

BUILD YOUR OWN WORKFLOW FROM SCRATCH WITH SAP CLOUD PLATFORM WORKFLOW

CAA366

Exercises / Solutions

Milton Rodrigues, Stephan Schluchter, Archana Shukla, Stefan Henke, Sandhya G, Amit Kumar, Venugopal Chembakkalathil / SAP

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SAP CLOUD PLATFORM WORKFLOW AND PROCESS VISIBILITY

SAP Cloud Platform Workflow service enable customers to extend core business processes executed in S/4 HANA, Ariba, Concur, SuccessFactors, C/4 HANA and other 3rd Party applications. These extension applications enable customers to adopt changes in business very rapidly in an agile and non-disruptive way.

Workflow service enables business users to use SAP FIORI My Inbox, Fiori-based application to consume your tasks. It offers out of the box Workflow monitoring applications to keep track of the deployed workflows and their instances. Workflow service offers BPMN 2.0 based Business Process Modeling tools in SAP Web IDE and enable customers and partners to rapidly build, deploy and execute workflows.

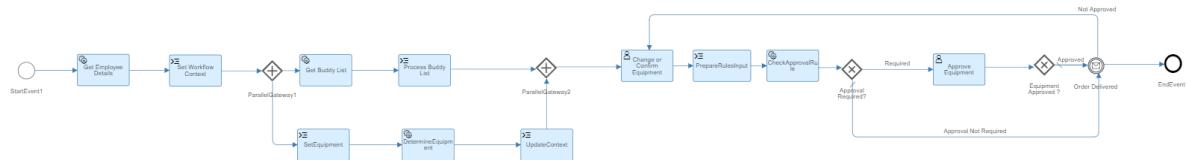
SAP Cloud Platform Process Visibility enable line of business users to gain visibility on their deployed workflows and processes. It provides plug and play with SAP Cloud Platform Workflow but customers could extend by pushing events from other transactional systems using SAP Enterprise Messaging. A context based correlation enable customers to build a business scenario by including multiple process participants. Customers could model key process performance indicators and gain actionable insights into their processes.

Process visibility service offers web based modeling and monitoring tools integrated to Fiori Launch pad. It provides a runtime workspace enable line of business users to see an aggregated view of their processes , process performance indicators and drill down to individual process instances.

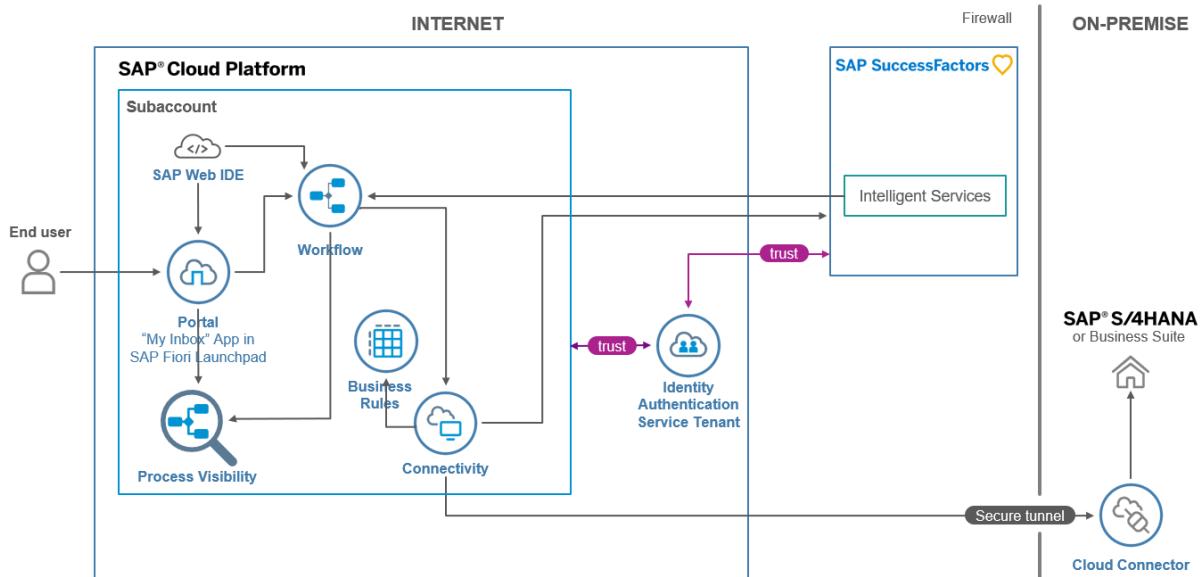
BUSINESS SCENARIO

Business Scenario

Companies are recruiting employees using their HR application (for example: SAP SuccessFactors). A newly recruited employee requires a smooth onboarding in order to be well integrated to the organization and become productive as early as possible. In SuccessFactors, the hiring manager could assign a buddy to a new hire, but that is not sufficient to complete the onboarding. An employee requires appropriate IT equipment's, work place and manager may need to create travel request as part of the new job. These additional steps as part of onboarding can be implemented using Workflow service as an extension process to SuccessFactors Onboarding process.



The extension use case is part of SuccessFactors Employee Onboarding and the below solution diagram explain how it can be realized.



You can go through the complete Solution Blueprint here.
 More information available here. <https://cloudplatform.sap.com/scenarios/usecases/workflow.html>

BEFORE YOU START

Due to time constraints during the Hands-on session, it is recommended that you first take a look at the different exercises and then decide which ones you want to work through first.

Chapter 1 & 2 are mandatory to do chapters 3 or 4 or 5.

Chapter 1: Model Workflow From Scratch

Estimated Duration: 30 minutes

Chapter 2: Execute Workflow

Estimated Duration: 20 minutes

Chapter 3: Gain Visibility on your deployed workflow

Estimated Duration: 30 minutes

Chapter 4: Rapid Workflow Task UI development using Forms

Estimated Duration: 30 minutes

Chapter 5: Workflow APIs using SAP API Business hub

Estimated Duration: 20 minutes

MODEL WORKFLOW FROM SCRATCH

Overview

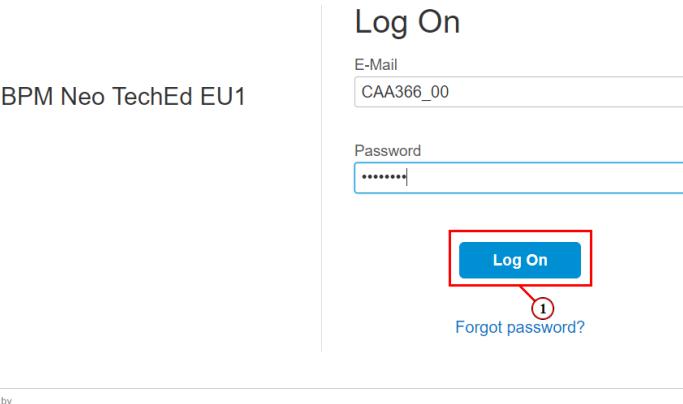
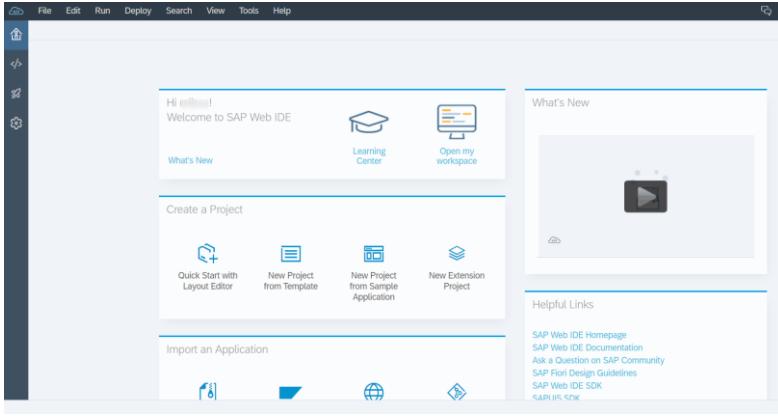
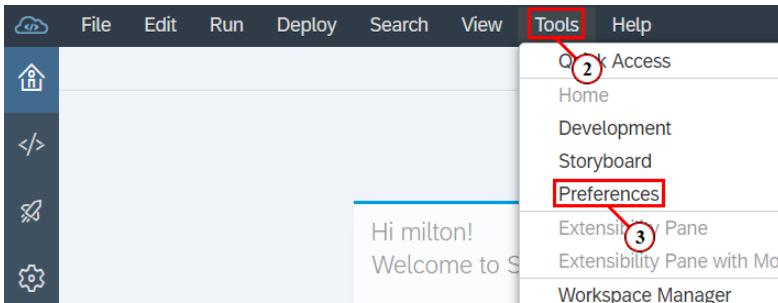
Estimated time: [30] minutes

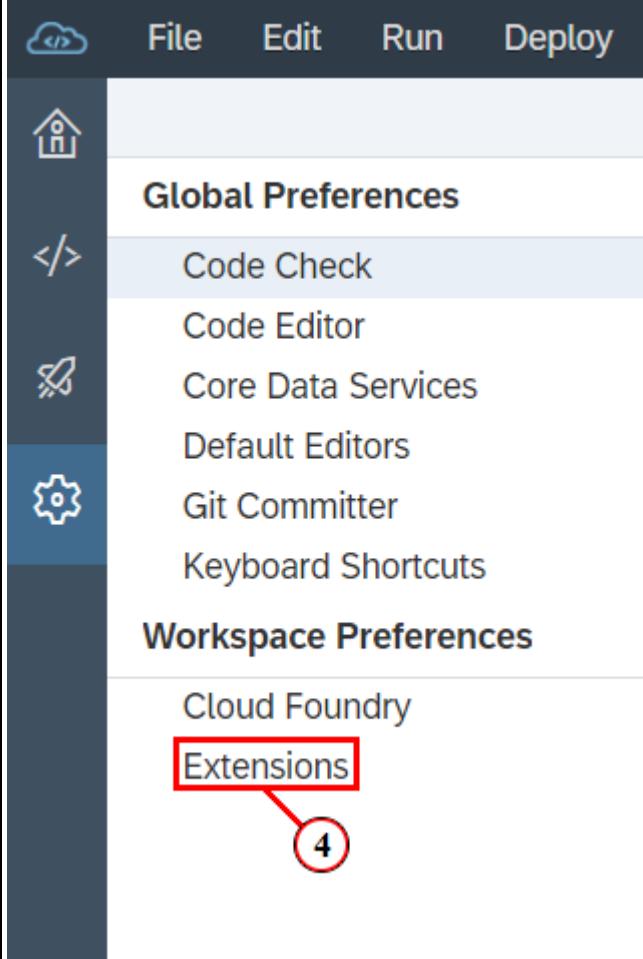
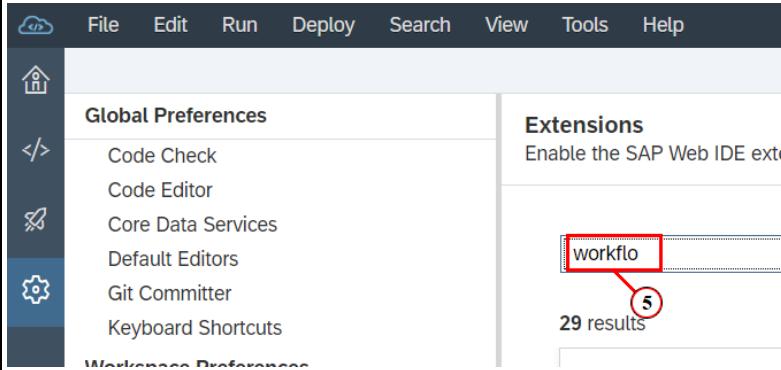
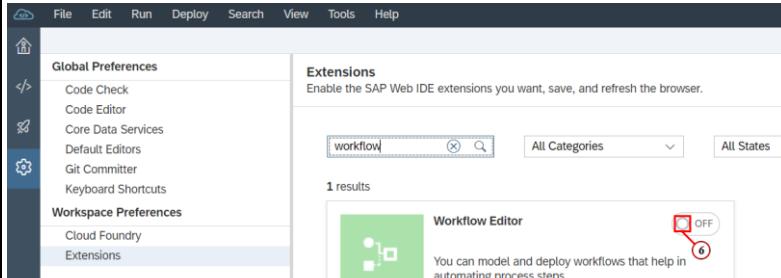
Objective

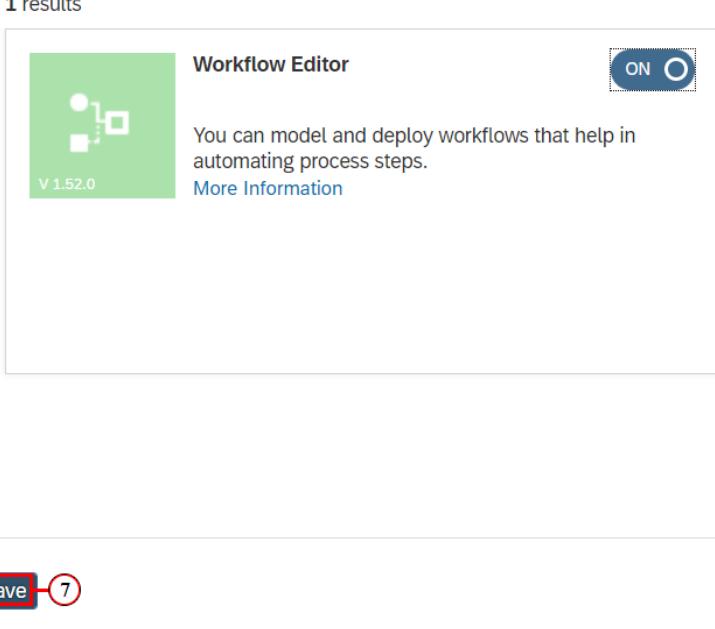
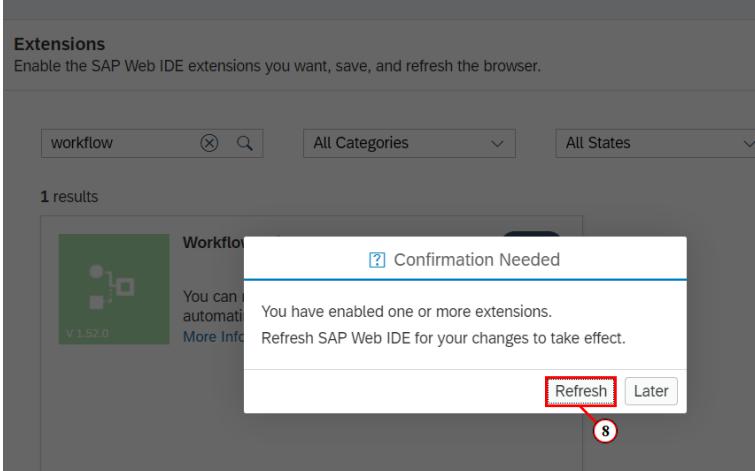
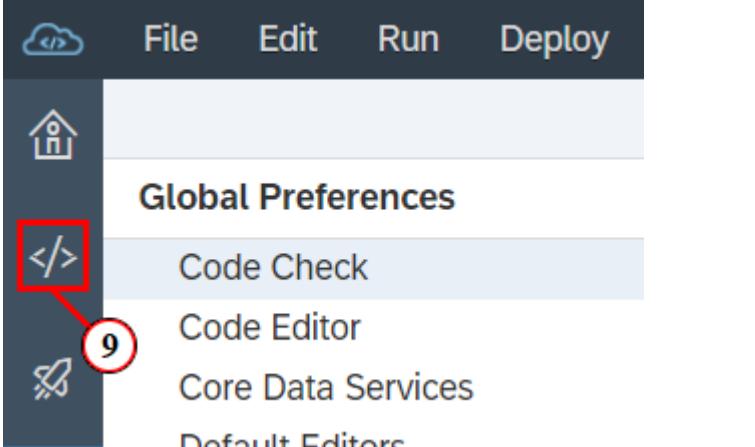
You will learn how to

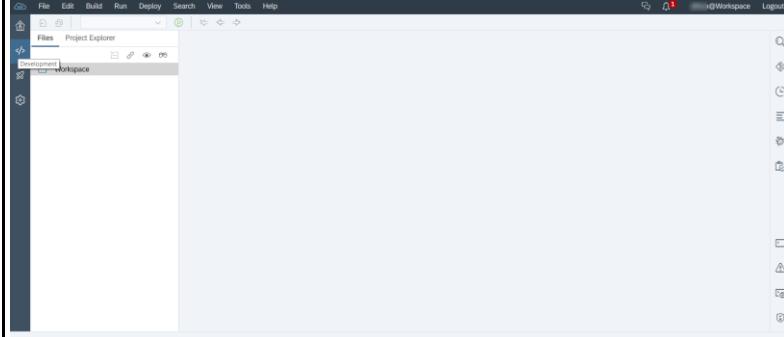
1. Enable the SAP Cloud Platform Workflow modelling feature in SAP Cloud Platform WebIDE
2. Explore and import one of the *sample workflows*
3. Model a new workflow to extend an Employee Onboarding workflow
4. Use existing SAP UI5 Applications (from the sample workflow) for the Human Tasks in the workflow

Access the SAP Cloud Platform Workflow WebIDE

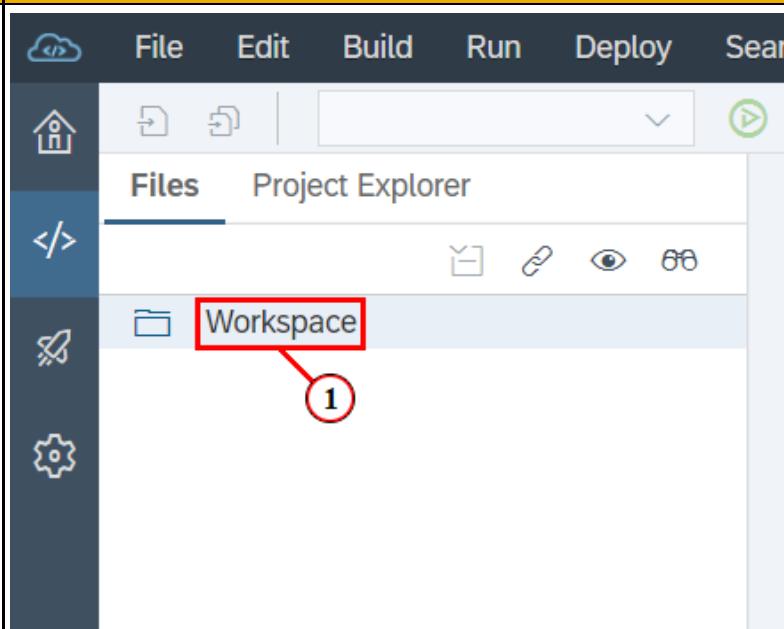
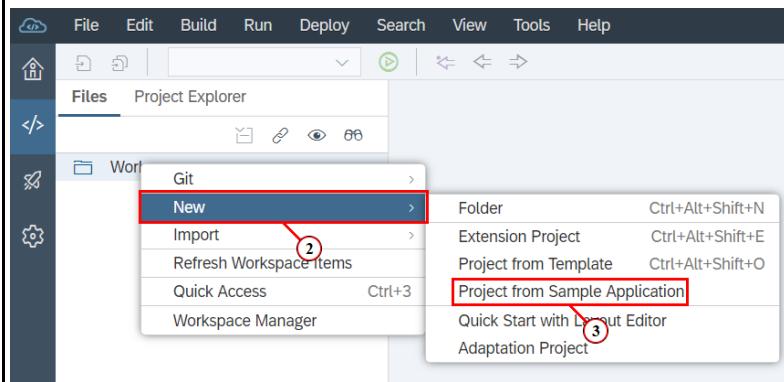
Explanation	Screenshot
<p>Access the SAP Cloud Platform WebIDE using this link</p> <p>https://webidecp-pekyge43s1.dispatcher.hana.ondemand.com/</p> <p>1. Use the following credentials Username: CAA366_xx Password: Welcome1</p> <p>Log On</p> <p></p> <p>Replace xx in the username with the number provided by your instructor</p>	 <p>Log On</p> <p>E-Mail CAA366_00</p> <p>Password</p> <p>Log On</p> <p>Forgot password?</p> <p>Powered by SAP Cloud Platform</p>
<p></p> <p>You should be able to see your workspace as shown in the image.</p>	
<p>2. Click Tools.</p> <p>3. Click Preferences.</p>	 <p>Tools</p> <p>2</p> <p>Preferences</p> <p>3</p>

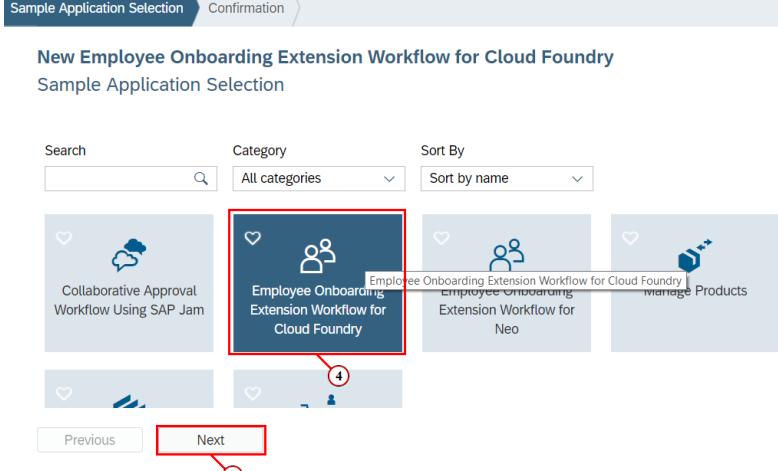
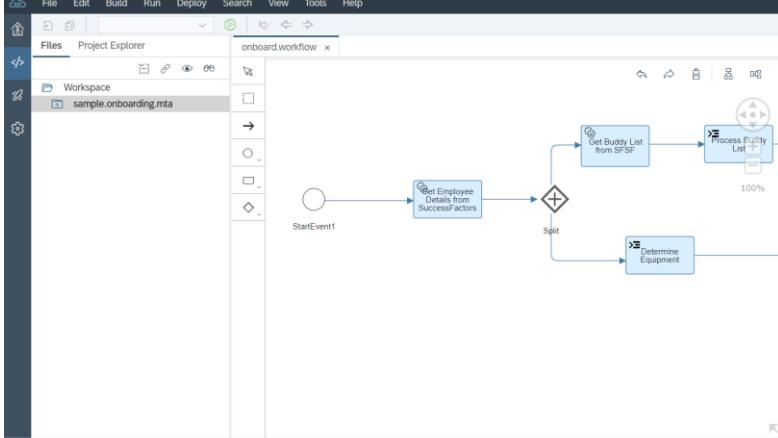
Explanation	Screenshot
4. Click Extensions .	 <p>Global Preferences</p> <ul style="list-style-type: none"> Code Check Code Editor Core Data Services Default Editors Git Committer Keyboard Shortcuts <p>Workspace Preferences</p> <p>Cloud Foundry</p> <p>Extensions</p>
5. Type Workflow in the search box.	 <p>Global Preferences</p> <p>Extensions</p> <p>Enable the SAP Web IDE extensions you want, save, and refresh the browser.</p> <p>workflow</p> <p>29 results</p>
6. Click on the switch to turn on the Workflow Editor extension	 <p>Global Preferences</p> <p>Extensions</p> <p>Enable the SAP Web IDE extensions you want, save, and refresh the browser.</p> <p>workflow</p> <p>All Categories</p> <p>All States</p> <p>1 results</p> <p>Workflow Editor</p> <p>OFF</p> <p>You can model and deploy workflows that help in automating process steps.</p>

Explanation	Screenshot
7. Click Save .	 <p>1 results</p> <p>Workflow Editor <input checked="" type="checkbox"/> ON</p> <p>You can model and deploy workflows that help in automating process steps.</p> <p>More Information</p> <p>Save 7</p>
8. Click refresh to make the changes take effect.	 <p>Extensions</p> <p>Enable the SAP Web IDE extensions you want, save, and refresh the browser.</p> <p>workflow <input type="text"/> <input type="button" value="X"/> <input type="button" value="Search"/> All Categories <input type="button" value="▼"/> All States <input type="button" value="▼"/></p> <p>1 results</p> <p>Workflow Editor <input checked="" type="checkbox"/> ON</p> <p>You can model and deploy workflows that help in automating process steps.</p> <p>More Info</p> <p>Confirmation Needed</p> <p>You have enabled one or more extensions.</p> <p>Refresh SAP Web IDE for your changes to take effect.</p> <p>Refresh 8 Later</p>
9. Click  to navigate to the Development perspective.	 <p>File Edit Run Deploy</p> <p> </p> <p>Global Preferences</p> <ul style="list-style-type: none"> Code Check Code Editor Core Data Services Default Editors

Explanation	Screenshot
This is the development perspective.	

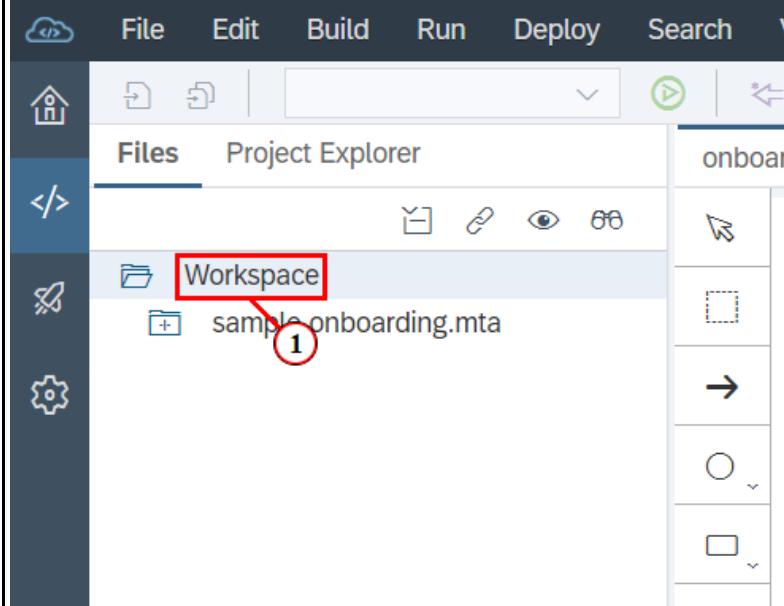
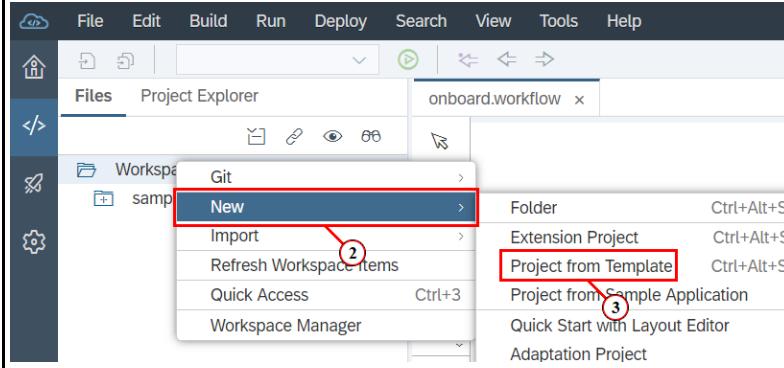
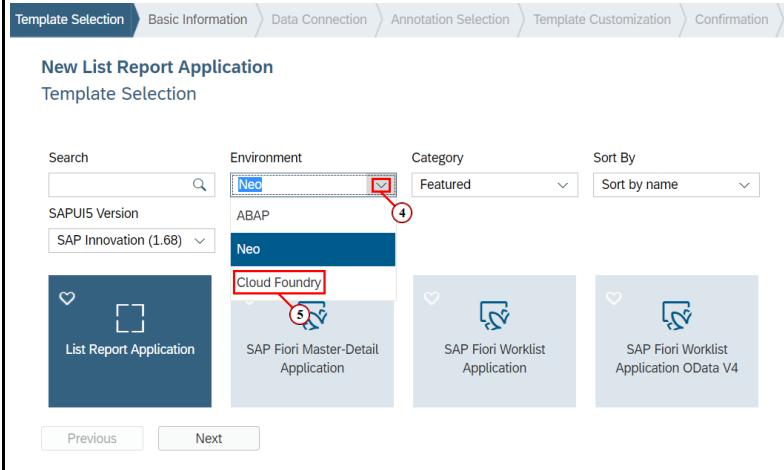
Import a Sample Workflow

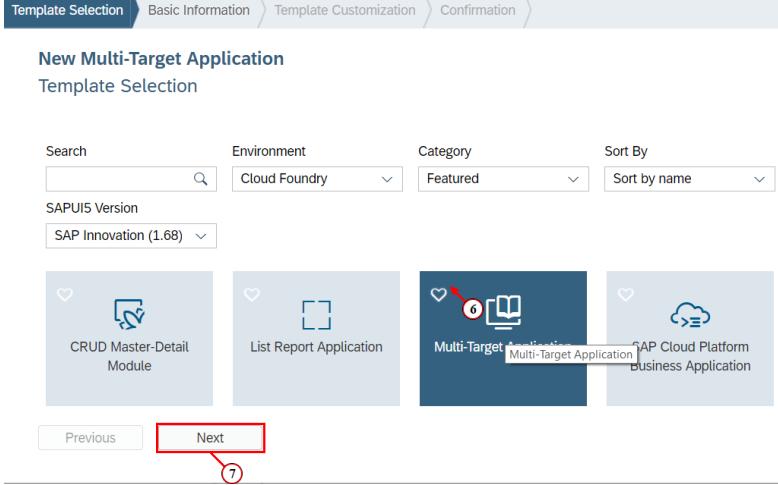
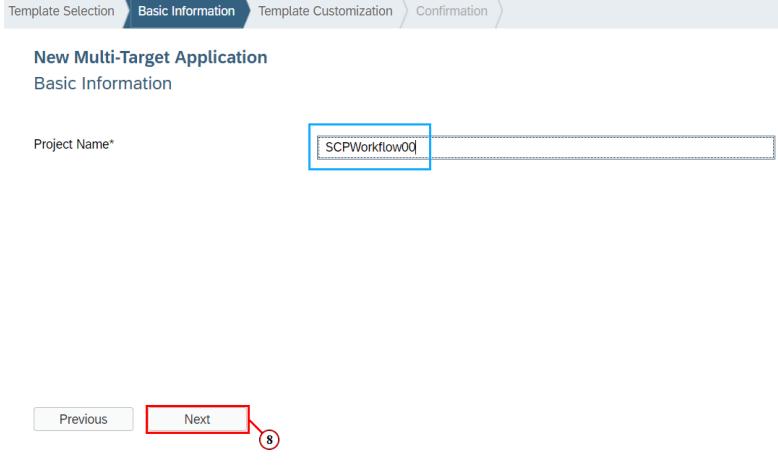
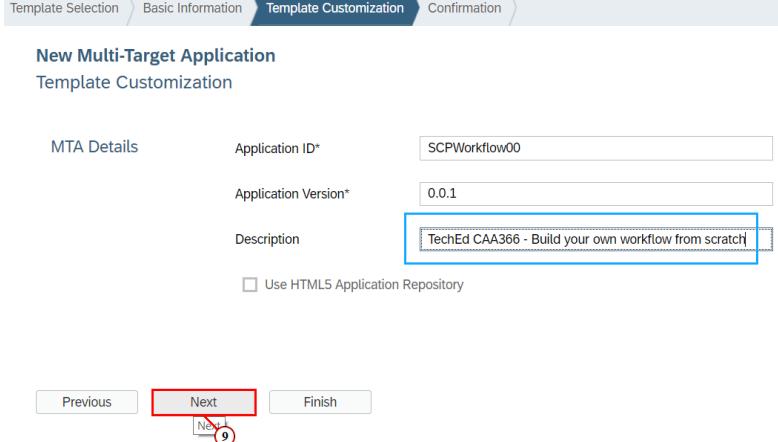
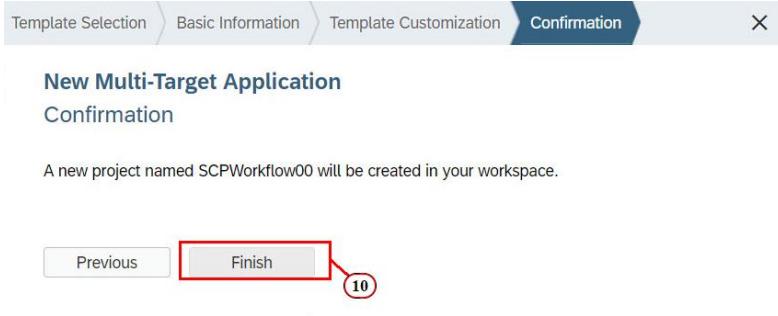
Explanation	Screenshot
1. Right click on Workspace	
2. Click New 3. Select Project from Sample Application	

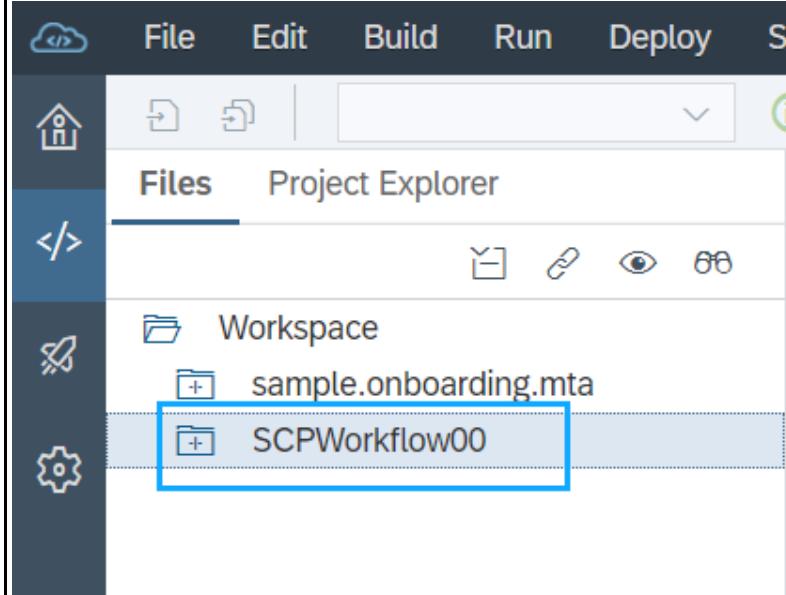
Explanation	Screenshot
<p>4. Choose Employee Onboarding Extension Workflow for Cloud Foundry</p> <p>5. Click </p>	
<p>6. Click the checkbox </p> <p>7. Click </p>	
	

Create a Multi-Target Application project

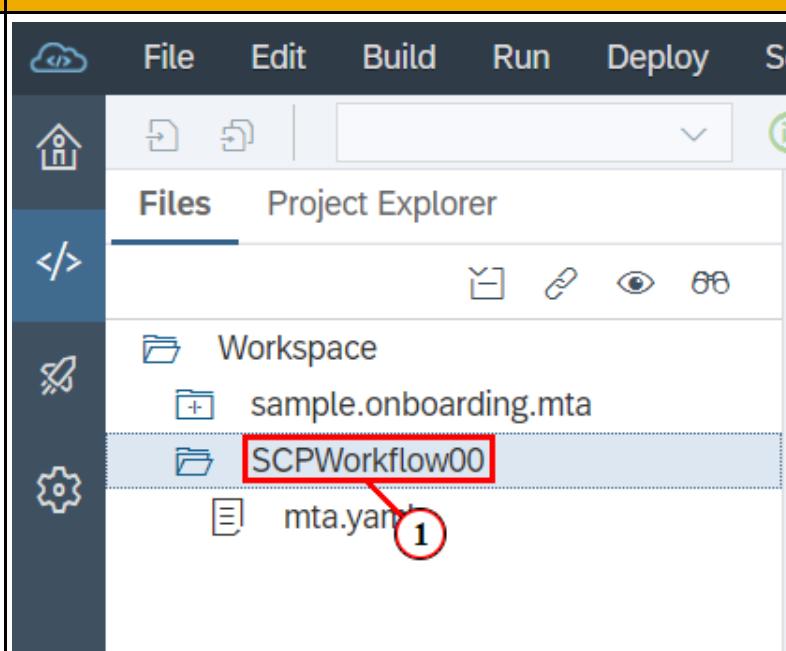
Explanation	Screenshot
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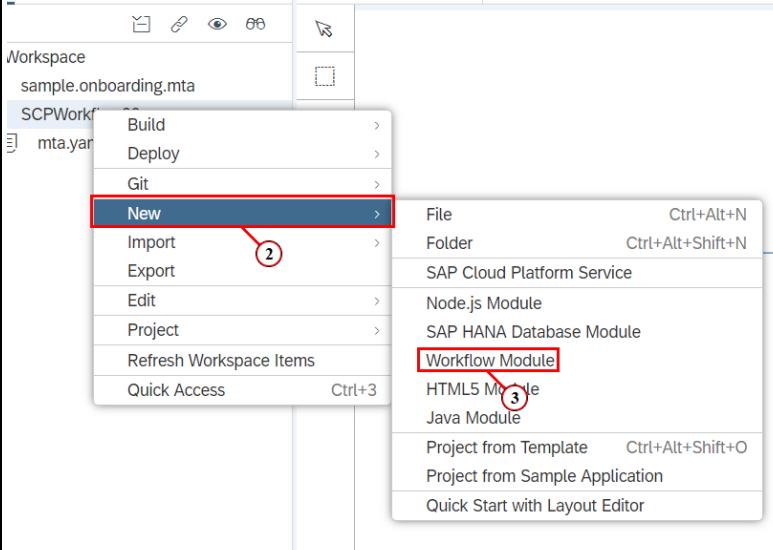
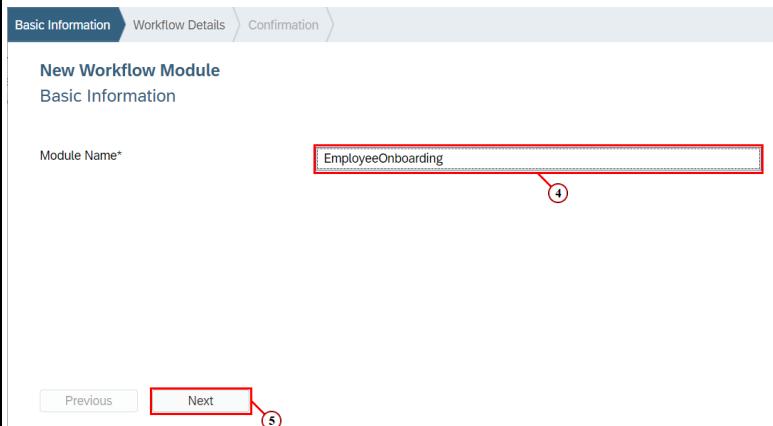
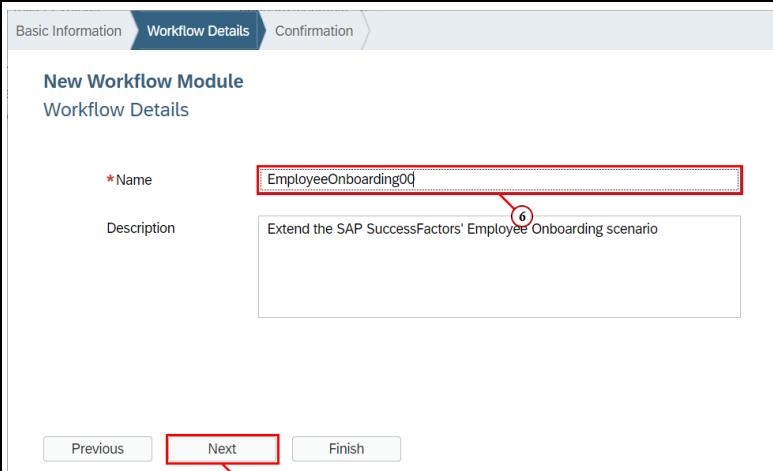
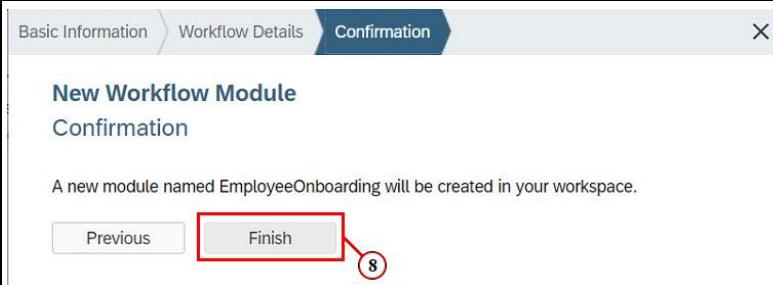
Explanation	Screenshot
1. Right Click on Workspace .	
2. Click New 3. Click Project from Template .	
4. Make sure that the Environment is 'Cloud Foundry'. Click ▼ and select Cloud Foundry from the drop down. 5. Click Cloud Foundry .	

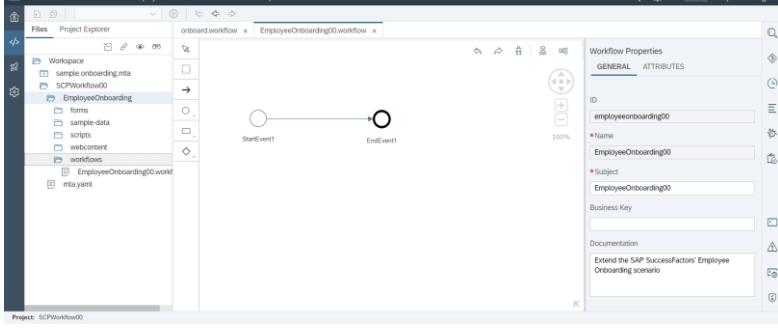
Explanation	Screenshot
<p>6. Choose the Multi-Target Application tile.</p> <p>7. Click .</p>	 <p>The screenshot shows the 'Template Selection' step of the application creation wizard. The 'New Multi-Target Application' template is selected. The 'Multi-Target Application' icon is highlighted with a red circle labeled '6'. The 'Next' button at the bottom is also highlighted with a red box and a red circle labeled '7'.</p>
<p>Provide the project name as SCPWorkflowXX. Note: Replace XX with the number provided to you by the instructor</p> <p>8. Click .</p>	 <p>The screenshot shows the 'Basic Information' step. The 'Project Name*' field contains 'SCPWorkflow00', which is highlighted with a blue box and a red circle labeled '8'.</p>
<p>[Optional] Provide a description such as TechEd Exercise.</p> <p>9. Click .</p>	 <p>The screenshot shows the 'Template Customization' step. The 'Description' field contains 'TechEd CAA366 - Build your own workflow from scratch', which is highlighted with a blue box and a red circle labeled '9'.</p>
<p>10. Click Finish</p>	 <p>The screenshot shows the 'Confirmation' step. It displays a message: 'A new project named SCPWorkflow00 will be created in your workspace.' The 'Finish' button at the bottom is highlighted with a red box and a red circle labeled '10'.</p>

Explanation	Screenshot
<p>SCPWorkflowXX will appear in your workspace.</p> <p>Note: XX will be replaced with the number assigned to you by the instructor.</p>	 A screenshot of the SAP Studio interface. The top navigation bar includes File, Edit, Build, Run, Deploy, and Search. Below the navigation is a toolbar with icons for home, refresh, and search. The main area is titled 'Project Explorer' with tabs for 'Files' and 'Project Explorer'. Under the 'Files' tab, there's a tree view of the workspace. At the top level is 'sample.onboarding.mta'. Below it is a folder named 'SCPWorkflow00'. A red box highlights this folder. Inside the 'SCPWorkflow00' folder is an 'mta.yaml' file, which is also highlighted with a red box and has a circled '1' next to it.

