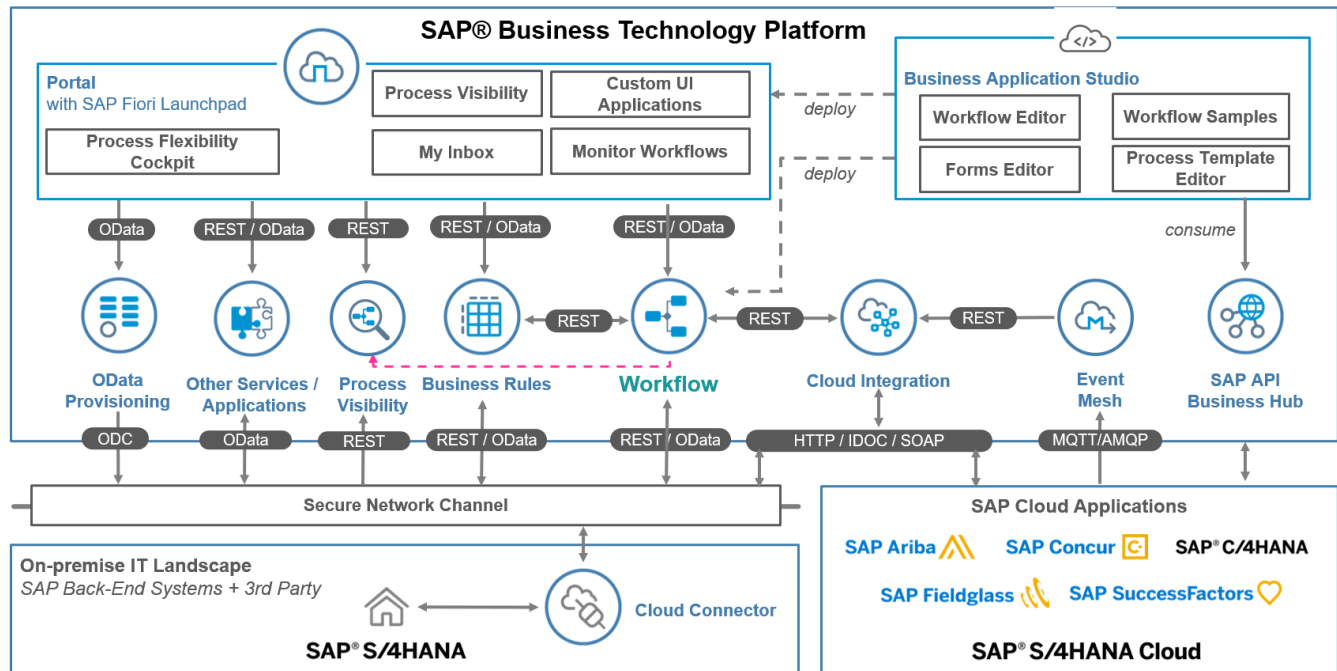
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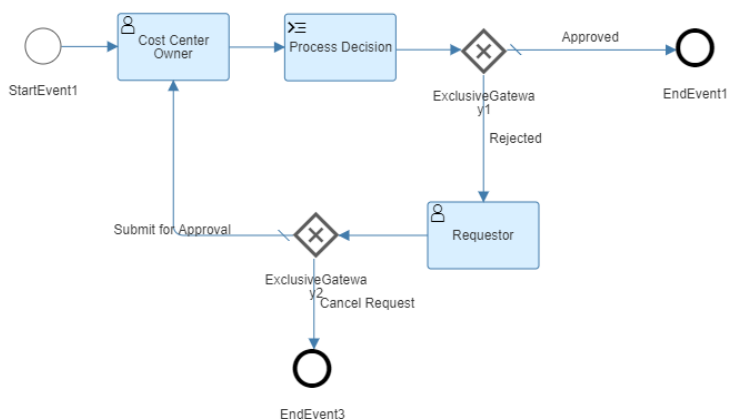
SUMMARY33

SAP Business Technology Platform Workflow Management has Workflow capability, enable developers to model workflow based on BPMN 2.0 using SAP Business Technology Platform Business Application Studio and deploy to Business Technology Platform accounts. A workflow consists of different activities, events and gateways. It provides fine granular REST/oData APIs to integrate with different line of business applications.



SCENARIO

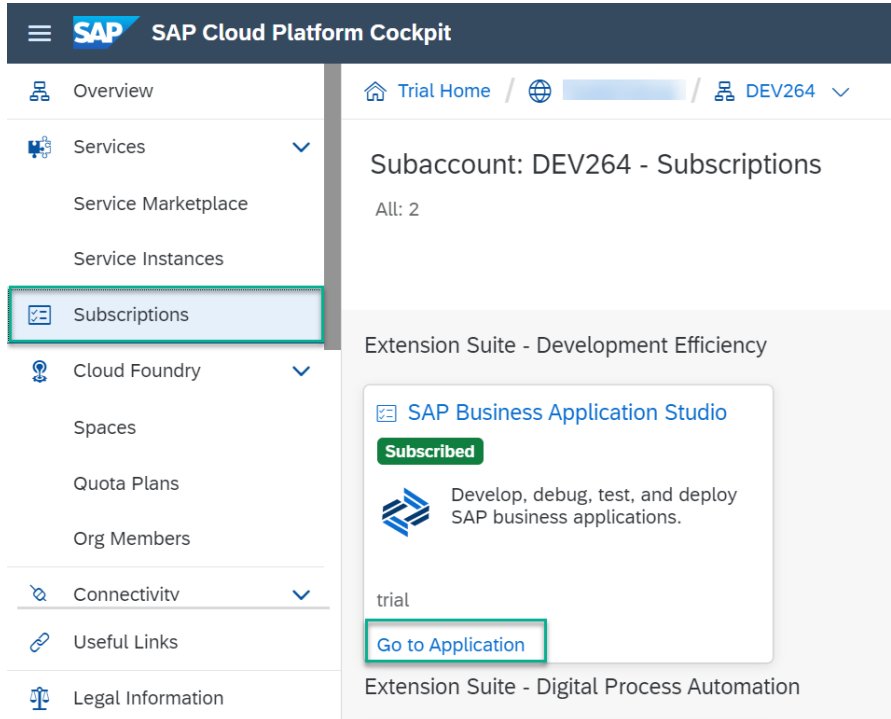
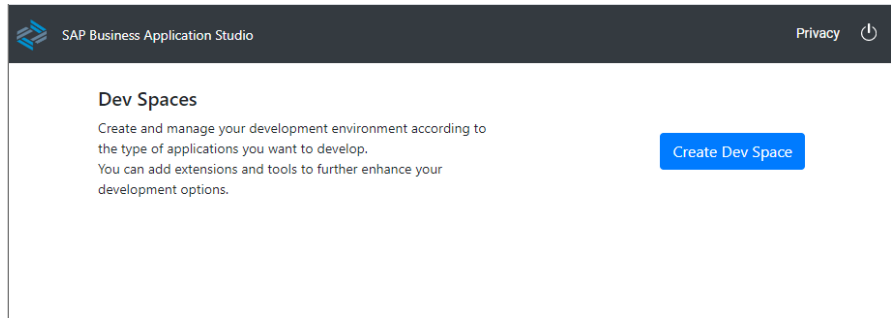
The scenario is an Investment Approval Workflow. A requestor creates a request for approval and Approver can decide Approve or Reject. A rejection enables the requestor to modify the request and submit or cancel the request.

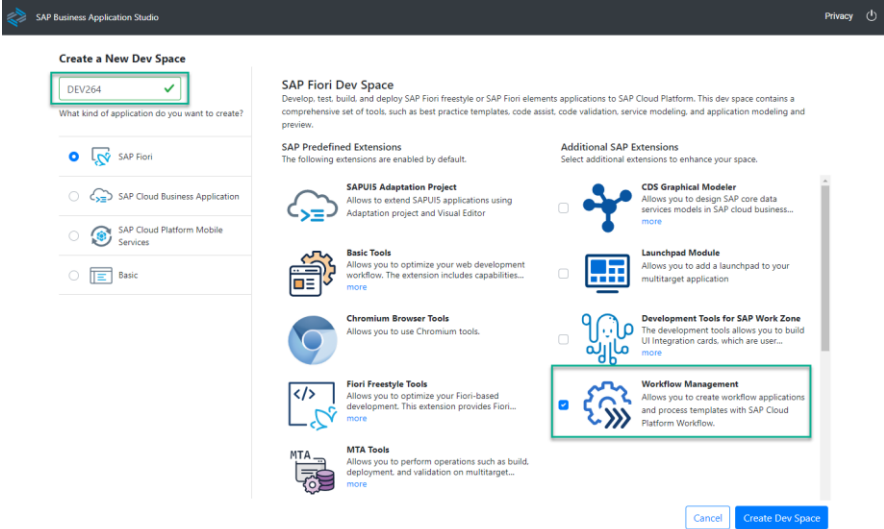
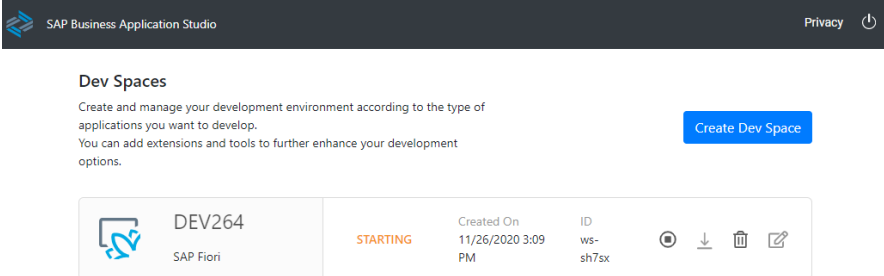
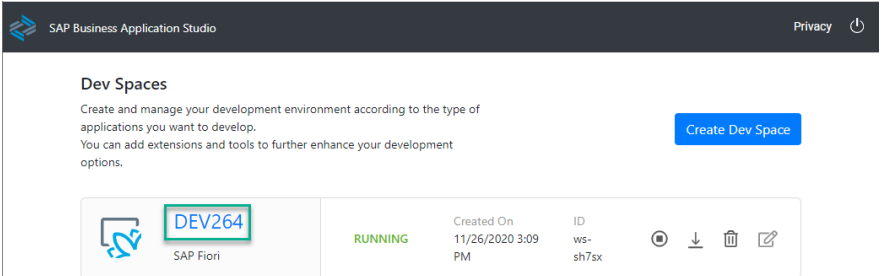


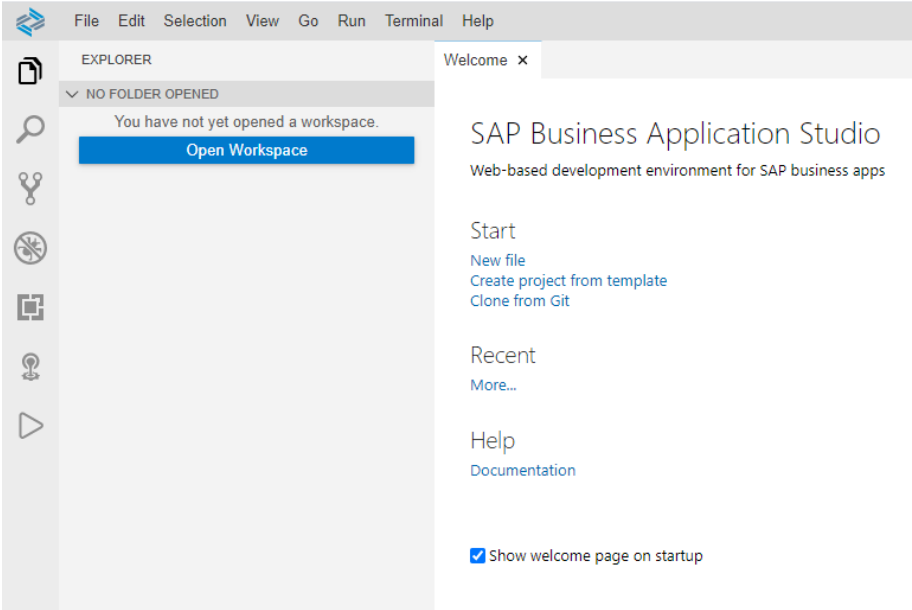
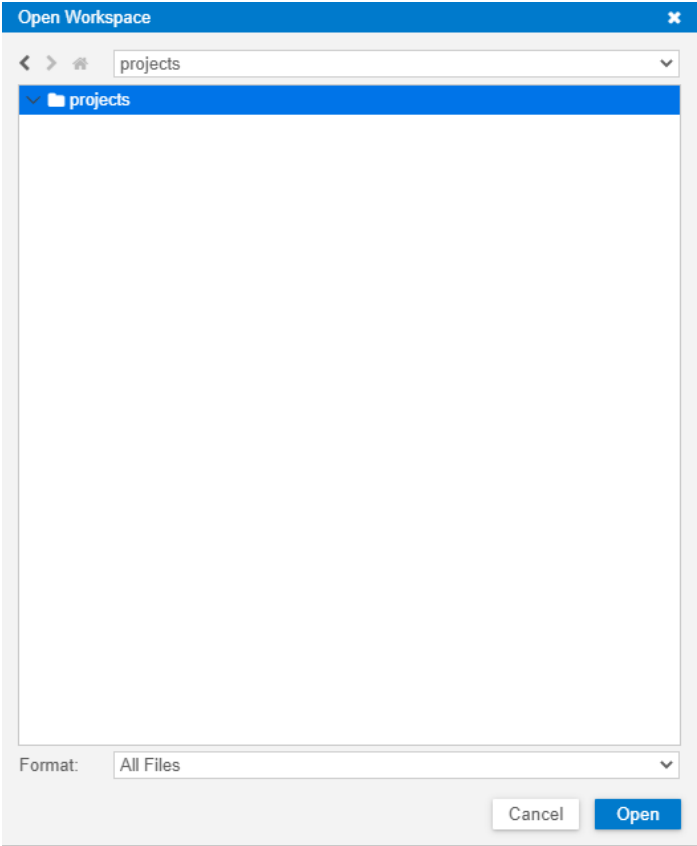
Prerequisite

Please setup your SAP Business Technology Platform Trial account using [setup guide](#).