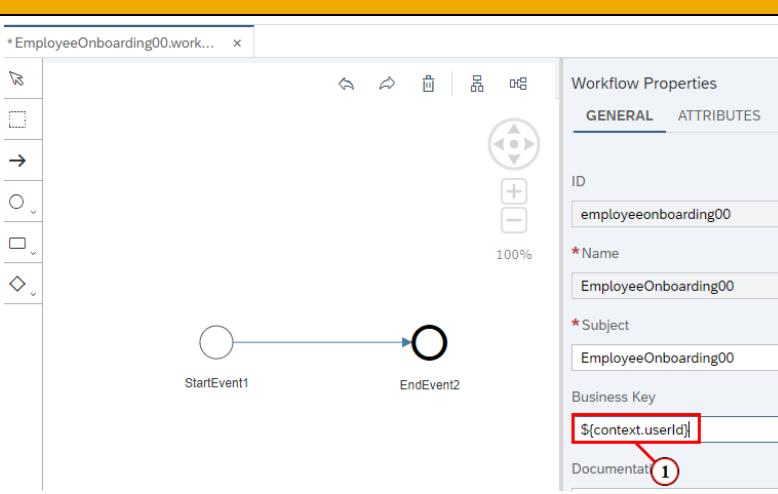
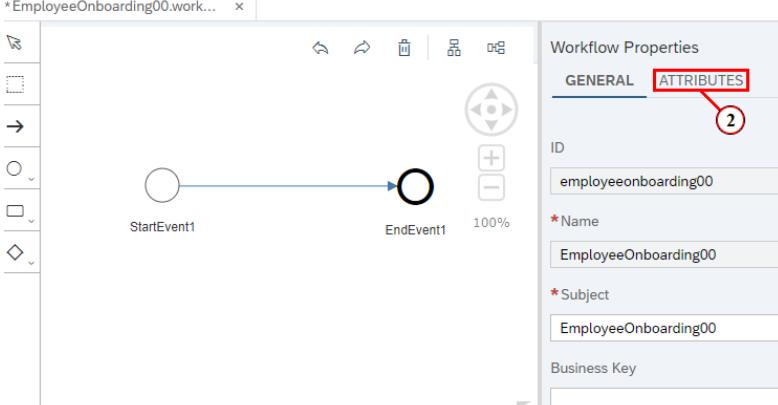
Create a workflow module in the MTA

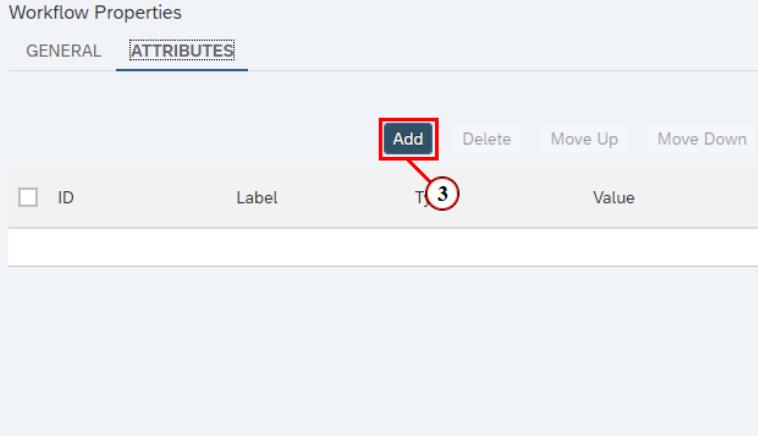
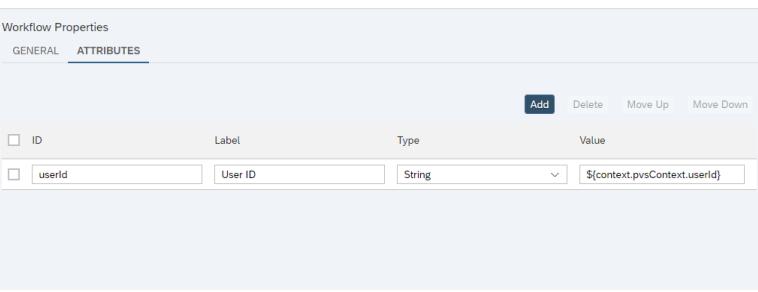
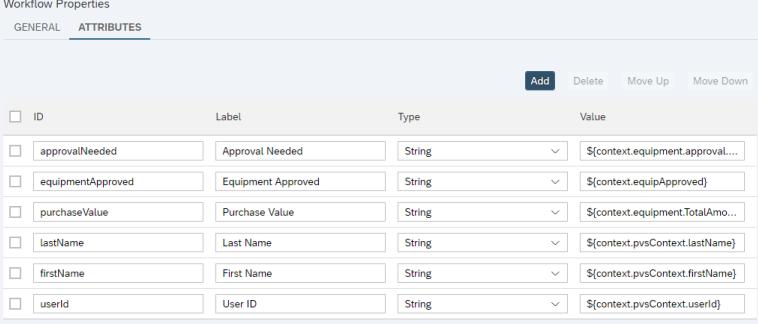
Explanation	Screenshot
<p>1. Right click on SCPWorkflow00.</p>	 A screenshot of the SAP Studio interface, similar to the previous one but with a right-click context menu open over the 'SCPWorkflow00' folder. The menu items visible are 'New', 'Delete', 'Copy', 'Paste', 'Move', 'Properties', 'Share', 'Run', 'Build', 'Deploy', and 'Edit'. The 'Edit' option is highlighted with a red box and has a circled '1' next to it.

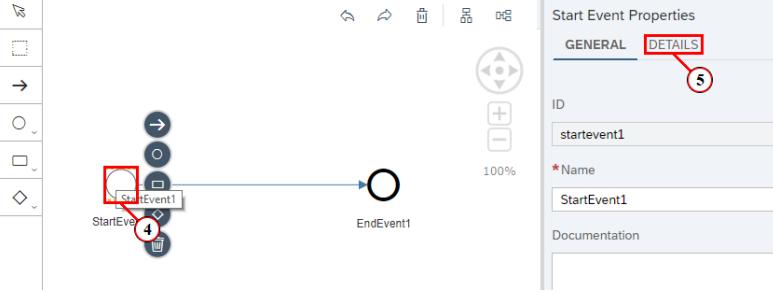
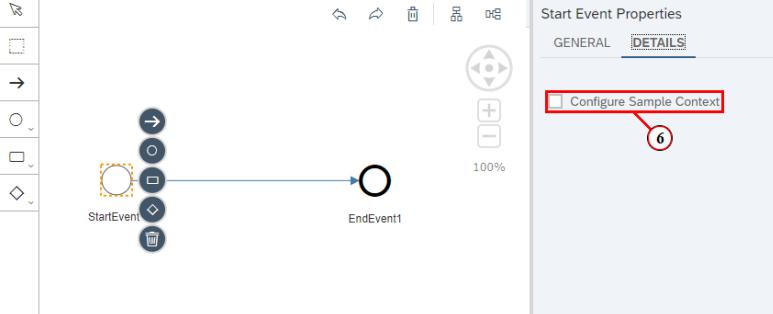
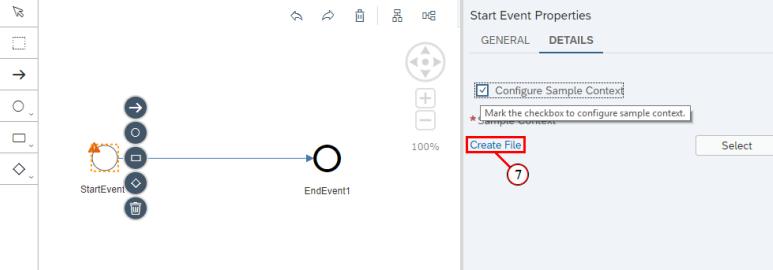
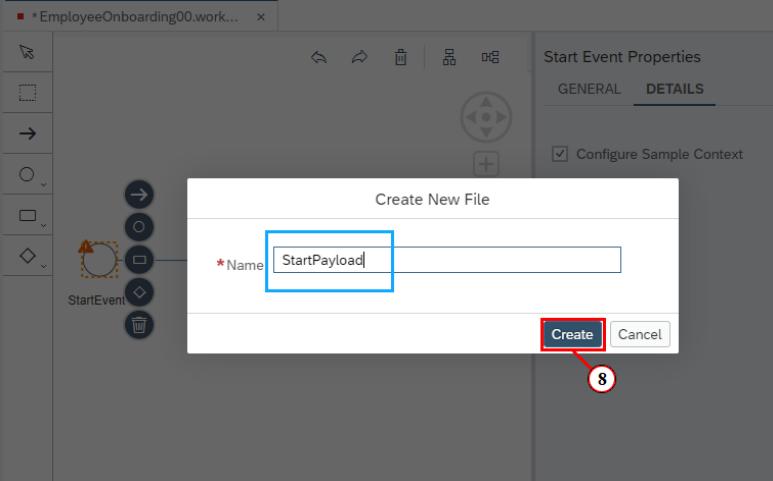
Explanation	Screenshot
<p>2. Click New.</p> <p>3. Select Workflow Module.</p>	
<p>4. Name the Workflow Module as EmployeeOnboarding</p> <p>5. Click Next.</p>	
<p>6. Name the workflow as EmployeeOnboardingXX</p> <p>Note: Replace the digits XX with the number provided to you by the instructor.</p> <p>7. Click Next.</p>	
<p>8. Click Finish</p>	

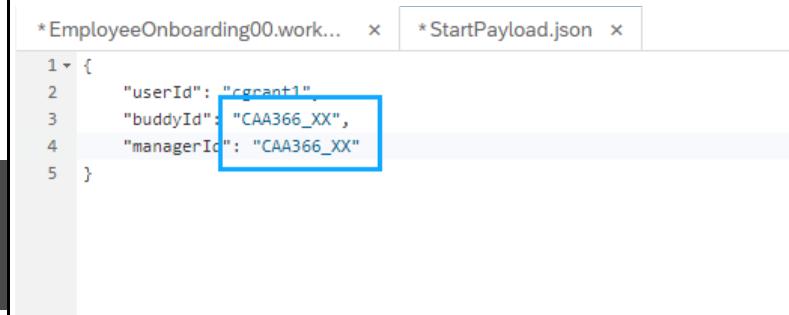
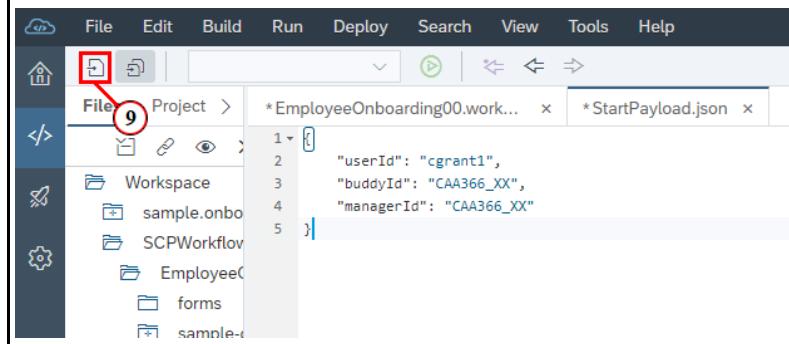
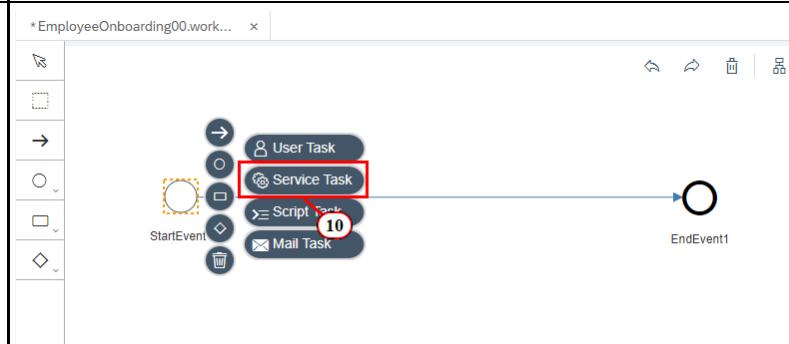
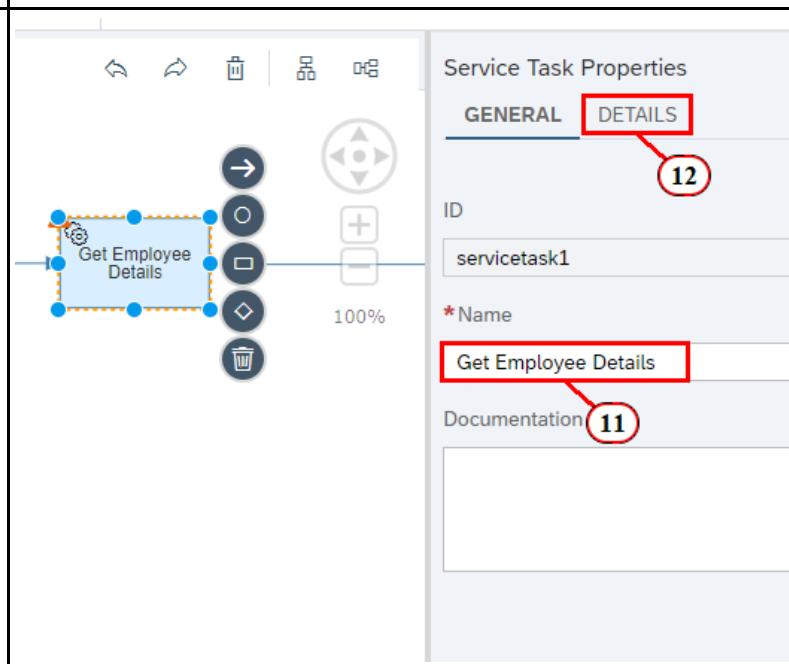
Explanation	Screenshot
<p> You will see the newly created workflow.</p>	

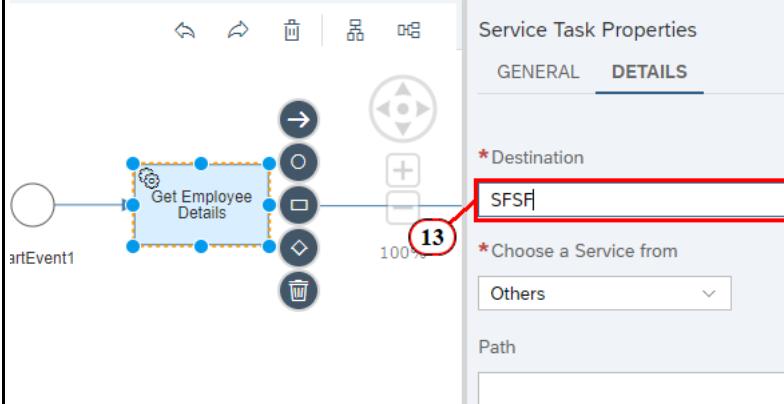
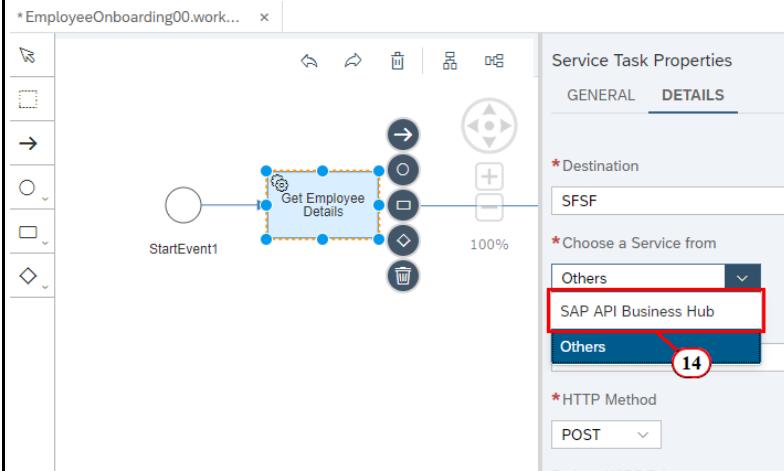
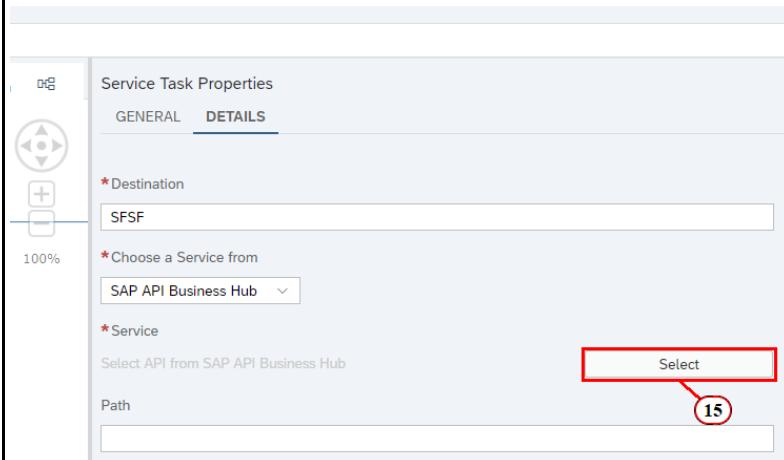
Model the Workflow

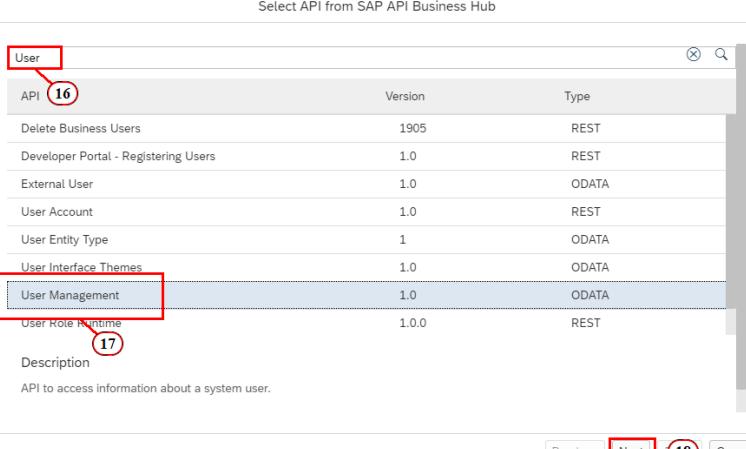
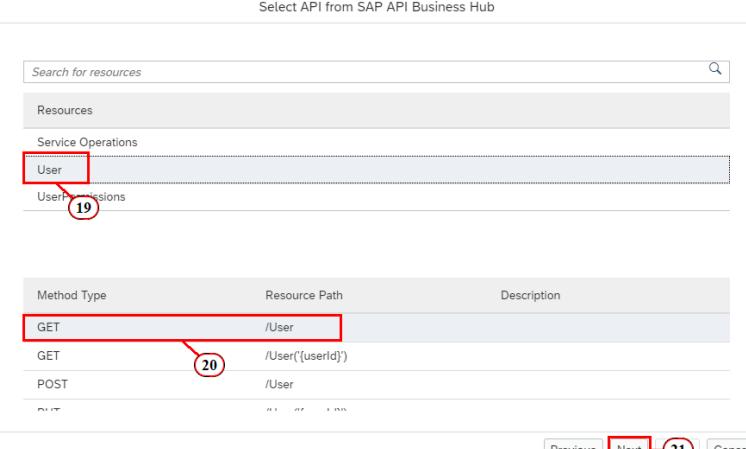
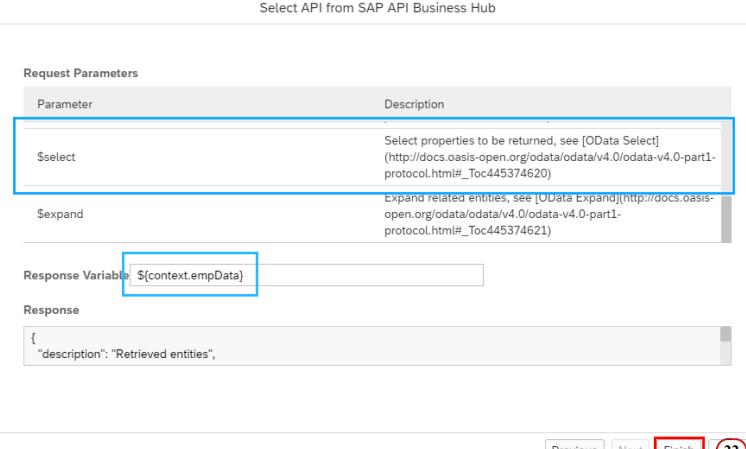
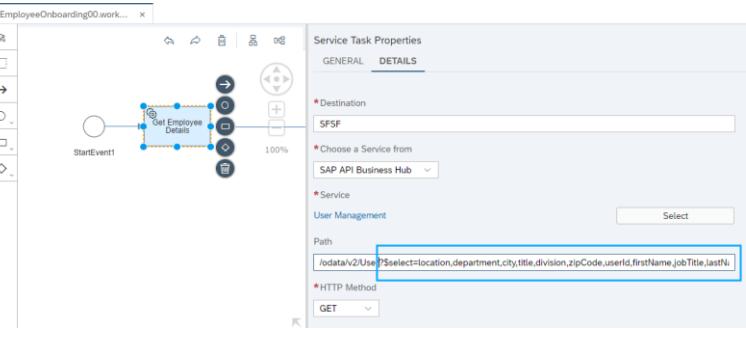
Explanation	Screenshot
<p>Select the newly created workflow - EmployeeOnboardingXX</p> <p>Note: XX corresponds to the digits you provided while creating the workflow</p> <p>1. Enter <code> \${context.userId} </code> in the Business Key field</p> <p> The business key allows you to identify the workflow instance without needing to know the technical instance ID. The Business Key need not be unique.</p>	
<p>2. Click on the ATTRIBUTES tab under Workflow Properties.</p> <p> We expose a select set of the Workflow Context which will/can be used as context attributes in the Process Visibility scenario. (Refer: Gain Visibility on your Workflow)</p>	

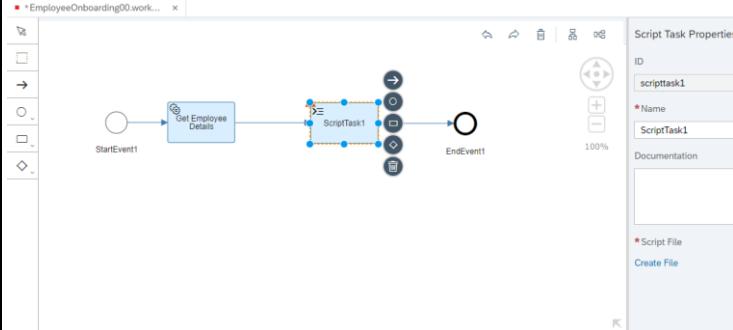
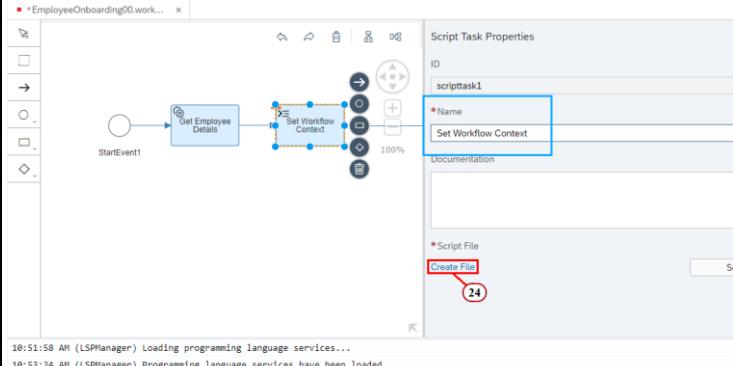
Explanation	Screenshot														
<p>3. Click Add.</p>															
<p>Add attributes corresponding to the following table.</p> <table border="1" data-bbox="187 871 608 1551"> <thead> <tr> <th>ID</th> <th>Label</th> </tr> </thead> <tbody> <tr> <td>approvalNeeded</td> <td>Ap</td> </tr> <tr> <td>equipmentApproved</td> <td>Eq</td> </tr> <tr> <td>purchaseValue</td> <td>Pu</td> </tr> <tr> <td>lastName</td> <td>La</td> </tr> <tr> <td>firstName</td> <td>Fir</td> </tr> <tr> <td>userId</td> <td>Us</td> </tr> </tbody> </table>	ID	Label	approvalNeeded	Ap	equipmentApproved	Eq	purchaseValue	Pu	lastName	La	firstName	Fir	userId	Us	
ID	Label														
approvalNeeded	Ap														
equipmentApproved	Eq														
purchaseValue	Pu														
lastName	La														
firstName	Fir														
userId	Us														
<p>You should have all the attributes as described in the table and shown in the image here.</p>															

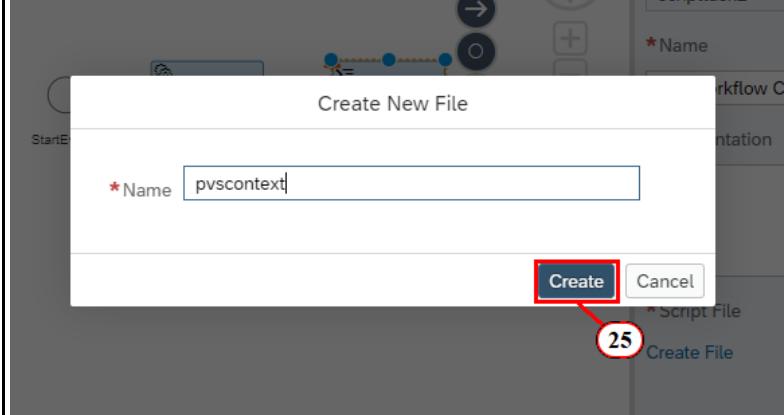
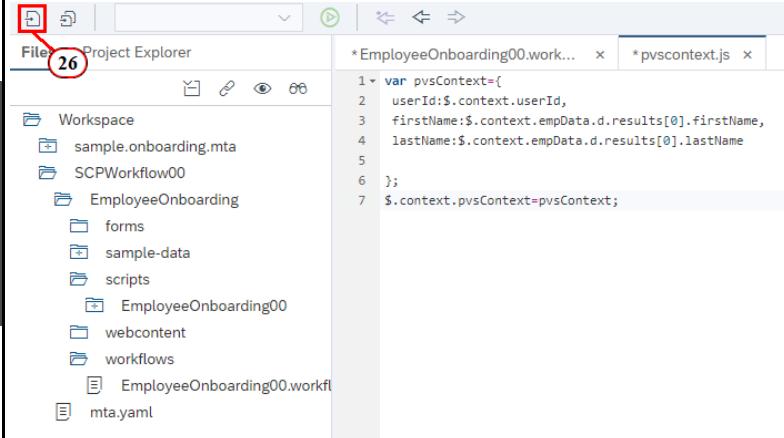
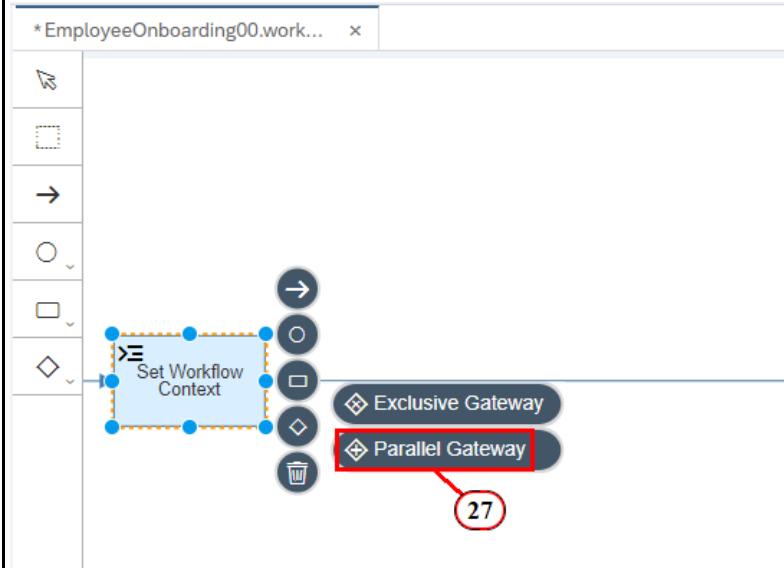
Explanation	Screenshot
<p>In the following steps, we will create a sample Start Context. This is mainly to help developers testing workflows in the Monitor Workflow Application (refer Start New Workflow Instance) or while using APIs that return the sample payload for reference.</p> <p>4. Click the StartEvent1</p> <p>5. Click DETAILS.</p>	 <p>The screenshot shows a workflow diagram with a StartEvent1 node (highlighted with a red box) connected to an EndEvent1 node. The properties panel on the right is open, showing the 'GENERAL' tab with the ID 'startevent1' and name 'StartEvent1'. A red box highlights the 'DETAILS' tab, which is circled with number 5.</p>
<p>6. Click <input type="checkbox"/> Configure Sample Context checkbox.</p>	 <p>The screenshot shows the same workflow diagram. Step 6 highlights the 'Configure Sample Context' checkbox in the properties panel, which is circled with number 6.</p>
<p>7. Click Create File.</p>	 <p>The screenshot shows the same workflow diagram. Step 7 highlights the 'Create File' button in the properties panel, which is circled with number 7.</p>
<p>Name the file StartPayload. Do not worry about providing the file extension. This will be taken care implicitly.</p> <p>8. Click Create.</p>	 <p>The screenshot shows the SAP Monitor Workflow Application interface. A 'Create New File' dialog is open, prompting for a file name. The 'Name' field contains 'StartPayload'. Step 8 highlights the 'Create' button in the dialog, which is circled with number 8.</p>

Explanation	Screenshot
<p>A prefilled JSON file with example content for reference will be created. Replace the contents of the file with the following script.</p> <pre data-bbox="179 415 600 557">{ "userId": "cgiant1", "buddyId": "CAA366_XX", "managerId": "CAA366_XX" }</pre>	
<p>Note: Replace XX with the number provided to you by your instructor.</p>	
<p>9. Click  to save the file. Close the StartPayload.json file.</p>	
<p>10. Click on StartEvent1 to bring up the speed button menu. Click on the rounded rectangle  and then choose Service Task</p>	
<p>11. Name the Service Task as - Get Employee Details</p> <p>12. Click on the Details tab.</p>	

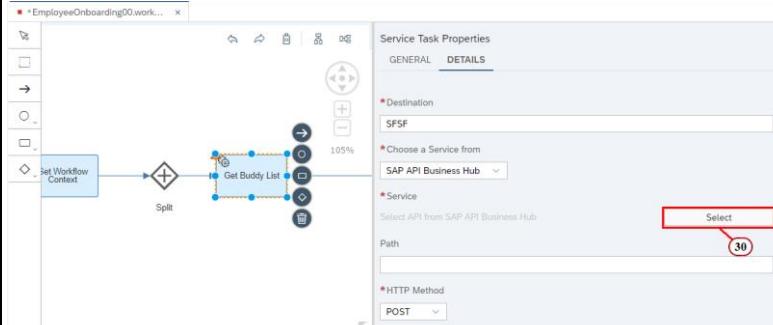
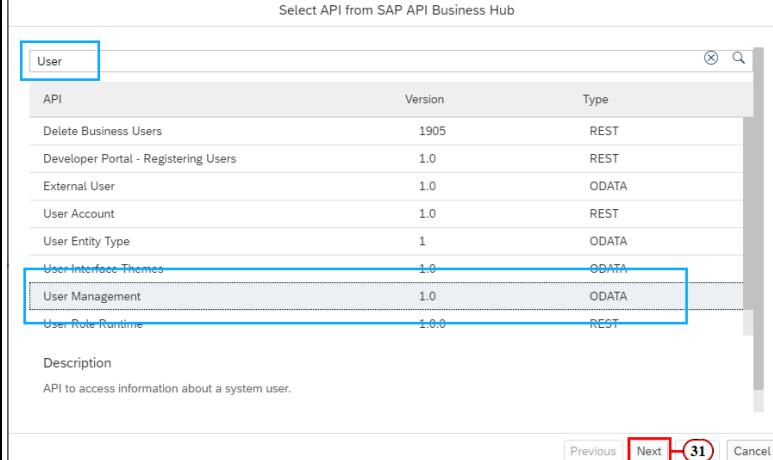
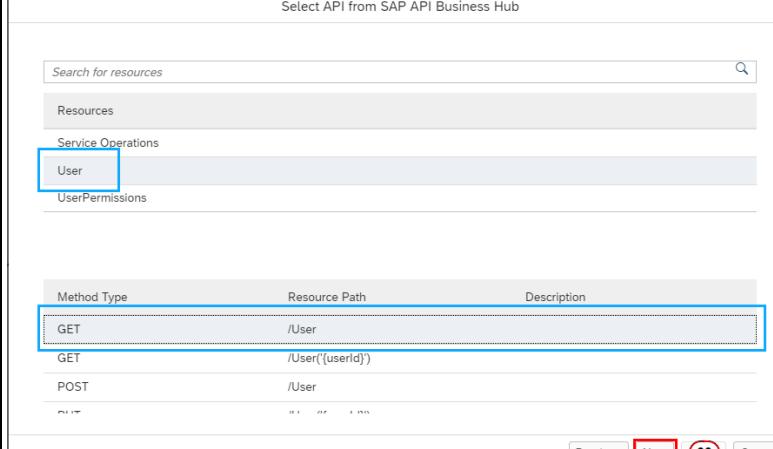
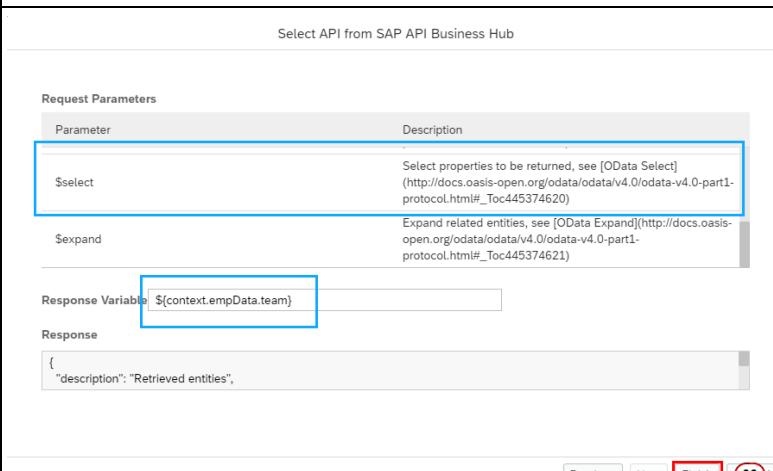
Explanation	Screenshot
<p>13. Provide SFSF as the destination.</p>  <p><i>Note: SFSF is a service end point destination to a SuccessFactors system, and is defined in the SAP Cloud Platform Cockpit under Destinations, created as part of Destination Setup.</i></p>	
<p>14. In the drop down for Choose a Service from, select SAP API Business Hub.</p> <p>API business hub enables developers to search and find SAP Line Of Business apps APIs. But it is possible to consume APIs from 3rd party systems by using Others.</p>	
<p>15. Click Select</p> 	

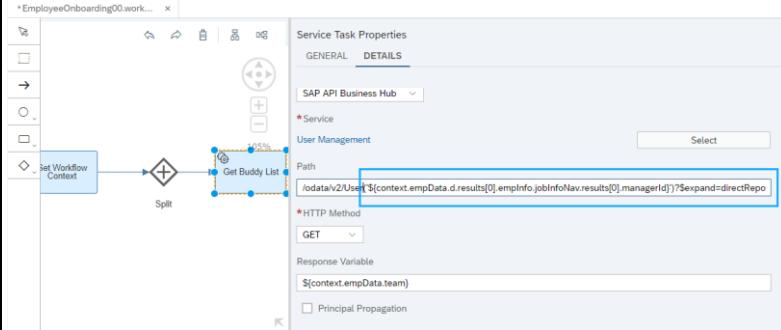
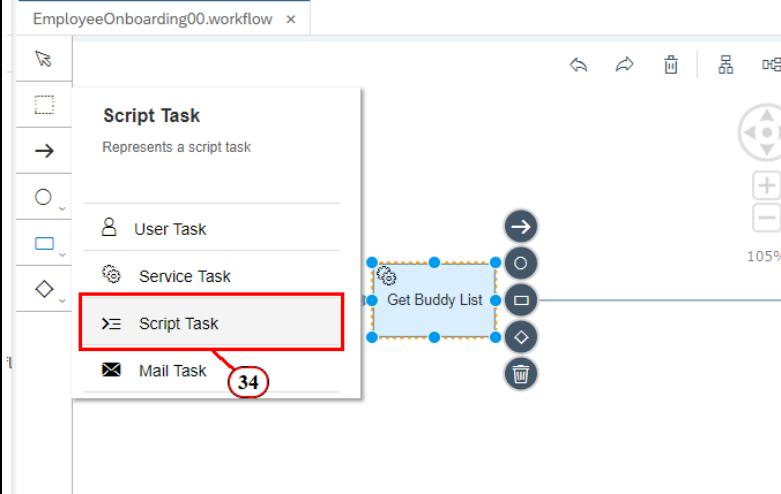
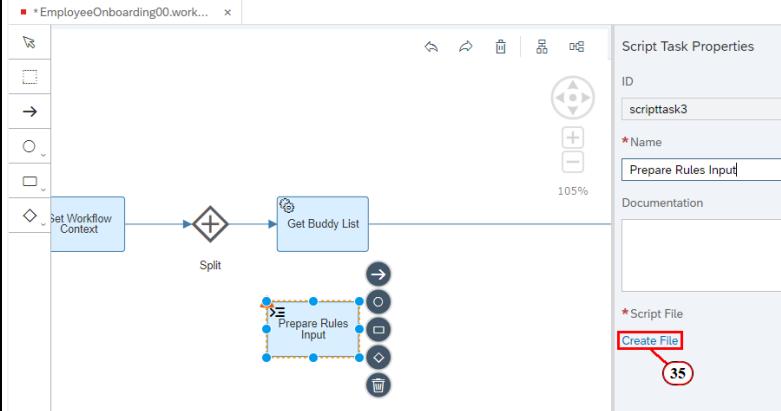
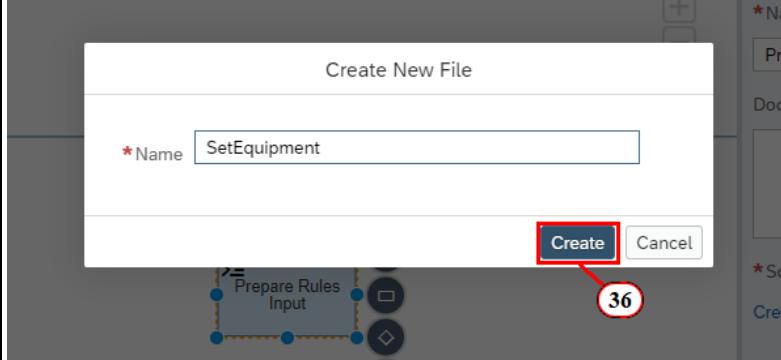
Explanation	Screenshot
<p>16. Search for User in the search box.</p> <p>17. Select User Management.</p> <p>18. Click </p>	
<p>19. Select the resource User.</p> <p>20. Choose the GET method type corresponding to resource patch /User</p> <p>21. Click </p>	
<p>Scroll through the request parameters and choose \$select for reference.</p> <p>The request parameters gives you an idea of how to form your REST calls.</p> <p>Change the Response Variable to `\${context.empData}`</p> <p>22. Click </p>	
<p>Paste the following query parameter into the path right after /odata/v2/User</p> <pre>?\$select=location,department,city,title,division,zipCode,userId,firstName,jobTitle,lastName,relocation,hireDate,addressLine1,relocation,country,keyPosition,jobCode,defaultFullName,empInfo/jobInfoNav/position,empInfo/jobInfoNav/startDate,empInfo/jobInfoNav/isFulltimeEmployee,empInfo/jobInfoNav/department,empInfo/jobInfoNav/division,empInfo/jobInfoNav/jobTitle,empInfo/jobInfoNav/c</pre>	

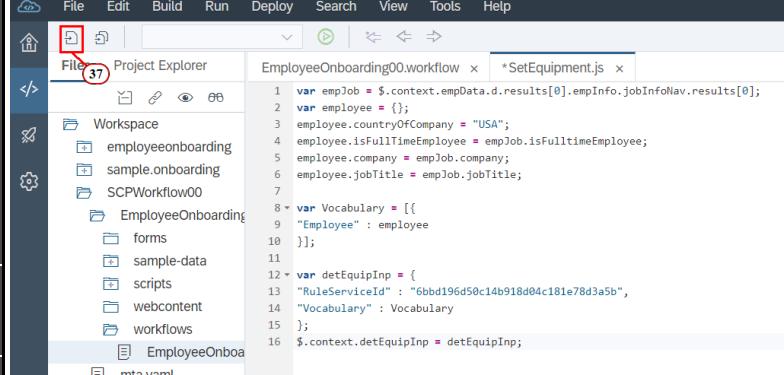
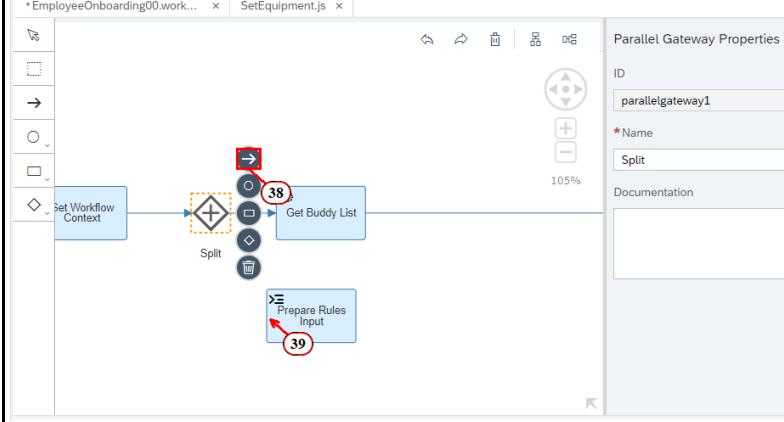
Explanation	Screenshot
<pre>countryOfCompany,empInfo/jobInfoNav/costCenter,empInfo/jobInfoNav/businessUnit,empInfo/jobInfoNav/managerId,empInfo/jobInfoNav/company,empInfo/jobInfoNav/jobCode &filter=userId eq '\${(context.userId)'}&\$expand=empInfo/jobInfoNav&format=json</pre>	
<p>23. Click on the Get Employee Details service task to bring up the speed button menu. Click on the rounded rectangle  and then choose Script Task</p>	
<p>The new script task will latch to the sequence flow.</p>	
<p>Name the script task as Set Workflow Context 24. Click Create File to create a Java Script file.</p>	

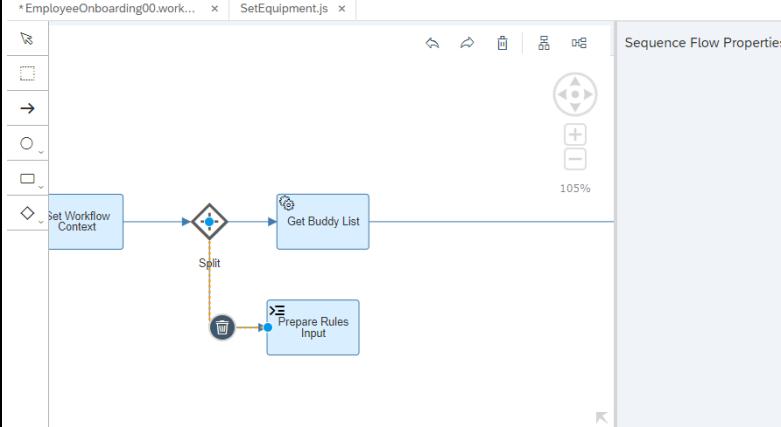
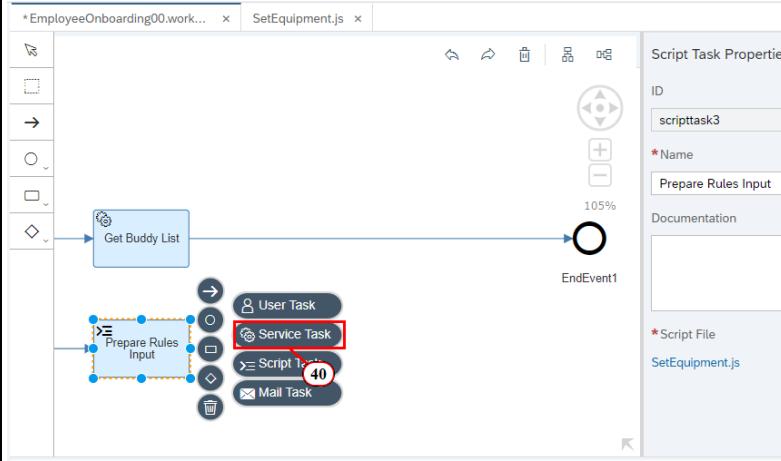
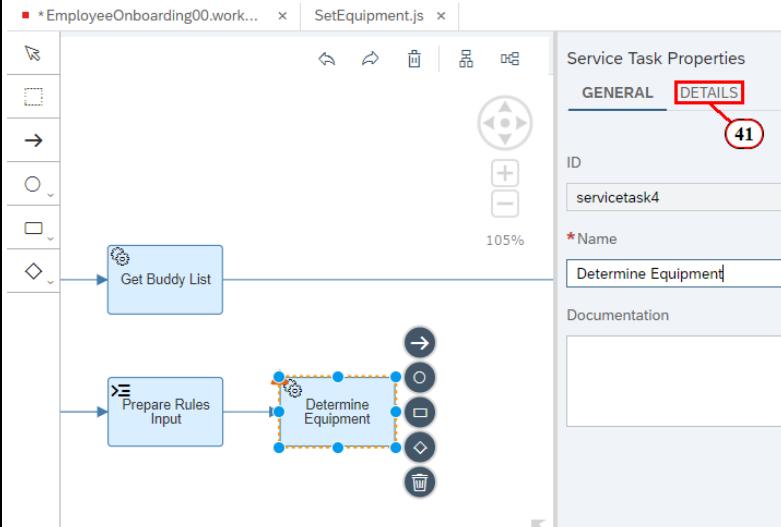
Explanation	Screenshot
<p> A wizard will pop up to create a new file. Name the file pvscontext. Do not worry about providing the .js extension. This will be taken care of implicitly.</p> <p>25. Click Create.</p>	
<p> The Java script file will be opened with pre-generated content with instructions on how to create a script to modify the workflow context. You may refer to this for further details. In this exercise, we recommend deleting the contents of the file.</p>	 <pre> 1 // ... 2 // read from existing workflow context 3 var productInfo = \$.context.productInfo; 4 var productName = productInfo.productName; 5 var productDescription = productInfo.productDescription; 6 7 // read contextual information 8 var taskDefinitionId = \$.taskDefnId; 9 10 // read user task information 11 var lastUserTaskId = \$userTasks.userTaskId.last; 12 var userTaskIdObject = lastUserTaskId.subject; 13 var userTaskProcessor = lastUserTaskId.processor; 14 var userTaskCompletedAt = lastUserTaskId.completedAt; 15 16 var userTaskStatusMessage = "User task '" + userTaskSubject + "' has been completed by " + userTaskProcessor + " at " + userTaskCompletedAt; 17 18 // create new node 'product' 19 var product = { 20 productDetails: productName + " " + productDescription, 21 workflowStep: taskDefinitionId 22 }; 23 24 // write 'product' node to workflow context 25 \$.context.product = product; 26 */ </pre>
<p>Paste the following script in the file and save it.</p> <pre> var pvsContext={ userId:\$context.userId, firstName:\$context.empData.d.results[0].firstName, lastName:\$context.empData.d.results[0].lastName }; \$.context.pvsContext=pvsContext; </pre> <p>26. Click  to save the file. You may close the pvscontext.js file too.</p>	
<p>We will now create a parallel split in the workflow to work a couple of tasks simultaneously. This is generally done when the tasks are not dependent on each other.</p> <p>27. Click on Set Workflow Context script task to bring up the speed button menu.</p> <p>Click on the rhombus  and then choose Parallel Gateway</p>	

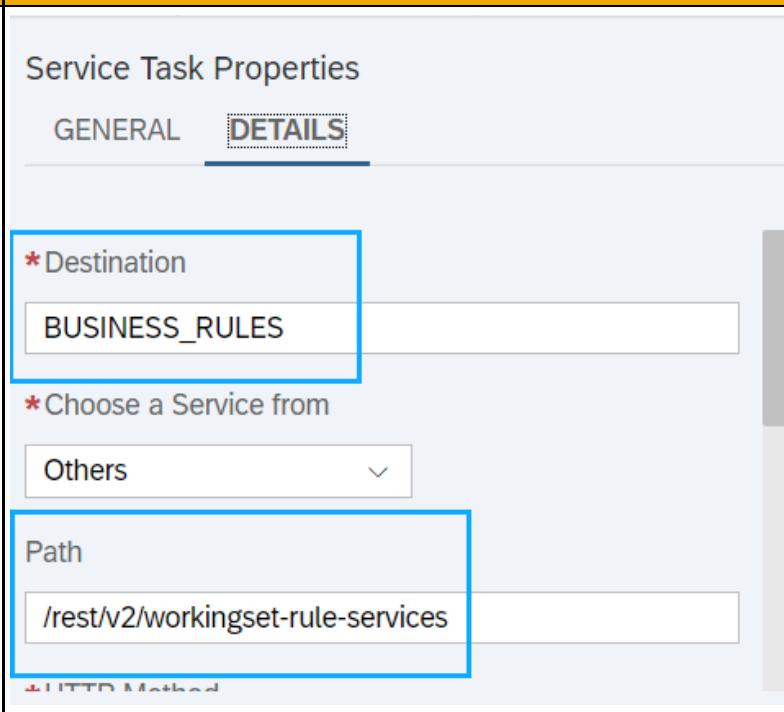
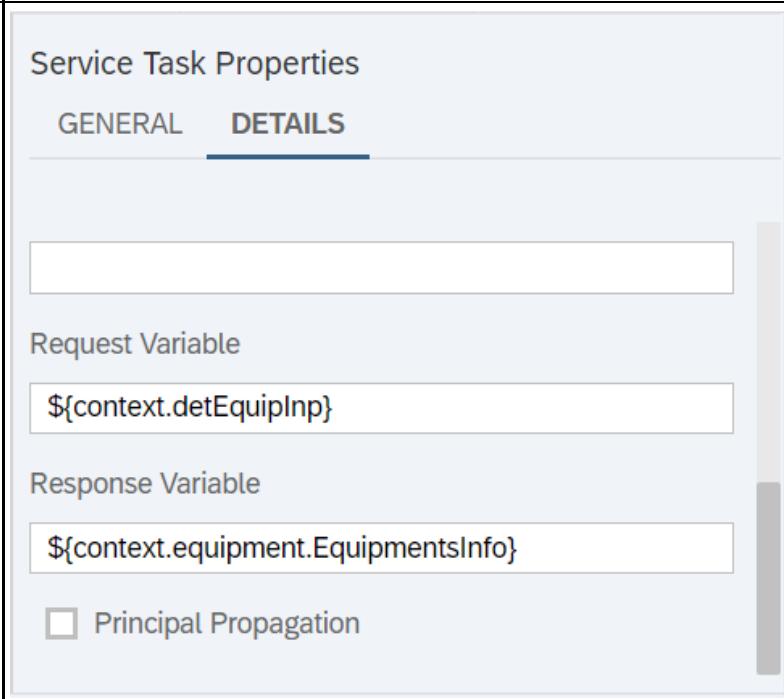
Explanation	Screenshot
<p>The parallel gateway will latch on to the sequence flow.</p> <p>Note: You can drag the parallel gateway closer to Set Workflow Context script task in order to organize your workflow. You can also give a meaningful name to the gateway (such as - Split).</p>	
<p>28. Click on the parallel gateway to bring up the speed button menu. Click on the rounded rectangle and then choose Service Task</p>	
<p>A new Service Task will latch on to the sequence flow. Feel free to drag it and rearrange your workflow.</p>	
<p>Rename the service task as Get Buddy List. 29. Click DETAILS.</p>	

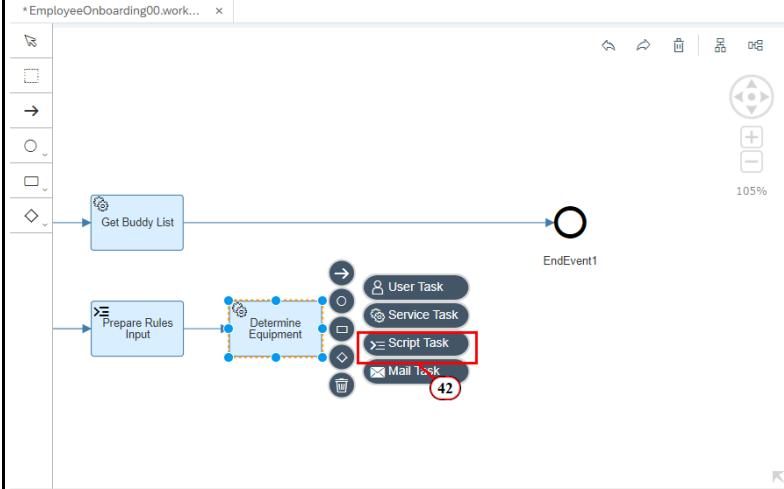
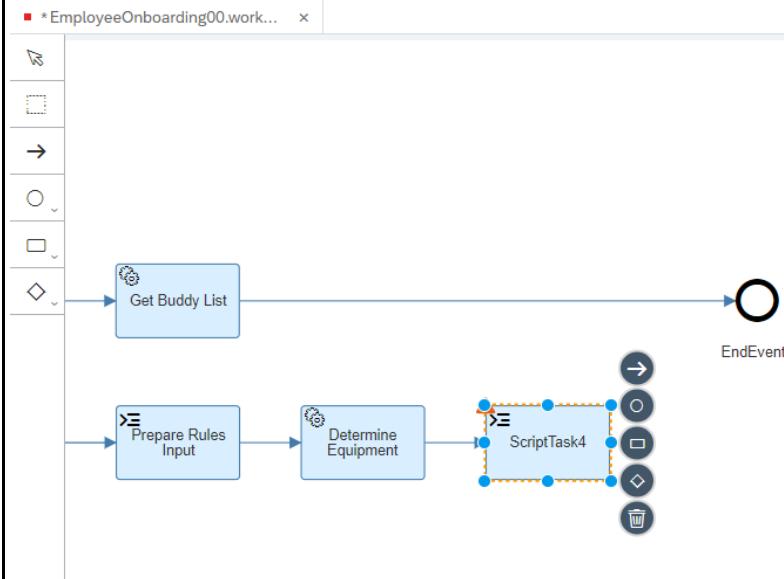
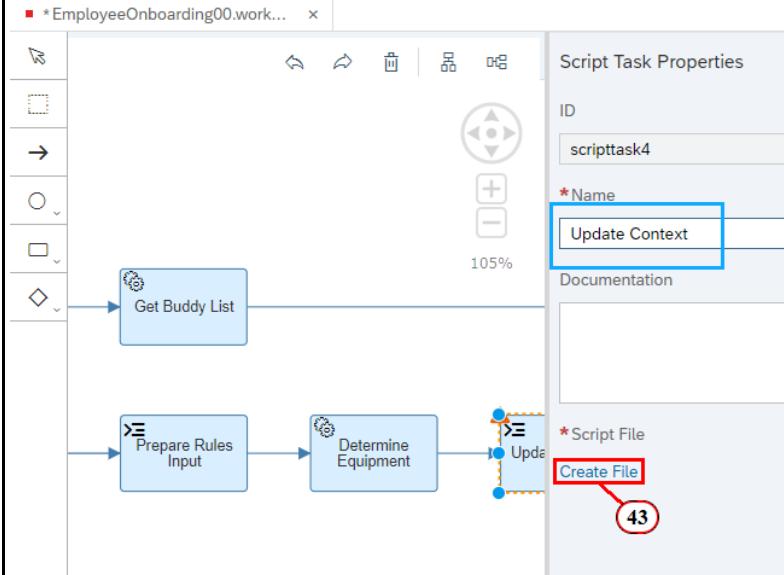
Explanation	Screenshot
<p>Provide the following details</p> <p>Destination: SFSF Choose from Service: SAP API Business Hub 30. Click Select</p>	 <p>The screenshot shows a workflow diagram with a 'Set Workflow Context' step followed by a 'Split' gateway. A transition leads to a 'Get Buddy List' service call. To the right, the 'Service Task Properties' dialog is open for the 'Get Buddy List' task. It shows 'Destination' set to 'SFSF', 'Choose a Service from' set to 'SAP API Business Hub', and 'Service' set to 'Select API from SAP API Business Hub'. The 'Select' button is highlighted with a red box and circled with a red circle.</p>
<p>Search for User by typing it in the search field. Choose User Management API as highlighted in the image. 31. Click Next</p>	 <p>The screenshot shows a search results page for 'User'. The 'User Management' API is highlighted with a blue box and circled with a red circle. Below the table, the description states: 'API to access information about a system user.' Navigation buttons at the bottom include 'Previous', 'Next' (highlighted with a red box and circled with a red circle), and 'Cancel'.</p>
<p>Choose User from the Resources. Select the GET method type with /User resource type as highlighted in the image. 32. Click Next</p>	 <p>The screenshot shows the 'User' resource selected in the resources list. Below, the 'Method Type' table shows 'GET' selected for both '/User' and '/User('{userId}')'. Navigation buttons at the bottom include 'Previous', 'Next' (highlighted with a red box and circled with a red circle), and 'Cancel'.</p>
<p>Scroll through the Request Parameters and choose \$select Set the Response Variable as #{context.empData.team} 33. Click Finish</p>	 <p>The screenshot shows the 'Request Parameters' section. The '\$select' parameter is highlighted with a blue box. The 'Response Variable' is set to ' #{context.empData.team}' and is also highlighted with a blue box. The 'Response' section contains the JSON object: { "description": "Retrieved entities", }. Navigation buttons at the bottom include 'Previous', 'Next' (highlighted with a red box and circled with a red circle), and 'Finish'.</p>

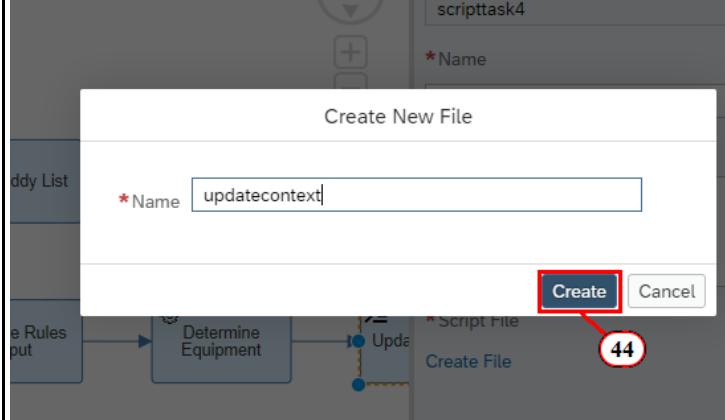
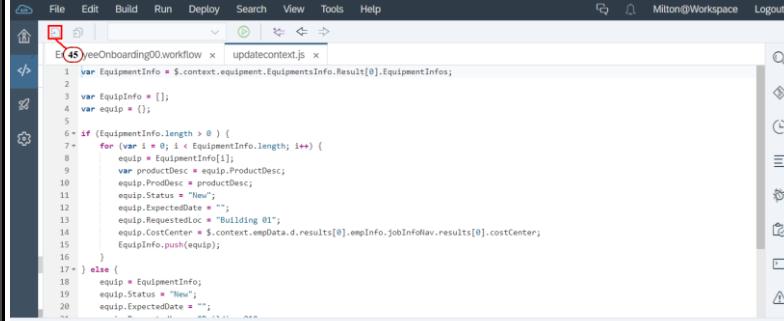
Explanation	Screenshot
<p>Paste the following query parameter right after <code>/odata/v3/User</code></p> <pre data-bbox="187 361 600 512"> ?\$filter=(context.empData.d.results[0].empInfo.jobInfoNav.results[0].managerId) eq '\$context.empData.team'&\$select=directReports/userId&\$format=json </pre>	
<p>34. Click on the rounded rectangle from the Pallete. Choose Script Task. Drop the Script task below the Get Buddy List service task.</p> <p> Since we need to create a fork in the flow after the parallel gateway, we will use the Canvas buttons instead of speed buttons. This gives us the freedom to drop the workflow artefacts anywhere on the workflow.</p>	
<p>Name the script task as Prepare Rules Input</p> <p>35. Click Create File.</p>	
<p>Name the new file as SetEquipment</p> <p>As mentioned earlier, do not worry about providing a file extension here.</p> <p> 36. Click Create.</p>	

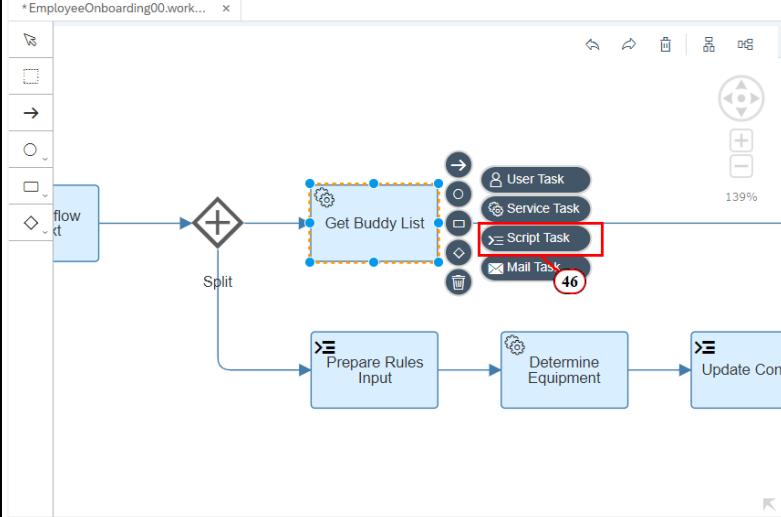
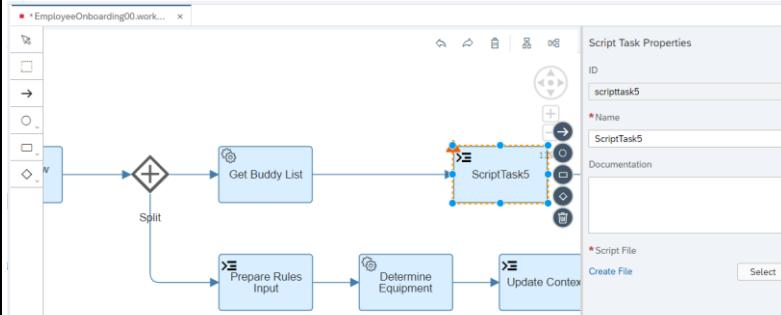
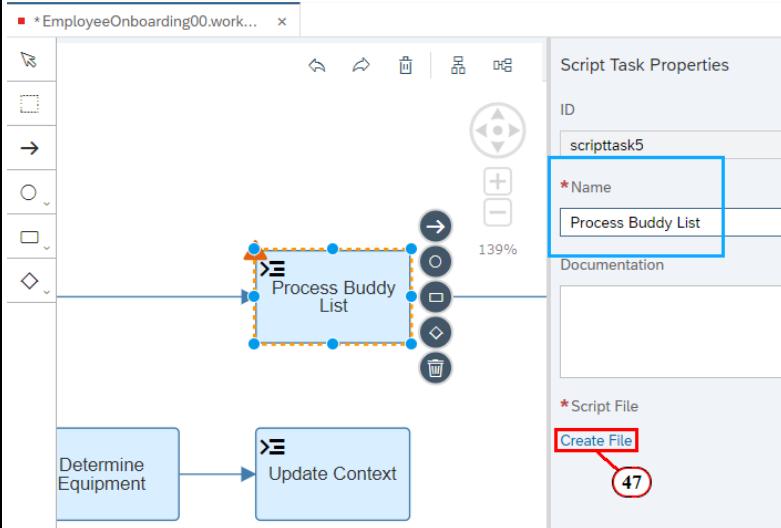
Explanation	Screenshot
<p>Replace the contents of the newly created file with the following script:</p> <p>In this exercise, we will invoke a predeployed Rule Service called 'DetermineEquipmentRuleService' which is identified by its RuleServiceId.</p> <p>The script constructs the payload that will be posted to the Rule Service.</p> <pre data-bbox="179 505 600 1100"> var empJob = \$.context.empData.d.results[0].e mpInfo.jobInfoNav.results[0]; var employee = {}; employee.countryOfCompany = "USA"; employee.isFullTimeEmployee = empJob.isFulltimeEmployee; employee.company = empJob.company; employee.jobTitle = empJob.jobTitle; var Vocabulary = [{ "Employee" : employee }; var detEquipInp = { "RuleServiceId" : "6bbd196d50c14b918d04c181e78d3a5 D", "Vocabulary" : Vocabulary }; \$.context.detEquipInp = detEquipInp; </pre> <p>37. Click .</p>	
<p>38. Click on the Parallel Gateway. Click and drag the sequence flow  speed button.</p> <p>39. Drop the sequence flow on the newly created Prepare Rules Input script task.</p>	

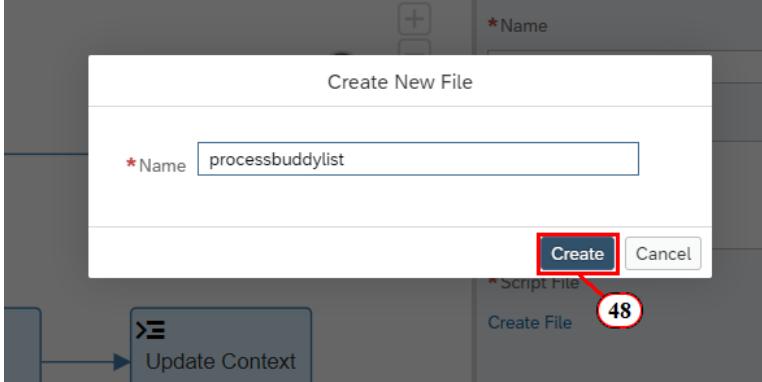
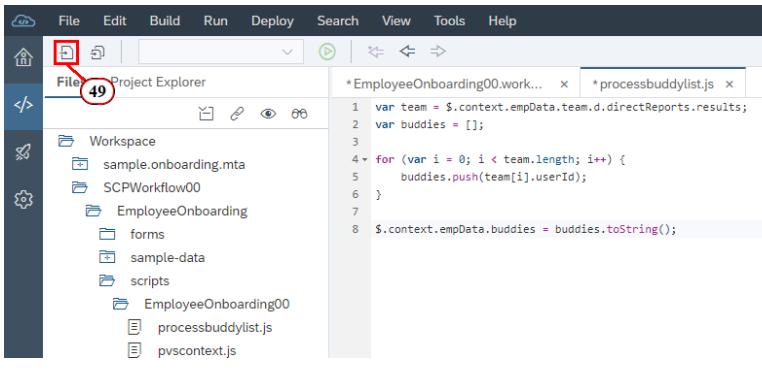
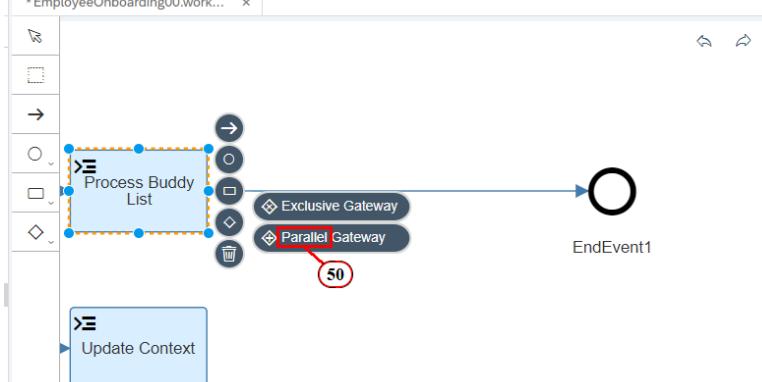
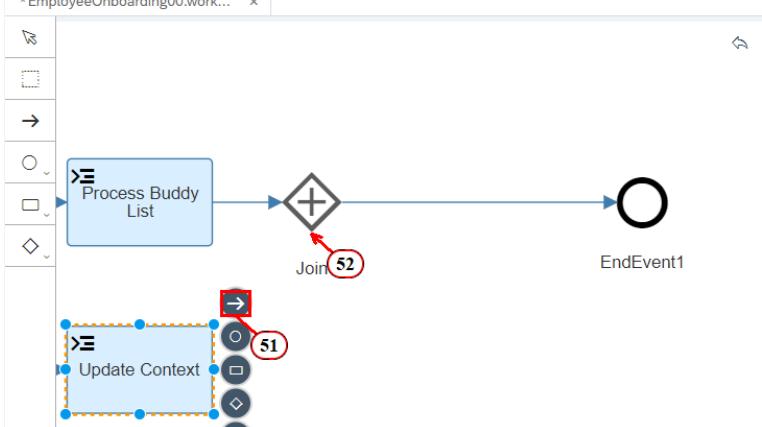
Explanation	Screenshot
The sequence flow should look as shown in the image.	
40. Click on the script task to bring up the speed button menu. Click on the rounded rectangle and then choose Service Task	
Name the service task as Determine Equipment . 41. Click DETAILS .	

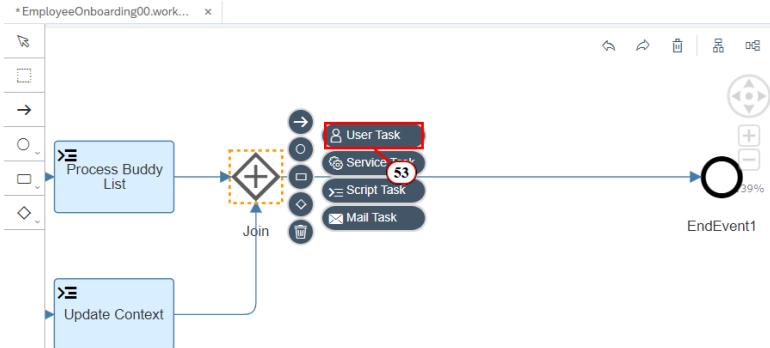
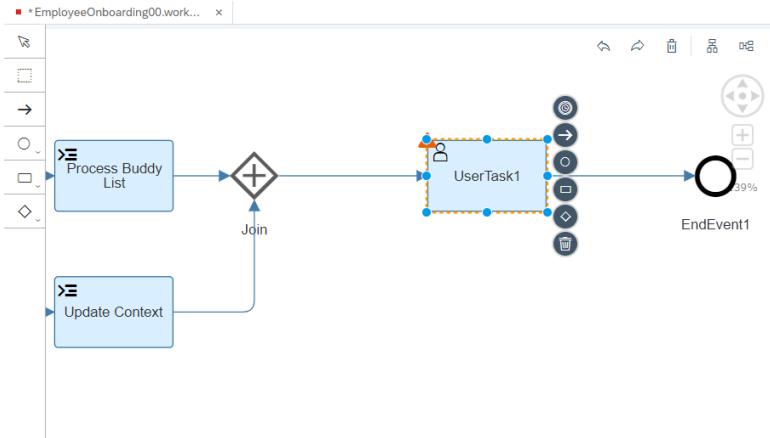
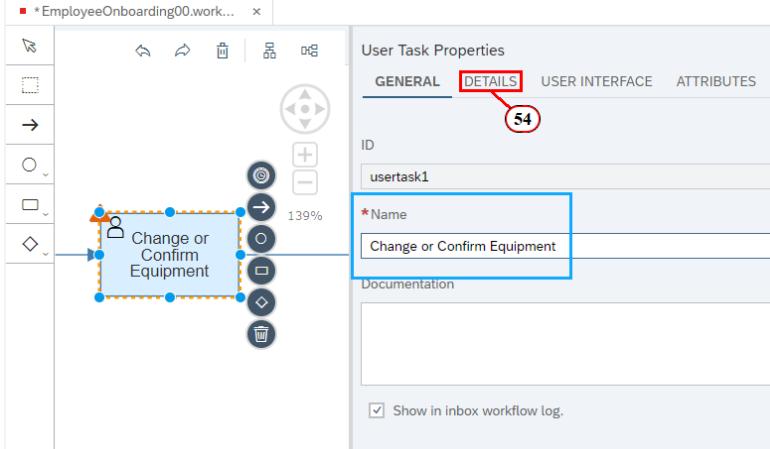
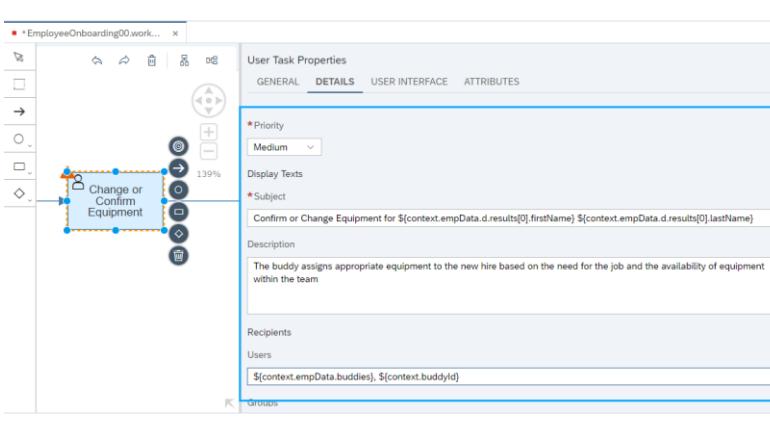
Explanation	Screenshot
<p>Set the following</p> <p>Destination: BUSINESS_RULES</p> <p>Path: /rest/v2/workingset-rule-services</p> <p>HTTP Method: POST</p> <p>Note: BUSINESS_RULES is the service end point destination to the system where Business Rules Service is deployed, and is defined in the SAP Cloud Platform Cockpit under Destinations, created as part of the Destination Setup.</p>	 <p>Service Task Properties</p> <p>GENERAL DETAILS</p> <p>*Destination BUSINESS_RULES</p> <p>*Choose a Service from Others</p> <p>Path /rest/v2/workingset-rule-services</p> <p>HTTP Method</p>
<p>Provide the following details:</p> <p>Request Variable: \${context.detEquipInp}</p> <p>Response Variable: \${context.equipment.EquipmentsInfo}</p>	 <p>Service Task Properties</p> <p>GENERAL DETAILS</p> <p>Request Variable \${context.detEquipInp}</p> <p>Response Variable \${context.equipment.EquipmentsInfo}</p> <p><input type="checkbox"/> Principal Propagation</p>

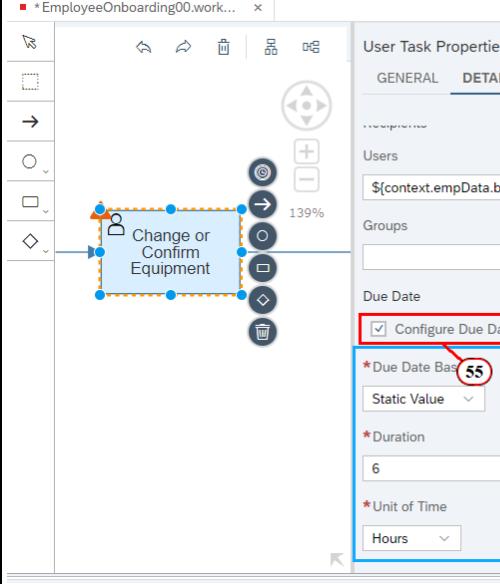
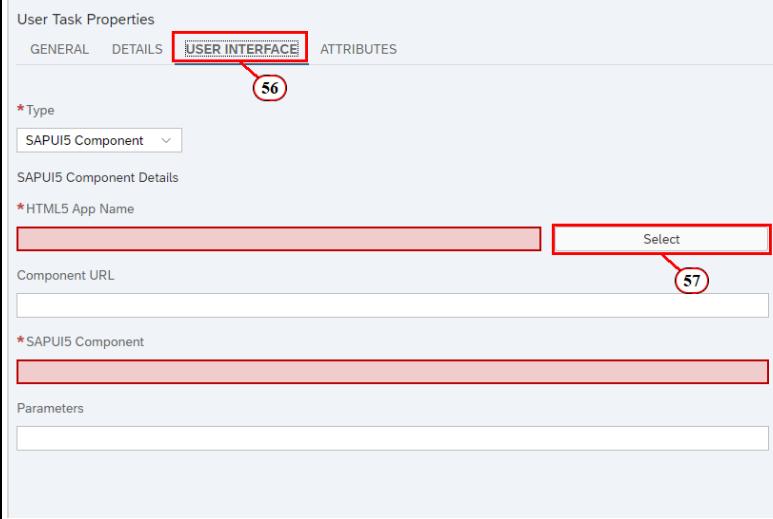
Explanation	Screenshot
<p>42. Click on the Determine Equipment service task to bring up the speed buttons. Click the rounded rectangle and choose Script Task</p>	
<p>The Script Task artefact will latch to the sequence flow.</p>	
<p>Name the script task as Update Context 43. Click Create File.</p>	

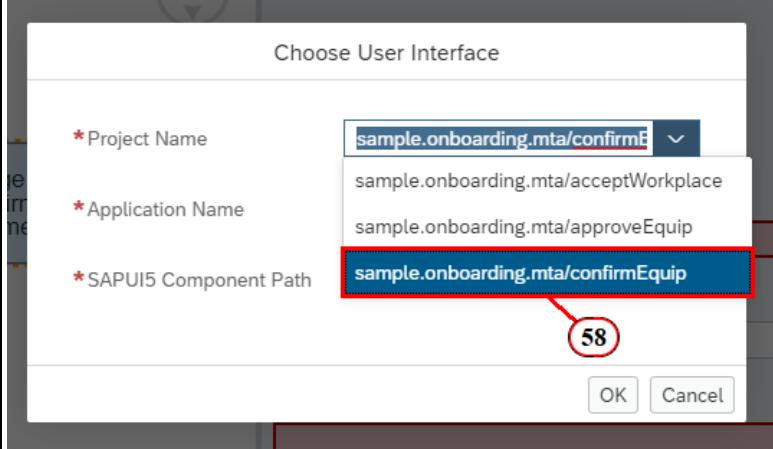
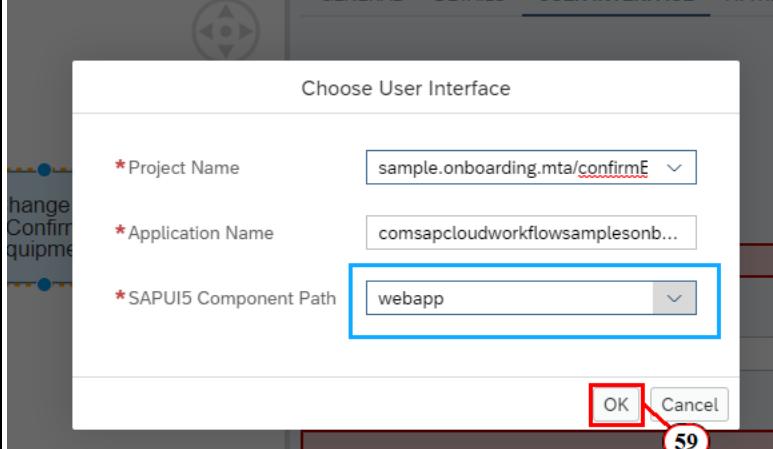
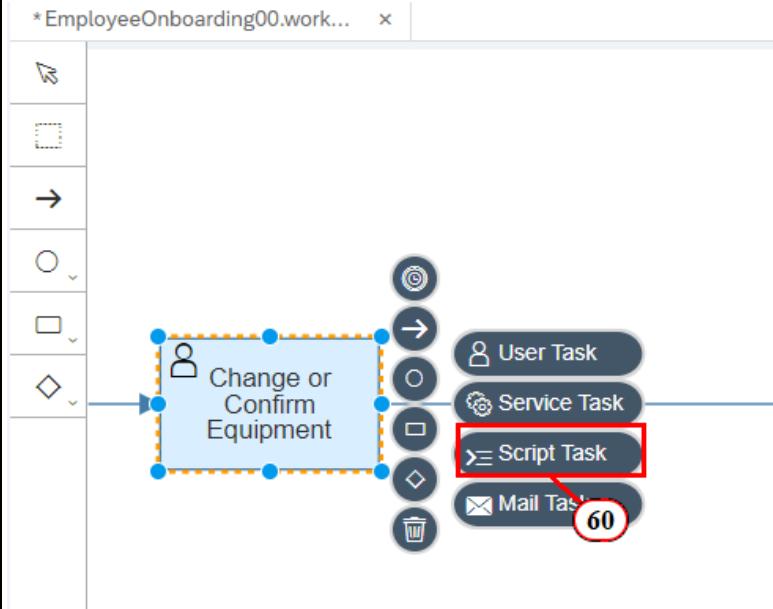
Explanation	Screenshot
<p>Name the new file as updatecontext</p> <p>44. Click Create.</p>	
<p>Replace the content of the script file with the following script</p> <pre data-bbox="187 759 600 1680"> var EquipmentInfo = \$context.equipment.EquipmentsInfo.Result[0].EquipmentInfos; var EquipInfo = []; var equip = {}; if (EquipmentInfo.length > 0) { for (var i = 0; i < EquipmentInfo.length; i++) { equip = EquipmentInfo[i]; var productDesc = equip.ProductDesc; equip.ProdDesc = productDesc; equip.Status = "New"; equip.ExpectedDate = ""; equip.RequestedLoc = "Building 01"; equip.CostCenter = \$context.empData.d.results[0].empInfo.jobInfoNav.results[0].costCenter; EquipInfo.push(equip); } } else { equip = EquipmentInfo; equip.Status = "New"; equip.ExpectedDate = ""; equip.RequestedLoc = "Building 01"; equip.CostCenter = \$context.empData.d.results[0].empInfo.jobInfoNav.results[0].costCenter; EquipInfo.push(equip); } \$.context.equipment.EquipmentsInfo = EquipInfo; </pre> <p>45. Click  to save the file.</p>	

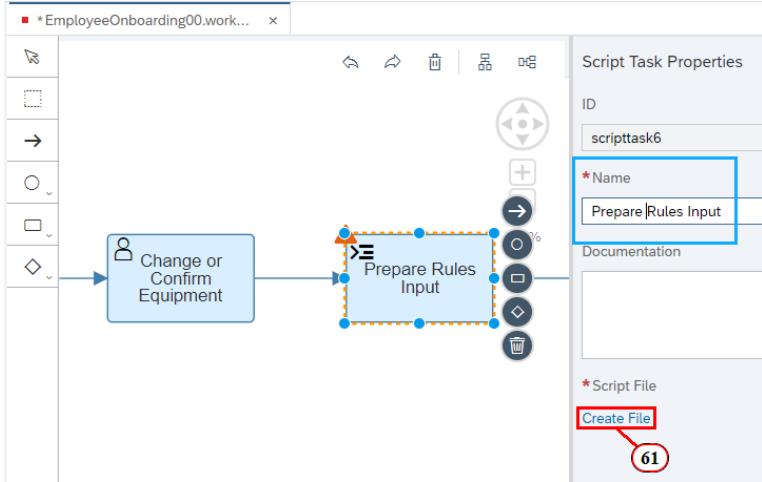
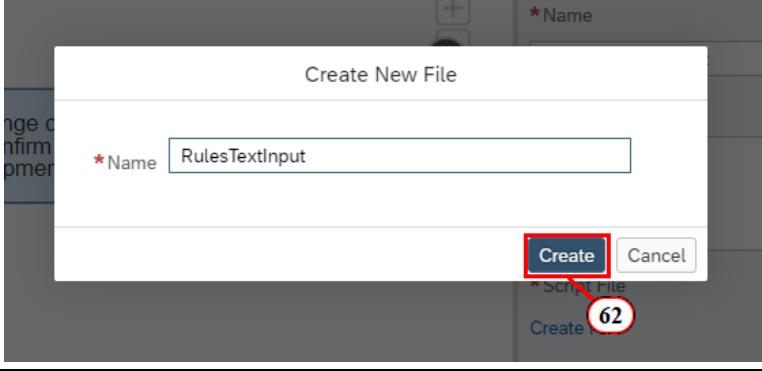
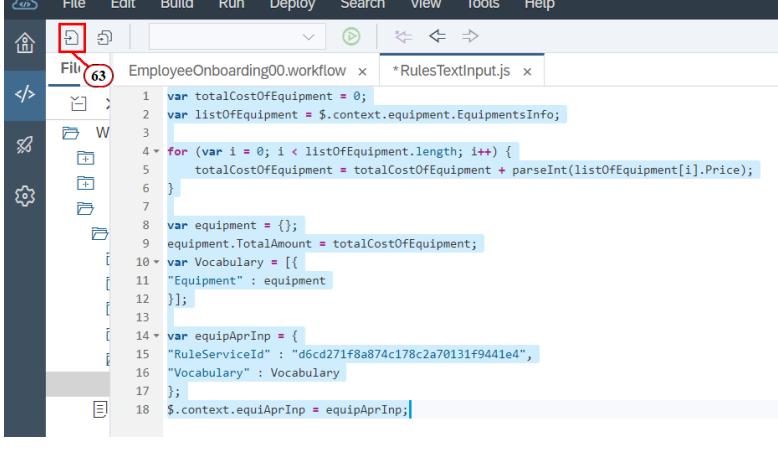
Explanation	Screenshot
<p>46. Click on the Get Buddy List service task to bring up the speed buttons. Click the rounded rectangle and choose Script Task</p>	
<p>The Script Task artefact will latch on to the sequence flow.</p>	
<p>Name the script task Process Buddy List 47. Click Create File.</p>	

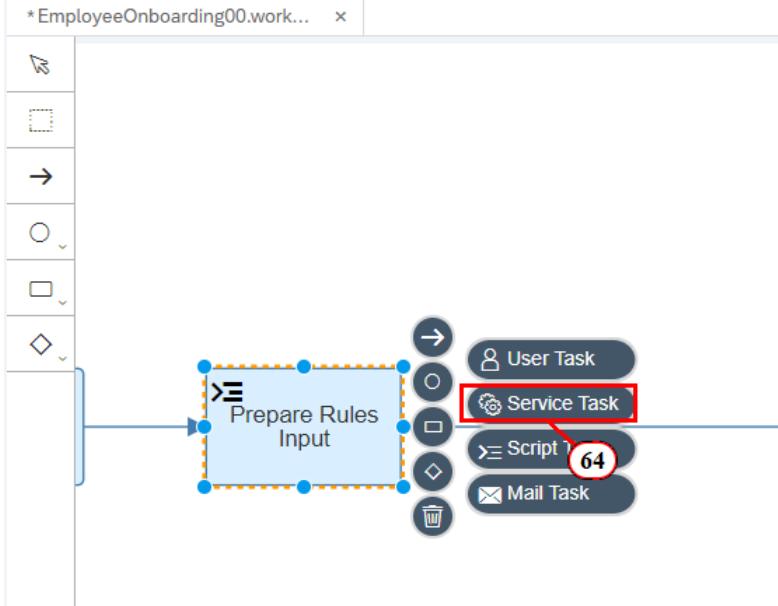
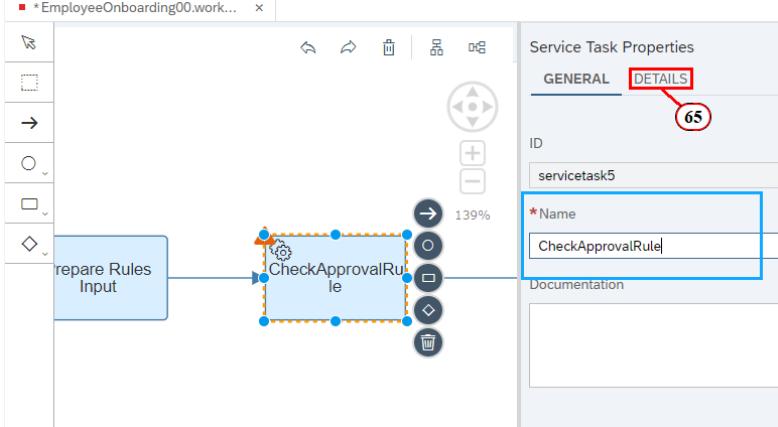
Explanation	Screenshot
<p>Name the new file as processbuddylist 48. Click </p>	
<p>Replace the content of the file with the following script:</p> <pre data-bbox="187 707 600 999"> var team = \$.context.empData.team.d.directReports.results; var buddies = []; for (var i = 0; i < team.length; i++) { buddies.push(team[i].userId); } \$.context.empData.buddies = buddies.toString(); </pre> <p>49. Click  to save the file.</p>	
<p>50. Click on the Process Buddy List script task to bring up the speed button menu. Click on the rhombus  and then choose the parallel gateway.</p>	
<p>51. Click on the Update Context script task. Click and drag the sequence flow  speed button.</p> <p>52. Drop the sequence flow on the Parallel Gateway</p> <p> By using the same gateway artefact, we can merge any splits. However, the gateways must be of the same type. In this case, parallel gateway.</p>	