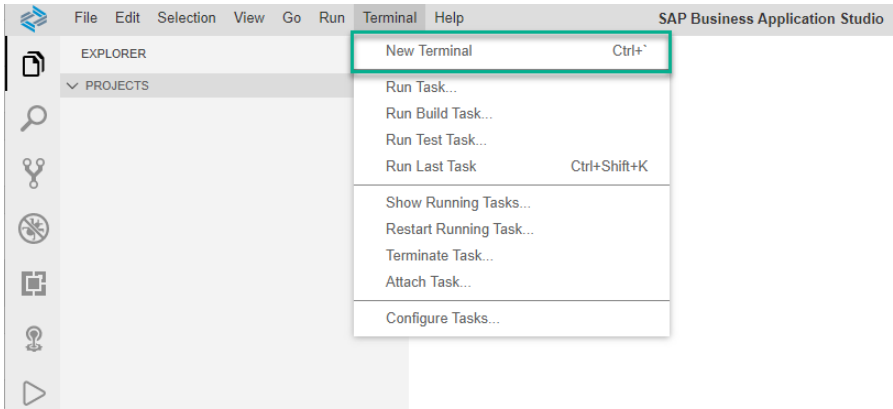
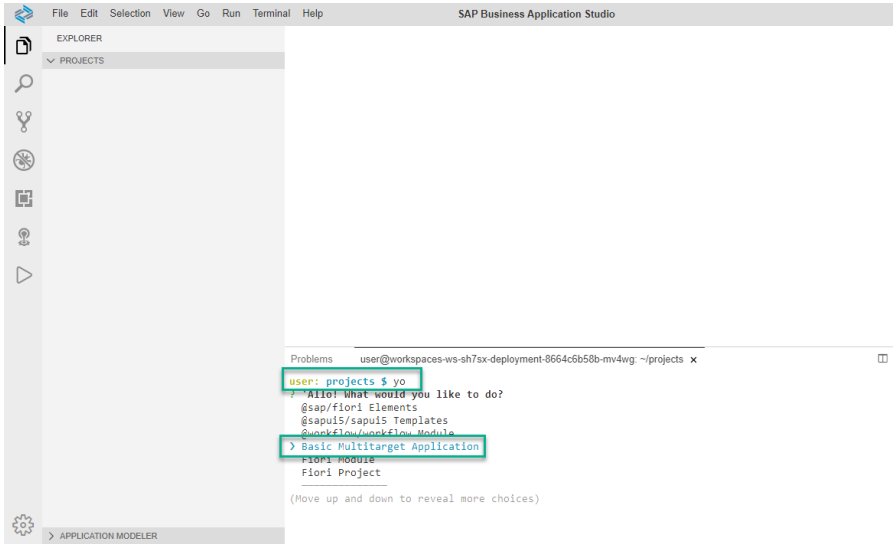

MODEL WORKFLOW – INVESTMENT APPROVAL WORKFLOW


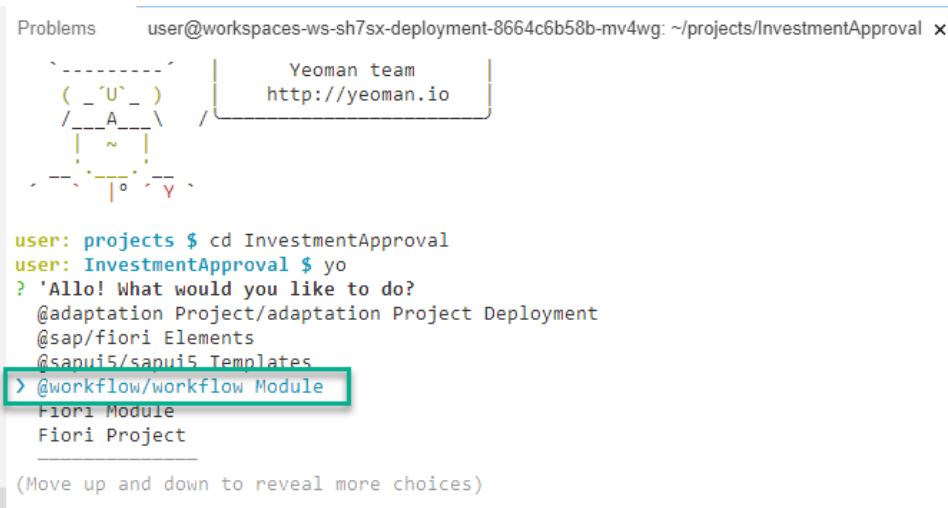
Explanation	Screenshot
<ol style="list-style-type: none"> 1. Select Subscriptions in your Sub Account and you see the subscribed applications. 2. Select SAP Business Application Studio and click Go to Application. <p>SAP Business Technology Platform Business Application Studio will be opened in new browser window.</p> <p>Skip steps 3 to 7 If you have already created a dev space with Workflow Management extension.</p>	
<p>Create Workspace</p> <ol style="list-style-type: none"> 3. Click Create Dev Space button. 	


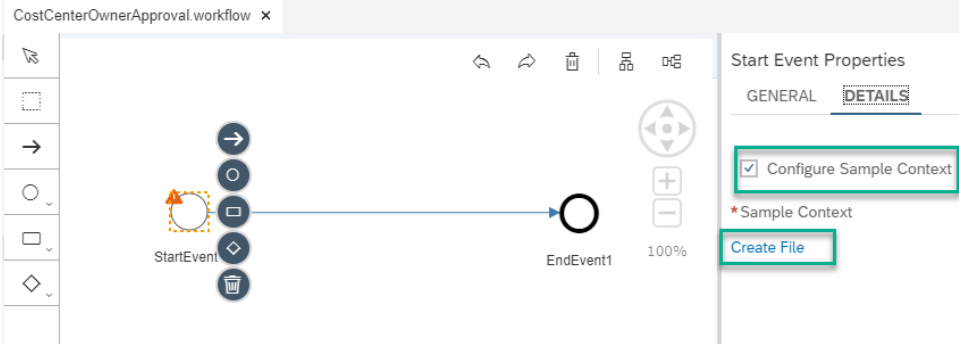
Explanation	Screenshot
<ol style="list-style-type: none"> Enter Dev Space Select Workflow Management from Additional SAP Extensions. Click Create Dev Space 	 <p>The screenshot shows the 'Create a New Dev Space' dialog in SAP Business Application Studio. The 'DEV264' text box is highlighted with a green border. The 'Workflow Management' extension under 'Additional SAP Extensions' is also highlighted with a green border. The 'Create Dev Space' button is visible at the bottom right.</p>
<ol style="list-style-type: none"> Setting up the Dev Space will take couple of minutes and show the status as STARTING. Wait until the status changing to RUNNING. 	 <p>The screenshot shows the 'Dev Spaces' page in SAP Business Application Studio. The 'DEV264' Dev Space is shown with a status of 'STARTING'.</p>
<ol style="list-style-type: none"> Click your Dev Space. 	 <p>The screenshot shows the 'Dev Spaces' page in SAP Business Application Studio. The 'DEV264' Dev Space is shown with a status of 'RUNNING'.</p>

Explanation	Screenshot
9. Click Open Workspace .	 The screenshot shows the SAP Business Application Studio interface. The Explorer sidebar on the left has a blue button labeled 'Open Workspace'. The main area displays the 'Welcome' page with options like 'New file', 'Create project from template', and 'Clone from Git'. The 'Show welcome page on startup' checkbox is checked.
10. Select Projects and click Open button.	 The screenshot shows the 'Open Workspace' dialog box. The 'projects' folder is selected in the file list. The 'Format' dropdown is set to 'All Files'. The 'Open' button is highlighted in blue.

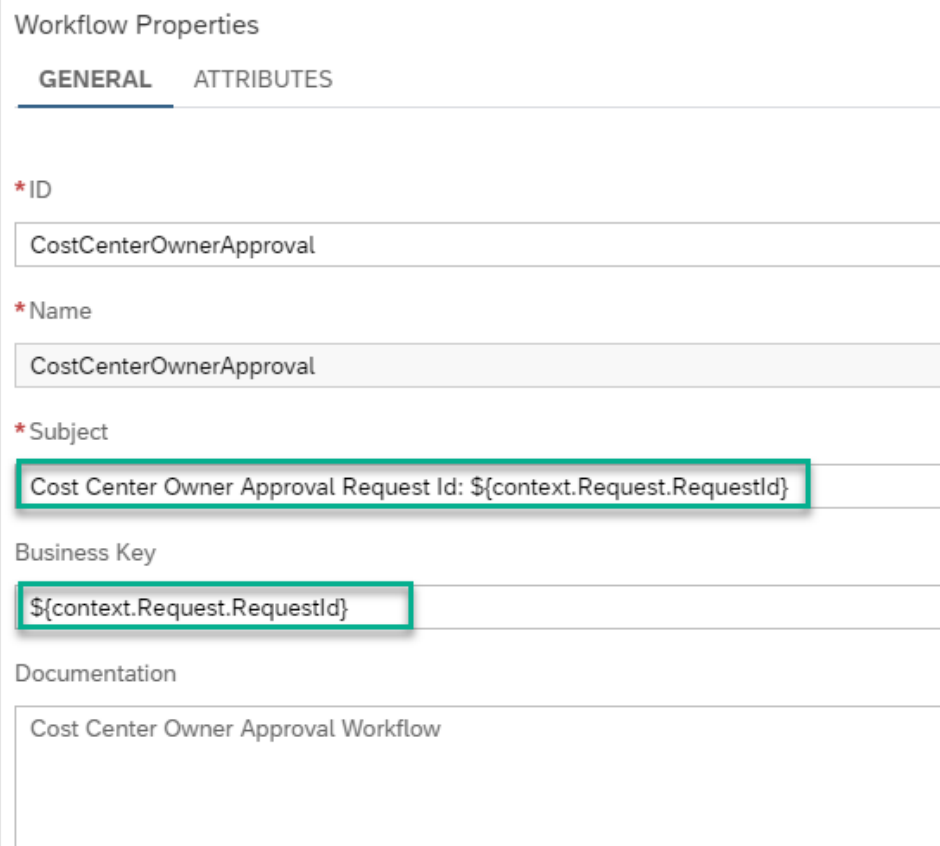
Explanation	Screenshot
<p>Configure Cloud Foundry End Point</p> <p>11. Click the message in the bottom to configure the endpoint for deployment.</p>	
<p>12. Select the Cloud Foundry Endpoint.</p> <p>The URL might vary depends on which data center you are using.</p> <p>Europe -eu10</p> <p>US – us10</p> <p>Singapore – ap21</p>	
<p>12. Enter your e-mail address used as your user in in Business Technology Platform.</p> <p>13. Subsequently enter your password, Business Technology Platform Trial Sub Account and Cloud Foundry Space.</p>	

Explanation	Screenshot
<p>Create Multi Target Application Project</p> <p>14. Select Terminal → New Terminal</p>	 <p>The screenshot shows the SAP Business Application Studio interface. The 'Terminal' menu is open, and 'New Terminal' is highlighted with a red box. Other options in the menu include 'Run Task...', 'Run Build Task...', 'Run Test Task...', 'Run Last Task', 'Show Running Tasks...', 'Restart Running Task...', 'Terminate Task...', 'Attach Task...', and 'Configure Tasks...'.</p>
<p>15. In the Terminal make sure you are in the projects directory.</p> <p>16. Type yo and press enter key.</p> <p>17. Select project type as Basic Multitarget Application by using up/down arrow key.</p>	 <p>The screenshot shows the SAP Business Application Studio interface with the terminal open. The terminal output shows the command 'yo' being executed, and the prompt 'user: projects \$ yo' is highlighted with a red box. The output lists several project types, with 'Basic Multitarget Application' highlighted by a red box.</p>
<p>18. Enter the project name for eg: InvestmentApproval.</p>	 <p>The screenshot shows the SAP Business Application Studio interface with the terminal open. The terminal output shows the command 'yo' being executed, and the prompt 'user: projects \$ yo' is highlighted with a red box. The output lists several project types, with 'Basic Multitarget Application' highlighted by a red box. Below the list, the text 'Make sure you are in the directory you want to scaffold into. This generator can also be run with: yo basic-multitarget-application' is displayed. The prompt 'Enter a project name' is highlighted with a red box, and the project name 'InvestmentApproval' is entered.</p>

Explanation	Screenshot
<p>19. Use cd InvestmentApproval to move the new project directory.</p> <p>20. Type yo again in the newly created project directory.</p>	 <p>The screenshot shows a terminal window with the following content:</p> <pre>Problems user@workspaces-ws-sh7sx-deployment-8664c6b58b-mv4wg: ~/projects/InvestmentApproval x</pre> <p>? Enter a project name InvestmentApproval The project will be generated in the /home/user/projects/InvestmentApproval directory. create InvestmentApproval/.gitignore The project has been generated.</p> <p>Bye from us! Chat soon. Yeoman team http://yeoman.io</p> <pre>user: projects \$ cd InvestmentApproval user: InvestmentApproval \$ yo</pre>
<p>21. Select @workflow/workflow Module from the list using up/down arrow keys.</p>	 <p>The screenshot shows a terminal window with the following content:</p> <pre>Problems user@workspaces-ws-sh7sx-deployment-8664c6b58b-mv4wg: ~/projects/InvestmentApproval x</pre> <p>Yeoman team http://yeoman.io</p> <pre>user: projects \$ cd InvestmentApproval user: InvestmentApproval \$ yo ? 'Allo! What would you like to do? @adaptation Project/adaptation Project Deployment @sap/fiori Elements @sapui5/sapui5 Templates > @workflow/workflow Module Fiori Module Fiori Project (Move up and down to reveal more choices)</pre>