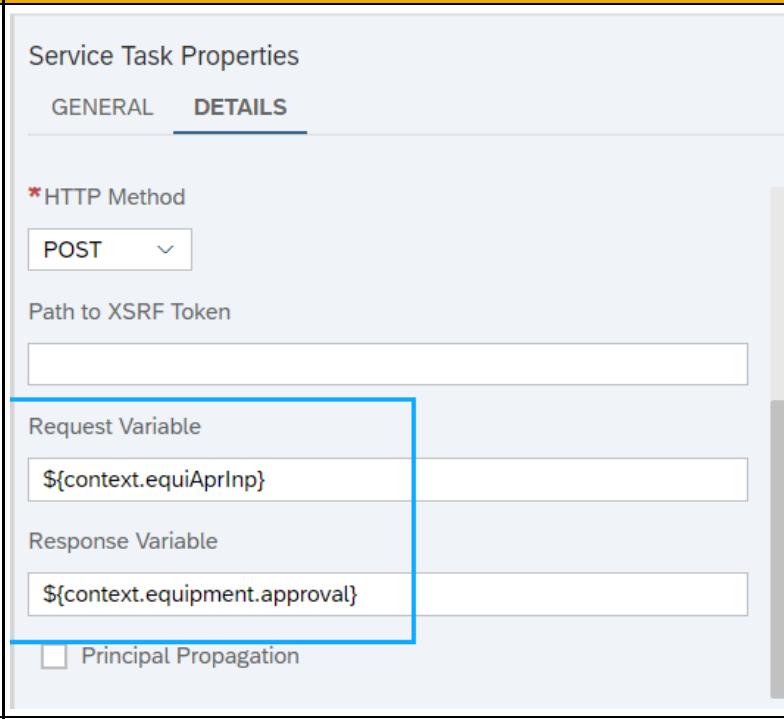
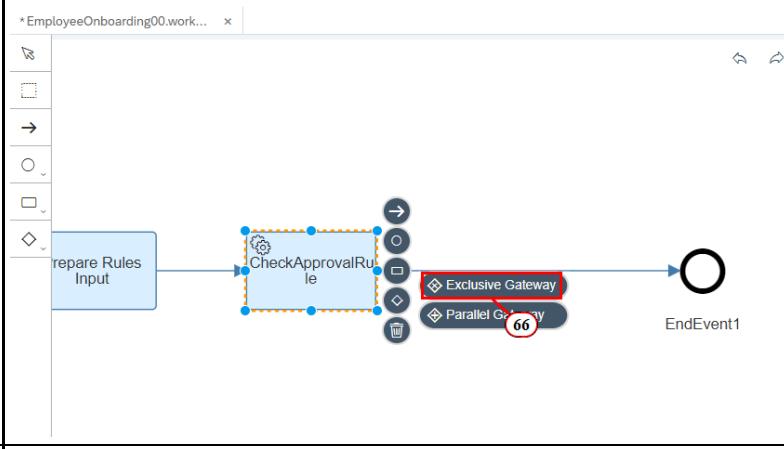
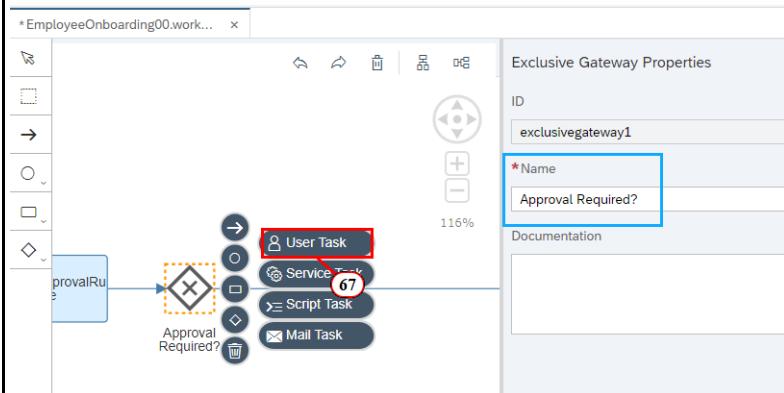
Explanation	Screenshot						
<p>53. Click on the parallel gateway to bring up the speed button menu. Click on the rounded rectangle  and then choose User Task</p>							
<p>A User Task latches to the sequence flow.</p>							
<p>Set the name of the user task as Change or Confirm Equipment 54. Click DETAILS.</p>							
<p>Provide the following details:</p> <table border="1" data-bbox="187 1662 600 2055"> <tr> <td data-bbox="187 1662 373 1718">Priority</td><td data-bbox="373 1662 600 1718">Medium</td></tr> <tr> <td data-bbox="187 1718 373 1920">Subject</td><td data-bbox="373 1718 600 1920"> Confirm or Change Equipment for $\\${context.empData.d.results[0].firstName}$ $\\${context.empData.d.results[0].lastName}$ </td></tr> <tr> <td data-bbox="187 1920 373 2055">Description</td><td data-bbox="373 1920 600 2055"> The buddy assigns appropriate equipment to the new hire based on the need for the job </td></tr> </table>	Priority	Medium	Subject	Confirm or Change Equipment for $\${context.empData.d.results[0].firstName}$ $\${context.empData.d.results[0].lastName}$	Description	The buddy assigns appropriate equipment to the new hire based on the need for the job	
Priority	Medium						
Subject	Confirm or Change Equipment for $\${context.empData.d.results[0].firstName}$ $\${context.empData.d.results[0].lastName}$						
Description	The buddy assigns appropriate equipment to the new hire based on the need for the job						

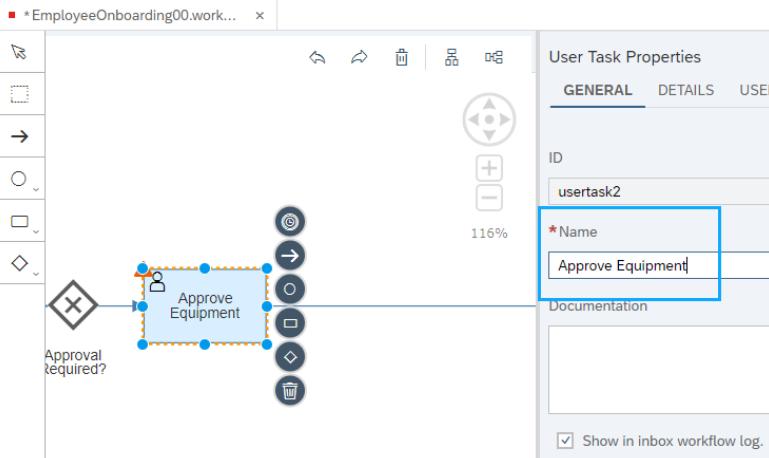
Explanation	Screenshot
<p>and the availability of equipment within the team</p> <p>Recipients $\\${\text{context.empData.buddies}}$, $\\${\text{context.buddyId}}$</p>	
<p>55. Check the Configure Due Date check box</p> <p>Set Due Date Based On to Static.</p> <p>Set the duration as 6 Hours</p>	
<p>56. Click USER INTERFACE</p> <p>57. Click Select</p>	

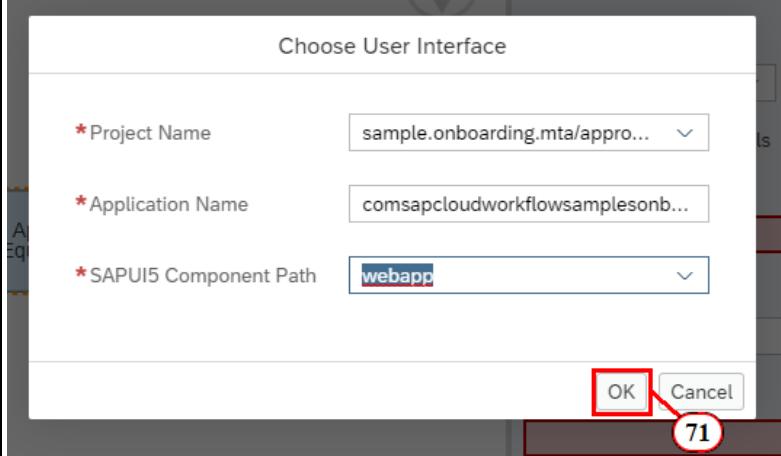
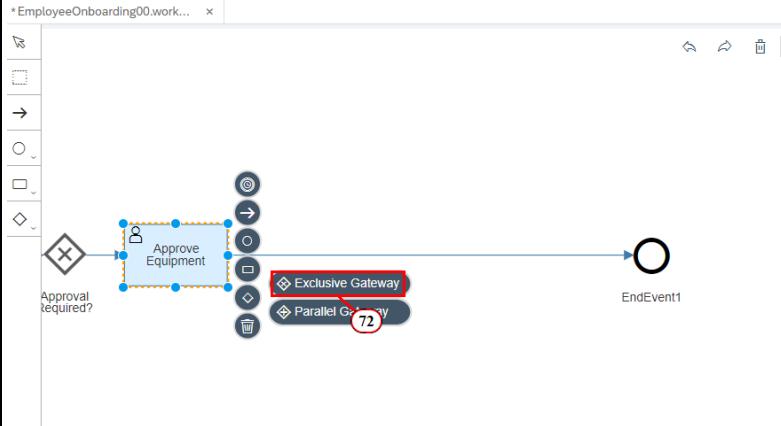
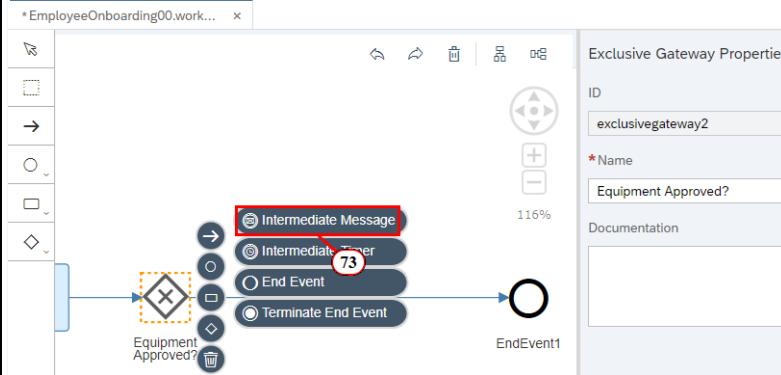
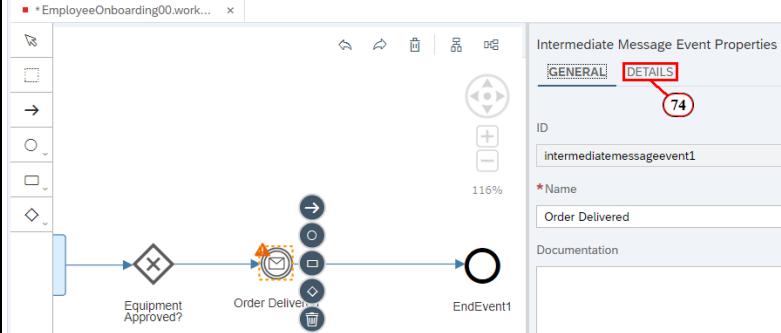
Explanation	Screenshot
<p>58. Select sample.onboarding.mta/confirmEquipment from the Project Name drop down.</p>	
<p>Select SAPUI5 Component Path as webapp from the drop down.</p> <p>59. Click OK.</p>	
<p>60. Click on the User Task to bring up the speed button menu. Click on the rounded rectangle and then choose Script Task</p>	

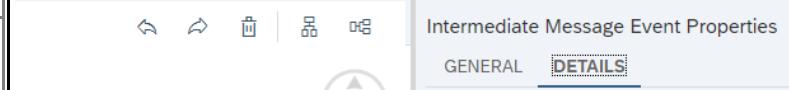
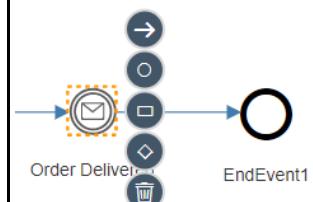
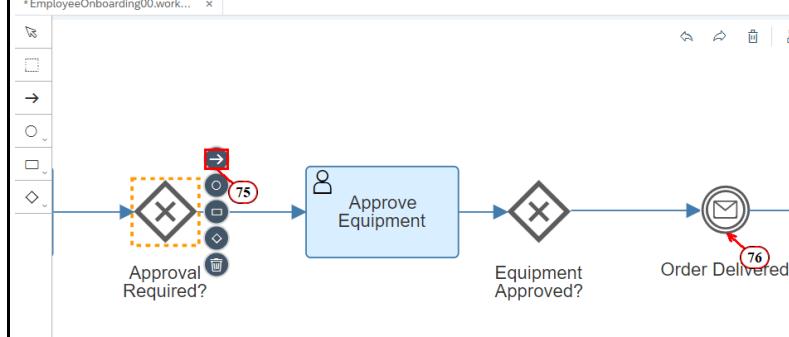
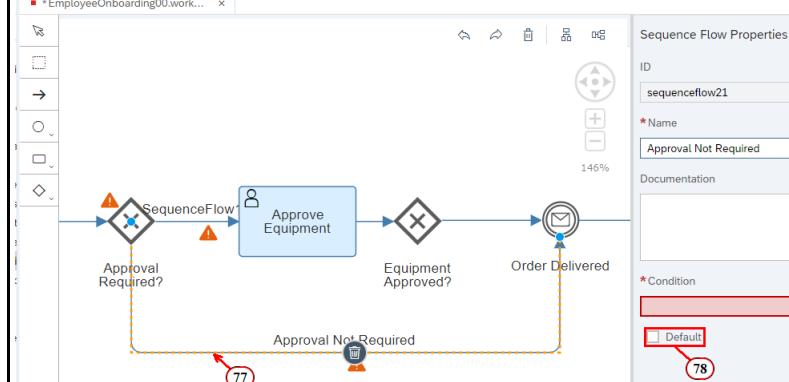
Explanation	Screenshot
<p>Name the Script Task as Prepare Rules Input</p> <p>61. Click Create File.</p>	
<p>Name the new file as RulesTextInput</p> <p>62. Click Create.</p>	
<p>Replace the contents of the file with the following script:</p> <pre data-bbox="187 1224 600 1875"> var totalCostOfEquipment = 0; var listofEquipment = \$.context.equipment.EquipmentsInfor; for (var i = 0; i < listofEquipment.length; i++) { totalCostOfEquipment = totalCostOfEquipment + parseInt(listofEquipment[i].Price); } var equipment = {}; equipment.TotalAmount = totalCostOfEquipment; var Vocabulary = {}; "Equipment" : equipment }; var equipAprInp = { "RuleServiceId" : "dc6cd271f8a874c178c2a70131f9441e4", "Vocabulary" : Vocabulary }; \$.context.equiAprInp = equipAprInp;</pre> <p>63. Click  to save the file</p>	

Explanation	Screenshot						
<p>64. Click the Prepare Rules Input to bring up the speed buttons. Click on the rounded rectangle and choose Service Task</p>							
<p>Name the Service Task as CheckApprovalRule 65. Click DETAILS.</p>							
<p>Provide the following details</p> <table border="1" data-bbox="187 1567 600 1702"> <tr> <td>Destination</td> <td>BUSINESS_RULES</td> </tr> <tr> <td>Path</td> <td>/rest/v2/workingset-rule-services</td> </tr> <tr> <td>HTTP Method</td> <td>POST</td> </tr> </table> <p>This rule will decide whether or not an additional approval from the manager is required. If the cost is above 800 euros, the rule will set an ApprovalRequired context attribute to 'true' which will be used in a subsequent step.</p>	Destination	BUSINESS_RULES	Path	/rest/v2/workingset-rule-services	HTTP Method	POST	<p>Service Task Properties</p> <p>GENERAL DETAILS</p> <p>*Destination BUSINESS_RULES</p> <p>*Choose a Service from Others</p> <p>Path /rest/v2/workingset-rule-services</p> <p>*HTTP Method POST</p> <p>Path to XSRF Token</p>
Destination	BUSINESS_RULES						
Path	/rest/v2/workingset-rule-services						
HTTP Method	POST						

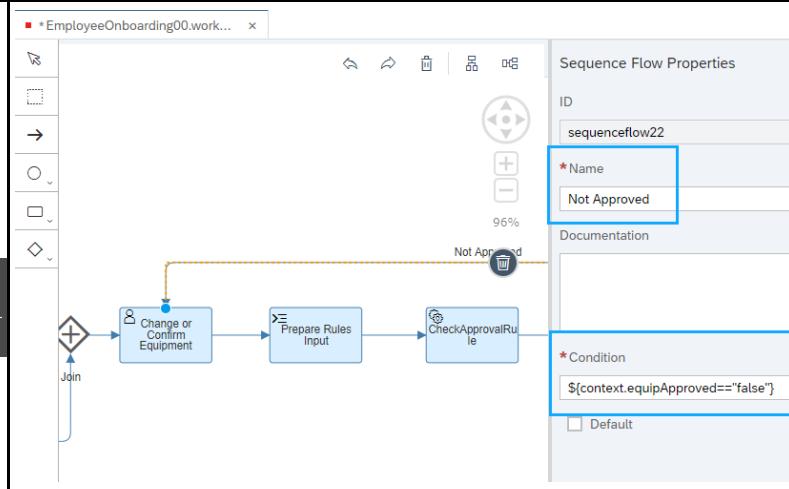
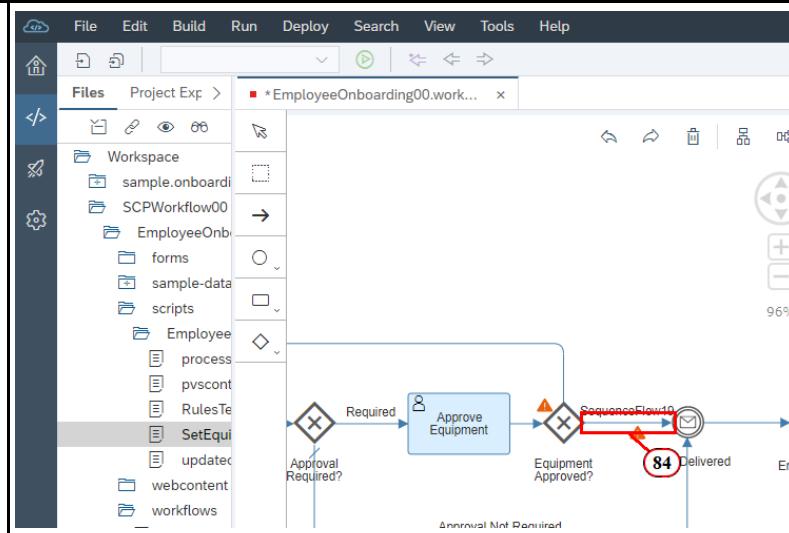
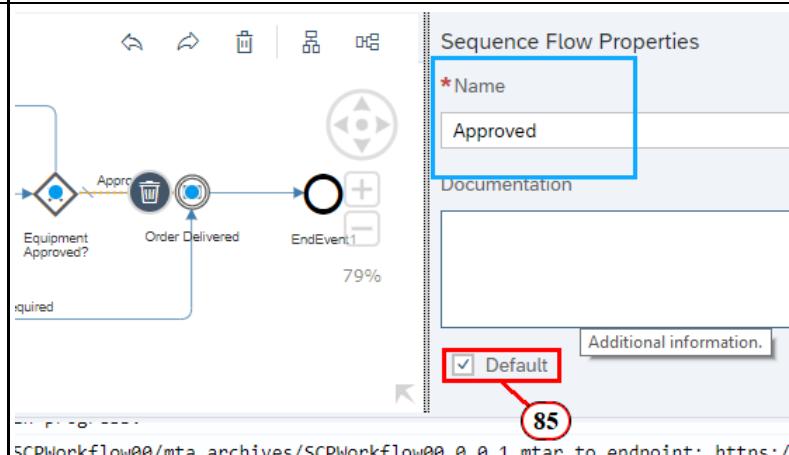
Explanation	Screenshot				
<p>Set the request and response variables</p> <table border="1" data-bbox="187 518 597 669"> <tr> <td>Request Variable</td> <td><code>#{context.equiAprlnp}</code></td> </tr> <tr> <td>Response Variable</td> <td><code>#{context.equipment.approval}</code></td> </tr> </table>	Request Variable	<code>#{context.equiAprlnp}</code>	Response Variable	<code>#{context.equipment.approval}</code>	 <p>Service Task Properties</p> <p>GENERAL DETAILS</p> <p>* HTTP Method POST</p> <p>Path to XSRF Token</p> <p>Request Variable <code>#{context.equiAprlnp}</code></p> <p>Response Variable <code>#{context.equipment.approval}</code></p> <p><input type="checkbox"/> Principal Propagation</p>
Request Variable	<code>#{context.equiAprlnp}</code>				
Response Variable	<code>#{context.equipment.approval}</code>				
<p>66. Click on the Service Task to bring up the speed button menu. Click on the rhombus  and then choose Exclusive Gateway</p> <p> An Exclusive Gateway, as its name suggests, will choose a workflow path based on whether or not some condition is satisfied.</p>	 <p>*EmployeeOnboarding00.work... x</p> <p>An Exclusive Gateway, as its name suggests, will choose a workflow path based on whether or not some condition is satisfied.</p>				
<p>Rename the Exclusive Gateway as Approval Required?</p> <p>67. Click on the exclusive gateway to bring up the speed button menu. Click on the rounded rectangle  and then choose User Task</p>	 <p>*EmployeeOnboarding00.work... x</p> <p>Exclusive Gateway Properties</p> <p>ID: exclusivegateway1</p> <p>*Name: Approval Required?</p> <p>Documentation</p> <p>Approval Required?</p> <p>User Task</p> <p>Service Task</p> <p>Script Task</p> <p>Mail Task</p>				

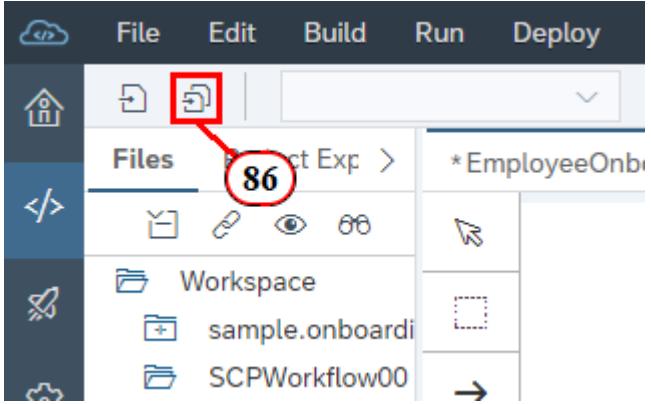
Explanation	Screenshot						
<p>The User Task will latch on to the sequence flow. Rename the user task as Approve Equipment</p>	 <p>The screenshot shows a process diagram in SAP BPM Workbench. A User Task node is labeled "Approve Equipment". It is connected to a gateway node and has a sequence flow leading to it. The User Task Properties panel on the right shows the ID "usertask2" and the Name "Approve Equipment".</p>						
<p>68. Click DETAILS. Provide the following details</p> <table border="1" data-bbox="187 893 605 1304"> <tr> <td>Priority</td> <td>Very High</td> </tr> <tr> <td>Subject</td> <td>Approve Equipment for \${context.empData.d.results[0].firstName} \${context.empData.d.results[0].lastName}</td> </tr> <tr> <td>Recipients</td> <td>\${context.empData.buddies}, \${context.managerId}</td> </tr> </table>	Priority	Very High	Subject	Approve Equipment for \${context.empData.d.results[0].firstName} \${context.empData.d.results[0].lastName}	Recipients	\${context.empData.buddies}, \${context.managerId}	<p>User Task Properties</p> <p>GENERAL DETAILS USER INTERFACE ATTRIBUTES</p> <p>68</p> <p>*Priority Medium</p> <p>Display Texts</p> <p>*Subject Approve Equipment for \${context.empData.d.results[0].firstName} \${context.empData.d.results...</p> <p>Description</p> <p>Recipients</p> <p>Users</p> <p>Groups</p>
Priority	Very High						
Subject	Approve Equipment for \${context.empData.d.results[0].firstName} \${context.empData.d.results[0].lastName}						
Recipients	\${context.empData.buddies}, \${context.managerId}						
<p>69. Click on the Configure Due Date checkbox.</p> <table border="1" data-bbox="187 1612 605 1720"> <tr> <td>Due Date Based On</td> <td>Static Value</td> </tr> <tr> <td>Duration</td> <td>2</td> </tr> <tr> <td>Unit of Time</td> <td>Minutes</td> </tr> </table> <p>i The Due Date deliberately set to such a low value to show the impact of crossing the deadline.</p> <p>70. Click USER INTERFACE.</p>	Due Date Based On	Static Value	Duration	2	Unit of Time	Minutes	<p>User Task Properties</p> <p>GENERAL DETAILS USER INTERFACE ATTRIBUTES</p> <p>70</p> <p>Recipients</p> <p>Users</p> <p>Groups</p> <p>Due Date</p> <p>Configure Due Date</p> <p>69</p> <p>*Due Date Based on Static Value</p> <p>*Duration 2</p> <p>*Unit of Time Minutes</p>
Due Date Based On	Static Value						
Duration	2						
Unit of Time	Minutes						

Explanation	Screenshot				
<p>Click Select Choose the following details from the drop down</p> <table border="1" data-bbox="187 411 592 541"> <tr> <td>Project Name</td> <td>sample.onboarding.mta/approveWorkplace</td> </tr> <tr> <td>SAP UI5 Component Path</td> <td>webapp</td> </tr> </table> <p>71. Click </p>	Project Name	sample.onboarding.mta/approveWorkplace	SAP UI5 Component Path	webapp	
Project Name	sample.onboarding.mta/approveWorkplace				
SAP UI5 Component Path	webapp				
<p>72. Click on the User Task to bring up the speed button menu. Click on the rhombus  and then choose Exclusive Gateway</p>					
<p>73. Rename the Exclusive Gateway as Equipment Approved. Click on the Exclusive Gateway to bring up the speed button menu. Click on the circle  and then choose Intermediate Message</p>					
<p>The Intermediate Message event latches to the sequence flow. Name the Intermediate Message Event as Order Delivered 74. Click </p>					

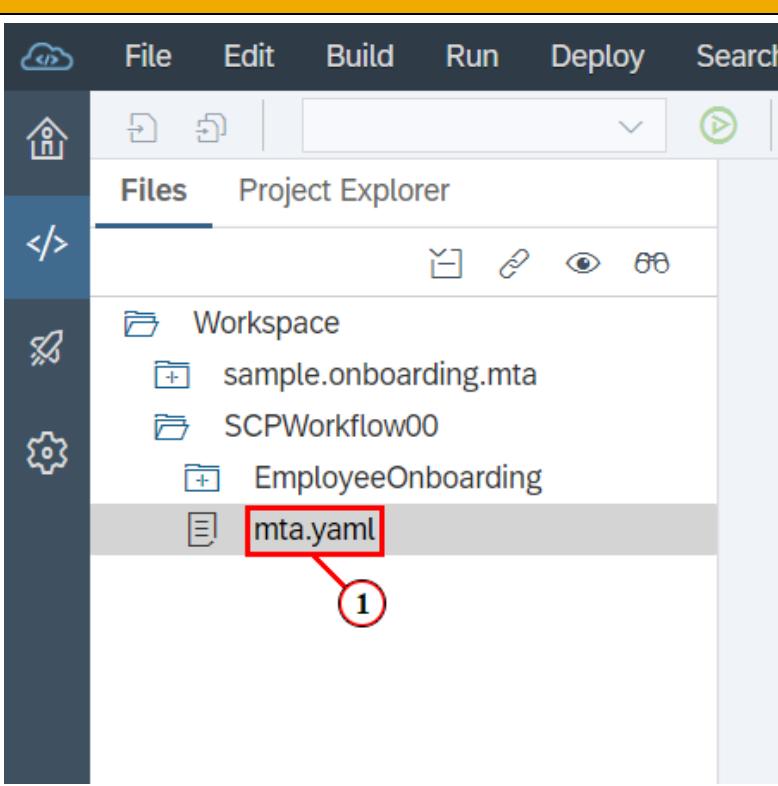
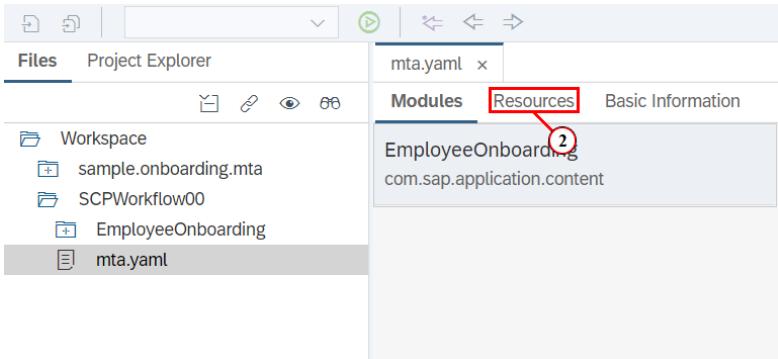
Explanation	Screenshot				
<p>Provide the following details</p> <table border="1" data-bbox="179 332 600 422"> <tr> <td>Message Name</td> <td>OrderDeliveredMsg</td> </tr> <tr> <td>Response Variable</td> <td><code>\$(context.orderDetails)</code></td> </tr> </table>	Message Name	OrderDeliveredMsg	Response Variable	<code>\$(context.orderDetails)</code>	
Message Name	OrderDeliveredMsg				
Response Variable	<code>\$(context.orderDetails)</code>				
<p>An intermediate message event allows external services to interact with and influence the workflow. The workflow will pause at an intermediate message event until a REST API to call the message is invoked. This API can also carry additional data and append it into the workflow context.</p> <p>In this way, we can configure external systems (such as S/4 HANA Cloud for procurement) to inform the workflow that the purchase order is successfully placed, and the workflow can proceed.</p>					
<p>75. Click on the Approval Required? exclusive gateway.</p> <p>Click and drag the sequence flow → speed button.</p> <p>76. Drop the sequence flow on the Order Delivered Intermediate Message Event.</p>					
<p>77. Click and select the sequence flow from the exclusive gateway to the intermediate message event.</p> <p>This is the path to be taken when an additional approval is not required.</p> <p>Name the sequence flow as Approval Not Required.</p> <p>78. Click <input checked="" type="checkbox"/> Default checkbox..</p>					

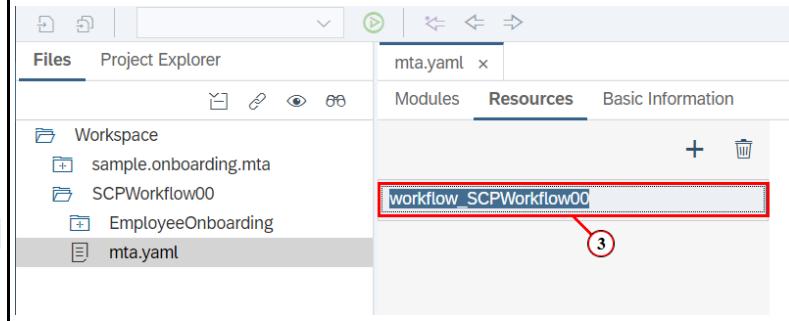
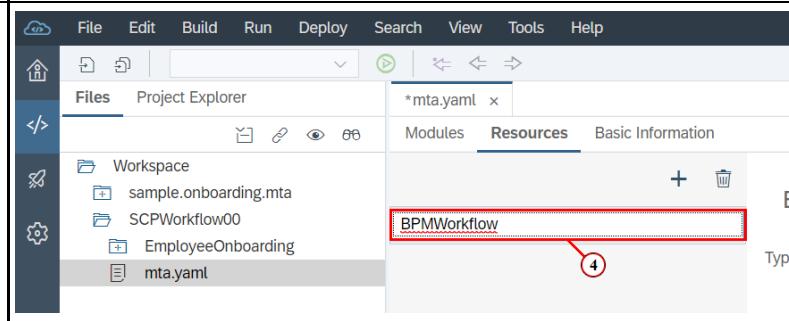
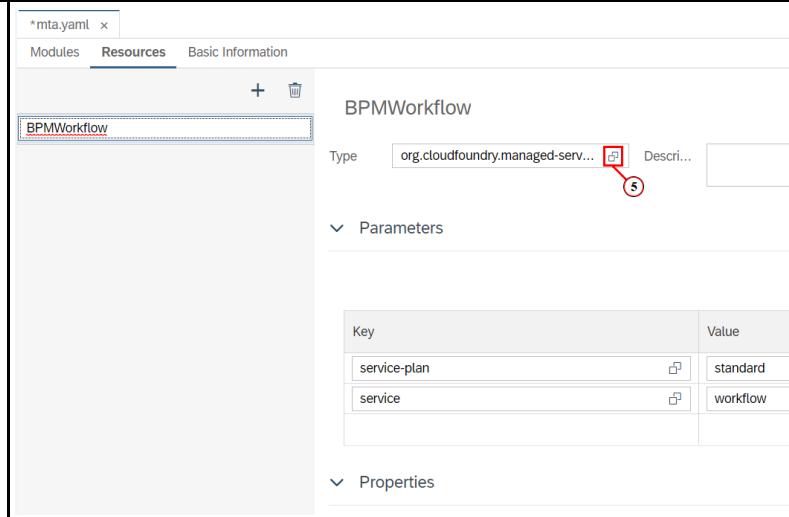
Explanation	Screenshot
<p>79. Click and select the Sequence Flow from the Exclusive Gateway to Approve Equipment user task</p>	
<p>Name the Sequence Flow as Required. Provide the following expression in the Condition field</p> <pre data-bbox="184 932 600 1089"><code>\$(context.equipment.approval.Result[0].EquipmentApproval.ApprovalNeeded=="true")</code></pre>	
<p>80. Click </p> <p>Click and drag the sequence flow speed button.</p>	
<p>81. Click on the Equipment Approved? exclusive gateway.</p> <p>Drop the sequence flow on the Change or Confirm Equipment</p>	

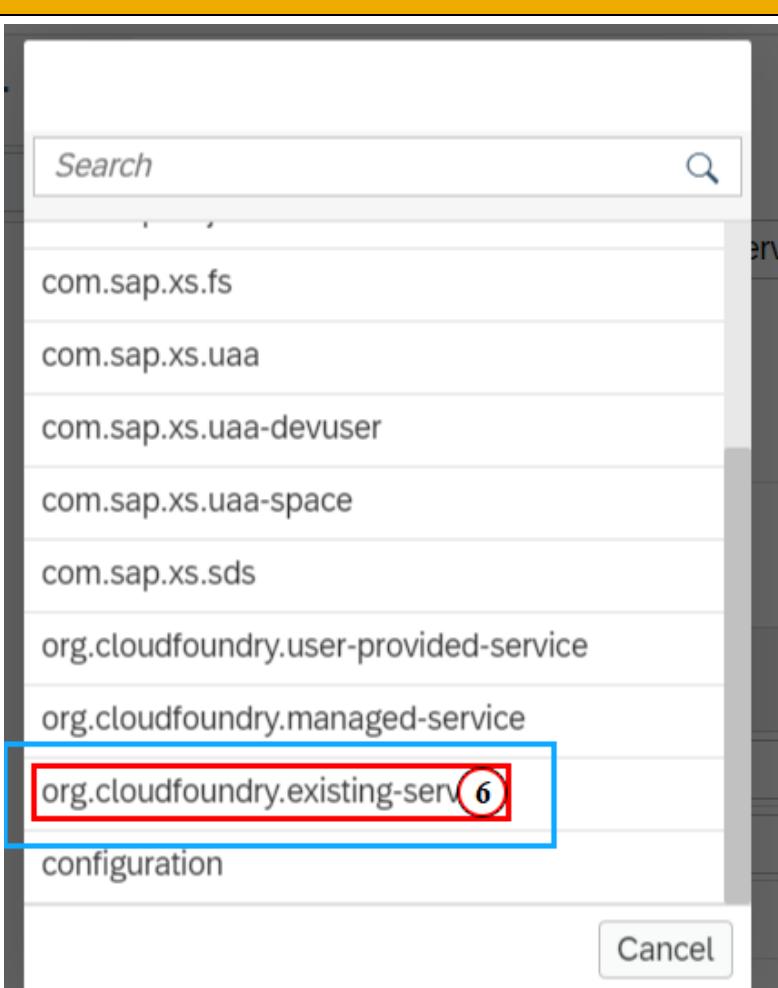
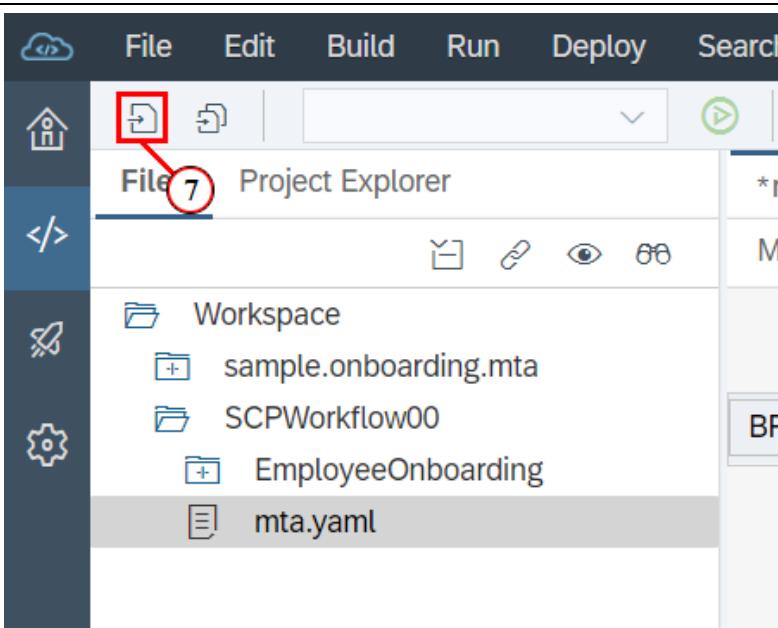
Explanation	Screenshot
<p>Name the sequence flow as Rejected</p> <p>Provide the following expression in the Condition field</p> <pre data-bbox="179 512 600 579"><code>\$(context.equipAssigned=="false")</code></pre>	 <p>The screenshot shows a BPMN diagram in SAP BPM Workbench. A sequence flow labeled "Rejected" connects an exclusive gateway (with outgoing flows labeled "Join" and "Not Approved") to a message event (represented by a envelope icon). The "Not Approved" flow has a trash can icon at its end. The "Sequence Flow Properties" panel on the right shows the ID "sequenceflow22" and the name "Rejected". The condition for this flow is set to "\${context.equipApproved=='false'}".</p>
<p>84. Click and select the sequence flow between the exclusive gateway and the Order Delivered Intermediate Message Event</p>	 <p>The screenshot shows a BPMN diagram with an exclusive gateway followed by an "Approve Equipment" activity and an "Order Delivered" intermediate message event. A sequence flow labeled "84" connects the gateway to the message event. The "Sequence Flow Properties" panel shows the name "SequenceFlow10" and the condition "Equipment Approved?".</p>
<p>Name the sequence flow as Approved</p> <p>85. Tick the checkbox <input checked="" type="checkbox"/> Default</p>	 <p>The screenshot shows a BPMN diagram with an exclusive gateway followed by an "Approved" activity and an EndEvent. A sequence flow labeled "85" connects the gateway to the EndEvent. The "Sequence Flow Properties" panel shows the name "Approved" and the "Default" checkbox checked.</p>

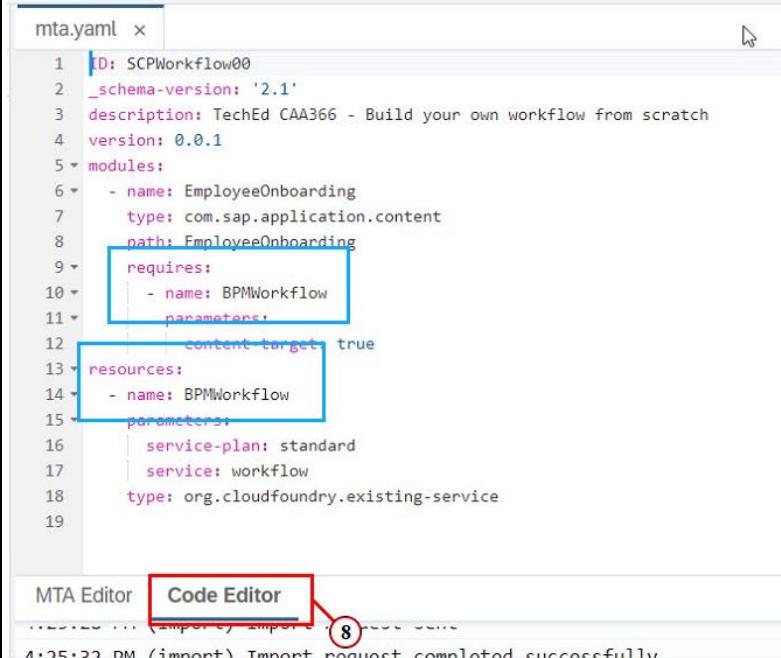
Explanation	Screenshot
86. Click the save all  button to save the workflow and any other unsaved files.	

Modify the mta.yaml

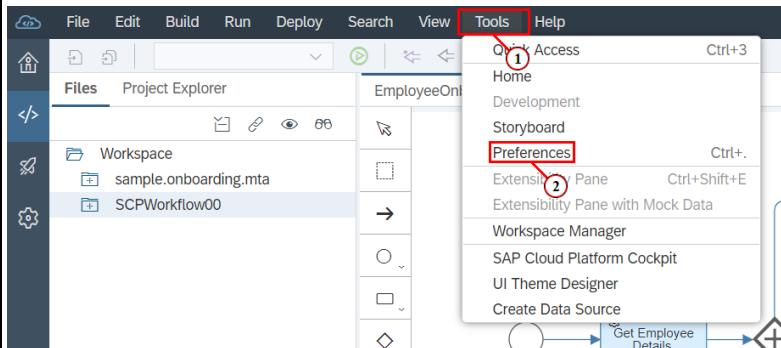
Explanation	Screenshot
The MTA deployment descriptor (mta.yaml) defines the prerequisites and dependencies for the deployment of a multi-target application. 1. Double-click on mta.yaml .	
2. Click Resources .	

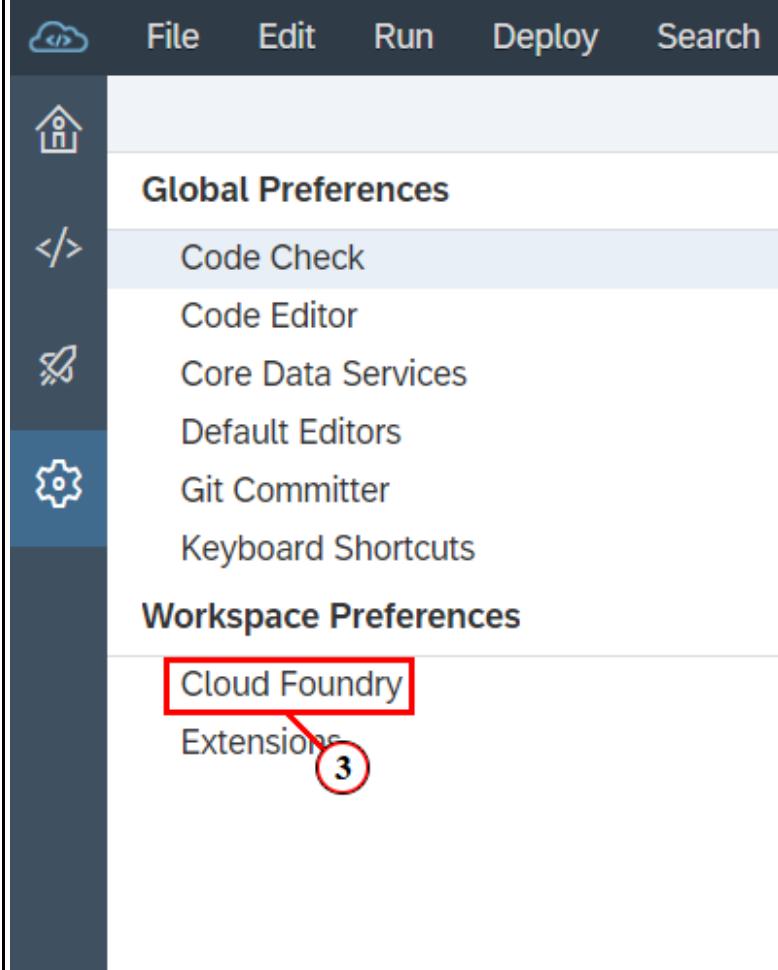
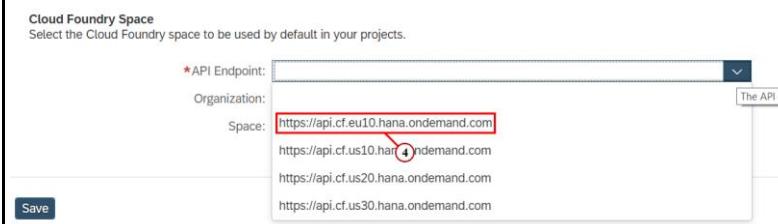
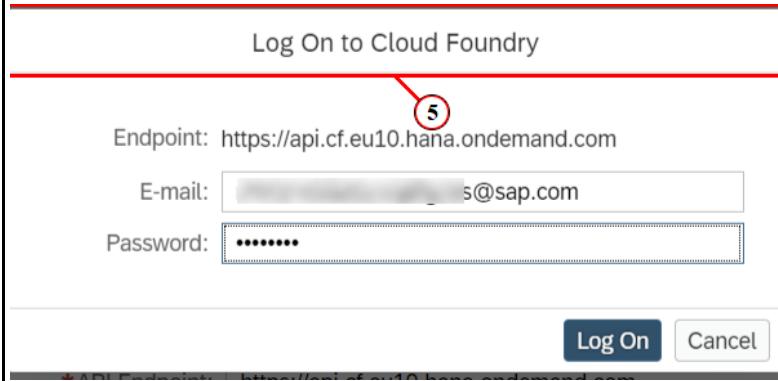
Explanation	Screenshot																					
<p>We need to replace the dependency to an existing SAP Cloud Platform Workflow service instance that is created for this Cloud Foundry tenant.</p> <p>3. Select the text workflow_SCWorkflow00</p> 																						
<p>4. Type in BPMWorkflow.</p> 																						
<p>5. Under Type, click  to bring the drop down menu .</p>	 <table border="1" data-bbox="600 1118 1389 1401"> <tr> <td>Type</td> <td>org.cloudfoundry.managed-service</td> <td></td> <td>Description</td> <td><input type="text"/></td> </tr> <tr> <td colspan="5">Parameters</td> </tr> <tr> <td>Key</td> <td>Value</td> </tr> <tr> <td>service-plan</td> <td>standard</td> </tr> <tr> <td>service</td> <td>workflow</td> </tr> <tr> <td colspan="5">Properties</td> </tr> </table>	Type	org.cloudfoundry.managed-service		Description	<input type="text"/>	Parameters					Key	Value	service-plan	standard	service	workflow	Properties				
Type	org.cloudfoundry.managed-service		Description	<input type="text"/>																		
Parameters																						
Key	Value																					
service-plan	standard																					
service	workflow																					
Properties																						

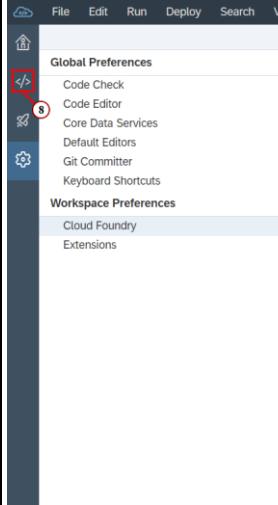
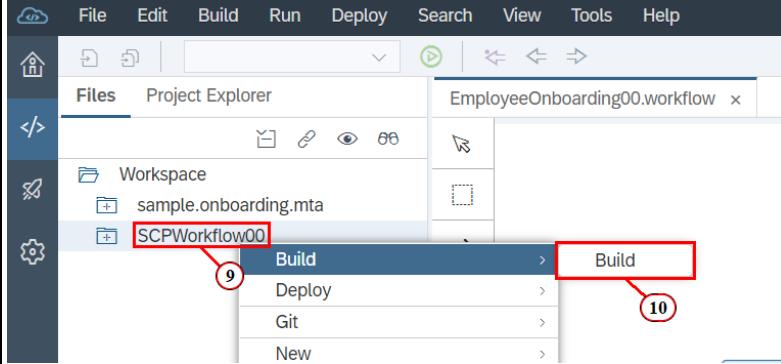
Explanation	Screenshot
6. Scroll down and select org.cloudfoundry.existing-service	
7. Save the mta.yaml by clicking on the icon.	

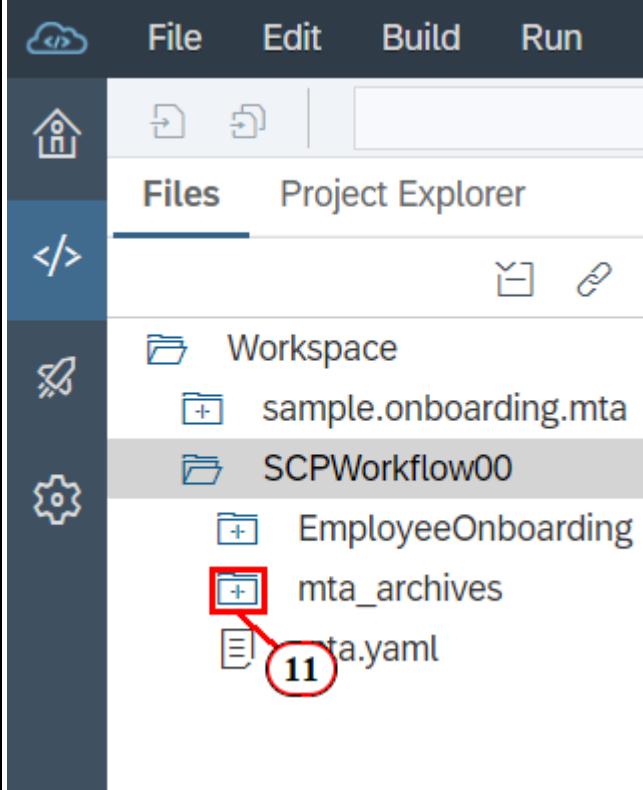
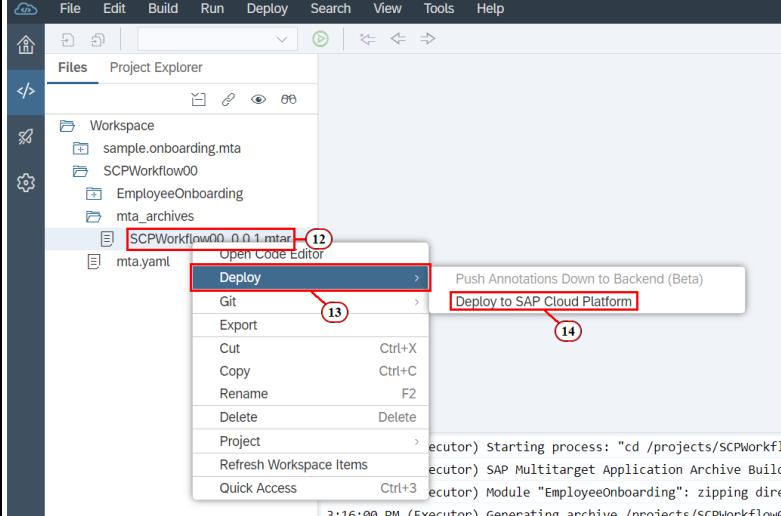
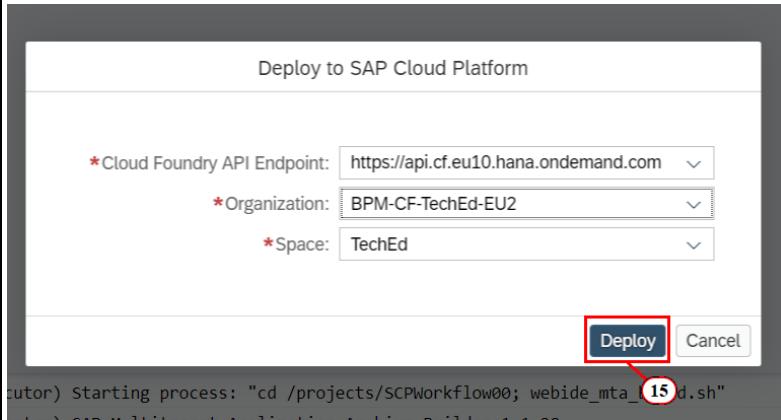
Explanation	Screenshot
<p>Review the changes done by navigating to the Code Editor. Generally the changes done in the MTA Editor will modify the yaml descriptor accordingly.</p> <p>Make sure that the resource name BPMWorkflow is set correctly under modules >> requires >> name and resources >> name</p> <p>8. Click Code Editor perspective to view the yaml descriptor in code format</p>	 <pre> 1 ID: SCPWorkflow00 2 _schema-version: '2.1' 3 description: TechEd CAA366 - Build your own workflow from scratch 4 version: 0.0.1 5 modules: 6 - name: EmployeeOnboarding 7 type: com.sap.application.content 8 path: EmployeeOnboarding 9 requires: 10 - name: BPMWorkflow 11 parameters: 12 content-target: true 13 resources: 14 - name: BPMWorkflow 15 parameters: 16 service-plan: standard 17 service: workflow 18 type: org.cloudfoundry.existing-service 19 </pre>

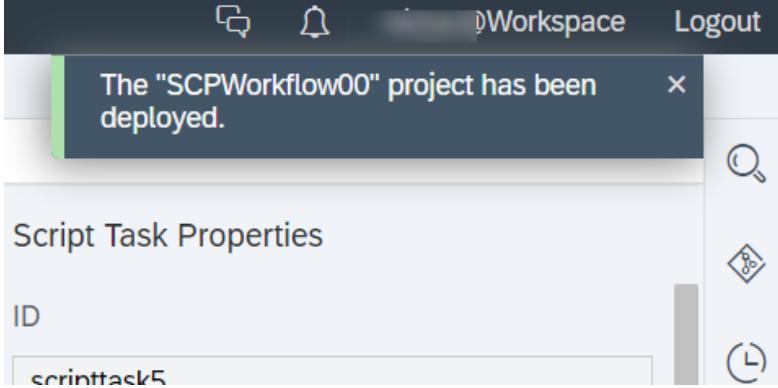
Build and Deploy the Workflow

Explanation	Screenshot
<p>1. Click Tools</p> <p>2. Click Preferences.</p>	

Explanation	Screenshot
3. Click Cloud Foundry .	 <p>The screenshot shows the 'Global Preferences' menu in SAP Cloud Platform Studio. The 'Cloud Foundry' option is highlighted with a red box and circled with a red number 3.</p>
4. From the API Endpoints drop down, select https://api.cf.eu10.hana.ondemand.com	 <p>The screenshot shows the 'Cloud Foundry Space' configuration dialog. The 'Space' dropdown is open, showing the selected endpoint: https://api.cf.eu10.hana.ondemand.com. A red box highlights the dropdown, and a red number 4 points to the selected endpoint.</p>
5. Provide your SAP Cloud Foundry Credentials to log in.	 <p>The screenshot shows the 'Log On to Cloud Foundry' dialog. It displays the endpoint: https://api.cf.eu10.hana.ondemand.com, email: s@sap.com, and password fields. A red box highlights the endpoint field, and a red number 5 points to it.</p>

Explanation	Screenshot		
6. Choose the appropriate space. In this exercise it is TechEd .	<p>User Endpoints See the endpoints to which you are logged on.</p> <table border="1"> <tr> <td>Endpoints in use</td> </tr> <tr> <td>api.cf.eu10.hana.ondemand.com</td> </tr> </table> <p>Cloud Foundry Space Select the Cloud Foundry space to be used by default in your projects.</p> <p>*API Endpoint: https://api.cf.eu10.hana.ondemand.com Organization: BPM-CF-TechEd-EU2 Space: TechEd</p> <p>Save (6)</p>	Endpoints in use	api.cf.eu10.hana.ondemand.com
Endpoints in use			
api.cf.eu10.hana.ondemand.com			
7. Click Save .	<p>User Endpoints See the endpoints to which you are logged on.</p> <table border="1"> <tr> <td>Endpoints in use</td> </tr> <tr> <td>api.cf.eu10.hana.ondemand.com</td> </tr> </table> <p>Cloud Foundry Space Select the Cloud Foundry space to be used by default in your projects.</p> <p>*API Endpoint: https://api.cf.eu10.hana.ondemand.com Organization: BPM-CF-TechEd-EU2 Space: TechEd</p> <p>Save (7)</p>	Endpoints in use	api.cf.eu10.hana.ondemand.com
Endpoints in use			
api.cf.eu10.hana.ondemand.com			
8. Click </> .	 <p>Cloud Foundry Configure the default settings for performing Cloud Foundry operations for your projects. You no longer need to install or update the builder to build your projects. The builder can be...</p> <p>User Endpoints See the endpoints to which you are logged on.</p> <table border="1"> <tr> <td>Endpoints in use</td> </tr> <tr> <td>api.cf.eu10.hana.ondemand.com</td> </tr> </table> <p>Cloud Foundry Space Select the Cloud Foundry space to be used by default in your projects.</p> <p>*API Endpoint: https://api.cf.eu10.hana.ondemand.com Organization: BPM-CF-TechEd-EU2 Space: TechEd</p> <p>Save</p>	Endpoints in use	api.cf.eu10.hana.ondemand.com
Endpoints in use			
api.cf.eu10.hana.ondemand.com			
9. Right Click on SCPWorkflowXX Note: replace the digits XX with the number provided to you by your instructor. 10. Select and click Build	 <p>Build</p> <p>Deploy</p> <p>Git</p> <p>New</p> <p>EmployeeOnboarding00.workflow x</p> <pre>3:16:00 PM (Executor) Done 3:16:00 PM (Executor) adding: mta archives:SCPWorkflow00 0.0.1.mtar (deflated 3%) 3:16:04 PM (mtaBuildTask) Build of "SCPWorkflow00" completed.</pre>		
The console will inform of the status of the build.			

Explanation	Screenshot
11. Open the mta.archives folder	
12. Right Click on SCPWorkflow00_0.0.1.mtar 13. Click Deploy 14. Click Deploy to SAP Cloud Platform	
An MTA archive is a Jar file containing deployable application modules. A multi-target application (MTA) archive is used to deploy an application that comprises multiple modules in one deployment operation. The mta.yaml has information of which modules are packed in the mta archive (in this exercise - <i>Workflow Module</i>), and which service instance it is dependant to (in this exercise - <i>BPMWorkflow</i> workflow service instance). 15. Click Deploy	

Explanation	Screenshot
You will be notified of the deployment status.	 The screenshot shows the SAP Cloud Platform WebIDE interface. At the top, there is a navigation bar with icons for messaging, notifications, workspace, and logout. A prominent message box in the center says "The 'SCPWorkflow00' project has been deployed." Below the message box, the main content area displays "Script Task Properties" for an item with the ID "scripttask5". On the right side of the interface, there are several small icons for search, copy, and refresh.

Summary

You have completed the exercise!

You are now able to:

- Configure Workflow feature in SAP Cloud Platform WebIDE
- Import a Sample Workflow Application
- Model a Workflow from Scratch
- Build and Deploy a workflow to SAP Cloud Platform Cloud Foundry Environment

EXECUTE WORKFLOW

Overview

Estimated time: 20 minutes

Objective

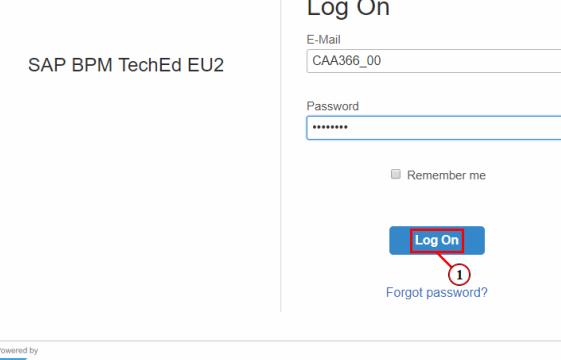
You will learn how to

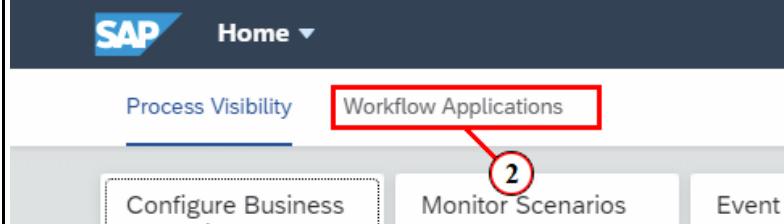
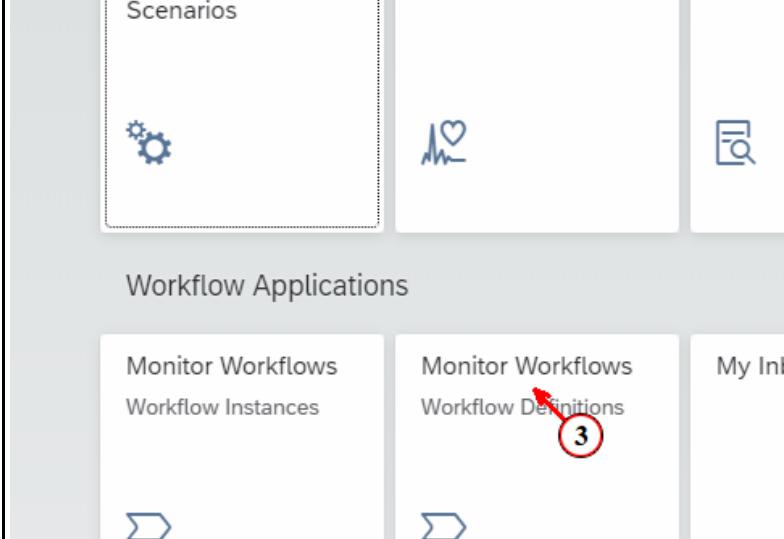
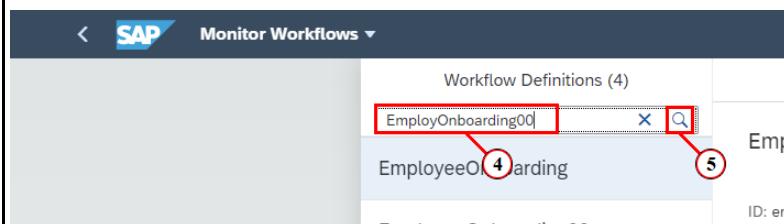
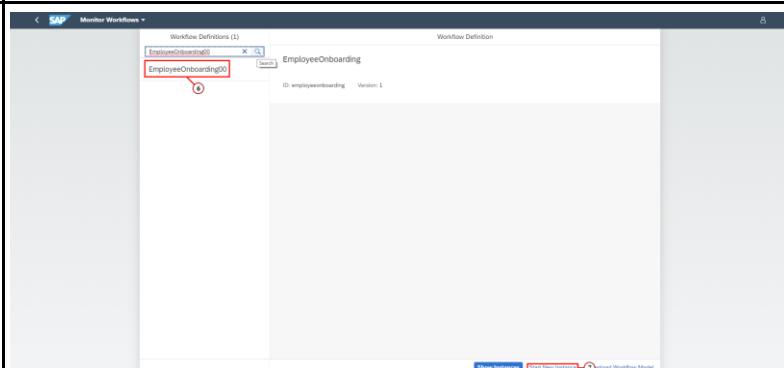
1. Use Monitor Workflow application to monitor deployed workflow definitions, start and monitor workflow instances
2. Approve workflow tasks in SAP My Inbox

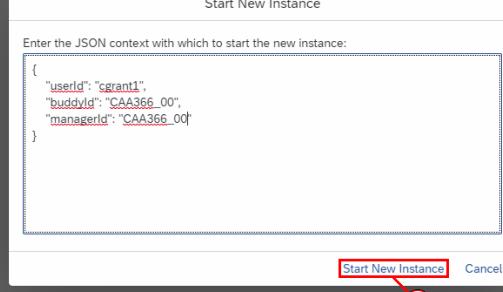
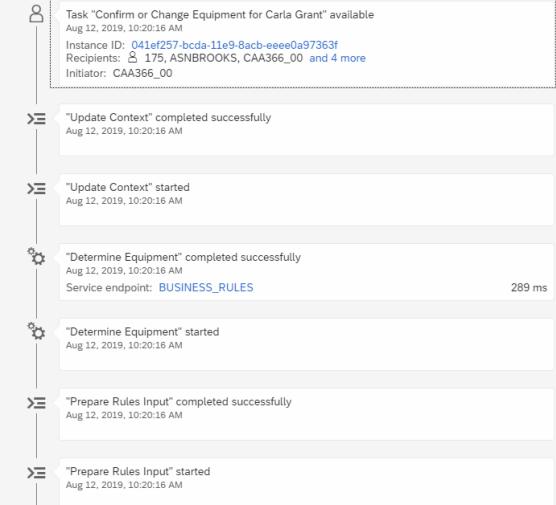
Exercise Description

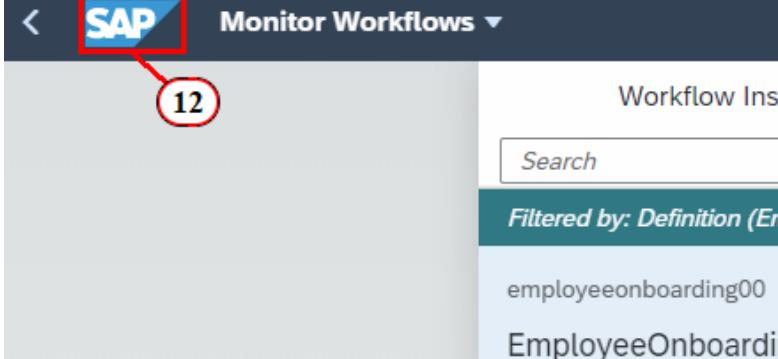
You will use the workflow model created in the previous section and execute the workflow at runtime. This will include creation of a workflow instance, processing the task instances in My Inbox as well as monitoring the started workflow instance in Monitor Workflow application.

Start new workflow instance

Explanation	Screenshot
<p>1. Logon to the SAP Cloud Platform Portal.</p> <p>Username: CAA366_XX Password: Welcome1 URL: https://bpm-cf-teched-eu2-teched-businessappsflp-approuter.cfapps.eu10.hana.ondemand.com/cp.portal/</p> <p>Note: Replace XX with the number of the user id given to you by the instructors</p> <p>Click Log On.</p>	 <p>The screenshot shows the SAP BPM TechEd EU2 login page. The page has a header "SAP BPM TechEd EU2". Below it is a "Log On" form with fields for "E-Mail" (containing "CAA366_00") and "Password" (containing "*****"). There is a "Remember me" checkbox, which is unchecked. At the bottom of the form is a blue "Log On" button, which is highlighted with a red box and circled with a red circle containing the number 1. Below the button is a link "Forgot password?".</p>

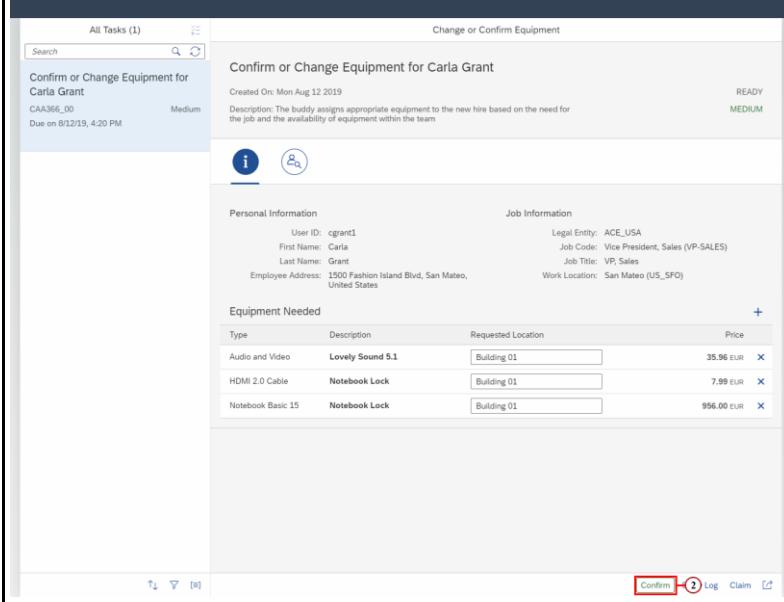
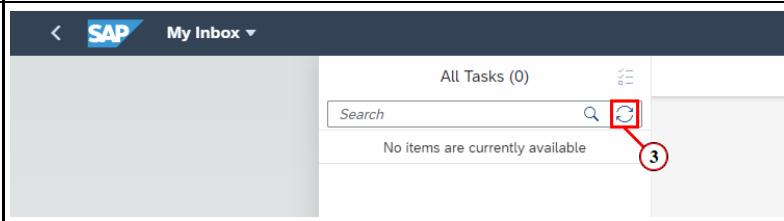
Explanation	Screenshot
<p>2. Click Workflow Applications section to navigate to the respective section.</p> <p>3. Open the Monitor Workflow Workflow Definitions tile to see the deployed workflow definition.</p>	 <p>Workflow Applications</p> 
<p>Info: The Monitor Workflow application displays all workflow definitions deployed in the account.</p> <p>4. Enter EmployeeOnboardingXX into the search field where XX corresponds to the number of your user id given to you by the instructors.</p> <p>5. Click .</p>	
<p>6. Select the filtered workflow definition.</p> <p>7. Click Start New Instance.</p>	

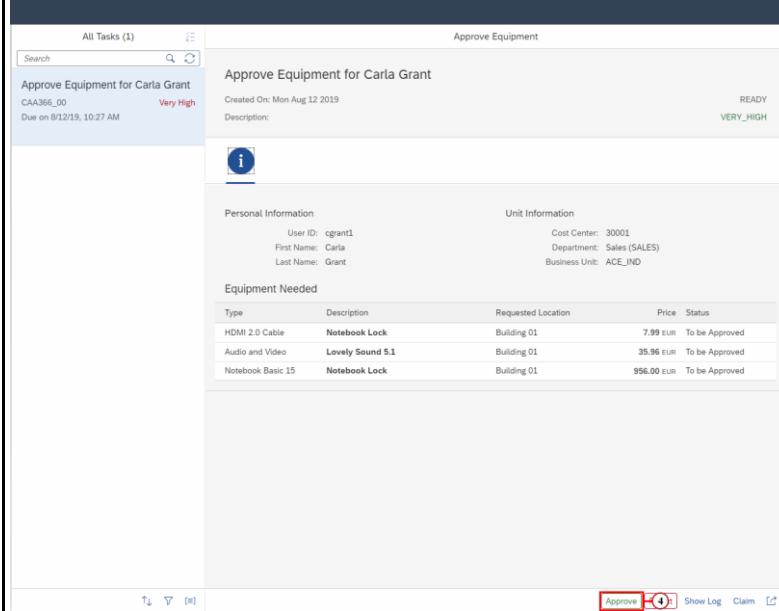
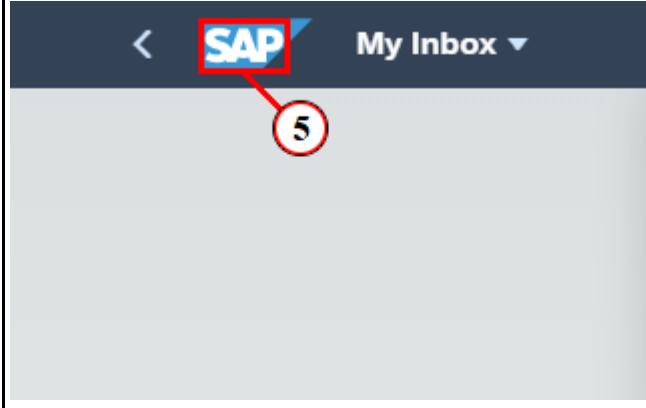
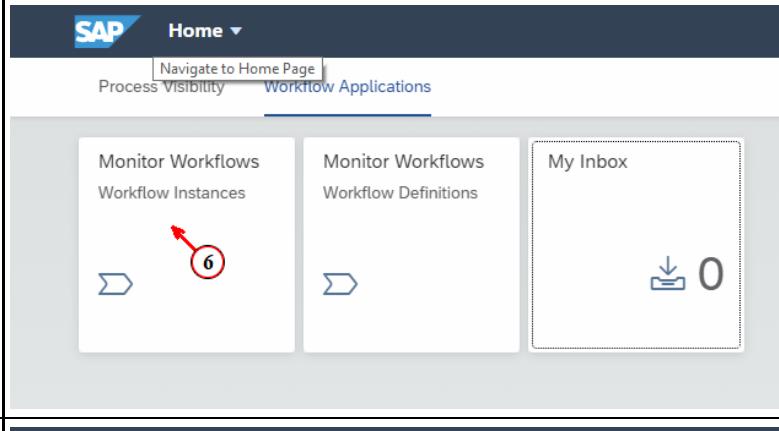
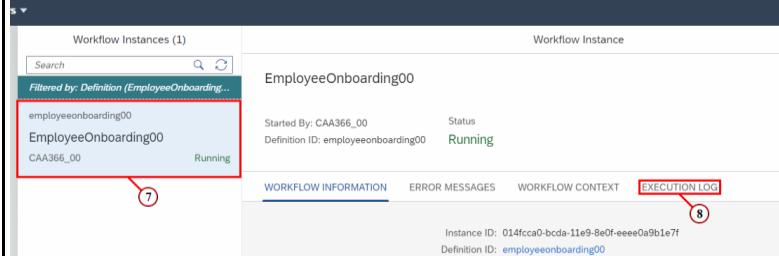
Explanation	Screenshot																
<p> The Start New Instance dialog box contains the sample data you defined in the workflow model. Make sure that buddyId and managerId correspond to your user id shared by your instructor.</p> <p>8. Click Start New Instance.</p> <p> A successful start will display a success message.</p>																	
<p>9. Click Show Instances to inspect the newly created workflow instance.</p>																	
<p> The newly started workflow instance should be in status Running.</p> <p>10. Click EXECUTION LOG to check the exact processing status.</p>	<table border="1" data-bbox="611 1201 1310 1403"> <tr> <td>Started By: CAA366_00</td> <td>Status</td> </tr> <tr> <td>Definition ID: employeeonboarding00</td> <td>Running</td> </tr> <tr> <td colspan="2">WORKFLOW INFORMATION</td> </tr> <tr> <td colspan="2">ERROR MESSAGES</td> </tr> <tr> <td colspan="2">WORKFLOW CONTEXT</td> </tr> <tr> <td colspan="2">EXECUTION LOG</td> </tr> <tr> <td colspan="2">Instance ID: 014fcca0-bcda-11e9-8e0f-eeee0a9b1e7f</td> </tr> <tr> <td colspan="2">Definition ID: employeeonboarding00</td> </tr> </table>	Started By: CAA366_00	Status	Definition ID: employeeonboarding00	Running	WORKFLOW INFORMATION		ERROR MESSAGES		WORKFLOW CONTEXT		EXECUTION LOG		Instance ID: 014fcca0-bcda-11e9-8e0f-eeee0a9b1e7f		Definition ID: employeeonboarding00	
Started By: CAA366_00	Status																
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WORKFLOW CONTEXT																	
EXECUTION LOG																	
Instance ID: 014fcca0-bcda-11e9-8e0f-eeee0a9b1e7f																	
Definition ID: employeeonboarding00																	
<p> The workflow instance should have executed the service task Get Buddy List as well as Determine Equipment. It is now waiting at the task Confirm or Change Equipment for Carla Grant.</p>																	

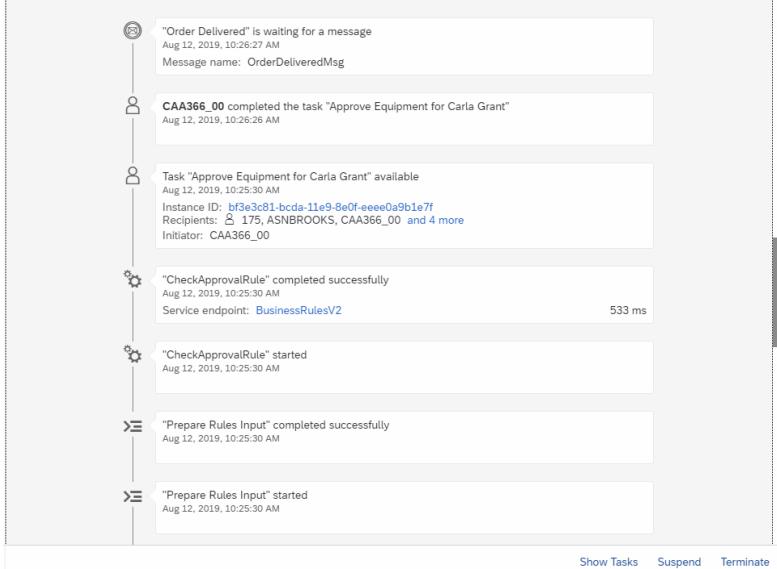
Explanation	Screenshot
11. Click WORKFLOW CONTEXT .	<p>Definition ID: employeeonboarding00 Running</p> <p>WORKFLOW INFORMATION ERROR MESSAGES WORKFLOW CONTEXT EXECUTION LOG</p> <p>Instance ID: 30fdd451-c7da-11e9-bc00-eeee0a9b81a0 Definition ID: employeeonboarding00 Definition Version: 8 Started By: CAA369_00 Started At: Aug 26, 2019, 10:19:15 AM Completed At:</p>
 <p>The workflow context is a generic data store to persist data within a workflow instance. At this point it contains data about the employee read by the service task from the Success Factors OData API.</p>	<p>WORKFLOW INFORMATION ERROR MESSAGES WORKFLOW CONTEXT EXECUTION LOG</p> <pre> 1+ { 2+ "pvsContext": { 3+ "userId": "cgrant1", 4+ "firstName": "Carla", 5+ "lastName": "Grant" 6+ }, 7+ "empData": { 8+ "d": { 9+ "results": [10+ { 11+ "zipCode": "94041", 12+ "lastName": "Grant", 13+ "country": "United States", 14+ "hireDate": "(Date(978307200000))", 15+ "relocation": null, 16+ "city": "San Mateo", 17+ "jobTitle": "General Manager, Industries", 18+ "jobCenter": "VP President, Sales (VP-SALES)", 19+ "title": "VP, Sales", 20+ "userId": "cgrant1", 21+ "division": "Industries (IND)", 22+ "defaultFullName": "Carla Grant", 23+ "firstName": "Carla", 24+ "email": "cgrant1@successfactors.com", 25+ "metadata": { 26+ "type": "SFData.EmpEmployment", 27+ "uri": "https://apisalesdemo4.successfactors.com:443/odata/v2/EmpEmployment(personIdExternal 28+ ='{cgrant1}',userId='cgrant1')" 29+ }, 30+ "jobInfoKey": { 31+ "results": [32+ { 33+ "isFulltimeEmployee": true, 34+ "businessUnit": "ACE_IND", 35+ "costCenter": "30001", 36+ "jobTitle": "VP, Sales", 37+ "countryOfCompany": "USA", 38+ "jobCode": "VP-SALES" 39+ } 40+] 41+ } 42+ } 43+] 44+ } 45+ } 46+ }</pre> <p>Show Tasks Suspend Terminate</p>
12. Click  to switch back to the launchpad main screen.	 <p>Monitor Workflows ▾</p> <p>Workflow Instances</p> <p>Search</p> <p>Filtered by: Definition (Employee)</p> <p>employeeonboarding00</p> <p>EmployeeOnboarding00</p>

Process user tasks

Explanation	Screenshot
 <p>The My Inbox tile indicates one Task available to you.</p> <p>1. Click on the My Inbox tile to open SAP Fiori My Inbox.</p>	<p>PROCESS VISIBILITY WORKFLOW APPLICATIONS</p> <p>Monitor Workflows Workflow Instances My Inbox</p> <p>1</p>

Explanation	Screenshot
<p> The task UI shows the list of equipment proposed by the rule defined in SAP Cloud Platform Business Rules. You can change it by adding or removing equipments from the list.</p> <p> If you change the list of equipment to have a total amount less than 800, there will be no additional approval task.</p> <p>Hence, you can skip the next step.</p> <p>You can remove equipment by selecting the X sign in the respective row.</p> <p> The task UI shows a set of actions that can be executed.</p> <p>Confirm: A custom action defined by the task UI to complete the task.</p> <p>Show Log: Default action to inspect the history of the task.</p> <p>Claim: Default action to reserve a task so that it will not be visible anymore for other task participants.</p> <p>Send E-Mail: Default action to share a link to the task via E-Mail.</p> <p>Default actions are provided automatically by My Inbox for all tasks.</p> <p>2. Click .</p>	
<p>3. Click  to refresh the task list.</p>	

Explanation	Screenshot
<p> A new task with title Approve Equipment for Carla Grant will appear.</p> <p>The list of equipment will be identical to the one from the first task.</p> <p>4. Click .</p>	
<p>5. Click  return the launchpad main screen.</p>	
<p>6. Click the Monitor Workflows (Workflow Instances) tile to inspect the status of the workflow instance.</p>	
<p>7. Search for the workflow instance of your workflow definition EmployeeOnboardingXX and select it.</p> <p>8. Click EXECUTION LOG.</p>	

Explanation	Screenshot
<p> The execution log will show that the two tasks have been completed by you. The workflow instance is currently waiting for a message at the Intermediate Message Event Order Delivered.</p>	

Summary

You have completed the exercise!