Explanation	Screenshot
<p>22. Enter the following</p> <p>Module Name: InvestmentApprovalWorkflow</p> <p>Workflow Name: CostCenterOwnerApproval</p> <p>Workflow Description: Cost Center Owner Approval Workflow</p> <p>Overwrite mta.yaml: y</p>	 <pre> Problems user@workspaces-ws-sh7sx-deployment-8664c6b58b-mv4wg: ~/projects/InvestmentApproval x user: projects \$ cd InvestmentApproval user: InvestmentApproval \$ yo ? 'Allo! What would you like to do? @workflow/workflow Module Make sure you are in the directory you want to scaffold into. This generator can also be run with: yo @workflow/workflow-module ? Module Name InvestmentApprovalWorkflow ? Workflow Name CostCenterOwnerApproval ? Workflow Description Cost Center Owner Approval Workflow conflict mta.yaml ? Overwrite mta.yaml? (ynaxdH) y >> overwrite </pre>
<p>Configure Sample Context</p> <p>23. The new workflow is opened in the workflow editor.</p> <p>24. Select the Start event and Select DETAILS section of Start Event properties.</p> <p>25. Check Configure Sample Context.</p> <p>26. Click link Create File.</p>	
<p>27. Enter Name as Sample Investment</p> <p>A new file is opened a default sample context.</p>	

Explanation	Screenshot
<p>28. Copy and paste the content from the file Sample Investment.json shared in the Git repository.</p> <p>Please replace FirstName, LastName, Email, UserId with your details. User Id is your Business Technology Platform trial user id.</p> <p>The context has three Elements.</p> <p>Request: Requestor info including Request Id</p> <p>Investment: Details about the investment</p> <p>Approver: Cost Center Approver details.</p>	<pre> 1 { 2 "Request": { 3 "RequestId": "REQ01", 4 "FirstName": "Venugopal", 5 "LastName": "Chembrakalathil", 6 "Email": " ", 7 "UserId": " ", 8 "Comments": "Please approve the request" 9 }, 10 "Investment": { 11 "Description": "New Building", 12 "Type": "Building", 13 "BusinessUnit": "Manufacturing", 14 "Country": "Germany", 15 "CAPEX": 1000000, 16 "OPEX": 10000, 17 "TotalCost": 1010000, 18 "Currency": "EURO" 19 }, 20 "Approver": { 21 "FirstName": "", 22 "LastName": "", 23 "Email": "", 24 "UserId": "", 25 "Decision": "", 26 "Comment": "" 27 }, 28 "Comments": [29 30] 31 } 32 </pre>

Explanation	Screenshot
<p>29. Select the GENERAL Tab from Workflow Properties.</p> <p>30. Enter the following</p> <p>Subject: Cost Center Owner Approval Request Id: <code>\${context.Request.RequestId}</code></p> <p>Business Key: <code>\${context.Request.RequestId}</code></p>	 <p>The screenshot shows the 'Workflow Properties' dialog box with the 'GENERAL' tab selected. The 'ID' field is 'CostCenterOwnerApproval'. The 'Name' field is 'CostCenterOwnerApproval'. The 'Subject' field is 'Cost Center Owner Approval Request Id: \${context.Request.RequestId}'. The 'Business Key' field is '\${context.Request.RequestId}'. The 'Documentation' field is 'Cost Center Owner Approval Workflow'.</p>

Explanation

31. Select **ATTRIBUTES** and add the following Attributes.

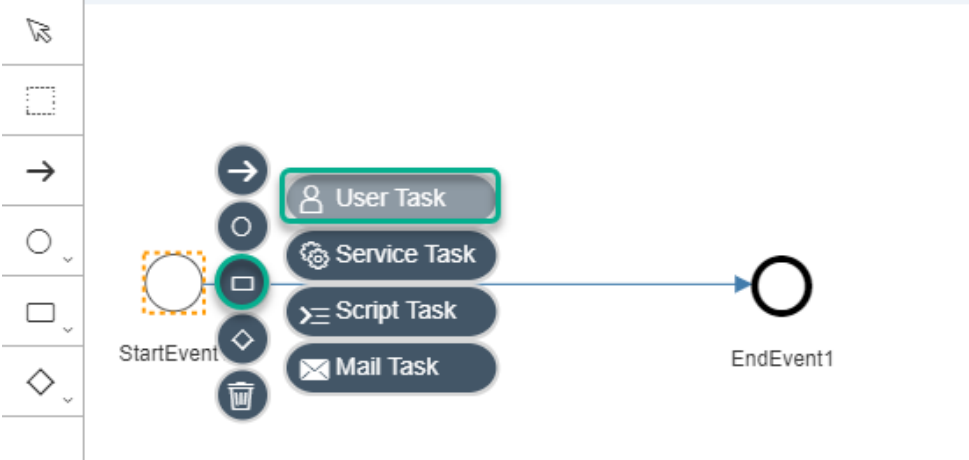
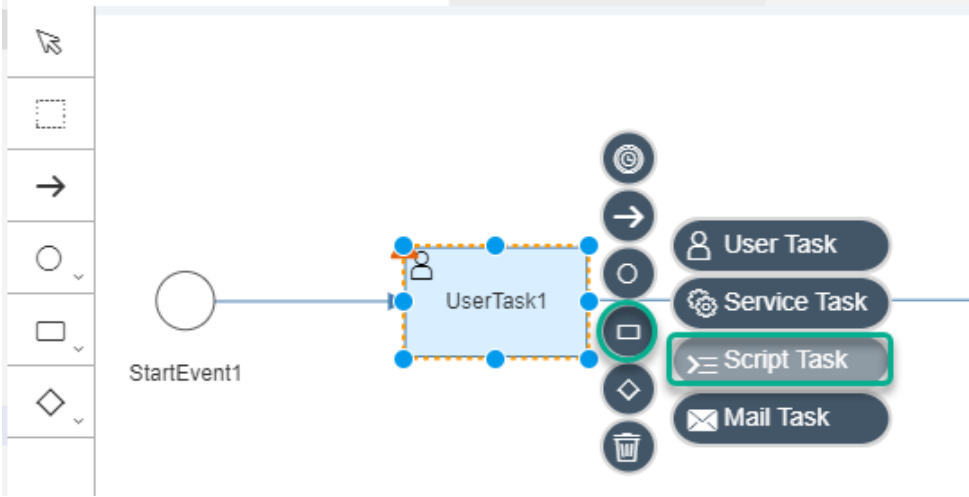
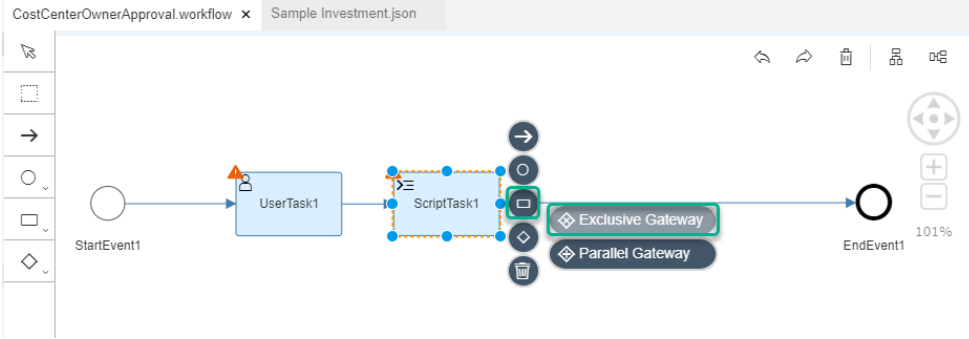
Please copy the Context Path of each of this attribute from the attached [Workflow Context Attributes](#) JSON file.

32. Click **Add** button to add an attribute.

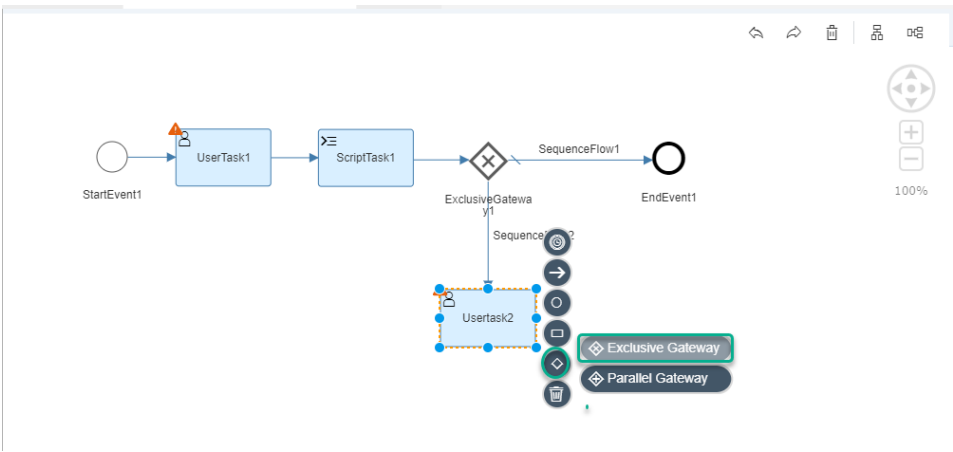
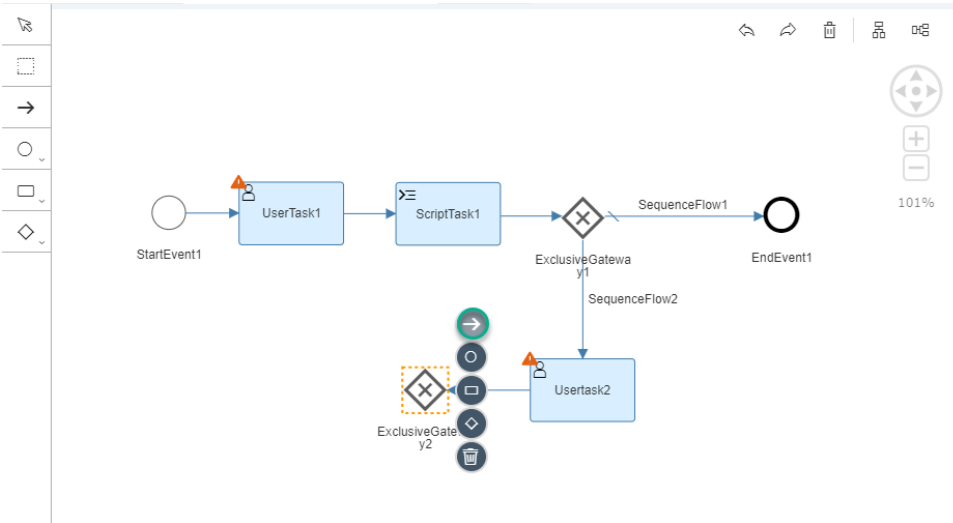
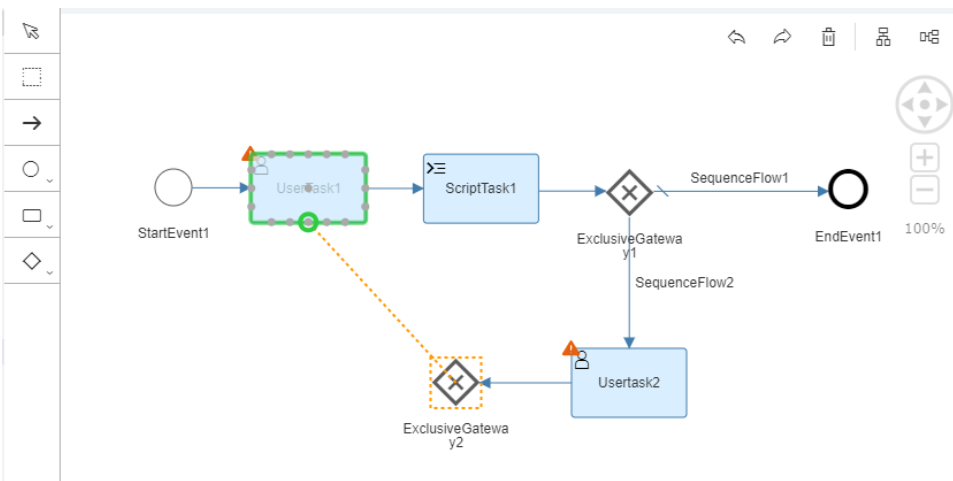
Screenshot

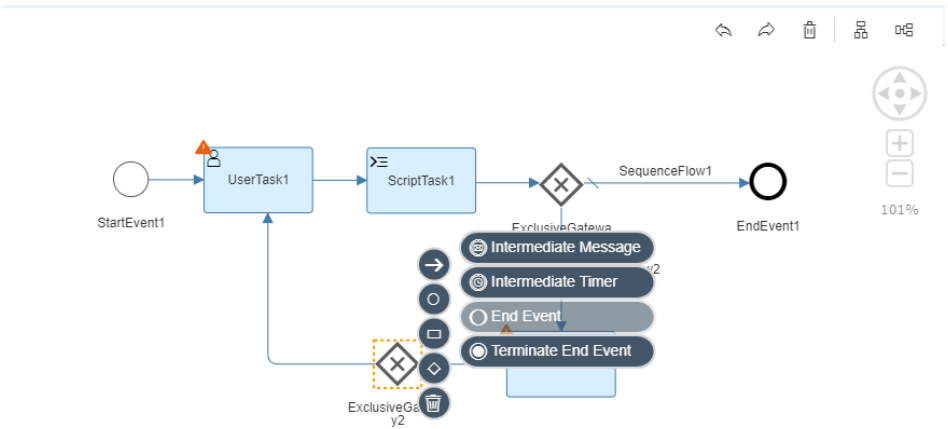
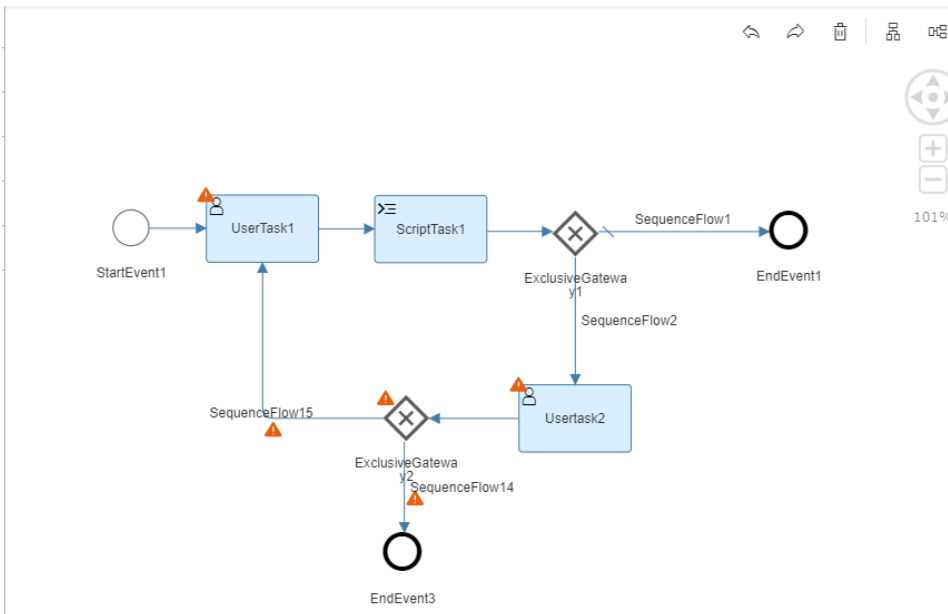
The screenshot shows the 'Workflow Properties' dialog with the 'ATTRIBUTES' tab selected. The 'Add' button is highlighted with a red box. Below the button is a table of attributes. The table has four columns: ID, Label, Type, and Value. There are 15 rows of attributes, all of type 'String'. The 'Value' column contains context paths like '\${context.Approv...}', '\${context.Decision}', and '\${context.Reques...}'.

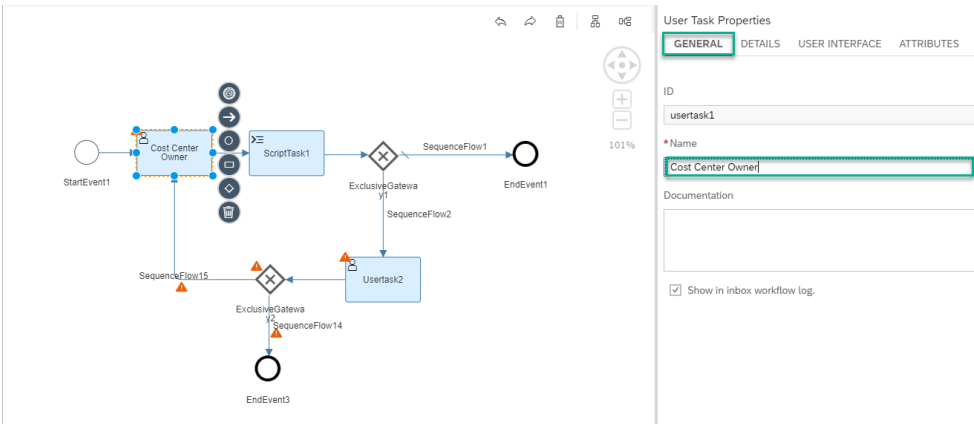
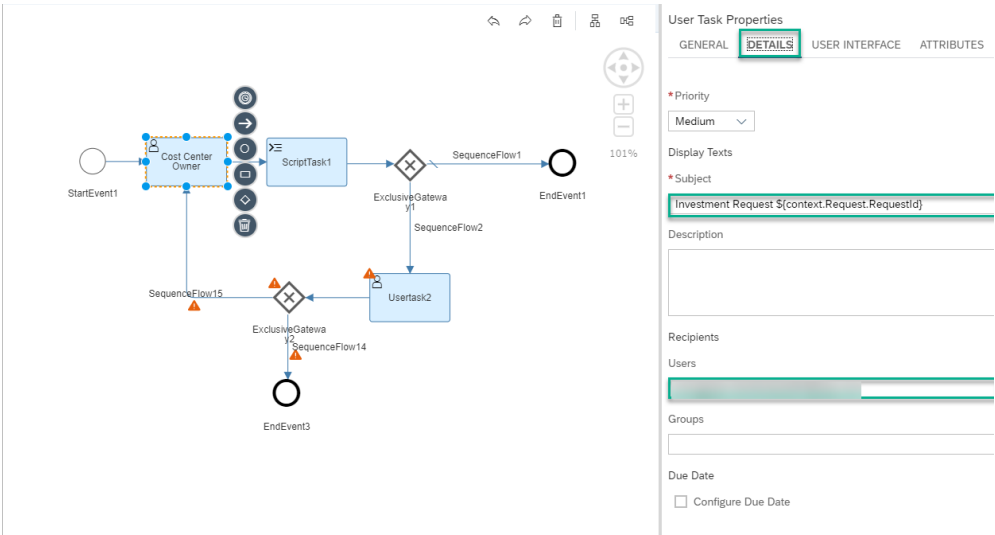
ID	Label	Type	Value
<input type="checkbox"/> ApproverEmail	Approver Email	String	\${context.Approv...}
<input type="checkbox"/> Decision	Decision	String	\${context.Decision}
<input type="checkbox"/> Approver	Approver	String	\${context.Approv...}
<input type="checkbox"/> Currency	Currency	String	\${context.Investm...}
<input type="checkbox"/> TotalCost	Total Cost	String	\${context.Investm...}
<input type="checkbox"/> OPEX	OPEX	String	\${context.Investm...}
<input type="checkbox"/> CAPEX	CAPEX	String	\${context.Investm...}
<input type="checkbox"/> Country	Country	String	\${context.Investm...}
<input type="checkbox"/> InvestmentType	Investment Type	String	\${context.Investm...}
<input type="checkbox"/> BusinessUnit	Business Unit	String	\${context.Investm...}
<input type="checkbox"/> LastName	Last Name	String	\${context.Reques...}
<input type="checkbox"/> FirstName	First Name	String	\${context.Reques...}
<input type="checkbox"/> RequesterId	Requester ID	String	\${context.Reques...}
<input type="checkbox"/> RequestId	Request ID	String	\${context.Reques...}

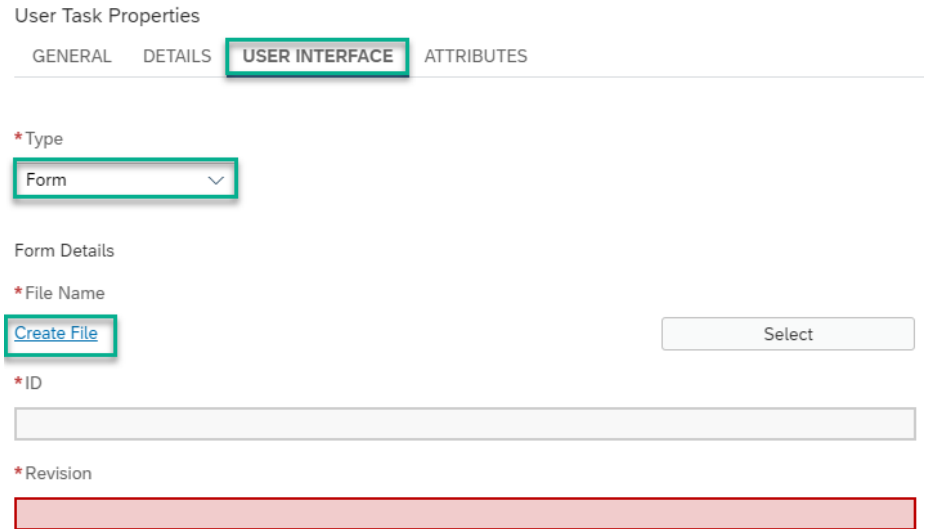
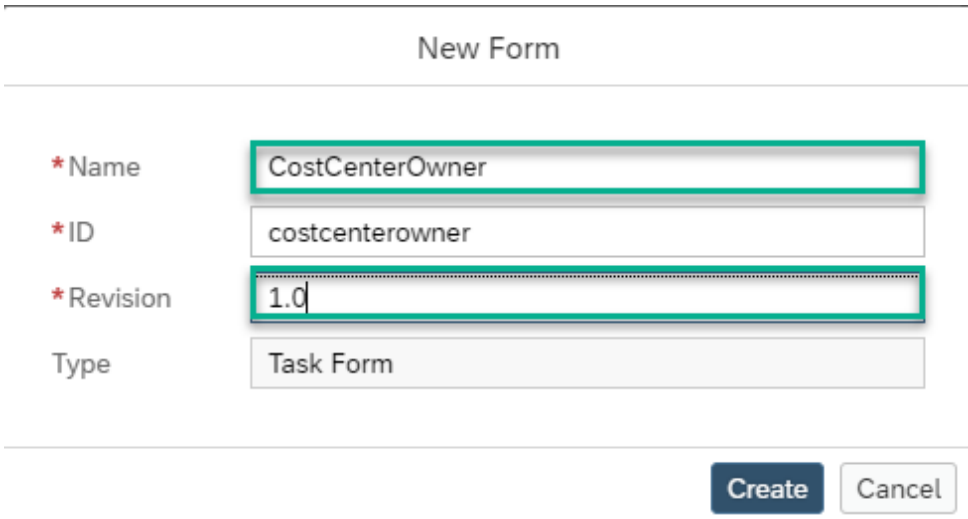
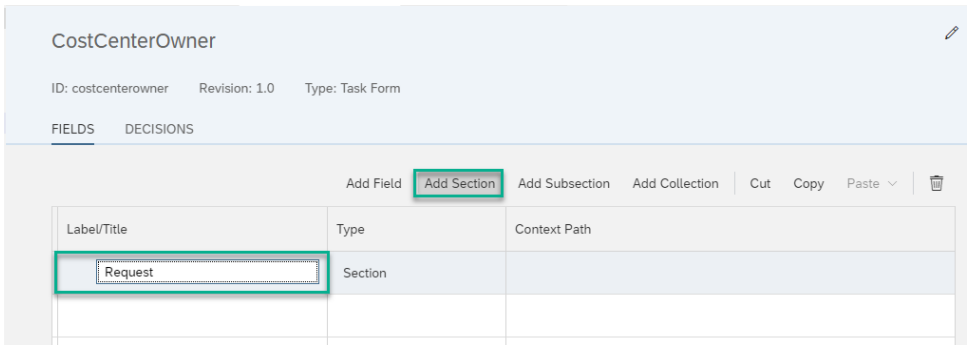
Explanation	Screenshot
<div>33. Before start modeling, please drag and drop the EndEvent1 towards the right side of the editor to keep some space between Start and End Event.</div> <div>34. Select the StartEvent, use the speed button and select User Task.</div> <div>A user task is added to the workflow model.</div>	
<div>35. Select the newly Added User Task.</div> <div>36. Using the speed button add a Script Task.</div>	
<div>37. Select the newly Added Script Task.</div> <div>38. Using the speed button add an Exclusive Gateway.</div>	

Explanation	Screenshot
<div>39. Select a User Task from the palette.</div> <div>40. Drag and drop the User Task just below the Exclusive Gateway.</div>	<p>The screenshots show the BPMN editor interface. The top screenshot shows the 'User Task' selected in the palette and being dragged towards the workflow. The bottom screenshot shows the 'User Task' placed below the 'Exclusive Gateway' with a green line indicating the drag path.</p>
<div>41. Use Sequence Flow from Exclusive Gateway to the new User Task.</div>	<p>The screenshot shows the BPMN editor interface with a 'Sequence Flow' connecting the 'Exclusive Gateway' to the new 'User Task'.</p>

Explanation	Screenshot
42. Select User Task2 and choose Exclusive Gateway .	
43. Select newly added Exclusive Gateway and choose Sequence Flow from the speed button.	
44. Drag and drop to User Task1 .	