You are now able to:

- Use Monitor Workflow application to start and monitor workflow instances
- Approve tasks in My Inbox

GAIN VISIBILITY ON YOUR WORKFLOW

Overview

Estimated time: 30 minutes

Objective

You will learn how to

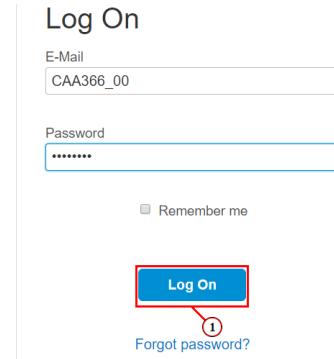
1. Configure a business scenario by importing workflow modeled using SAP Cloud Platform Workflow
2. Configure Phases and additional performance indicators that help gain visibility on your end to end process
3. View events that have been acquired by process visibility service
4. Process acquired events
5. Access process workspace to track end to end process

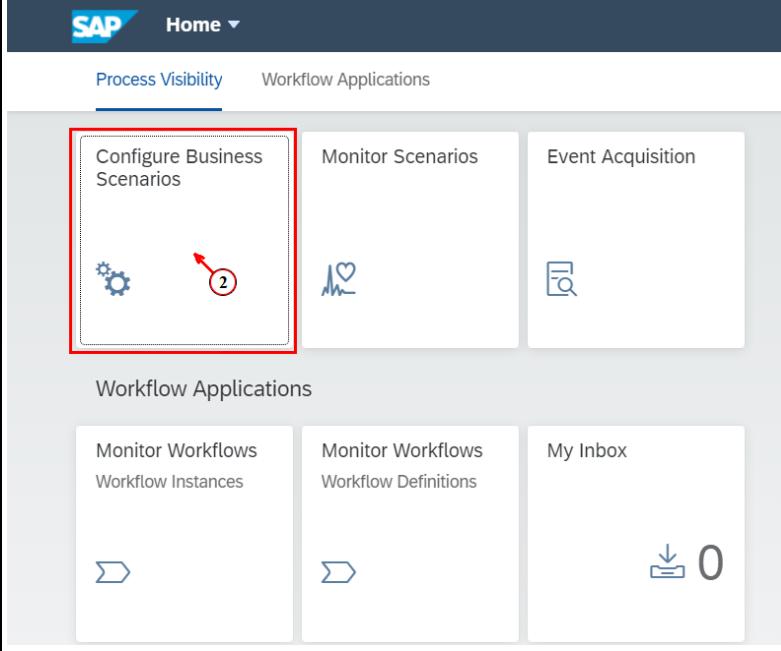
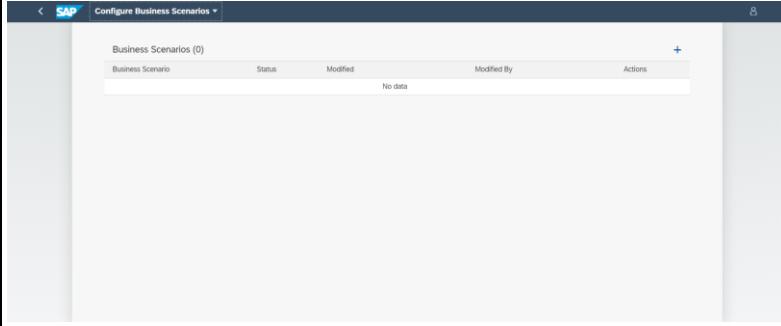
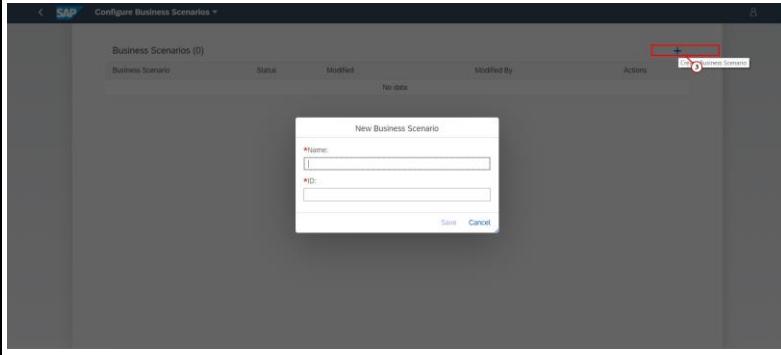
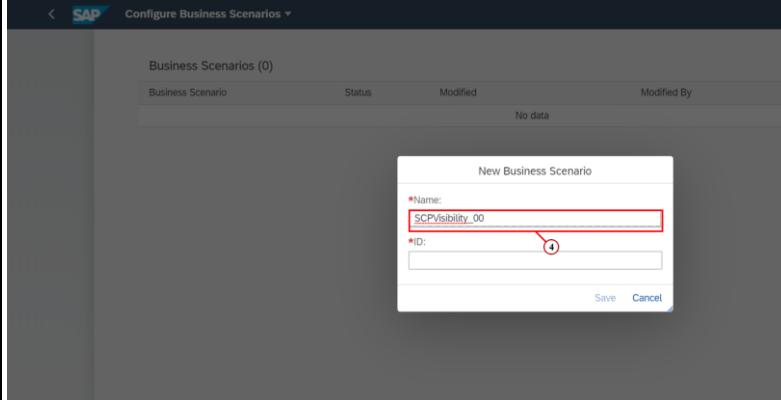
Exercise Description

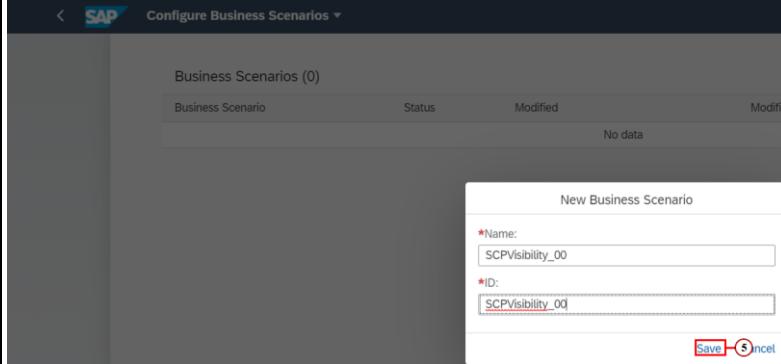
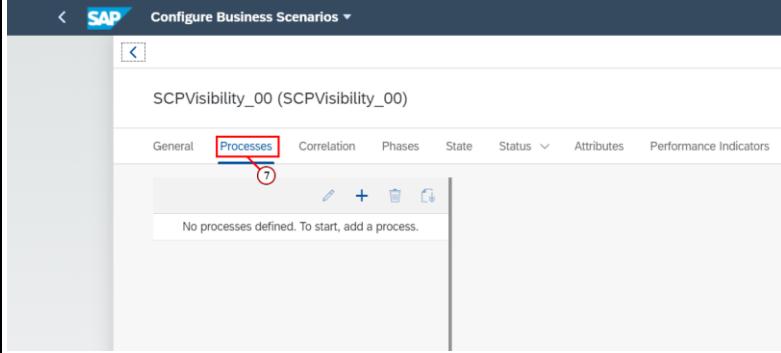
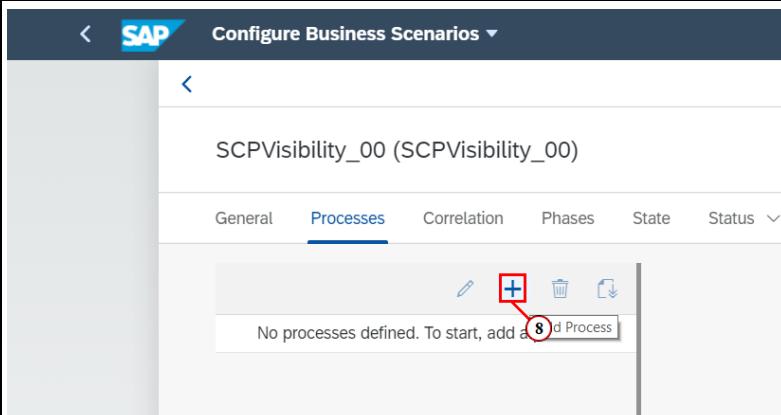
You will do the following as part of the exercises:

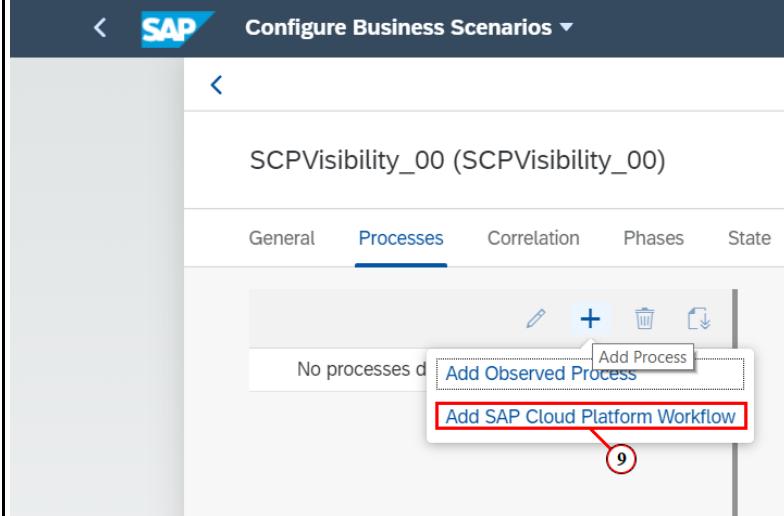
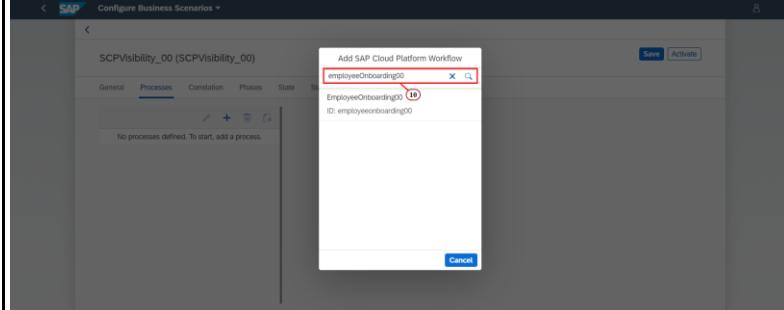
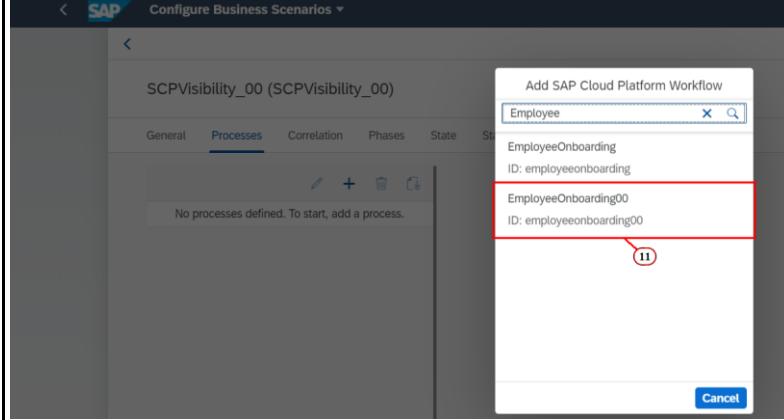
1. Create a new business scenario and add workflow as a process participant.
2. Enhance the business scenario with phases and calculated attributes
3. Create process performance indicators that help you track the end to end process.
4. Using Event acquisition app, you can view the acquired events & with the Monitor Scenarios application, you can schedule processing of events for the activated scenarios.
5. Access process visibility workspace to track & gain visibility on your end to end process

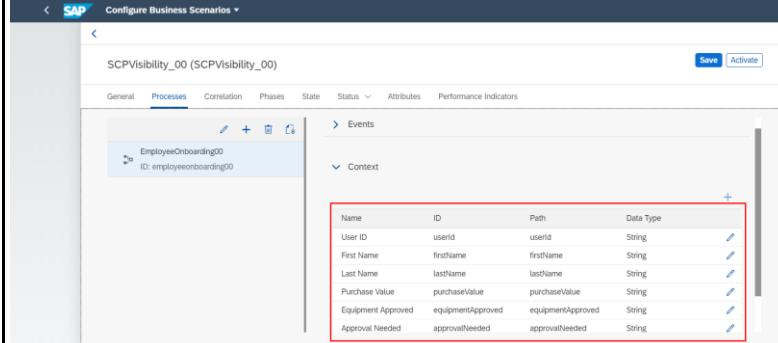
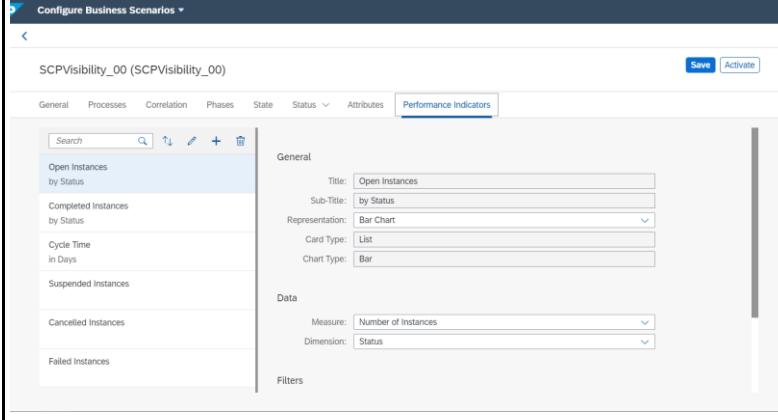
Add new business scenario

Explanation	Screenshot
<p>1. Log onto Fiori Launchpad to access Configure Business Scenario application. Use the following credentials. Email Id:CAA366_XX Password: Welcome1</p> <p>Log On</p> <p>Click </p> <p>Note: Replace XX with the number provided by your instructor.</p>	<p>SAP BPM TechEd EU2</p>  <p>Powered by SAP Cloud Platform</p>

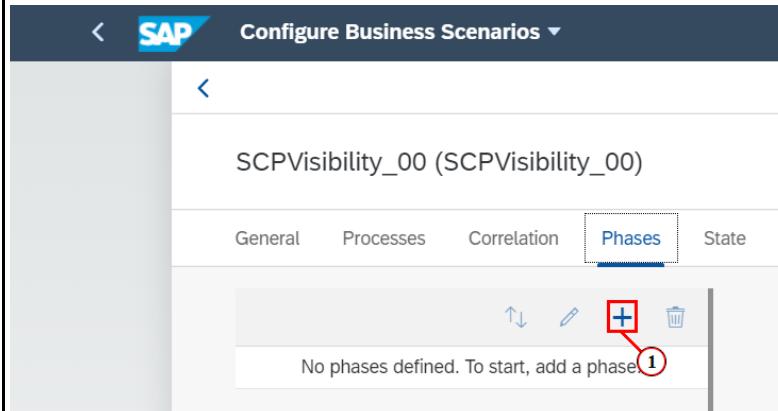
Explanation	Screenshot
<p>2. Select Process Visibility tab. Click Configure Business Scenarios tile</p>	
<p>Note: Configure Business Scenarios application enables you to model scenarios which can have one or more of the following processes as process participant:</p> <ul style="list-style-type: none"> Workflow modeled using SAP Cloud Platform Workflow Processes executing in SAP/non SAP systems both cloud and on premise applications 	
<p>3. Click + to create a business scenario</p>	
<p>4. Enter SCPVisibility_XX as the name in the New Business Scenario dialog. Confirm your entry by pressing the Tab key.</p> <p>Note: ID attribute is automatically generated. Replace XX with the number provided by the Instructor</p>	

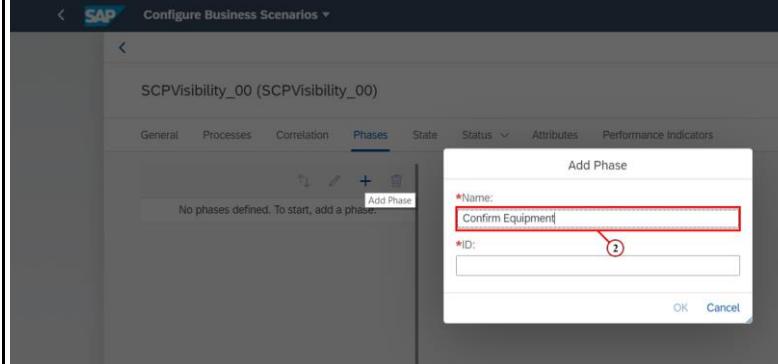
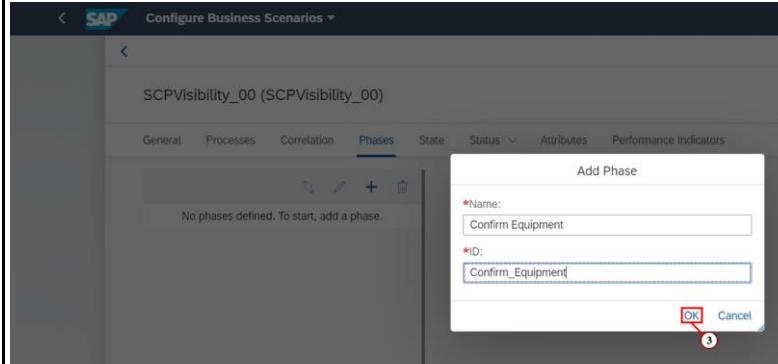
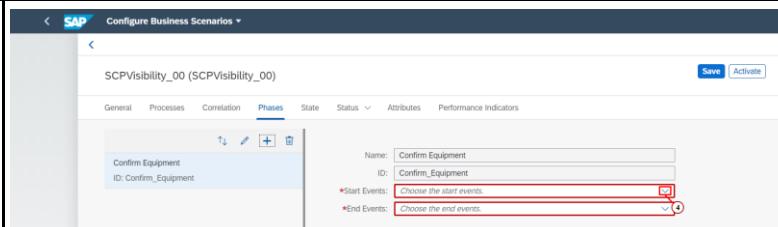
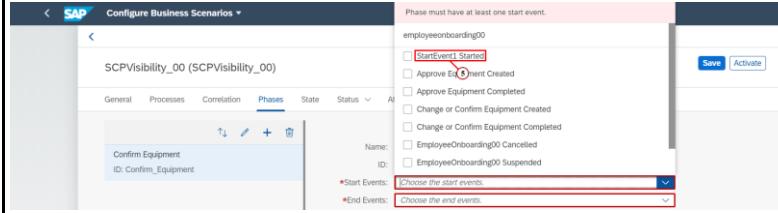
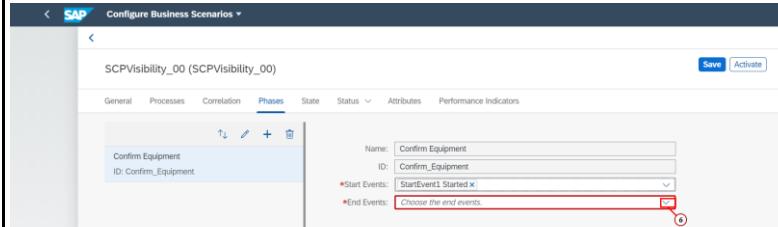
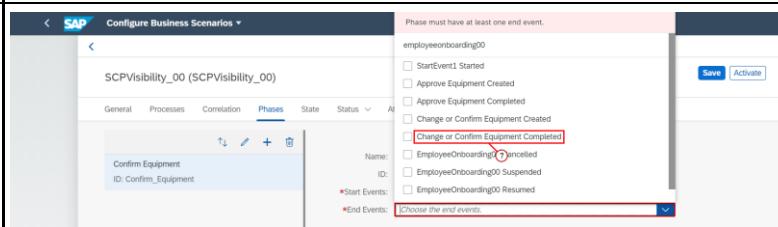
Explanation	Screenshot
5. Click Save in New business scenario dialog.	
6. Click > to navigate to the business scenario.	
7. Click on Processes tab.	
8. Click +.	

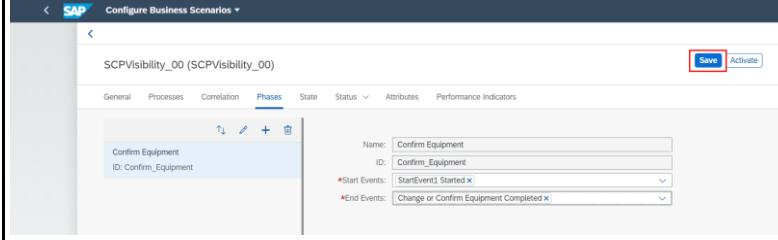
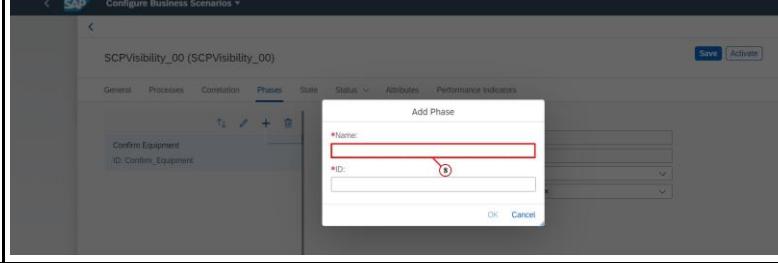
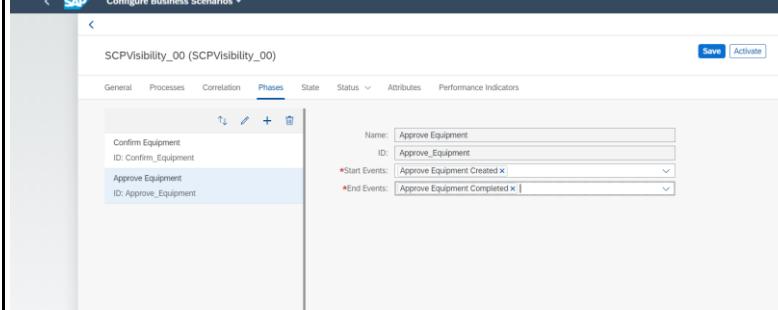
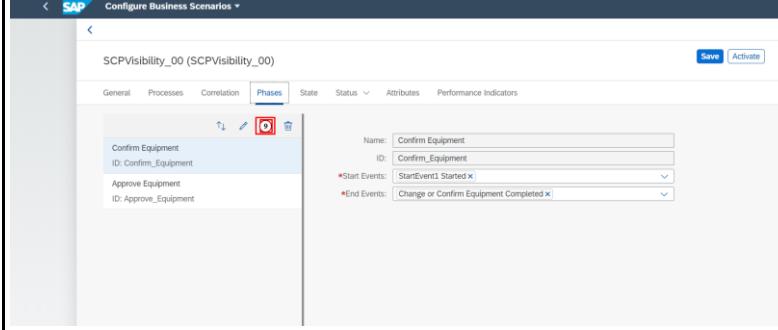
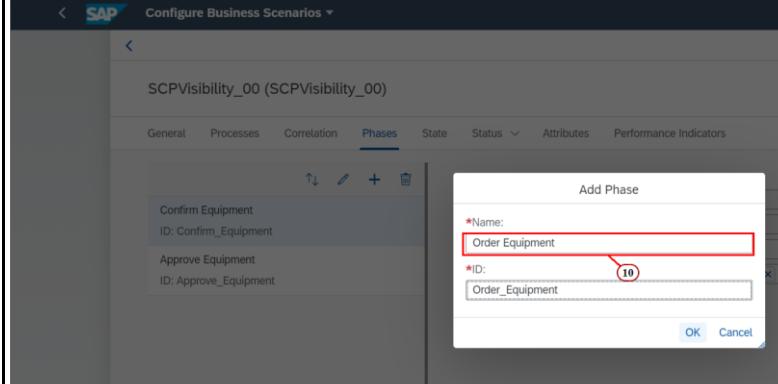
Explanation	Screenshot
<p>9. Click Add SAP Cloud Platform Workflow from the drop down.</p> <p>Note: Observed process can be used to represent the observable events and steps of your process. The observed process provides visibility on processes running elsewhere, or on your operational data where there is no notion of a process. You need to push the events and context belonging to the observed process.</p>	
<p>10. In the Search box, enter employeeOnboardingXX which is the name of the workflow that you deployed.</p> <p>Note: Replace XX with the number provided by the Instructor</p>	
<p>11. Select EmployeeOnboardingXX.</p> <p>Note: Replace XX with the number provided by the Instructor</p>	
<p> Note: This will add the workflow as a Process Participant and automatically add all events provisioned by the added workflow.</p>	

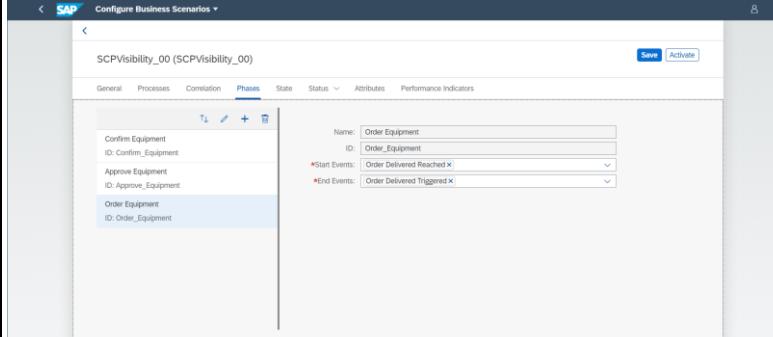
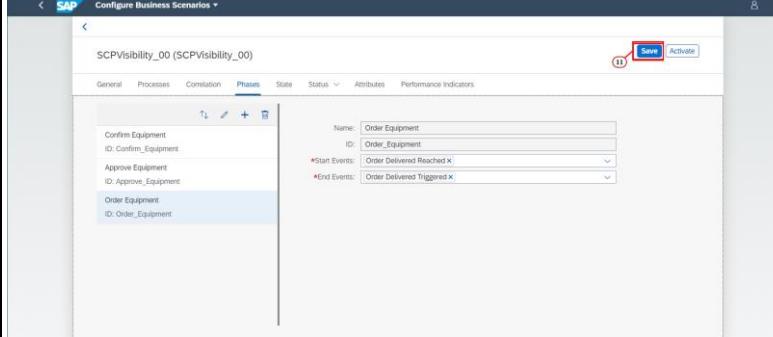
Explanation	Screenshot																												
<p> Workflow attributes modeled in the workflow are shown as context attributes</p>	 <table border="1" data-bbox="933 451 1351 586"> <thead> <tr> <th>Name</th> <th>ID</th> <th>Path</th> <th>Data Type</th> </tr> </thead> <tbody> <tr> <td>User ID</td> <td>userId</td> <td>userId</td> <td>String</td> </tr> <tr> <td>First Name</td> <td>firstName</td> <td>firstName</td> <td>String</td> </tr> <tr> <td>Last Name</td> <td>lastName</td> <td>lastName</td> <td>String</td> </tr> <tr> <td>Purchase Value</td> <td>purchaseValue</td> <td>purchaseValue</td> <td>String</td> </tr> <tr> <td>Equipment Approved</td> <td>equipmentApproved</td> <td>equipmentApproved</td> <td>String</td> </tr> <tr> <td>Approval Needed</td> <td>approvalNeeded</td> <td>approvalNeeded</td> <td>String</td> </tr> </tbody> </table>	Name	ID	Path	Data Type	User ID	userId	userId	String	First Name	firstName	firstName	String	Last Name	lastName	lastName	String	Purchase Value	purchaseValue	purchaseValue	String	Equipment Approved	equipmentApproved	equipmentApproved	String	Approval Needed	approvalNeeded	approvalNeeded	String
Name	ID	Path	Data Type																										
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Equipment Approved	equipmentApproved	equipmentApproved	String																										
Approval Needed	approvalNeeded	approvalNeeded	String																										
<p> The State, Status ,Attributes and Performance Indicators show all the standard content generated based on the workflow definition.</p> <p>State: In the State tab, you can configure the end & abrupt end events which help determine whether the scenario instance is in Open, Completed or Abrupt End state.</p> <p>Status: Status depicts how a scenario instance is progressing based on the scenario target or the defined custom sub-statuses</p> <p>Attributes: Attributes provide meaningful information about an instance. They help to identify an instance from a group of instances</p> <p>Performance Indicators: Performance indicators gives the business users a holistic view of the process and enables them to understand process performance at a glance</p>																													
<p> 12. Click Save</p>																													

Enhance business scenario with phases

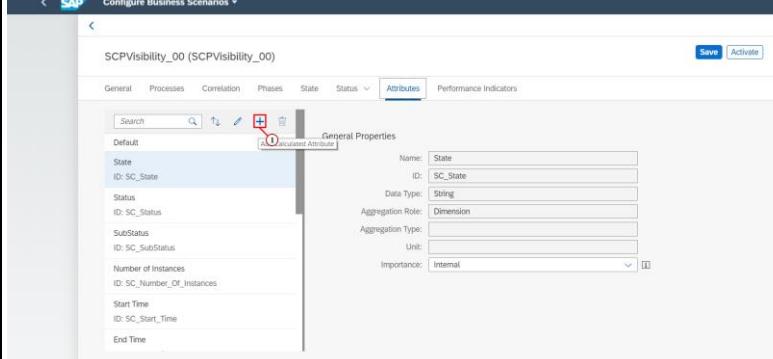
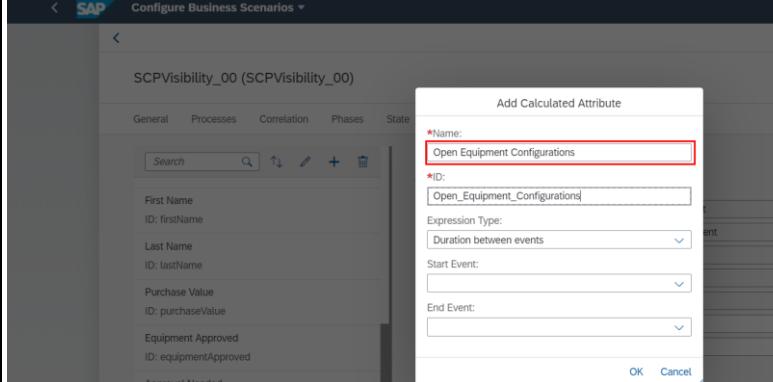
Explanation	Screenshot
<p>1. Click Phases tab. Click  to add a new phase</p>	

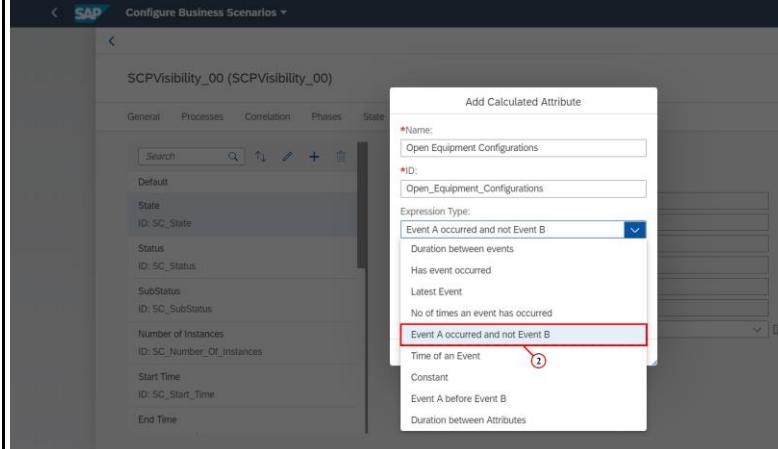
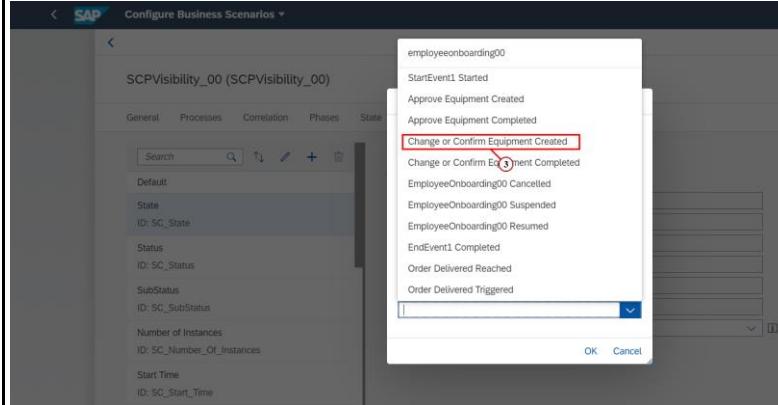
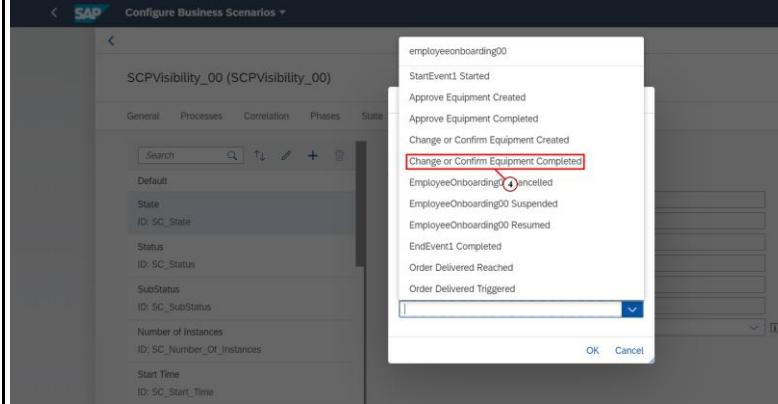
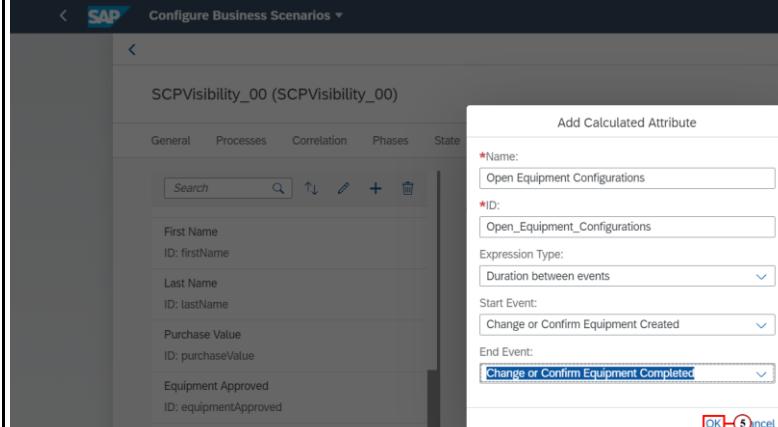
Explanation	Screenshot
<p>2. Enter Confirm Equipment as Name in the Add Phase dialog.</p> <p>Confirm your entry by pressing the Tab key. ID will be automatically filled in.</p>	
<p>3. Click OK.</p>	
<p>4. Click ▼ to select the start event of the phase</p>	
<p>5. Select StartEvent1 Started as start event</p>	
<p>6. Click ▼ to select end event of the phase</p>	
<p>7. Select Change or Confirm Equipment Completed as end event</p>	

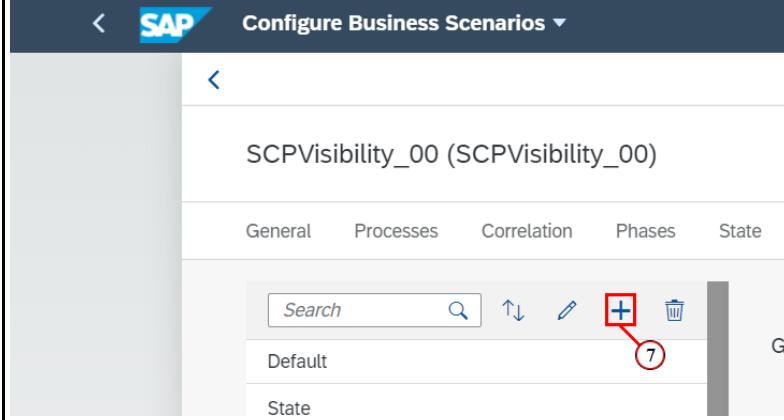
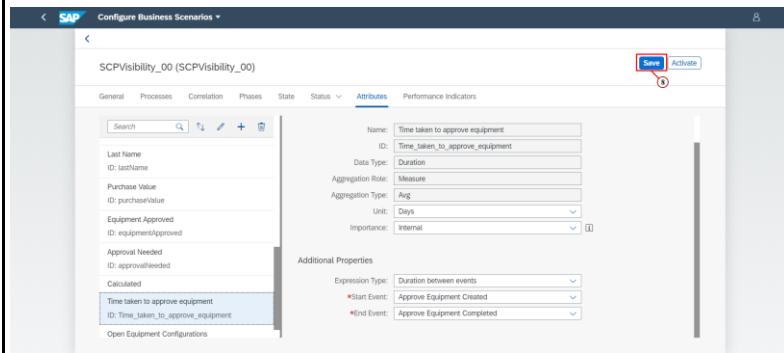
Explanation	Screenshot
<p> Click on Save to save your changes</p>	
<p>8. Click + to create Approve Equipment phase. Enter Approve Equipment as Name in the Add Phase dialog.</p> <p>Confirm your entry by pressing the Tab key. ID will be automatically filled in.</p> <p>Click OK</p>	
<p>Select Approve Equipment Created as start event and Approve Equipment Completed as end event.</p>	
<p>9. Click  to add Order Equipment phase</p>	
<p>10. Enter Order Equipment as Name in the Add Phase dialog.</p> <p>Confirm your entry by pressing the Tab key. ID will be automatically filled in.</p> <p>Click OK</p>	

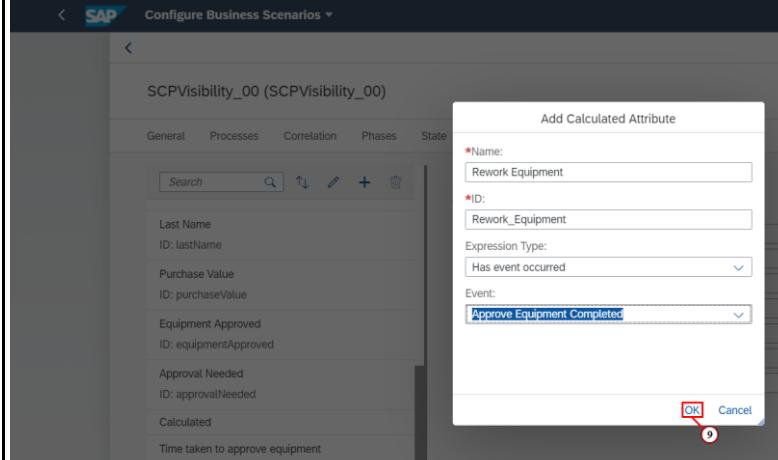
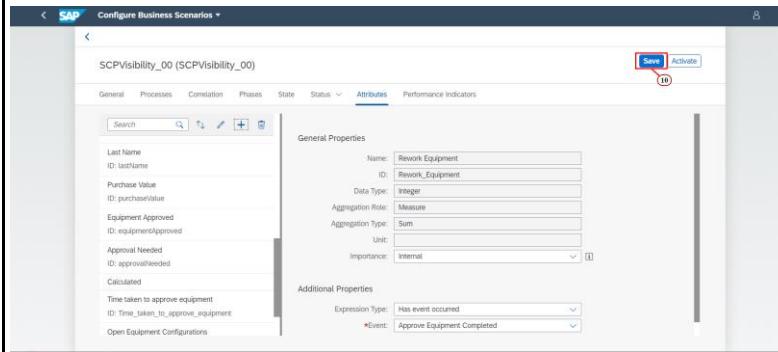
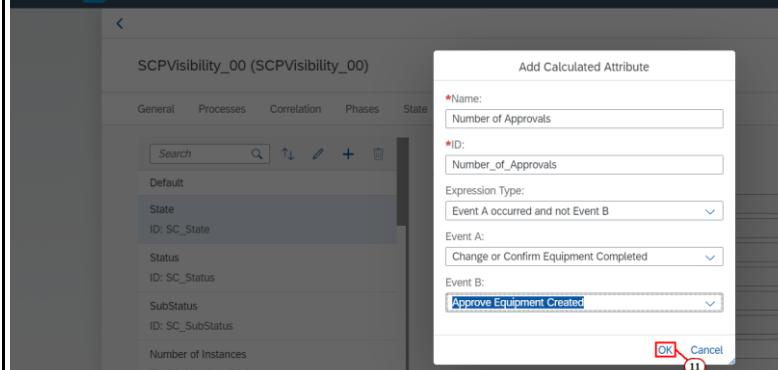
Explanation	Screenshot
<p></p> <p>Select Order Delivered Reached as start event and Order Delivered Triggered as end event.</p>	
<p>11. Click Save.</p>	

Create calculated attributes

Explanation	Screenshot
<p>1. Click Attributes tab. Click  to add a new attribute.</p>	
<p>Enter Open Equipment Configurations as Name in the Add Calculated Attribute dialog. Confirm your entry by pressing Tab. ID is automatically filled in.</p>	

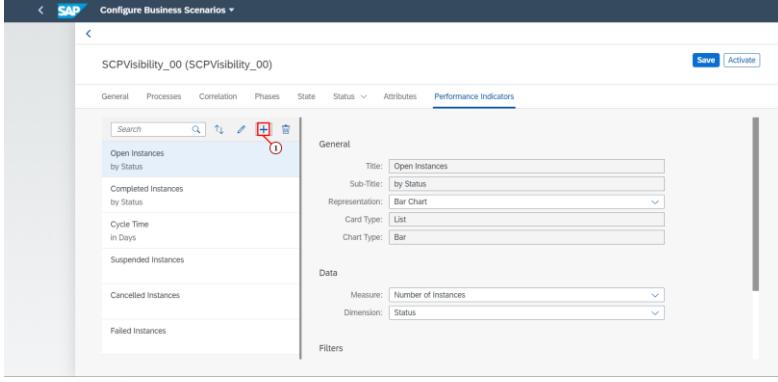
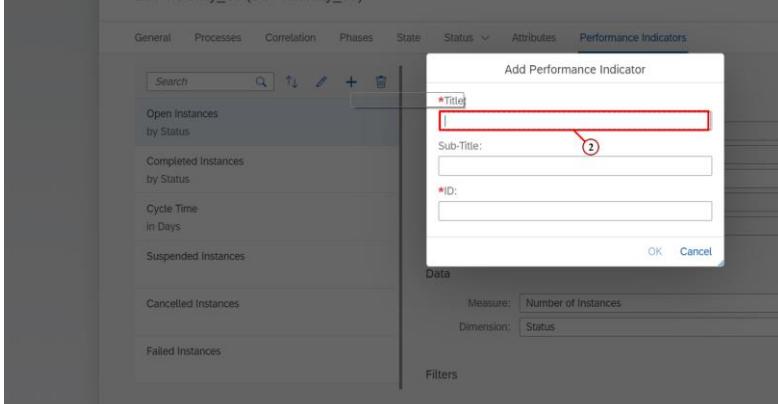
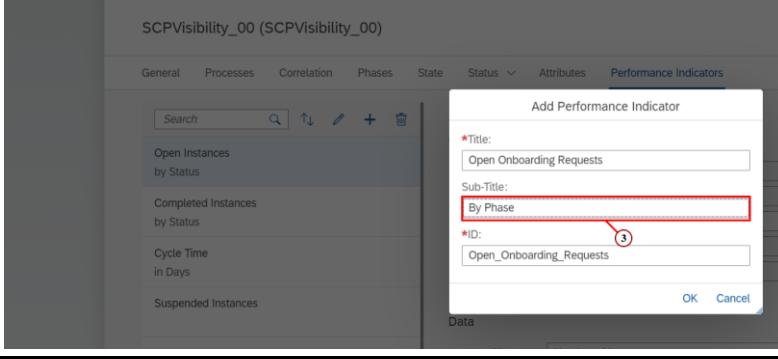
Explanation	Screenshot
<p>2. Select Event A occurred and not Event B as the expression type</p> <p>Note: We use this expression type to get all equipment configurations which are created but not completed</p>	
<p>3. Select Change or Confirm Equipment created as Start Event.</p>	
<p>4. Select Change or Confirm Equipment Completed as End Event.</p>	
<p>5. Click OK.</p>	

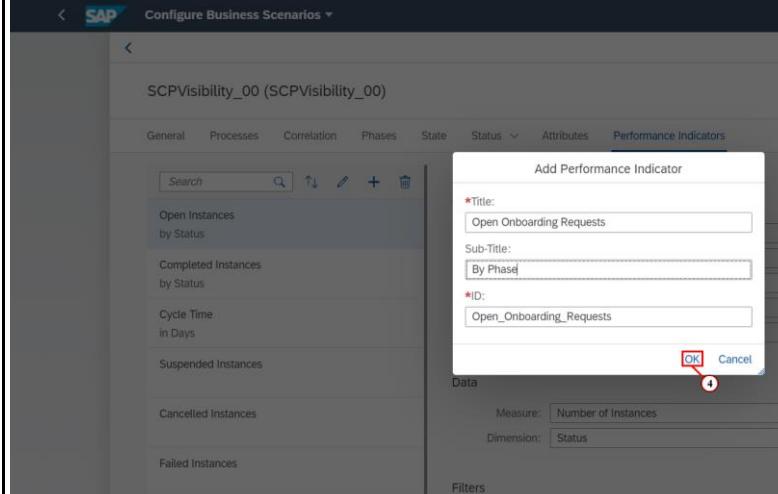
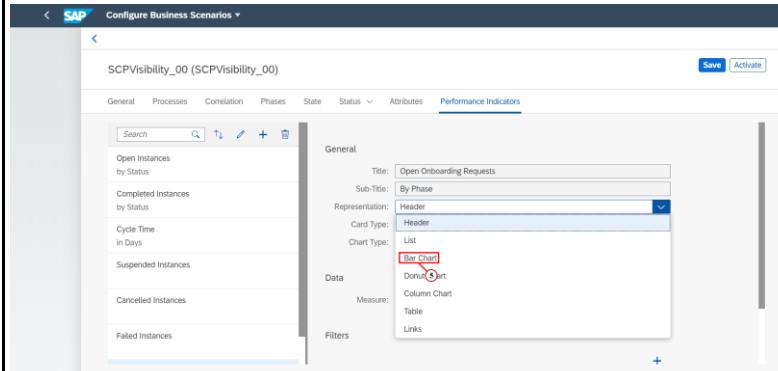
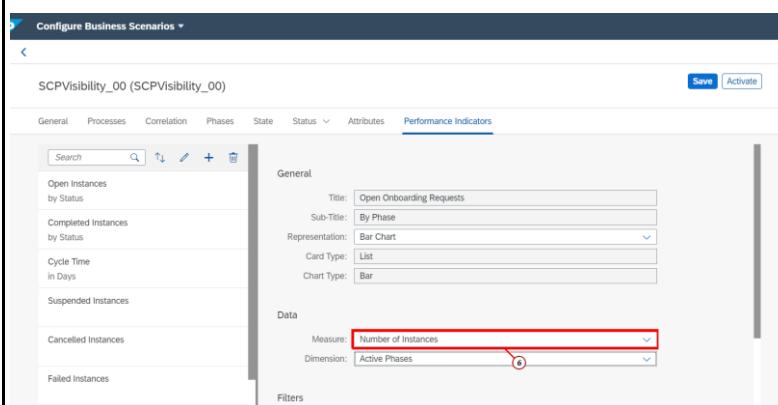
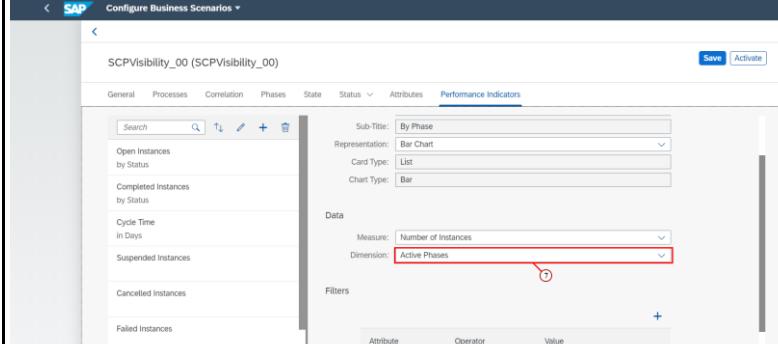
Explanation	Screenshot
<p>6. Click Save.</p>	
<p>This attribute will be used to define a process performance indicator to calculate average time taken to approve equipment for a new hire</p> <p>7. Click  to add another attribute as given below.</p> <p>Name: Time Taken To Approve Equipment Note: Confirm your entry by pressing Tab key. ID attribute will be automatically filled in</p> <p>Expression Type: Duration between events</p> <p>Start Event: Approve Equipment Created</p> <p>End Event: Approve Equipment Completed</p> <p>Click on OK</p> <p>Clickn To Approve Equipment</p> <p>ID</p> <p>TimeTakenToApproveEquipment</p> <p>Expression Type</p> <p>Duration between events</p> <p>Start Event</p> <p>Approve Equipment Created</p> <p>End Event</p> <p>Approve Equipment Completed</p> <p>Name</p> <p>Time Taken To Approve Equipment</p> <p>ID</p> <p>TimeTakenToApproveEquipment</p> <p>Expression Type</p> <p>Duration between events</p> <p>Start Event</p> <p>Approve Equipment Created</p> <p>End Event</p> <p>Approve Equipment Completed</p>	
<p>8. Click Save.</p>	