Explanation	Screenshot
45. Select Exclusive Gateway2 and choose End Event from speed button.	 <p>The screenshot shows a BPMN diagram in an editor. The diagram includes a StartEvent1, a UserTask1, a ScriptTask1, an Exclusive Gateway (labeled 'Exclusive Gateway2'), and an EndEvent1. A sequence flow labeled 'SequenceFlow1' connects the Exclusive Gateway to EndEvent1. A speed button menu is open over the Exclusive Gateway, showing options: Intermediate Message, Intermediate Timer, End Event (highlighted), and Terminate End Event. The Exclusive Gateway2 is highlighted with a dashed orange box. The editor interface includes a toolbar at the top right and a zoom level of 101%.</p>
46. The workflow model sequence modeling has completed. Do necessary formatting if required.	 <p>The screenshot shows the completed BPMN diagram. It includes a StartEvent1, a UserTask1, a ScriptTask1, an Exclusive Gateway (labeled 'Exclusive Gateway1'), a UserTask2, an Exclusive Gateway (labeled 'Exclusive Gateway2'), and an EndEvent3. Sequence flows are labeled: 'SequenceFlow1' from Exclusive Gateway1 to EndEvent1, 'SequenceFlow2' from Exclusive Gateway1 to UserTask2, 'SequenceFlow14' from Exclusive Gateway2 to EndEvent3, and 'SequenceFlow15' from UserTask2 to Exclusive Gateway2. The diagram is formatted with standard BPMN symbols and labels. The editor interface includes a toolbar at the top right and a zoom level of 101%.</p>

Explanation	Screenshot
<p>47. Select User Task1 and User Task Properties.</p> <p>48. Under GENERAL section, change the Name as Cost Center Owner.</p>	 <p>The screenshot shows a BPMN editor interface. On the left, a workflow diagram is visible with a start event (StartEvent1), a task (Cost Center Owner), a script task (ScriptTask1), an exclusive gateway (ExclusiveGateway y1), and an end event (EndEvent1). There are also other tasks and gateways (UserTask2, ExclusiveGateway y2, EndEvent3) connected by sequence flows (SequenceFlow1, SequenceFlow2, SequenceFlow14, SequenceFlow15). On the right, the 'User Task Properties' panel is open, showing the 'GENERAL' tab. The 'ID' field is 'usertask1' and the 'Name' field is 'Cost Center Owner'. The 'Show in inbox workflow log' checkbox is checked.</p>
<p>49. Select DETAILS section and set the following.</p> <p>Subject: Investment Request <code>\${context.Request.RequestId}</code></p> <p>Users: Your Business Technology Platform User Id (email id)</p>	 <p>The screenshot shows the same BPMN editor interface as the previous one. The 'User Task Properties' panel is still open, but now the 'DETAILS' tab is selected. The 'Priority' is set to 'Medium'. The 'Subject' field is 'Investment Request \${context.Request.RequestId}'. The 'Users' field is empty, and the 'Groups' field is also empty. The 'Due Date' section has a 'Configure Due Date' checkbox which is unchecked.</p>

Explanation	Screenshot						
<p>Create Workflow Forms</p> <p>50. Select USER INTERFACE section.</p> <p>51. Change the type as Form.</p> <p>52. Click the link Create File.</p> <p>A popup window is available now to enter Form details.</p>	 <p>User Task Properties</p> <p>GENERAL DETAILS USER INTERFACE ATTRIBUTES</p> <p>*Type Form</p> <p>Form Details</p> <p>* File Name Create File Select</p> <p>*ID </p> <p>* Revision </p>						
<p>53. Enter the following. Name: CostCenterOwner Revision: 1.0</p> <p>54. Click Create button.</p> <p>You can see the Forms Editor opened to model the new task UI.</p>	 <p>New Form</p> <p>* Name CostCenterOwner</p> <p>* ID costcenterowner</p> <p>* Revision 1.0</p> <p>Type Task Form</p> <p>Create Cancel</p>						
<p>55. Click Add Section. A section contains set of Fields.</p> <p>56. Update the Label / Title of the section as Request</p>	 <p>CostCenterOwner</p> <p>ID: costcenterowner Revision: 1.0 Type: Task Form</p> <p>FIELDS DECISIONS</p> <p>Add Field Add Section Add Subsection Add Collection Cut Copy Paste</p> <table><tr><th>Label/Title</th><th>Type</th><th>Context Path</th></tr><tr><td>Request</td><td>Section</td><td></td></tr></table>	Label/Title	Type	Context Path	Request	Section	
Label/Title	Type	Context Path					
Request	Section						

Explanation

57. Select Request and click **Add Field** to add the following fields.

Copy the Context Path from the attached file

CostCenterOwnerApprovalTask

Label	Type	Context Path
ID	String	\${context.Request.RequestId}
First Name	String	\${context.Request.FirstName}
Last Name	String	\${context.Request.LastName}
Comments	String	\${context.Request.Comments}

Screenshot

CostCenterOwner

ID: costcenterowner Revision: 1.0 Type: Task Form

FIELDS DECISIONS

Add Field Add Section Add Subsection Add Collection Cut Copy Paste

Label/Title	Type	Context Path
Request	Section	
ID	String	\${context.Request.RequestId}
First Name	String	\${context.Request.FirstName}
Last Name	String	\${context.Request.LastName}
Comments	String	\${context.Request.Comments}

58. Add a new Section **Investment**.

59. Add the following Fields.

Copy the Context Path from the attached file

CostCenterOwnerApprovalTask

Label	Type	Context Path
Business Unit	String	\${context.Investment.BusinessUnit}
Type	String	\${context.Investment.Type}
Country	String	\${context.Investment.Country}
CAPEX	Float	\${context.Investment.CAPEX}
OPEX	Float	\${context.Investment.TotalCost}
Currency	String	\${context.Investment.Currency}

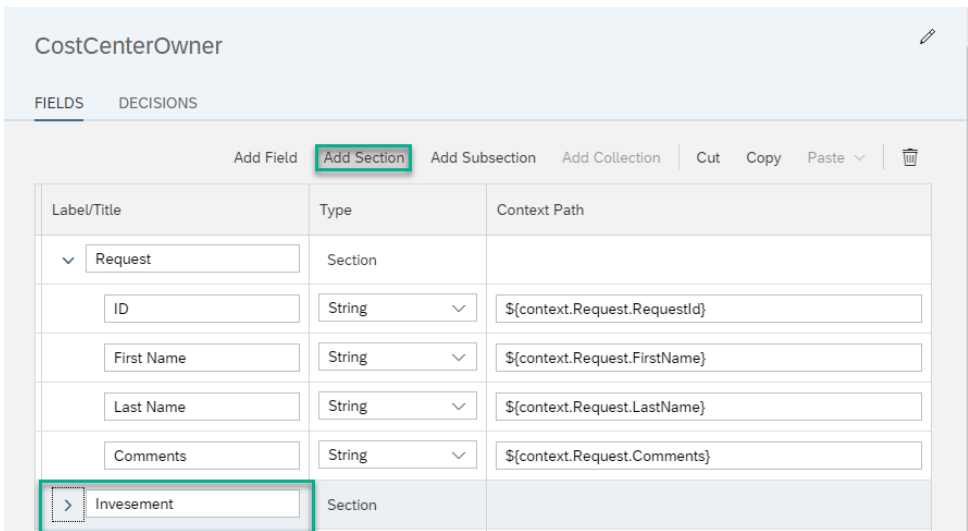
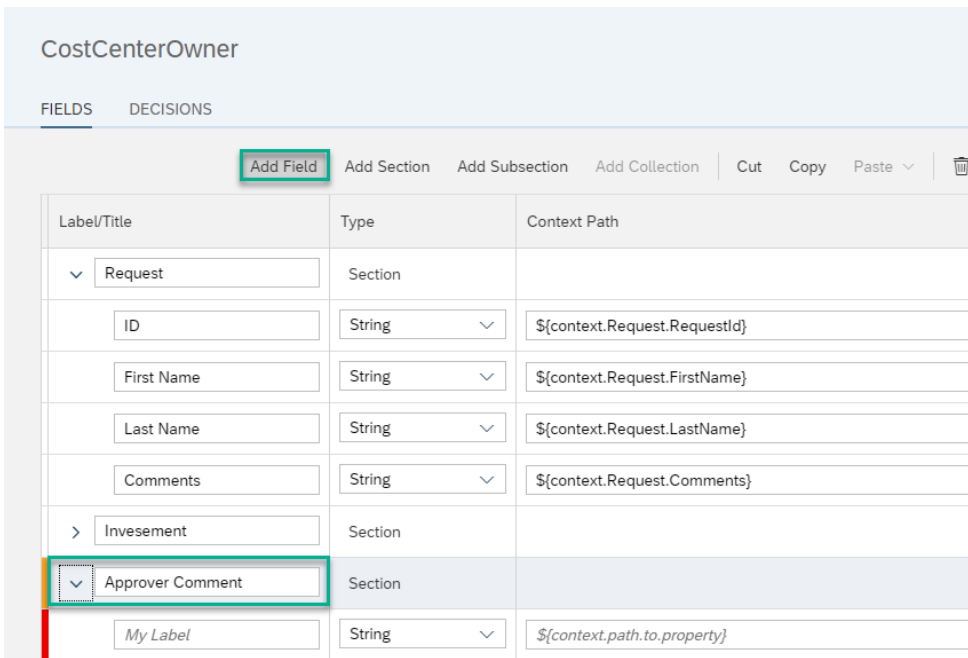
CostCenterOwner

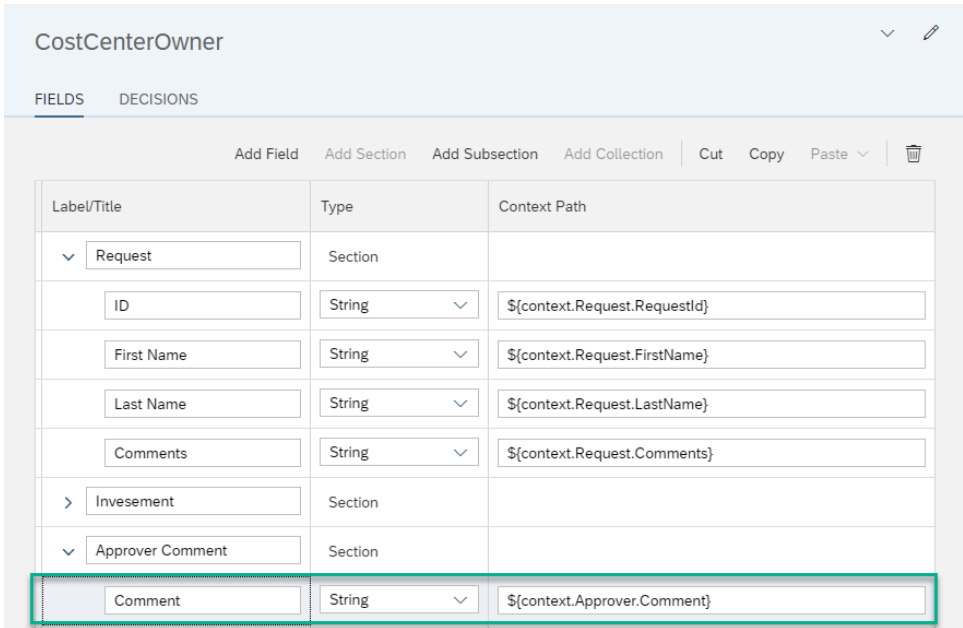
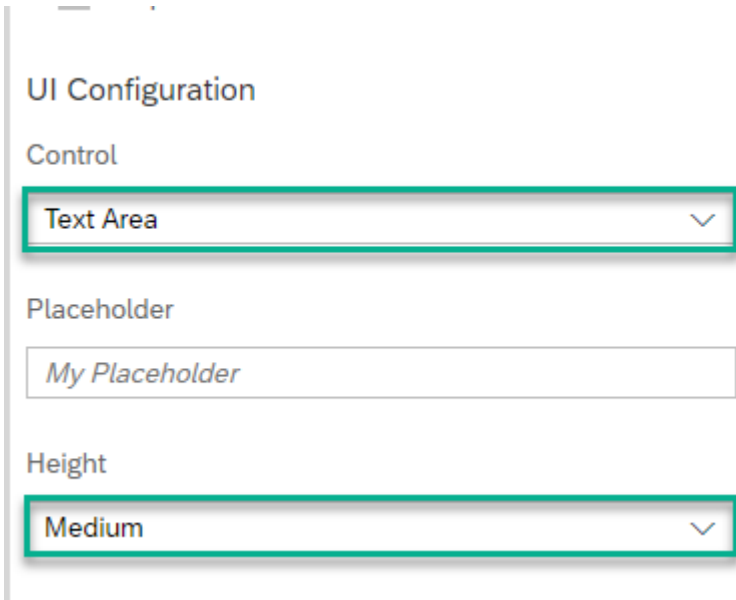
ID: costcenterowner Revision: 1.0 Type: Task Form

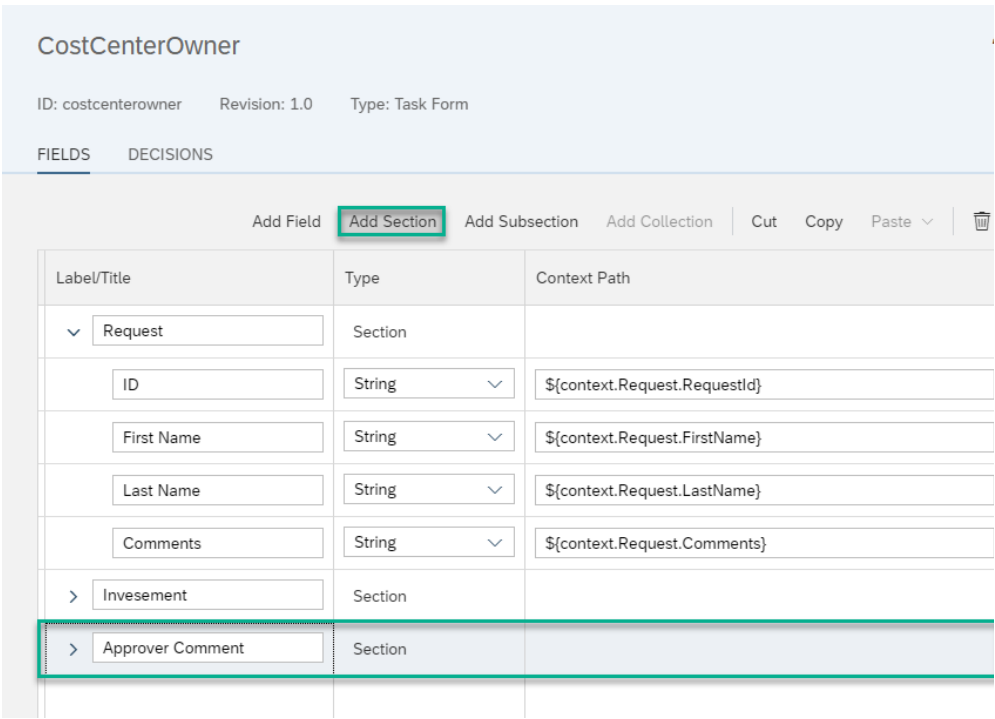
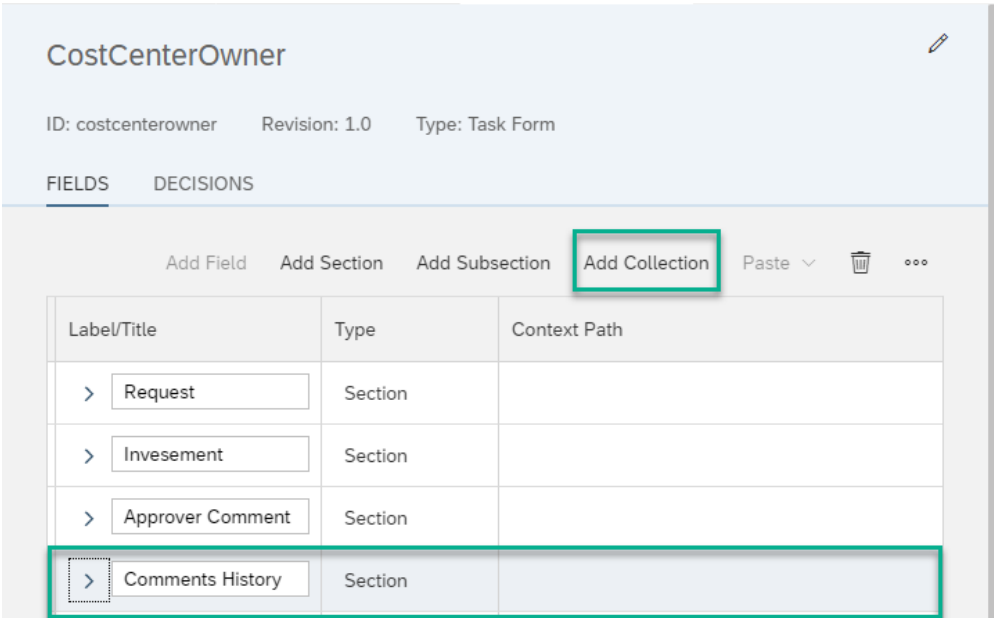
FIELDS DECISIONS

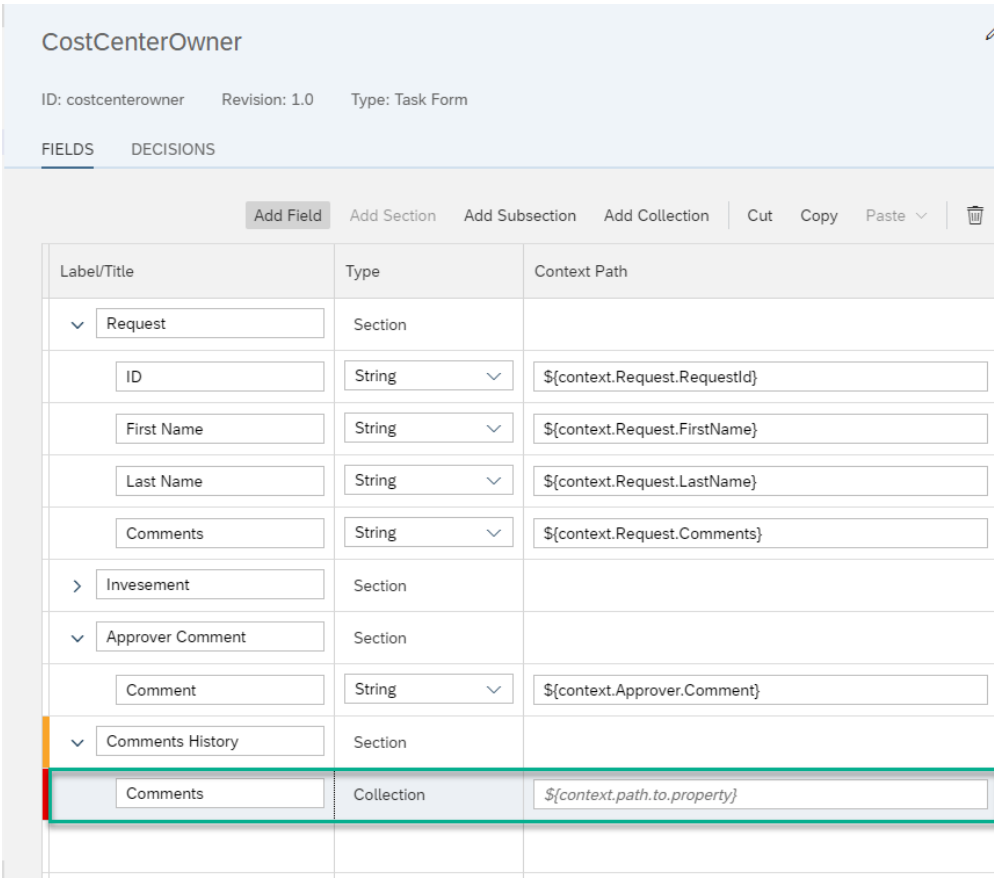
Add Field Add Section Add Subsection Add Collection Cut Copy Paste

Label/Title	Type	Context Path
Request	Section	
Investment	Section	
Business Unit	String	\${context.Investment.BusinessUnit}
Type	String	\${context.Investment.Type}
Country	String	\${context.Investment.Country}
CAPEX	Float	\${context.Investment.CAPEX}
OPEX	Float	\${context.Investment.OPEX}
Total Cost	Float	\${context.Investment.TotalCost}
Currency	String	\${context.Investment.Currency}

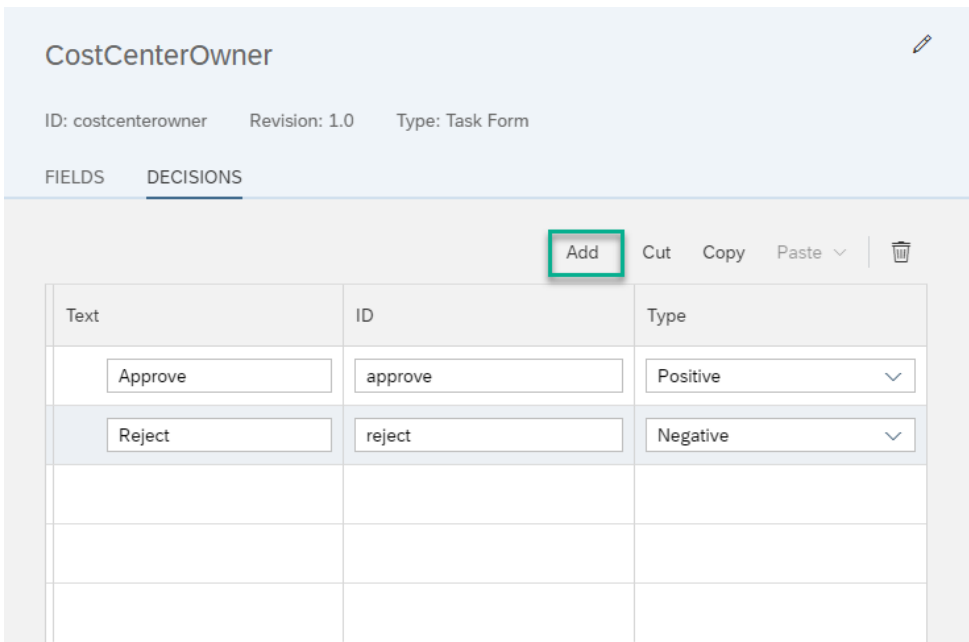
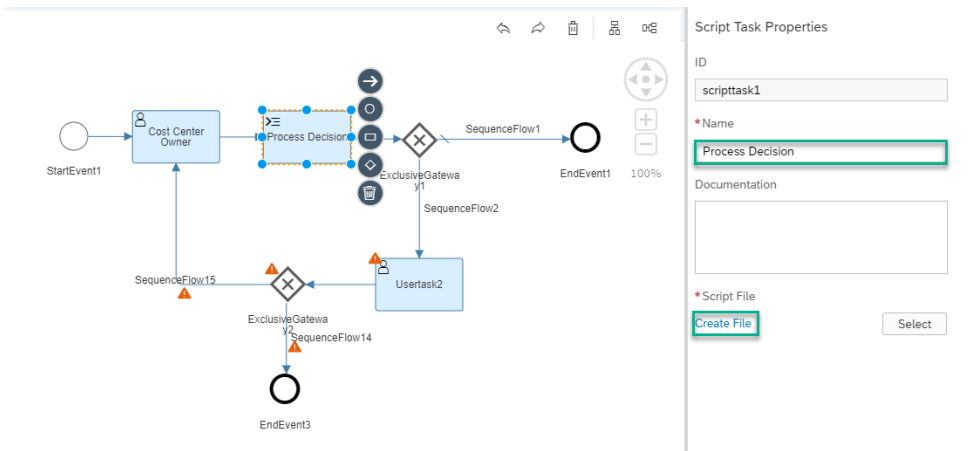
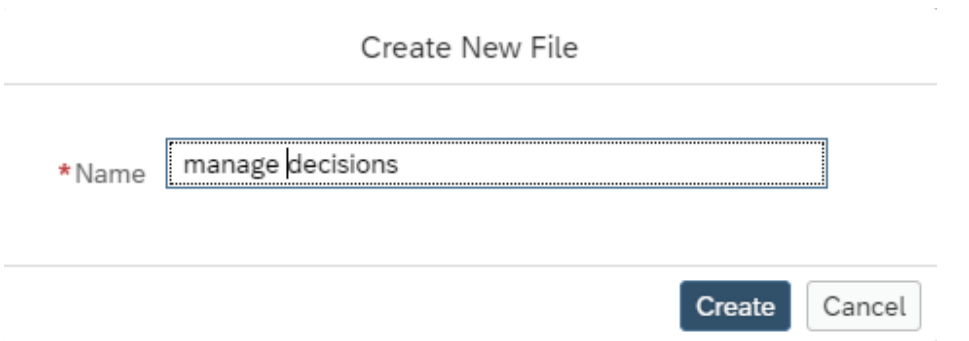
Explanation	Screenshot																											
60. Select section Investment . 61. Click Add Section .	 <p>CostCenterOwner</p> <p>FIELDS DECISIONS</p> <p>Add Field Add Section Add Subsection Add Collection Cut Copy Paste</p> <table><tr><th>Label/Title</th><th>Type</th><th>Context Path</th></tr><tr><td>Request</td><td>Section</td><td></td></tr><tr><td>ID</td><td>String</td><td>\$(context.Request.RequestId)</td></tr><tr><td>First Name</td><td>String</td><td>\$(context.Request.FirstName)</td></tr><tr><td>Last Name</td><td>String</td><td>\$(context.Request.LastName)</td></tr><tr><td>Comments</td><td>String</td><td>\$(context.Request.Comments)</td></tr><tr><td>Investment</td><td>Section</td><td></td></tr></table>	Label/Title	Type	Context Path	Request	Section		ID	String	\$(context.Request.RequestId)	First Name	String	\$(context.Request.FirstName)	Last Name	String	\$(context.Request.LastName)	Comments	String	\$(context.Request.Comments)	Investment	Section							
Label/Title	Type	Context Path																										
Request	Section																											
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Last Name	String	\$(context.Request.LastName)																										
Comments	String	\$(context.Request.Comments)																										
Investment	Section																											
62. Change the Label/Title of the section as Approver Comment . 63. Click Add Field .	 <p>CostCenterOwner</p> <p>FIELDS DECISIONS</p> <p>Add Field Add Section Add Subsection Add Collection Cut Copy Paste</p> <table><tr><th>Label/Title</th><th>Type</th><th>Context Path</th></tr><tr><td>Request</td><td>Section</td><td></td></tr><tr><td>ID</td><td>String</td><td>\$(context.Request.RequestId)</td></tr><tr><td>First Name</td><td>String</td><td>\$(context.Request.FirstName)</td></tr><tr><td>Last Name</td><td>String</td><td>\$(context.Request.LastName)</td></tr><tr><td>Comments</td><td>String</td><td>\$(context.Request.Comments)</td></tr><tr><td>Investment</td><td>Section</td><td></td></tr><tr><td>Approver Comment</td><td>Section</td><td></td></tr><tr><td>My Label</td><td>String</td><td>\$(context.path.to.property)</td></tr></table>	Label/Title	Type	Context Path	Request	Section		ID	String	\$(context.Request.RequestId)	First Name	String	\$(context.Request.FirstName)	Last Name	String	\$(context.Request.LastName)	Comments	String	\$(context.Request.Comments)	Investment	Section		Approver Comment	Section		My Label	String	\$(context.path.to.property)
Label/Title	Type	Context Path																										
Request	Section																											
ID	String	\$(context.Request.RequestId)																										
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Comments	String	\$(context.Request.Comments)																										
Investment	Section																											
Approver Comment	Section																											
My Label	String	\$(context.path.to.property)																										