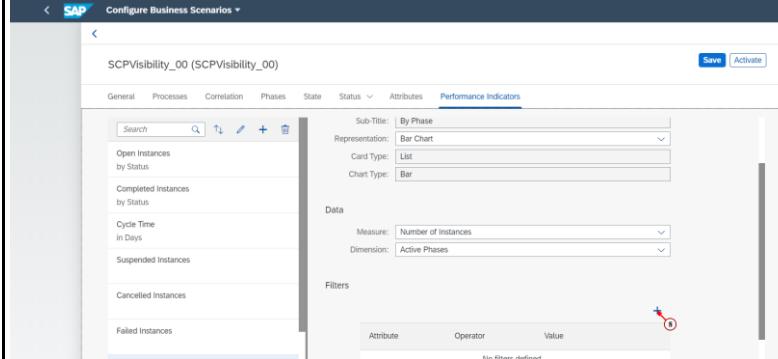
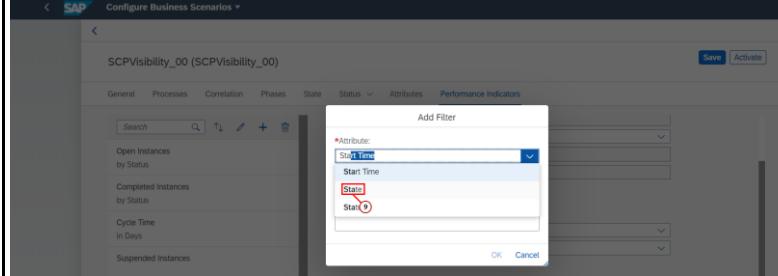
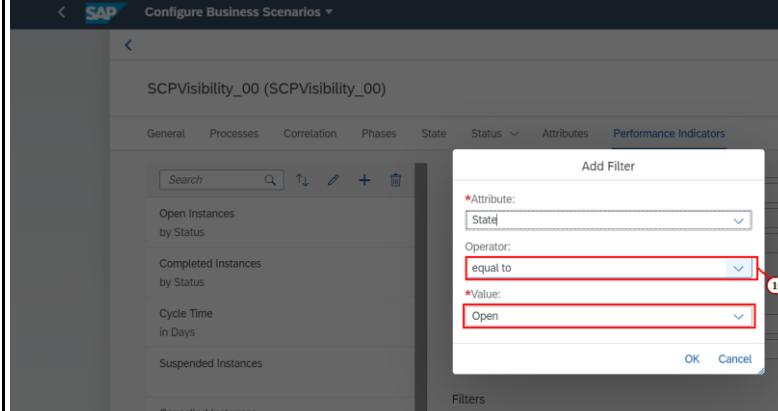
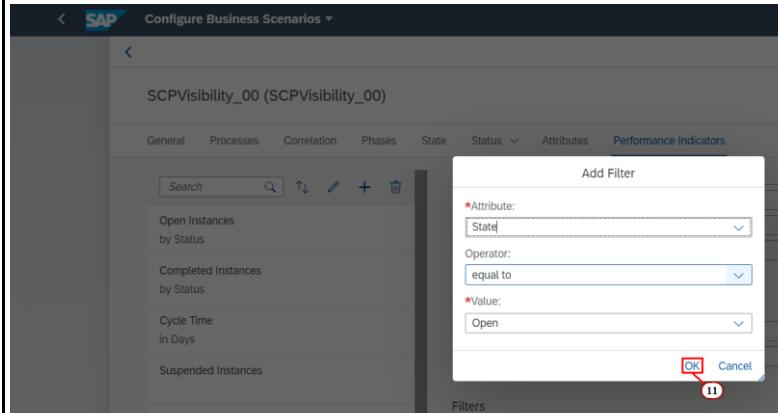
Explanation	Screenshot
<p>Add another attribute as given below:</p> <p>Name: Rework Equipment ID: <Will be filled automatically> Expression Type: Has Event Occurred Event: Approve Equipment Completed</p>  <p>This attribute will be used to define a process performance indicator to calculate number of rework requests that are open</p> <p>9. Click OK.</p>	
<p>10. Click Save.</p>	
<p>Click another calculated attribute with the details given below</p> <p>Name: Number of Approvals Skipped ID: This attribute is auto generated Expression Type: Even A occurred and not Event B Start Event: Change or Confirm Equipment Completed End Event: Approve Equipment Created</p> <p>11. Click OK.</p>	
<p>12. Click Save.</p>	

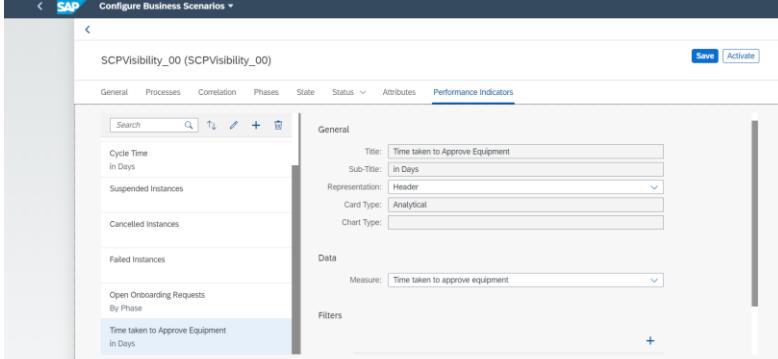
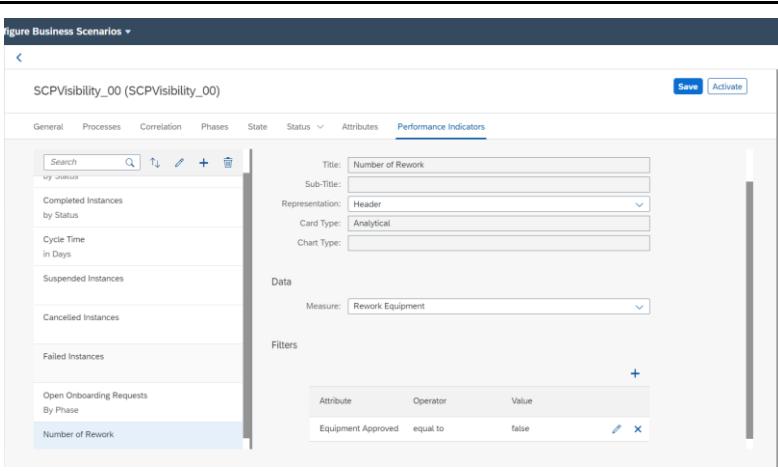
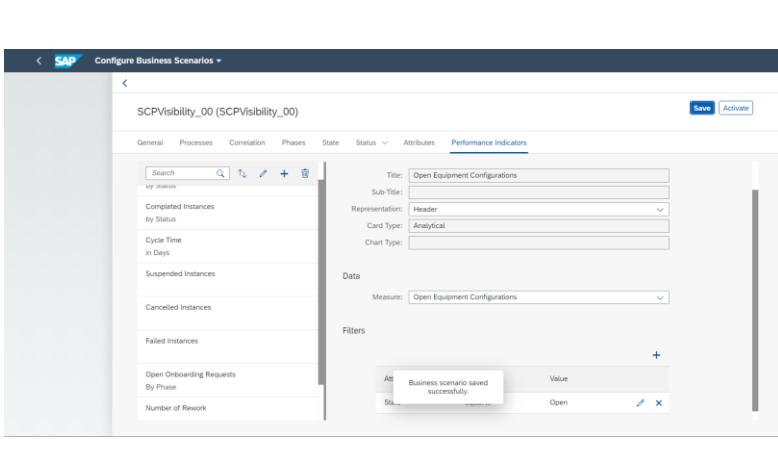
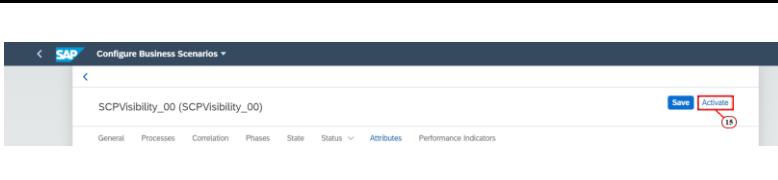
Create Process performance indicators

Explanation	Screenshot
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Explanation	Screenshot
<p>1. Click Performance Indicators tab. Click  to add a new Performance Indicator</p> <p></p> <p>Note: Performance indicators represent aggregated information of a measure, grouped by dimensions and applied filters. A group of performance indicators gives the business users a holistic view of the process and enables them to understand process performance at a glance</p> <p>Process performance Indicators are modeled using the calculated attributes and define the representation , card type and chart type to be used in the UI. Additional filters can be applied to get specific characteristics of the Process Performance Indicator.</p>	
<p>2. Enter Open Onboarding Requests as Title in the Add Performance Indicator dialog.</p> <p>Confirm your entry by pressing the Tab key.</p>	
<p>3. Enter By Phase as Sub Title</p>	

Explanation	Screenshot
4. Click OK .	
5. Select Bar Chart as the Representation.	
6. Select Number of Instances as Measure	 <p>Number of Instances is a default attribute that process visibility creates for every scenario. For every scenario instance created, the value of the attribute is computed to 1. When this attribute is used as a measure in defining performance indicators, it is computed as the total number of instances for a given filter criteria or breakdown.</p>
7. Select Active Phases as the Dimension	 <p>Active Phases is a default attribute created by process visibility for every scenario. It determines phase an open instance is currently in. If an instance has multiple active phases, then this attribute value is the phase name of the active phases, separated by comma.</p>

Explanation	Screenshot
8. Click + to add a filter .	
9. Select State as the Attribute in the Add Filter dialog  State is a default attribute created by process visibility service for every scenario. This attribute has the values Open, Completed or Abrupt End.	
10. Select equal to as the Operator & Open as the Value	
11. Click OK .	
12. Click Save	

Explanation			Screenshot																	
<p>Add another Performance Indicator as given below</p> <table border="1"> <tr> <td rowspan="5">General</td> <td>Title</td> <td>Time taken to Approve Equipment</td> </tr> <tr> <td>Sub Title</td> <td>in Days</td> </tr> <tr> <td>Representation</td> <td>Header</td> </tr> <tr> <td>Card Type</td> <td>Analytical</td> </tr> <tr> <td>Chart Type</td> <td></td> </tr> <tr> <td>Data</td> <td>Measure</td> <td>Time taken to Approve Equipment</td> </tr> </table>			General	Title	Time taken to Approve Equipment	Sub Title	in Days	Representation	Header	Card Type	Analytical	Chart Type		Data	Measure	Time taken to Approve Equipment				
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	Chart Type																			
Data	Measure	Time taken to Approve Equipment																		
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	Card Type	Analytical																		
	Chart Type																			
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Filter	Attribute: Equipment Approved Operator: equal to Value: false																			
<p>13. Click Save.</p>																				
<p>Add another Performance Indicator as given below</p> <table border="1"> <tr> <td rowspan="5">General</td> <td>Title</td> <td>Open Equipment Configurations</td> </tr> <tr> <td>Sub Title</td> <td></td> </tr> <tr> <td>Representation</td> <td>Header</td> </tr> <tr> <td>Card Type</td> <td>Analytical</td> </tr> <tr> <td>Chart Type</td> <td></td> </tr> <tr> <td>Data</td> <td>Measure</td> <td>Open Equipment Configuration</td> </tr> <tr> <td>Filter</td> <td>Attribute: State Operator: equal to Value: Open</td> <td></td> </tr> </table>			General	Title	Open Equipment Configurations	Sub Title		Representation	Header	Card Type	Analytical	Chart Type		Data	Measure	Open Equipment Configuration	Filter	Attribute: State Operator: equal to Value: Open		
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	Sub Title																			
	Representation	Header																		
	Card Type	Analytical																		
	Chart Type																			
Data	Measure	Open Equipment Configuration																		
Filter	Attribute: State Operator: equal to Value: Open																			
<p>14. Click Save.</p>																				
<p>Note: Activation of scenario also takes care of auto subscribing to workflow events</p> <p>From now on, events will be pushed when workflow instance is triggered and as the</p>																				

Explanation	Screenshot
<p>workflow moves forward</p> <p>15. Click Activate</p>	

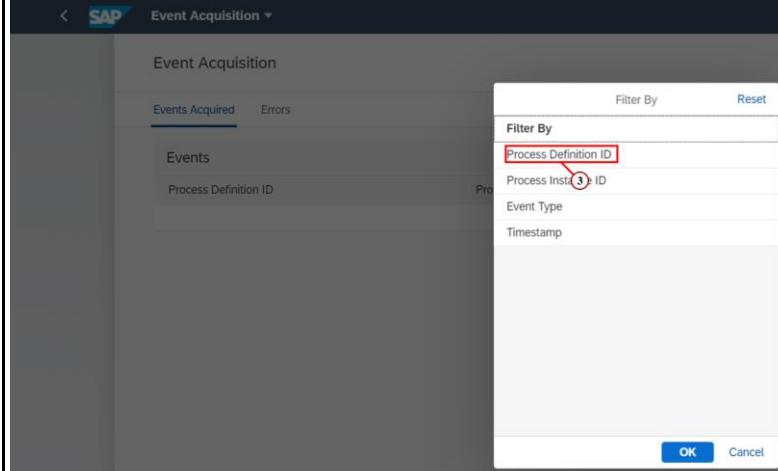
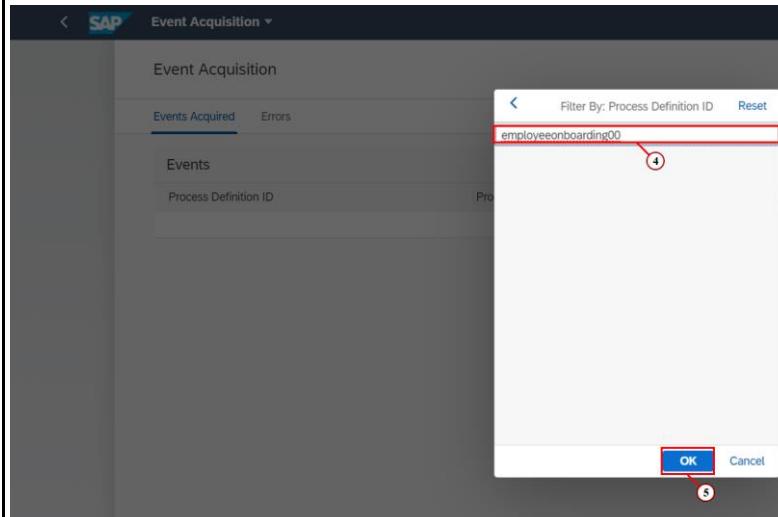
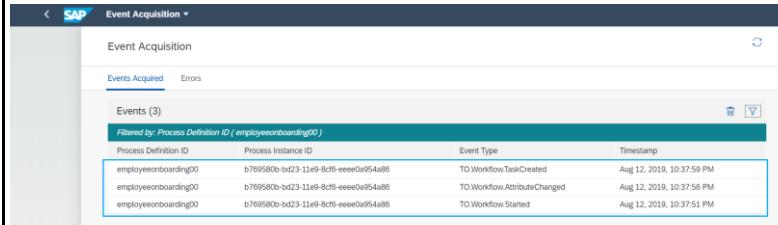
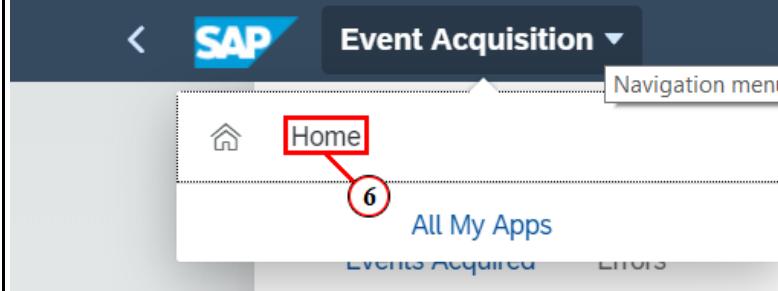
Configure and monitor Process Visibility scenarios

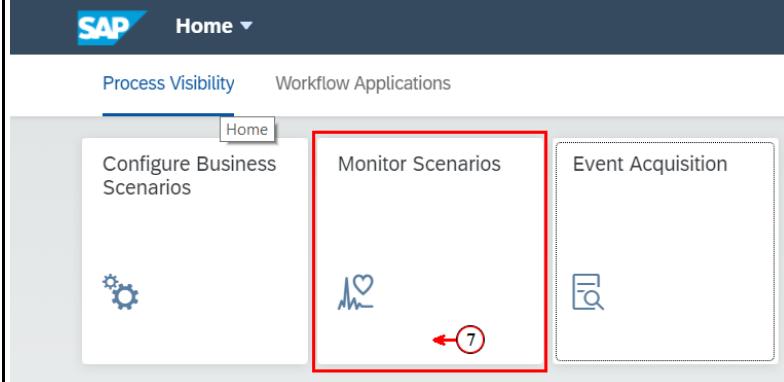
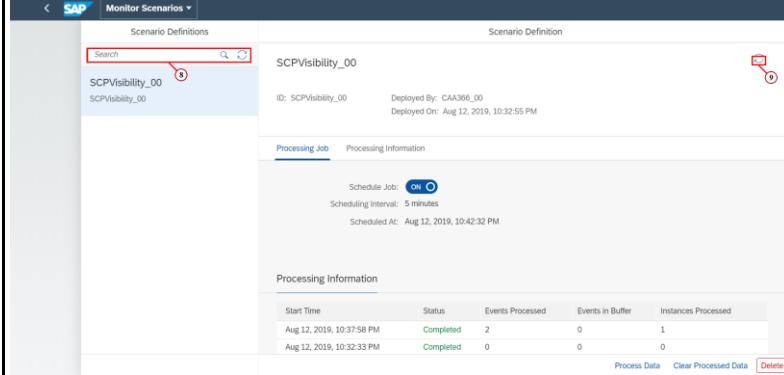
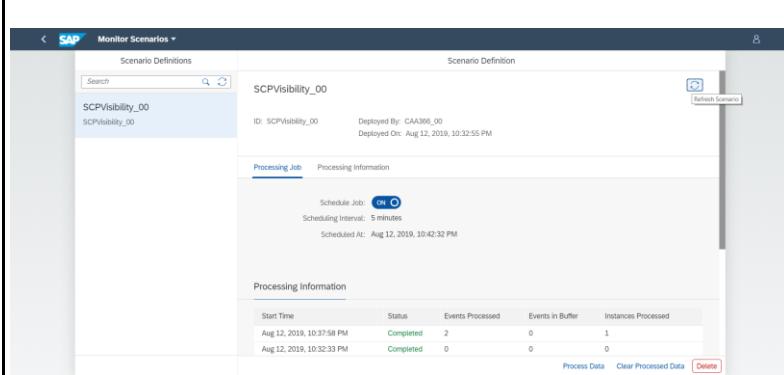
Before starting this chapter, perform the steps mentioned in [Execute Workflow](#) chapter.

Once the business scenario is activated, events for the workflow used in the scenario is auto subscribed. Workflow attributes configured in the workflow model are pushed as context attributes. The following events are pushed from Workflow to Process Visibility service

Activity	Event
Workflow lifecycle events	Started,Completed, Canceled, Suspended
User Task	Created,Completed
Intermediate message event	Triggered, Reached

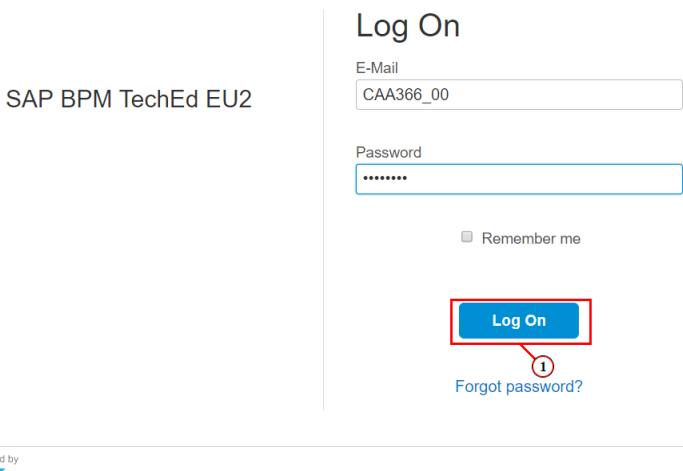
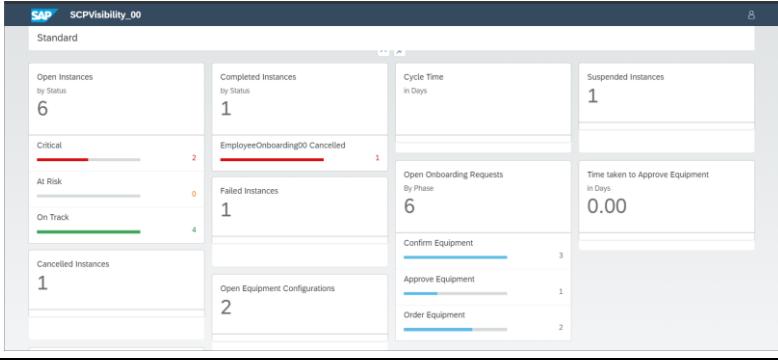
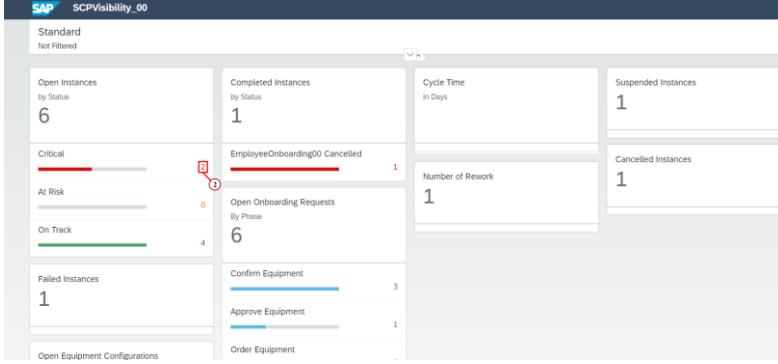
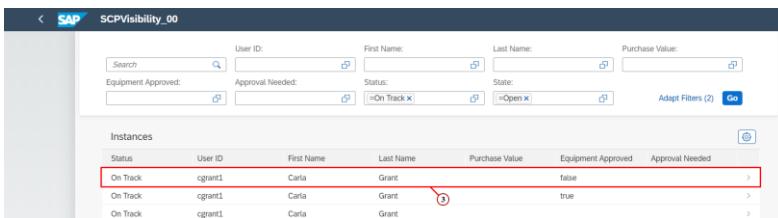
Explanation	Screenshot
<p>1. From the Home page of Fiori launchpad, navigate to Process Visibility tab.</p> <p>Click Event Acquisition application.</p>	
<p>Using the Event Acquisition application, you can do the following:</p> <ul style="list-style-type: none"> View the events that have been acquired by process visibility Monitor errors while consuming the events pushed to the service. <p>2. Click </p>	

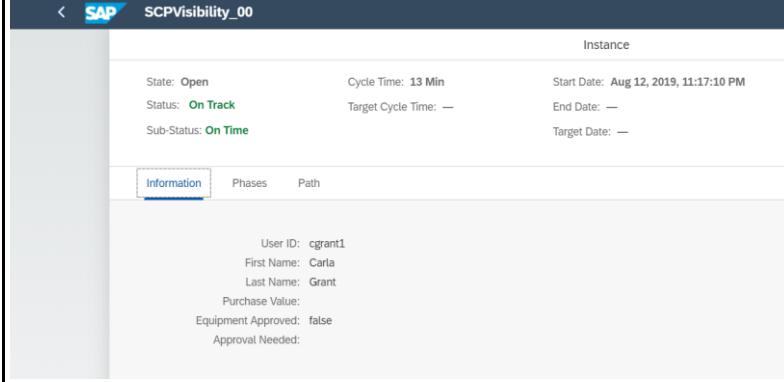
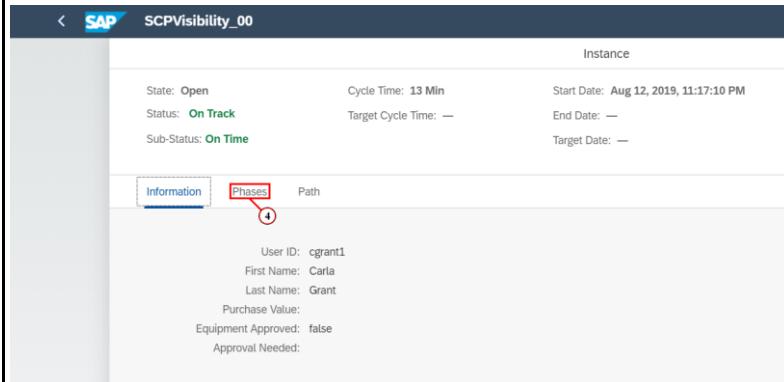
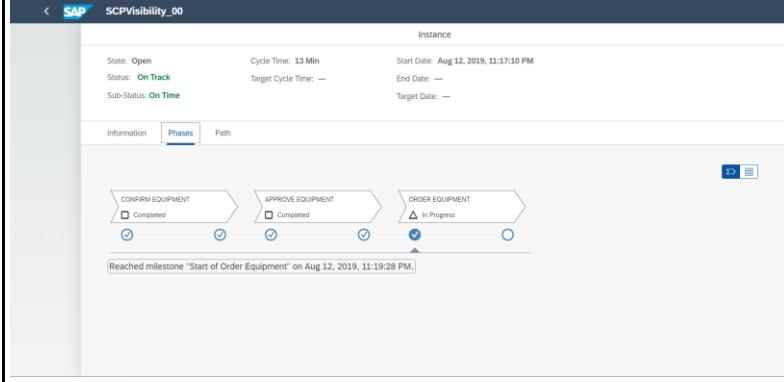
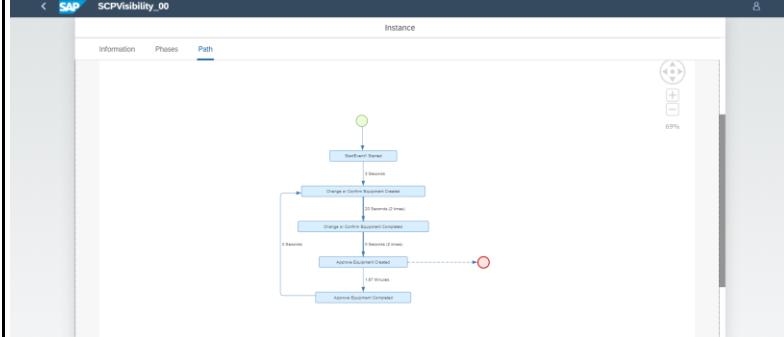
Explanation	Screenshot																
3. Click Process Definition in the filter dialog																	
<p>4. Enter employeeonboardingXX which refers to the workflow definition id that was imported in your business scenario.</p> <p>Note: Replace XX with number provided by your instructor</p> <p>5. Click OK</p>																	
This way you can filter and monitor for events received from workflow service	 <table border="1"> <thead> <tr> <th>Process Definition ID</th> <th>Process Instance ID</th> <th>Event Type</th> <th>Timestamp</th> </tr> </thead> <tbody> <tr> <td>employeeonboarding00</td> <td>b769580b-bd23-11e9-8cf6-ehee0a954a86</td> <td>TO.Workflow.TaskCreated</td> <td>Aug 12, 2019, 10:37:59 PM</td> </tr> <tr> <td>employeeonboarding00</td> <td>b769580b-bd23-11e9-8cf6-ehee0a954a86</td> <td>TO.Workflow.AttributeChanged</td> <td>Aug 12, 2019, 10:37:56 PM</td> </tr> <tr> <td>employeeonboarding00</td> <td>b769580b-bd23-11e9-8cf6-ehee0a954a86</td> <td>TO.Workflow.Started</td> <td>Aug 12, 2019, 10:37:51 PM</td> </tr> </tbody> </table>	Process Definition ID	Process Instance ID	Event Type	Timestamp	employeeonboarding00	b769580b-bd23-11e9-8cf6-ehee0a954a86	TO.Workflow.TaskCreated	Aug 12, 2019, 10:37:59 PM	employeeonboarding00	b769580b-bd23-11e9-8cf6-ehee0a954a86	TO.Workflow.AttributeChanged	Aug 12, 2019, 10:37:56 PM	employeeonboarding00	b769580b-bd23-11e9-8cf6-ehee0a954a86	TO.Workflow.Started	Aug 12, 2019, 10:37:51 PM
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employeeonboarding00	b769580b-bd23-11e9-8cf6-ehee0a954a86	TO.Workflow.Started	Aug 12, 2019, 10:37:51 PM														
6. Click Home .																	

Explanation	Screenshot
7. Click Monitor Scenarios	
8. Search for your scenario by providing you scenario name as SCPVisibility_XX . Note: Replace XX with the number provided by your instructor. 9. Click  .	
<p></p> <p>Note:</p> <ul style="list-style-type: none"> For a given scenario, processing of events is auto scheduled on scenario activation. The default schedule frequency for processing is 5 minutes Click the refresh button to see the processing information. You can see all the events from your scenario definition. The Process Data and Clear Processed Data actions on the footer enable you to manually trigger the processing of data and clearing the processed data. Once you clear the processed data, you can click again Processed Data to reprocess the events subscribed 	

Access the SAP Cloud Platform Process Visibility Workspace

Explanation	Screenshot
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Explanation	Screenshot
<p>1. Access process workspace for the scenario to track the process & gain visibility: <a href="https://bpm-cf-teched-eu2-teched-businessappsflp-approuter.cfapps.eu10.hana.ondemand.com/comsapbpmpv.sappvovp/index.html#pv-showScenarioOverview?scenarioid=<scenario id>">https://bpm-cf-teched-eu2-teched-businessappsflp-approuter.cfapps.eu10.hana.ondemand.com/comsapbpmpv.sappvovp/index.html#pv-showScenarioOverview?scenarioid=<scenario id></p> <p>Note: <scenario Id> is SCPVisibility_XX where XX is the number provided by your instructor</p> <p>Login with the credentials given below: Email ID: CAA366_XX Password: Welcome1</p> <p>Replace XX with the number provided by your instructor</p> <p style="text-align: center;">Log On</p> <p>Click</p>	 <p>SAP BPM TechEd EU2</p> <p>Powered by SAP Cloud Platform</p>
 <p>Using process workspace, you can track processes</p>	
<p>2. Click on Critical instances</p>	
<p>3. Select one scenario instance from the table view to see the details of the instance</p>	

Explanation	Screenshot
<p> The instance view shows the State, Status, Sub Status ,Cycle Time and Start Date including the context data under the information tab</p> <ul style="list-style-type: none"> State: An instance can be in Open, Completed or Abruptly Ended Status: Status depicts how a scenario instance is progressing based on the scenario target or the defined custom sub-statuses Sub-status: Provides insights on why an instance is in a certain status 	
<p>4. Click Phases.</p>	
<p> Observe in which phase the selected scenario instance is in.</p>	
<p> Switch to the Path tab to see the process steps the workflow instance has executed</p>	

Summary

You have completed the exercise!

You are now able to:

1. Configure & deploy business scenario

2. Gain visibility on your process using SAP Cloud Platform Visibility service

RAPID WORKFLOW TASK UI DEVELOPMENT USING FORMS

Overview

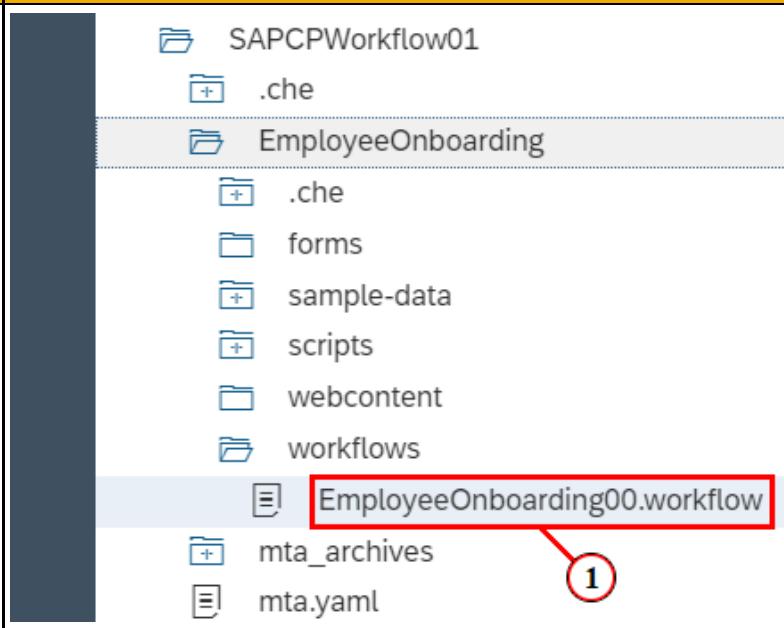
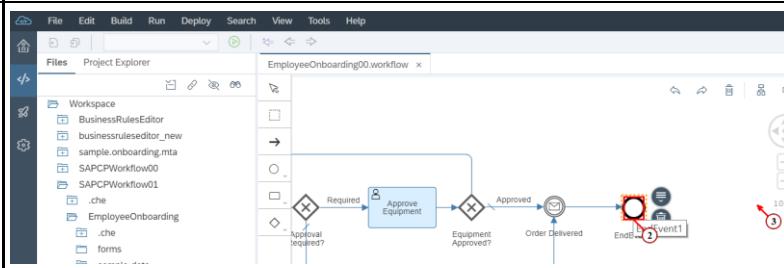
Estimated time: [30] minutes

Objective

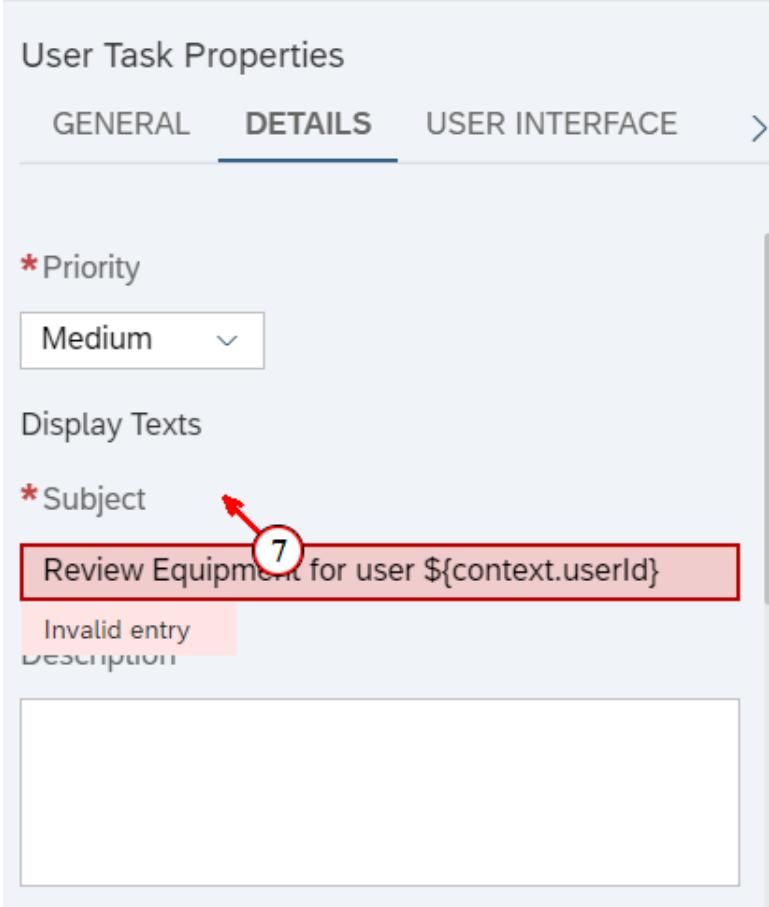
You will learn how to

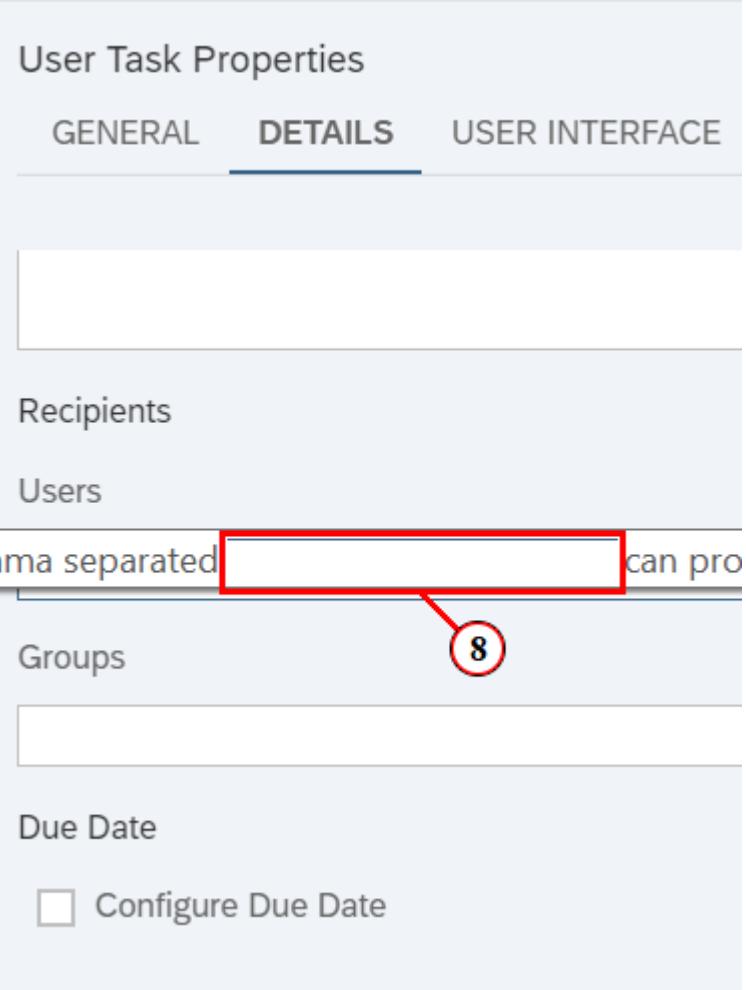
1. Model a Form as Workflow Task UI
2. How to create a table control by binding a collection

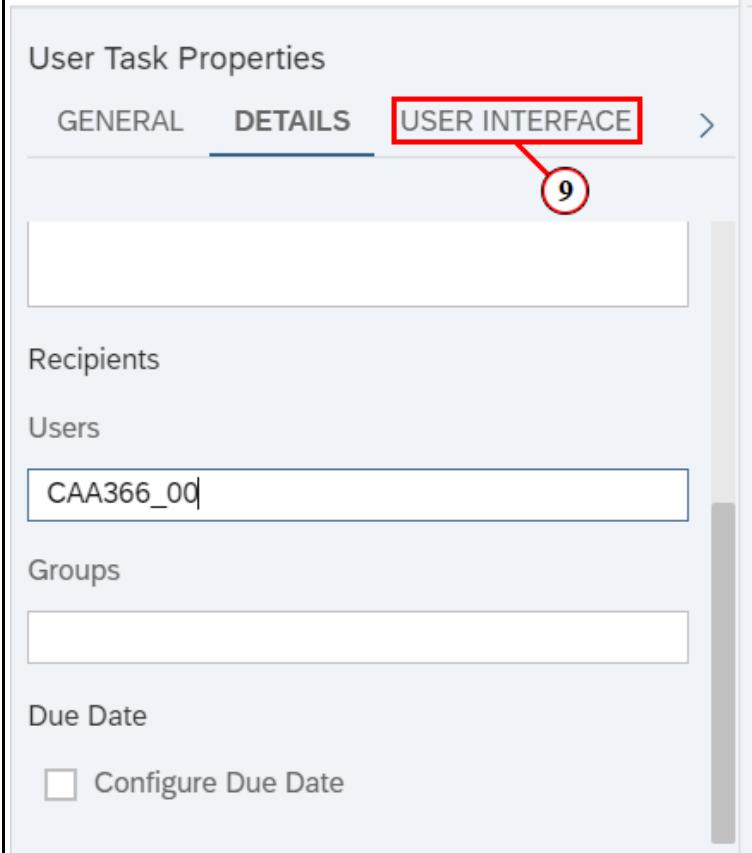
Add User Task - Accept Workplace

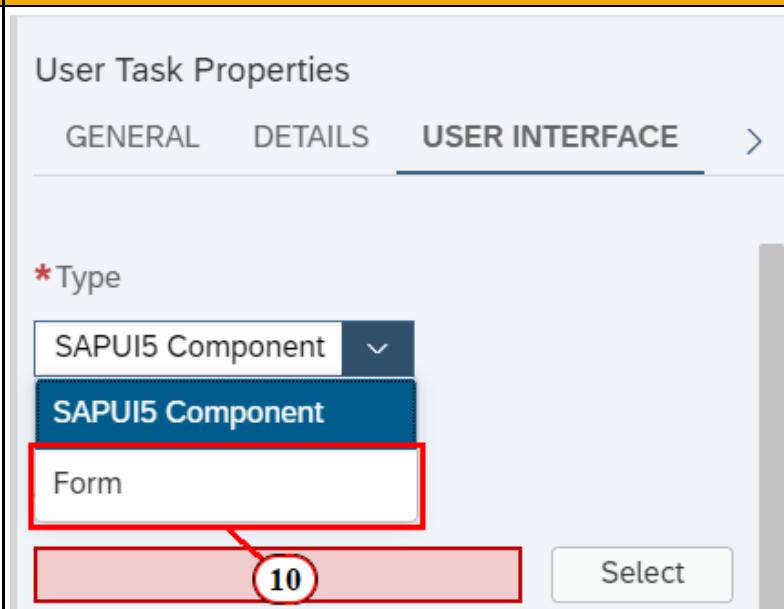
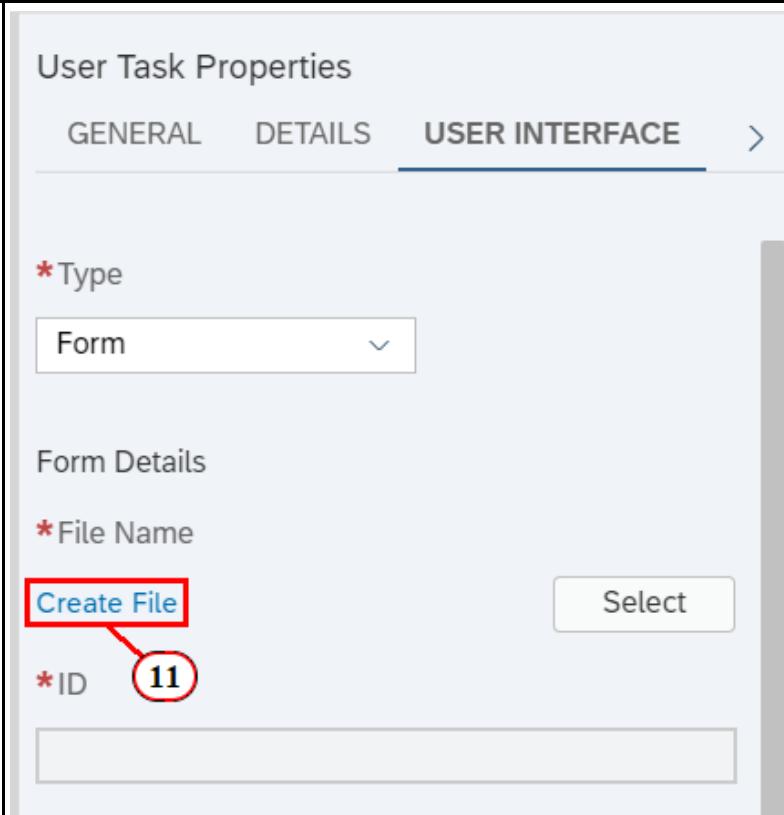
Explanation	Screenshot
<p>1. Open your modeled workflow. For eg: EmployeeOnboardingXX and replace XX with your user number. Double-click on EmployeeOnboarding00.workflow.</p>	
<p>2. Drag and Drop the End event of the workflow model to add a new user task. </p> <p>3. Drop on .</p>	