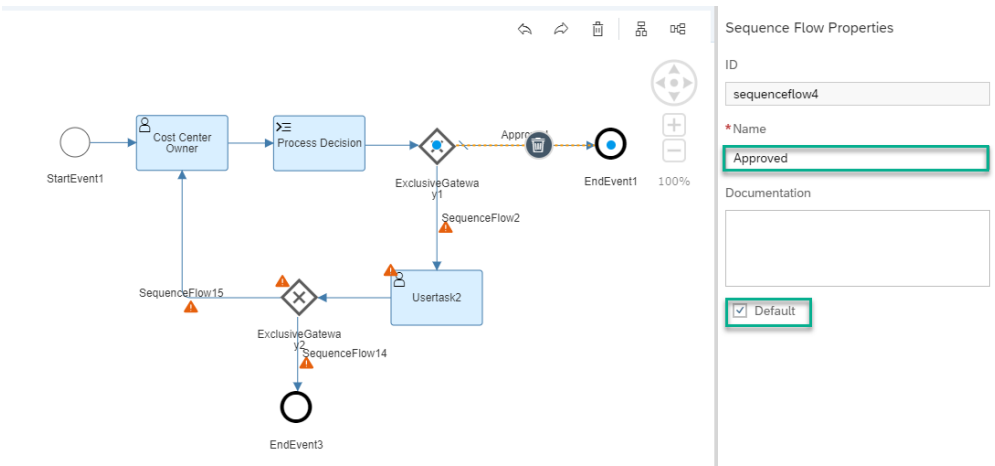
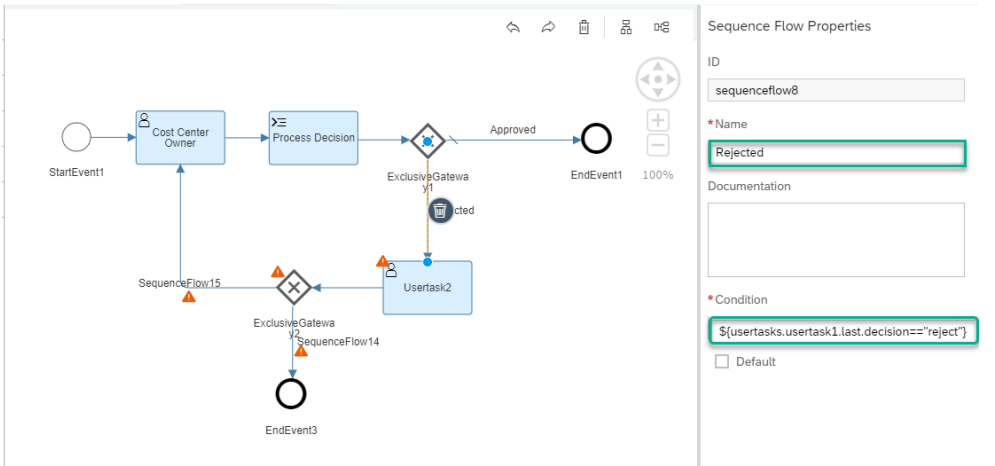
Explanation	Screenshot																											
<div>64. Update the Label/Title of the new Field as Comment.</div> <div>65. Update the Context Path <code>\${context.Approver.Comment}</code></div>	 <p>The screenshot shows the 'CostCenterOwner' configuration interface. It has two tabs: 'FIELDS' and 'DECISIONS'. Under 'FIELDS', there is a table with columns 'Label/Title', 'Type', and 'Context Path'. The table contains several rows, including 'Request' (Section), 'ID' (String), 'First Name' (String), 'Last Name' (String), 'Comments' (String), 'Investment' (Section), 'Approver Comment' (Section), and 'Comment' (String). The 'Comment' row is highlighted with a red box. The 'Context Path' for 'Comment' is <code>\${context.Approver.Comment}</code>.</p> <table><tr><th>Label/Title</th><th>Type</th><th>Context Path</th></tr><tr><td>Request</td><td>Section</td><td></td></tr><tr><td>ID</td><td>String</td><td><code>\${context.Request.RequestId}</code></td></tr><tr><td>First Name</td><td>String</td><td><code>\${context.Request.FirstName}</code></td></tr><tr><td>Last Name</td><td>String</td><td><code>\${context.Request.LastName}</code></td></tr><tr><td>Comments</td><td>String</td><td><code>\${context.Request.Comments}</code></td></tr><tr><td>Investment</td><td>Section</td><td></td></tr><tr><td>Approver Comment</td><td>Section</td><td></td></tr><tr><td>Comment</td><td>String</td><td><code>\${context.Approver.Comment}</code></td></tr></table>	Label/Title	Type	Context Path	Request	Section		ID	String	<code>\${context.Request.RequestId}</code>	First Name	String	<code>\${context.Request.FirstName}</code>	Last Name	String	<code>\${context.Request.LastName}</code>	Comments	String	<code>\${context.Request.Comments}</code>	Investment	Section		Approver Comment	Section		Comment	String	<code>\${context.Approver.Comment}</code>
Label/Title	Type	Context Path																										
Request	Section																											
ID	String	<code>\${context.Request.RequestId}</code>																										
First Name	String	<code>\${context.Request.FirstName}</code>																										
Last Name	String	<code>\${context.Request.LastName}</code>																										
Comments	String	<code>\${context.Request.Comments}</code>																										
Investment	Section																											
Approver Comment	Section																											
Comment	String	<code>\${context.Approver.Comment}</code>																										
<div>66. Select the Comment field.</div> <div>67. Select Control as Text Area.</div> <div>68. Select Height as Medium.</div>	 <p>The screenshot shows the 'UI Configuration' dialog for the 'Comment' field. It has three sections: 'Control', 'Placeholder', and 'Height'. The 'Control' section has a dropdown menu with 'Text Area' selected. The 'Placeholder' section has a text input field with 'My Placeholder'. The 'Height' section has a dropdown menu with 'Medium' selected. The 'Control' and 'Height' sections are highlighted with red boxes.</p> <p>UI Configuration</p> <p>Control</p> <p>Text Area</p> <p>Placeholder</p> <p>My Placeholder</p> <p>Height</p> <p>Medium</p>																											

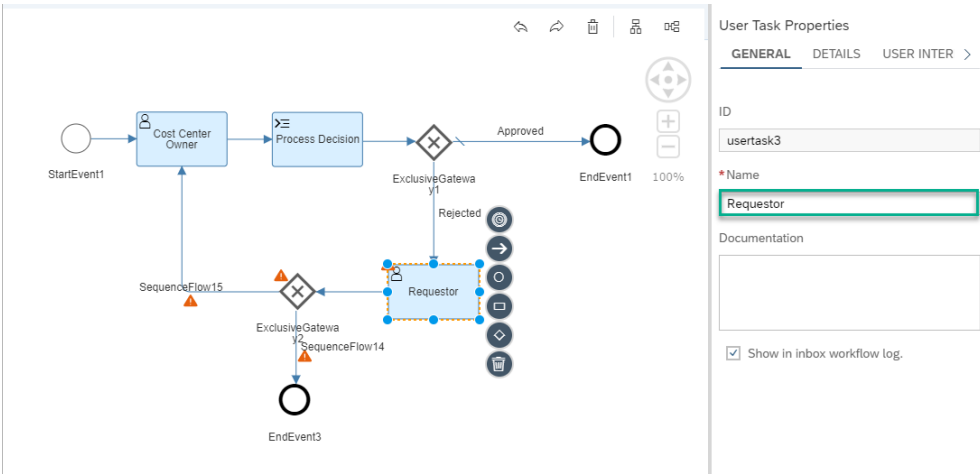
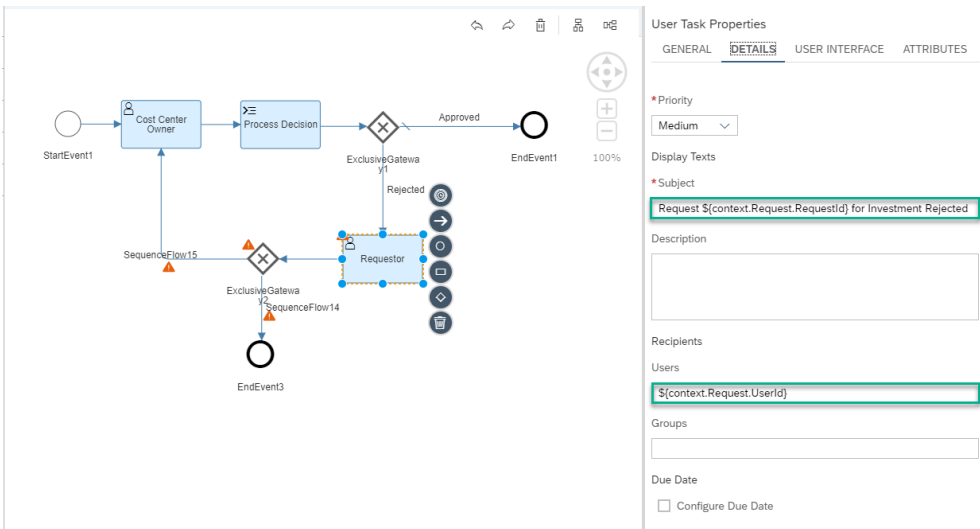
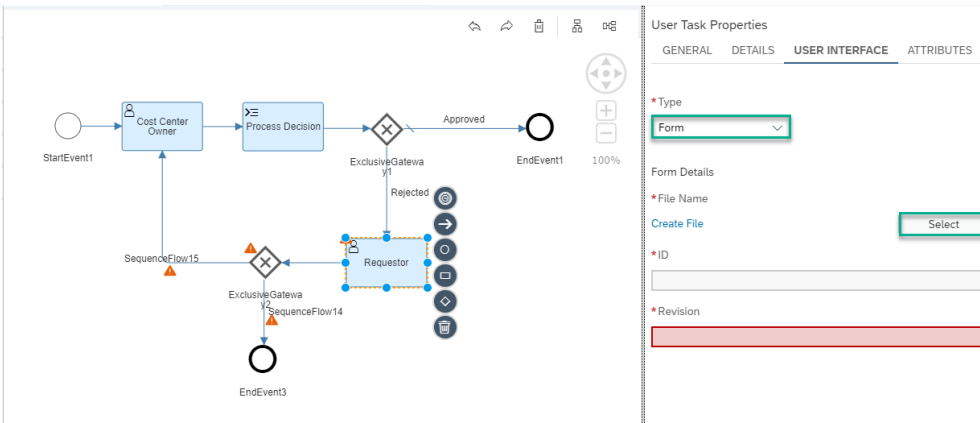
Explanation	Screenshot
69. Add a new Section. Click Add Section .	 <p>The screenshot shows the 'CostCenterOwner' form with the 'FIELDS' tab selected. In the top toolbar, the 'Add Section' button is highlighted with a red rectangle. Below the toolbar is a table with three columns: 'Label/Title', 'Type', and 'Context Path'. The table contains several rows, including 'Request' (Section), 'ID' (String), 'First Name' (String), 'Last Name' (String), 'Comments' (String), 'Invesement' (Section), and 'Approver Comment' (Section). The 'Approver Comment' row is highlighted with a red rectangle.</p>
70. Update Label/Title of the newly added Section as Comments History . 71. Click Add Collection .	 <p>The screenshot shows the 'CostCenterOwner' form with the 'FIELDS' tab selected. In the top toolbar, the 'Add Collection' button is highlighted with a red rectangle. Below the toolbar is a table with three columns: 'Label/Title', 'Type', and 'Context Path'. The table contains several rows, including 'Request' (Section), 'Invesement' (Section), 'Approver Comment' (Section), and 'Comments History' (Section). The 'Comments History' row is highlighted with a red rectangle.</p>

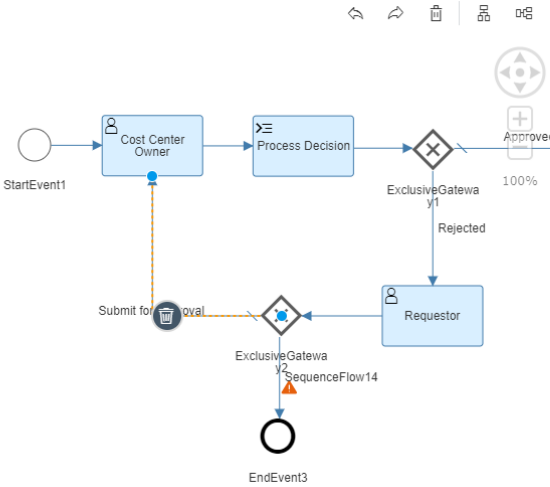
Explanation	Screenshot
72. Update the Label/Title as Comments .	 <p>The screenshot shows the 'CostCenterOwner' form editor. The 'Request' section is expanded, showing fields for ID, First Name, Last Name, and Comments. The 'Comments' field is highlighted with a red border. The 'Context Path' for this field is set to <code>\${context.Request.Comments}</code>.</p>
73. Update the Context Path as <code>\${context.Comments}</code> .	

Explanation	Screenshot															
<div>74. Select Comments and click Add Field to add the following fields.</div> <div>Copy the Context Path from the attached file</div> <div>CostCenterOwnerApprovalTask</div> <table><tr><th>Label</th><th>Type</th><th>Context Path</th></tr><tr><td>User</td><td>String</td><td>\${item.User}</td></tr><tr><td>Role</td><td>String</td><td>\${item.Role}</td></tr><tr><td>Decision</td><td>String</td><td>\${item.Decision}</td></tr><tr><td>Comment</td><td>String</td><td>\${item.Comment}</td></tr></table>	Label	Type	Context Path	User	String	\${item.User}	Role	String	\${item.Role}	Decision	String	\${item.Decision}	Comment	String	\${item.Comment}	
Label	Type	Context Path														
User	String	\${item.User}														
Role	String	\${item.Role}														
Decision	String	\${item.Decision}														
Comment	String	\${item.Comment}														
<div>75. Select DECISIONS.</div> <div>76. Click Add.</div>																

Explanation	Screenshot									
<p>77. Click Add and add the following Decisions.</p> <table><tr><th>Text</th><th>ID</th><th>Type</th></tr><tr><td>Approve</td><td>approve</td><td>Positive</td></tr><tr><td>Reject</td><td>reject</td><td>Negative</td></tr></table>	Text	ID	Type	Approve	approve	Positive	Reject	reject	Negative	
Text	ID	Type								
Approve	approve	Positive								
Reject	reject	Negative								
<p>78. Select the Script Task and enter name as Process Decision.</p> <p>79. Click Create File link.</p>										
<p>80. Enter file name as manage decisions.</p> <p>81. Click Create button.</p>										

Explanation	Screenshot
82. Copy and paste the scripts from the attached manage decisions.js .	<pre>1 2 var lastUserTask1 = \$.usertasks.usertask1.last; 3 \$.context.Approver.UserId = lastUserTask1.processor; 4 \$.context.Approver.decision = lastUserTask1.decision; 5 6 var decision={}; 7 decision.User= lastUserTask1.processor; 8 decision.Role="Cost Center Approver"; 9 decision.Decision = lastUserTask1.decision; 10 decision.Comment=\$.context.Approver.Comment; 11 12 \$.context.Comments.Add(decision); 13 14 \$.context.Approver.UserId = ""; 15 \$.context.Approver.decision = ""; 16 \$.context.Approver.Comment = "";</pre>
83. Select the sequence flow between the exclusive gateway and end event1 . 84. In Sequence flow properties enter Name as Approved. 85. Check the Default checkbox.	
86. Select sequence flow between the ExclusiveGateway1 and UserTask2 . 87. Enter Name as Rejected. 88. Enter the condition as <code>\${usertasks.usertask1.last.decision=="reject"}</code> You may copy the condition from the attached file Exclusive Gateway Conditions .	

Explanation	Screenshot
<div>89. Select UserTask2 and in User Task Properties select GENERAL tab.</div> <div>90. update the Name as Requestor.</div>	
<div>91. Select Details tab.</div> <div>92. Set Subject as Request \${context.Request.RequestId} for Investment Rejected.</div> <div>93. Set Users as \${context.Request.UserId}</div>	
<div>94. Select USER INTERFACE section.</div> <div>95. Select Type as Form.</div> <div>96. Click Select button.</div> <div>You will reuse the same Form modeled for Cost Center Owner approval.</div>	

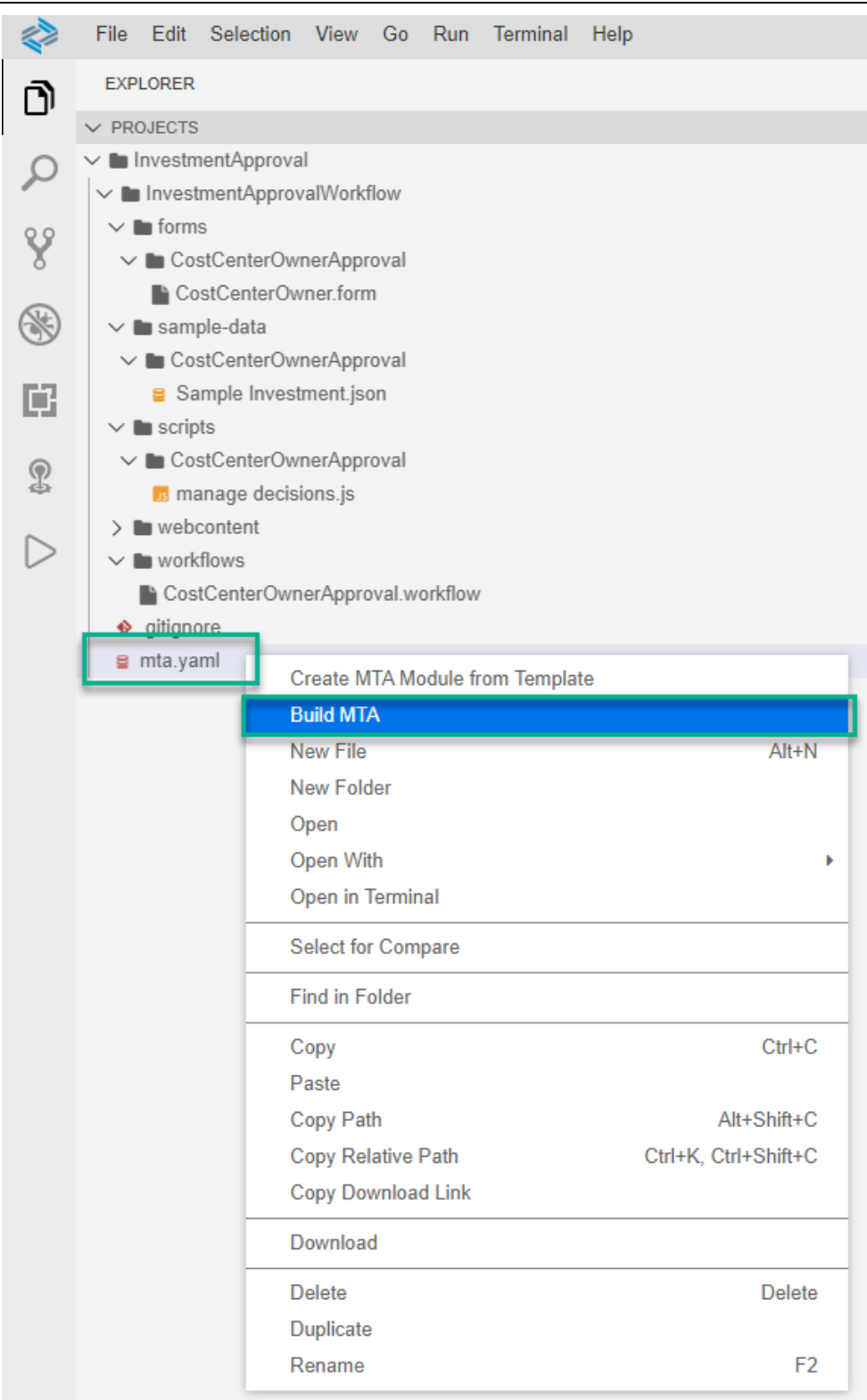
Explanation	Screenshot
<div>97. Select Cost Center Owner as File Name.</div> <div>98. Click OK.</div>	<div><div>Select Form</div><div><div>* Project Name</div><div>home/user/projects/InvestmentApproval/Inv...</div></div><div><div>* File Name</div><div>/forms/Cos...rApproval/CostCenterOwner.</div></div><div><div>* Form Revision</div><div>1.0</div></div><div><div>OK</div><div>Cancel</div></div></div>
<div>99. Select the sequence flow between the Exclusive Gateway and Cost Center Owner user task.</div> <div>100. Enter Name as Submit for Approval</div> <div>101. Check Default check box.</div>	<div><div></div><div><div>Sequence Flow Properties</div><div>ID</div><div>sequenceflow15</div><div>* Name</div><div>Submit for Approval</div><div>Documentation</div><div><div><input checked="" type="checkbox"/> Default</div></div></div></div>

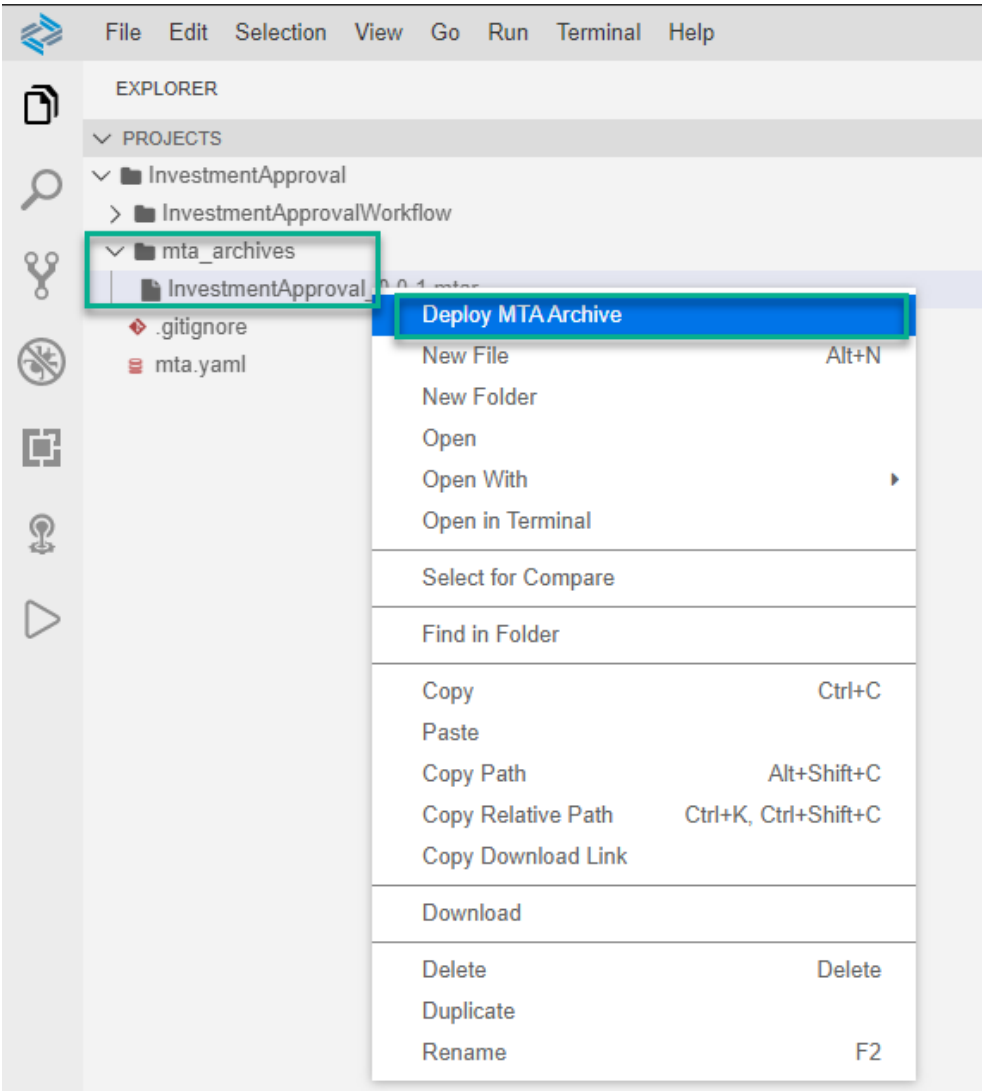

Explanation	Screenshot
<p>102. Select the sequence flow between the Exclusive Gateway and End event3.</p> <p>103. Enter Name as Cancel Request.</p> <p>104. Enter Condition as <code>\${usertasks.usertask2.last.decision=="reject"}</code></p> <p>Make sure the Requestor user task ID is usertask2. If it is different change the ID in the expression.</p> <p>You may copy the condition from the attached file Exclusive Gateway Conditions.</p>	<p>The screenshot shows a BPMN diagram and the 'Sequence Flow Properties' panel. The diagram includes a StartEvent1, a User Task 'Cost Center Owner', a Process Decision, an Exclusive Gateway 'y1', a User Task 'Requestor', and an EndEvent3. A sequence flow labeled 'Submit for Approval' connects the Requestor to the Cost Center Owner. Another sequence flow labeled 'Approved' connects the Process Decision to the EndEvent3. A third sequence flow, highlighted in green, connects the Exclusive Gateway 'y1' to EndEvent3. The 'Sequence Flow Properties' panel on the right shows the ID 'sequenceflow14', the Name 'Cancel Request', and the Condition <code>\${usertasks.usertask2.last.decision=="reject"}</code>.</p>

Build and Deploy

- 105. Right click on **mta.yaml** file.
- 106. Select **Build MTA**.

This will start the MTA build and it may take a few seconds to create the mta archive under the folder **mta_archives**.



Explanation	Screenshot
<div>107. Successful build will create a new folder mta_archives and a .mtar file.</div> <div>108. Select the .mtar file and right click.</div> <div>109. Click Deploy MTA Archive.</div>	 <p>The screenshot shows the Visual Studio Code interface. In the Explorer sidebar, the 'InvestmentApprovalWorkflow' folder is expanded, and the 'mta_archives' folder is selected. A right-click context menu is open over the 'mta_archives' folder, with the 'Deploy MTA Archive' option highlighted in blue. Other options in the menu include 'New File', 'New Folder', 'Open', 'Open With', 'Open in Terminal', 'Select for Compare', 'Find in Folder', 'Copy', 'Paste', 'Copy Path', 'Copy Relative Path', 'Copy Download Link', 'Download', 'Delete', 'Duplicate', and 'Rename'.</p>
<div>110. Successful deployment will show the log.</div>	 <p>The screenshot shows the Visual Studio Code Problems panel. The title bar indicates 'Task: Deploy MTA Archive'. The log content is as follows:</p> <pre>Uploading 1 files... /home/user/projects/InvestmentApproval/mta_archives/InvestmentApproval_0.0.1.mtar OK Operation ID: c443e49b-318f-11eb-a634-eeee0a8b72e6 Deploying in org "DEV264" and space "dev" Detected MTA schema version: "3" No deployed MTA detected - this is initial deployment Detected new MTA version: "0.0.1" Processing service "workflow_mta"... Creating service "workflow_mta" from MTA resource "workflow_mta"... 1 of 1 done Creating service key "InvestmentApprovalWorkflow-workflow_mta-credentials" for service "workflow_mta"... Uploading content module "InvestmentApprovalWorkflow" in target service "workflow_mta"... Deploying content module "InvestmentApprovalWorkflow" in target service "workflow_mta"... Skipping deletion of services, because the command line option "--delete-services" is not specified. Process finished. Use "cf dmol -i c443e49b-318f-11eb-a634-eeee0a8b72e6" to download the logs of the process. Terminal will be reused by tasks.</pre>

SUMMARY

You have modeled a workflow and successfully deployed in your SAP Business Technology Platform trial account. In the Next hands on guide, you will Execute and Monitor the Workflow. Please see more details on SAP Business Technology Platform Workflow in [help portal](#).

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