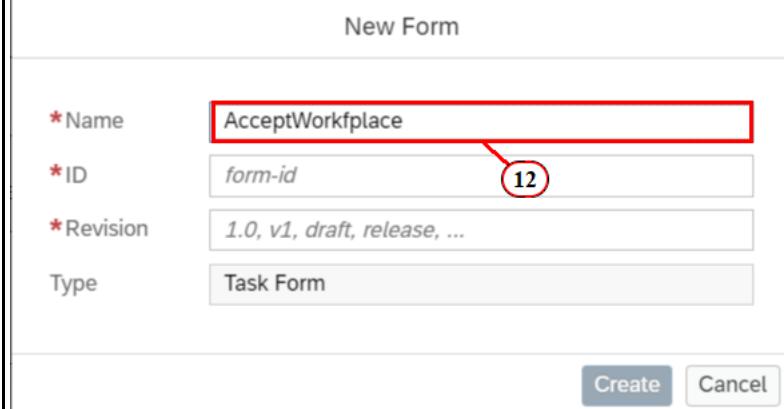
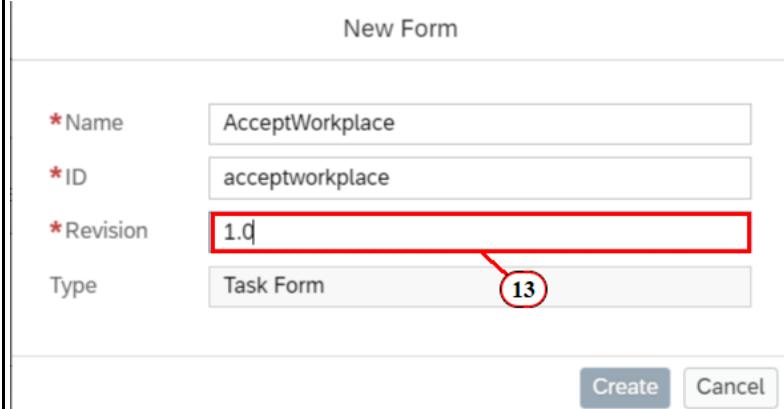
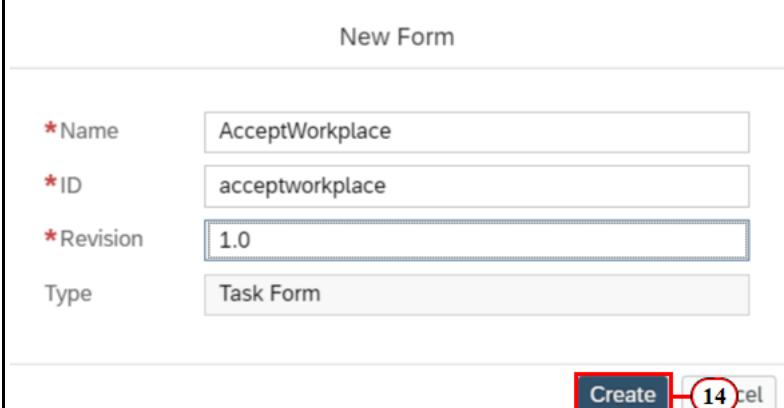
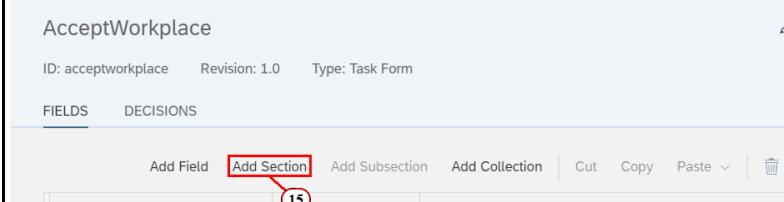
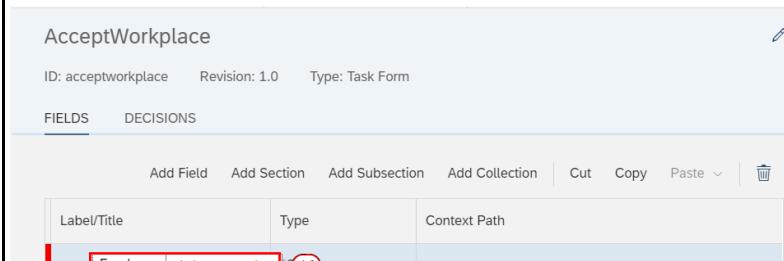
Explanation	Screenshot
<p>4. Select the Message Event Order Delivered and using the speed button click User Task.</p>	
<p>5. Enter Name as Accept Workplace.</p>	
<p>6. Click DETAILS.</p>	

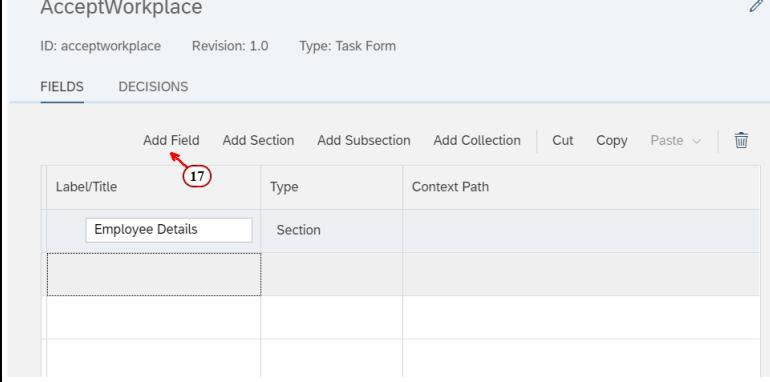
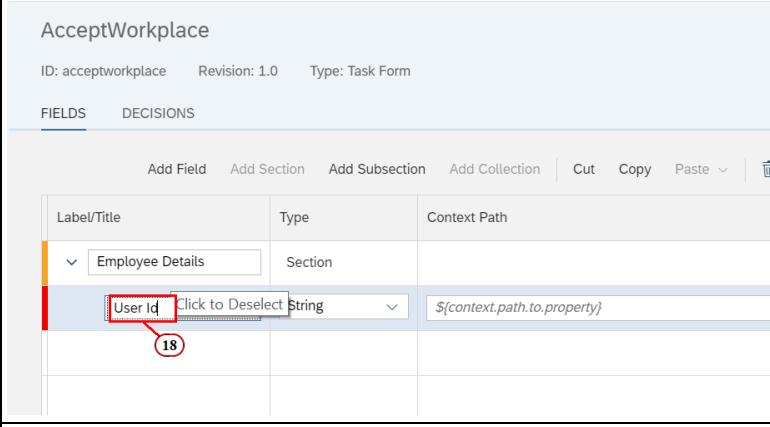
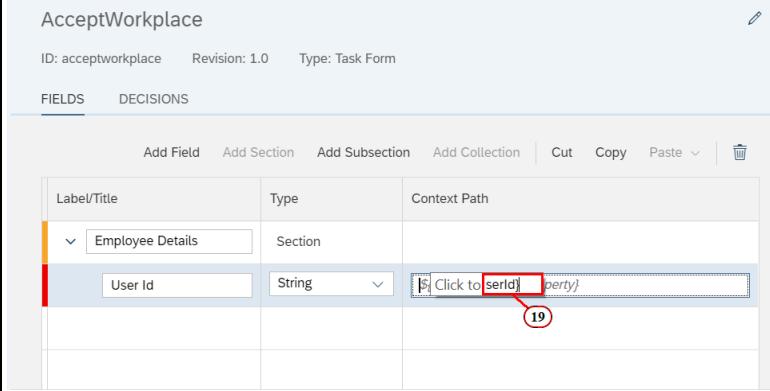
Explanation	Screenshot
7. Enter Subject as "Review Equipment for user" \${context.userId}.	 <p>User Task Properties</p> <p>GENERAL DETAILS USER INTERFACE ></p> <p>*Priority</p> <p>Medium</p> <p>Display Texts</p> <p>*Subject</p> <p>Review Equipment for user \${context.userId}</p> <p>Invalid entry</p> <p>Description</p>

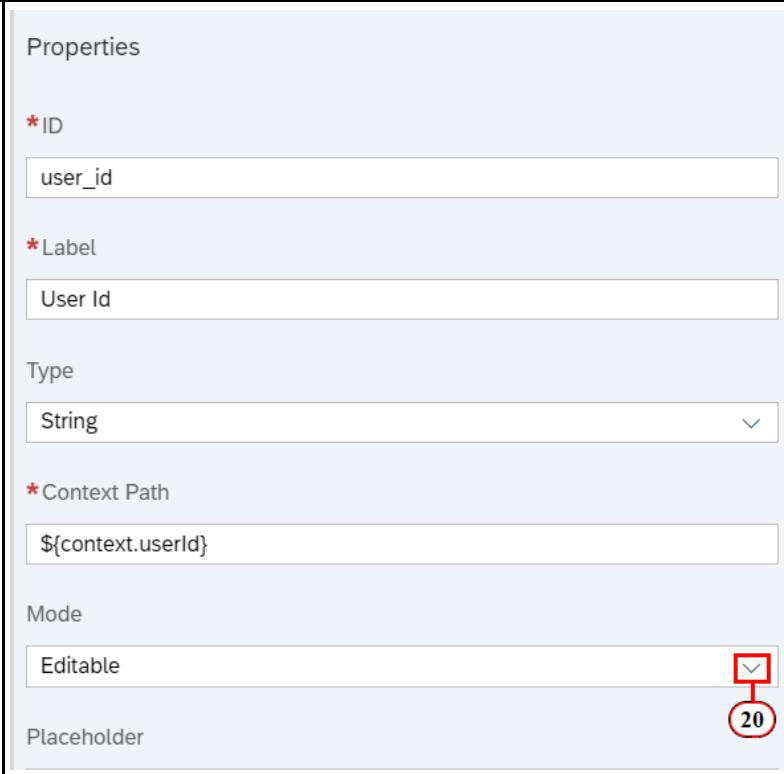
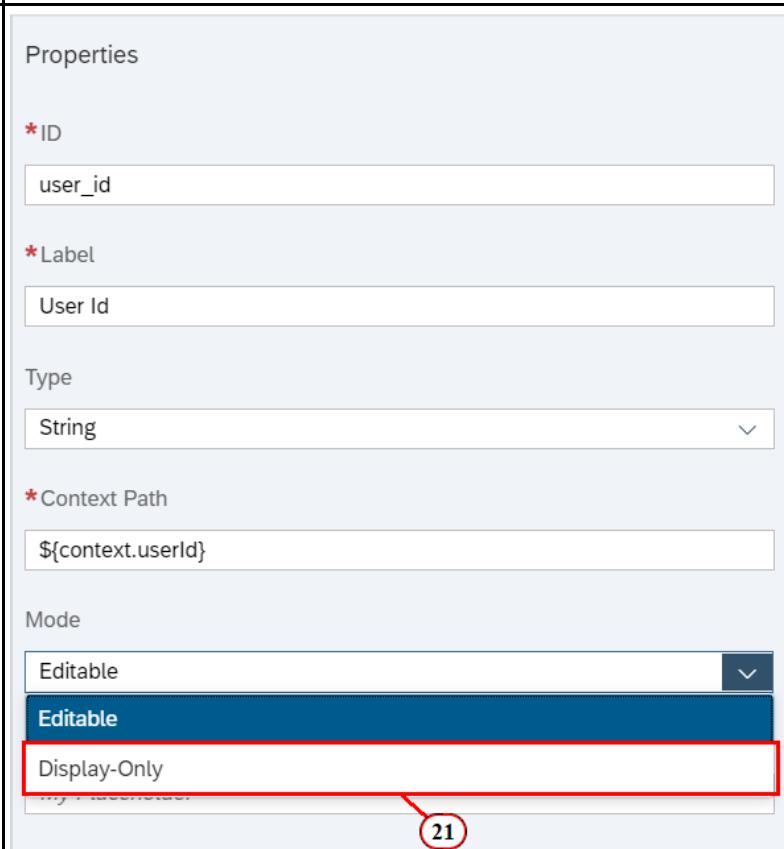
Explanation	Screenshot
8. Enter \${context.buddyId} as Users	 <p>User Task Properties</p> <p>GENERAL DETAILS USER INTERFACE</p> <p>Recipients</p> <p>Users</p> <p>comma separated</p> <p>Groups</p> <p>Due Date</p> <p><input type="checkbox"/> Configure Due Date</p>

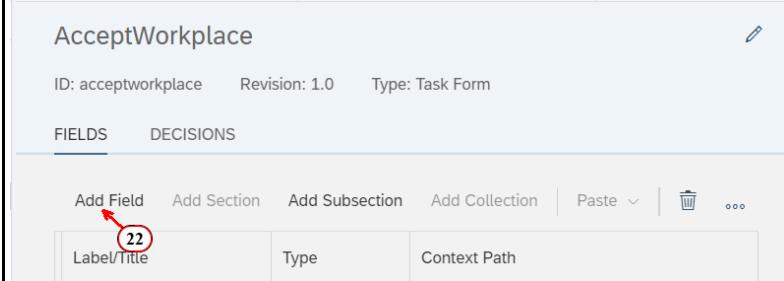
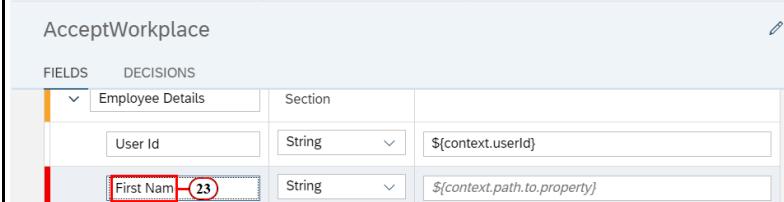
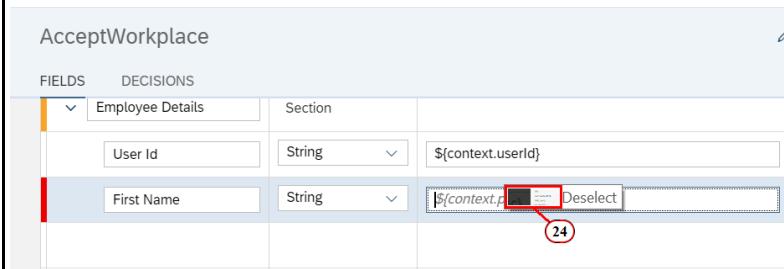
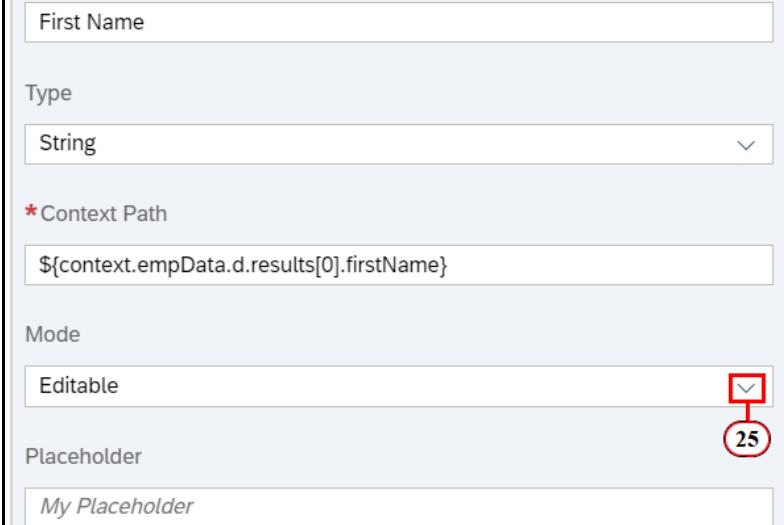
Explanation	Screenshot
9. Click USER INTERFACE .	 <p>The screenshot shows the 'User Task Properties' dialog box. At the top, there are three tabs: 'GENERAL', 'DETAILS', and 'USER INTERFACE'. The 'USER INTERFACE' tab is highlighted with a red box and has a red circle with the number '9' pointing to it. Below the tabs, there is a large empty text area. Under the heading 'Recipients', there is a section for 'Users' containing the text 'CAA366_00'. There is also a section for 'Groups' with an empty input field. At the bottom, there is a 'Due Date' section with a checkbox labeled 'Configure Due Date'.</p>

Explanation	Screenshot
10. Select the User Interface Type as Form	 <p>User Task Properties</p> <p>GENERAL DETAILS USER INTERFACE ></p> <p>*Type</p> <p>SAPUI5 Component</p> <p>SAPUI5 Component</p> <p>Form</p> <p>Component URL</p> <p>*SAPUI5 Component</p>
11. Scroll down and Click Create File .	 <p>User Task Properties</p> <p>GENERAL DETAILS USER INTERFACE ></p> <p>*Type</p> <p>Form</p> <p>Form Details</p> <p>*File Name</p> <p>Create File</p> <p>Select</p> <p>*ID</p>

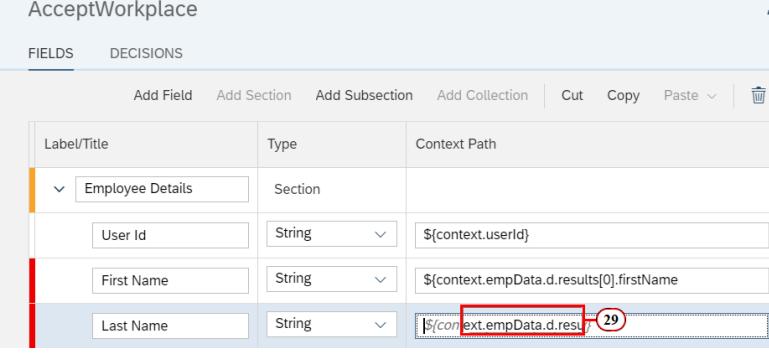
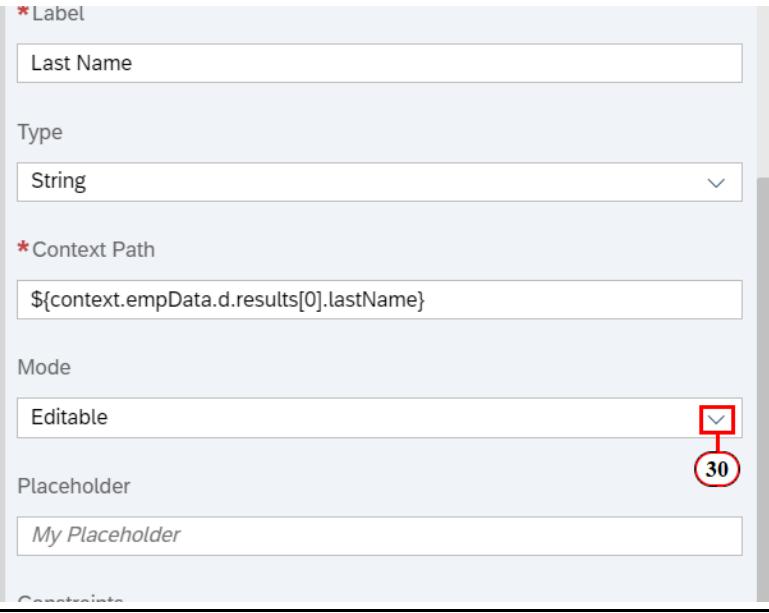
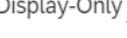
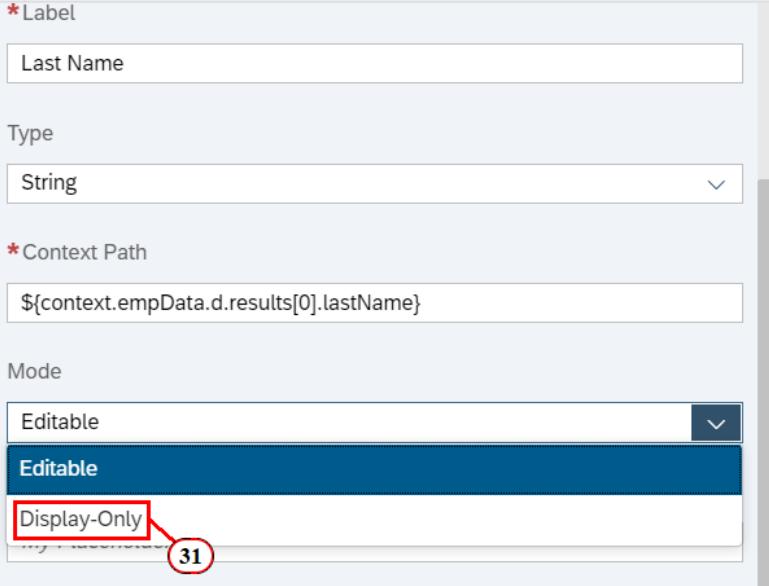
Explanation	Screenshot			
12. Enter AcceptWorkplace in the *Name field.	 <p>New Form</p> <p>*Name: AcceptWorkplace</p> <p>*ID: form-id (12)</p> <p>*Revision: 1.0, v1, draft, release, ...</p> <p>Type: Task Form</p> <p>Create Cancel</p>			
13. Enter 1.0 in the *Revision field.	 <p>New Form</p> <p>*Name: AcceptWorkplace</p> <p>*ID: acceptworkplace</p> <p>*Revision: 1.0 (13)</p> <p>Type: Task Form</p> <p>Create Cancel</p>			
14. Click Create .	 <p>New Form</p> <p>*Name: AcceptWorkplace</p> <p>*ID: acceptworkplace</p> <p>*Revision: 1.0</p> <p>Type: Task Form</p> <p>Create Cancel (14)</p>			
<p></p> <p>Forms Editor enable you to model task uis without any java script knowledge. You will define Sections in your Form and insert Fields and bind your workflow context.</p> <p>15. Click Add Section.</p>	 <p>AcceptWorkplace</p> <p>ID: acceptworkplace Revision: 1.0 Type: Task Form</p> <p>FIELDS DECISIONS</p> <p>Add Field Add Section (15) Add Subsection Add Collection Cut Copy Paste ▾</p> <table border="1"> <tr> <td>Label/Title</td> <td>Type</td> <td>Context Path</td> </tr> </table>	Label/Title	Type	Context Path
Label/Title	Type	Context Path		
16. Enter Employee Details as the Label/Title . Confirm your entry by pressing the Tab key.	 <p>AcceptWorkplace</p> <p>ID: acceptworkplace 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 border="1"> <tr> <td>Label/Title (16)</td> <td>Type</td> <td>Context Path</td> </tr> </table>	Label/Title (16)	Type	Context Path
Label/Title (16)	Type	Context Path		

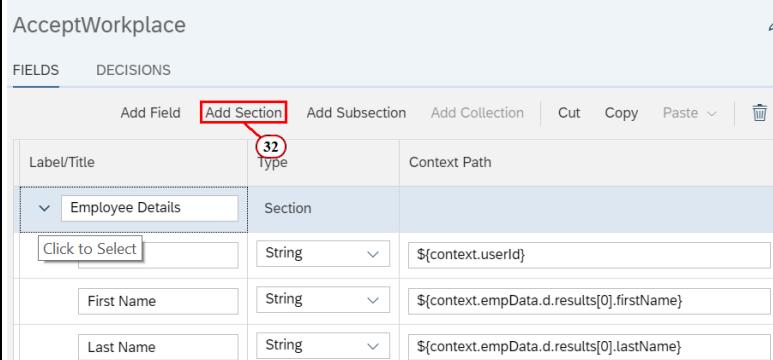
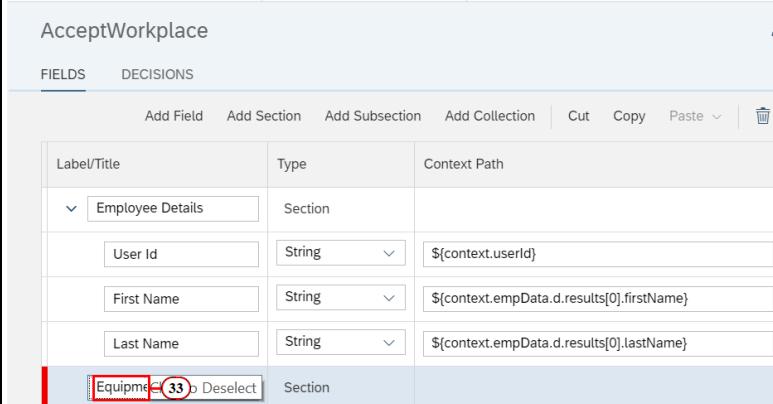
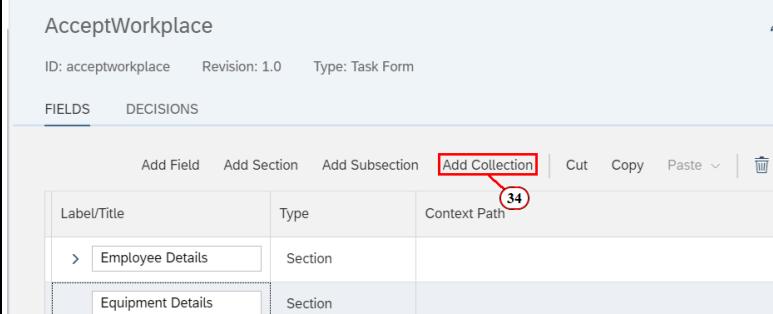
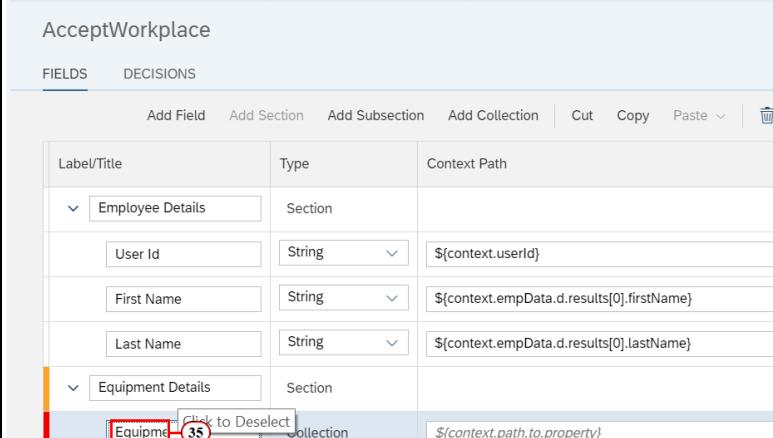
Explanation	Screenshot									
17. Click Add Field .	 <p>AcceptWorkplace</p> <p>ID: acceptworkplace Revision: 1.0 Type: Task Form</p> <p>FIELDS DECISIONS</p> <p>Add Field Add Section Add Subsection Add Collection Cut Copy Paste ⌘ ⌘</p> <table border="1"> <thead> <tr> <th>Label/Title</th> <th>Type</th> <th>Context Path</th> </tr> </thead> <tbody> <tr> <td>Employee Details</td> <td>Section</td> <td></td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section				
Label/Title	Type	Context Path								
Employee Details	Section									
<p> A Field has different properties For eg: Mode, Placeholder, Constraints, Height etc.</p> <p>18. Enter User ID as the Title/Label of the new Field.</p> <p>Confirm your entry by pressing the Tab key.</p>	 <p>AcceptWorkplace</p> <p>ID: acceptworkplace 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 border="1"> <thead> <tr> <th>Label/Title</th> <th>Type</th> <th>Context Path</th> </tr> </thead> <tbody> <tr> <td>Employee Details</td> <td>Section</td> <td></td> </tr> <tr> <td>User Id</td> <td>String</td> <td>\$(context.path.to.property)</td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	\$(context.path.to.property)
Label/Title	Type	Context Path								
Employee Details	Section									
User Id	String	\$(context.path.to.property)								
19. Enter \$(context.userId) in the Context Path .	 <p>AcceptWorkplace</p> <p>ID: acceptworkplace 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 border="1"> <thead> <tr> <th>Label/Title</th> <th>Type</th> <th>Context Path</th> </tr> </thead> <tbody> <tr> <td>Employee Details</td> <td>Section</td> <td></td> </tr> <tr> <td>User Id</td> <td>String</td> <td>\$(context.userId)</td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	\$(context.userId)
Label/Title	Type	Context Path								
Employee Details	Section									
User Id	String	\$(context.userId)								

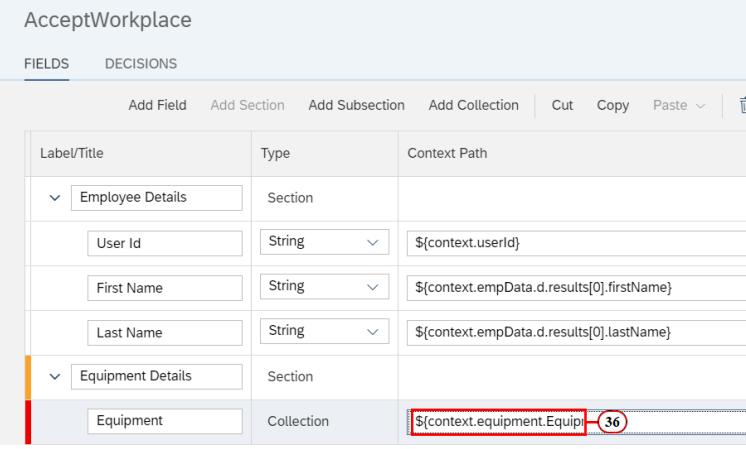
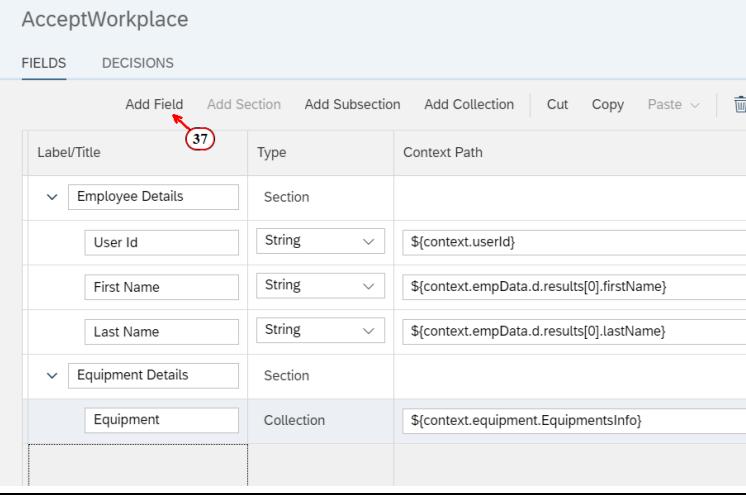
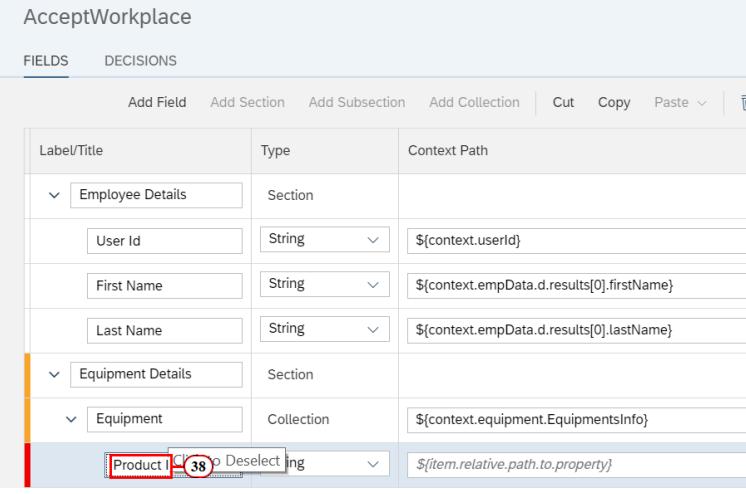
Explanation	Screenshot
20. Click drop down Mode ▾.	<p>Properties</p> <p>* ID user_id</p> <p>* Label User Id</p> <p>Type String</p> <p>* Context Path \${context.userId}</p> <p>Mode Editable</p> <p>Placeholder</p> 
21. select Display-Only	<p>Properties</p> <p>* ID user_id</p> <p>* Label User Id</p> <p>Type String</p> <p>* Context Path \${context.userId}</p> <p>Mode Editable</p> <p>Display-Only</p> 

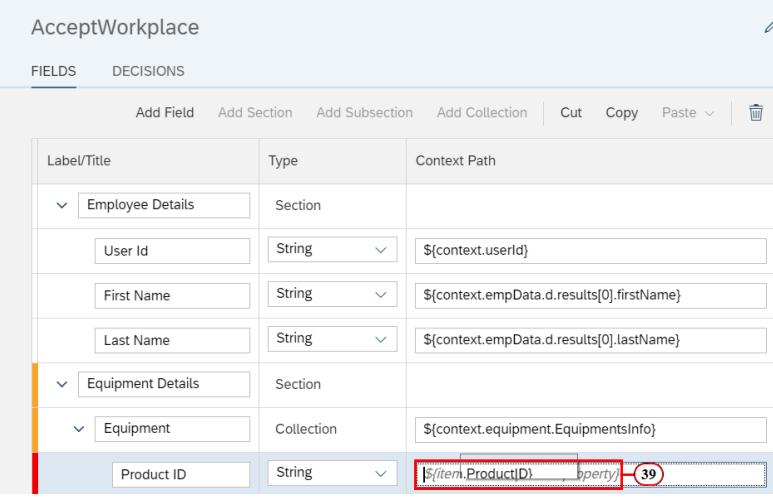
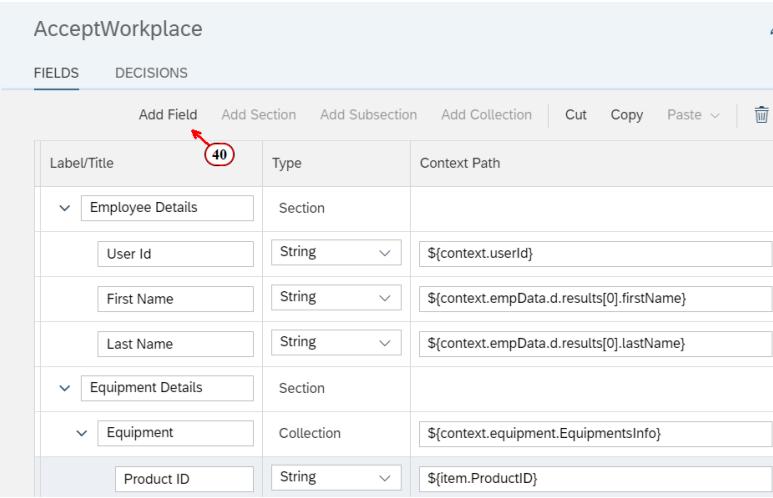
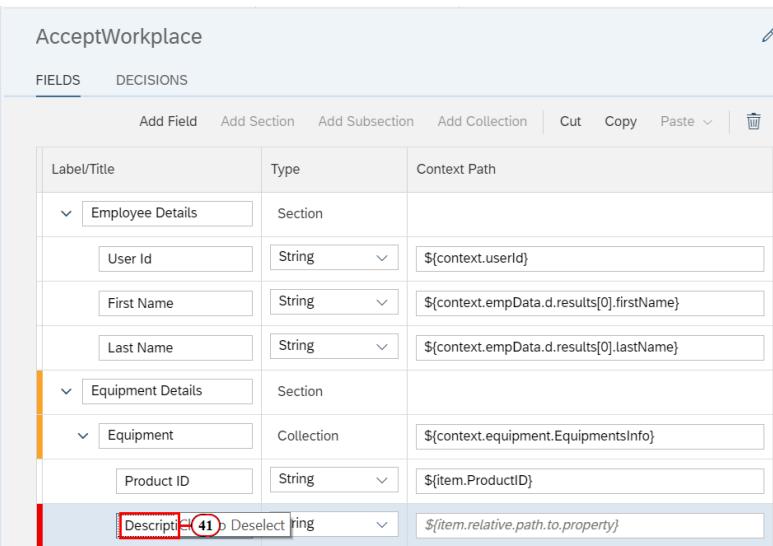
Explanation	Screenshot
22. Click Add Field .	
23. Enter First Name as Title/Label of the new Field. Confirm your entry by pressing the Tab key.	
24. Enter <code> \${context.empData.d.results[0].firstName}</code> as the Context Path. Confirm your entry by pressing the Tab key.	
25. Click ▼ .	

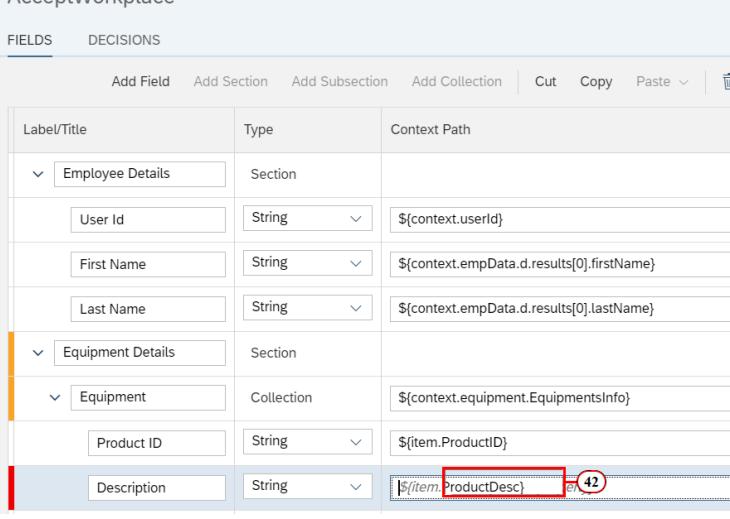
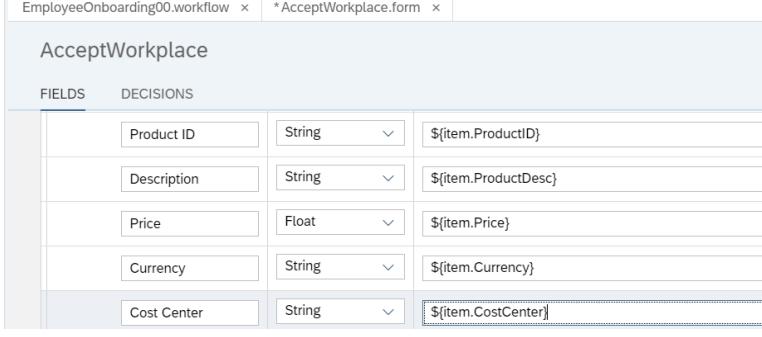
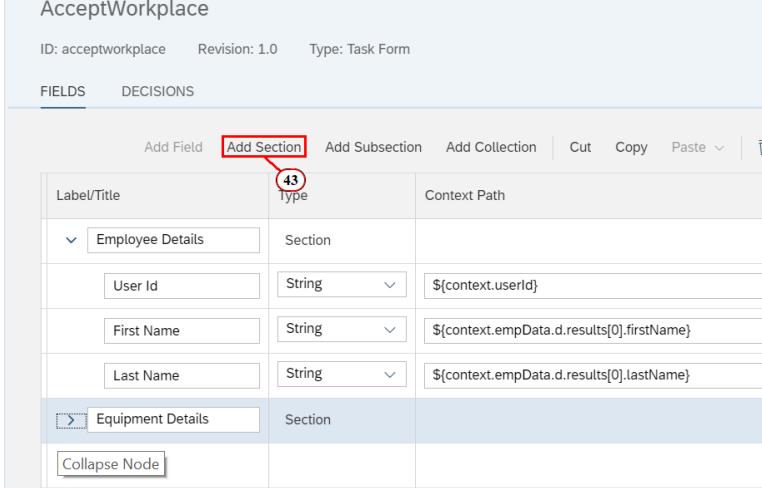
Explanation	Screenshot												
26. Click Display-Only.	<p>*Label First Name</p> <p>Type String</p> <p>*Context Path \${context.empData.d.results[0].firstName}</p> <p>Mode Editable</p> <p>Display-Only 26</p>												
27. Click Add Field. 28. Enter Last Name as Label. Confirm your entry by pressing the Tab key.	<p>Add Field 27</p> <p>AcceptWorkplace</p> <table border="1"> <thead> <tr> <th>Label/Title</th> <th>Type</th> <th>Context Path</th> </tr> </thead> <tbody> <tr> <td>Employee Details</td> <td>Section</td> <td></td> </tr> <tr> <td>User Id</td> <td>String</td> <td>\${context.userId}</td> </tr> <tr> <td>First Name</td> <td>String</td> <td>\${context.empData.d.results[0].firstName}</td> </tr> </tbody> </table> <p>Last Name 28 to Deselect <input type="text"/> \${context.path.to.property}</p>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	\${context.userId}	First Name	String	\${context.empData.d.results[0].firstName}
Label/Title	Type	Context Path											
Employee Details	Section												
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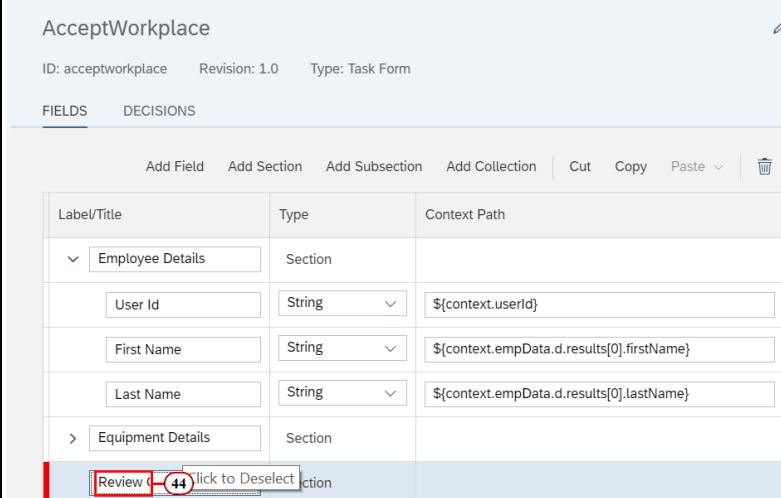
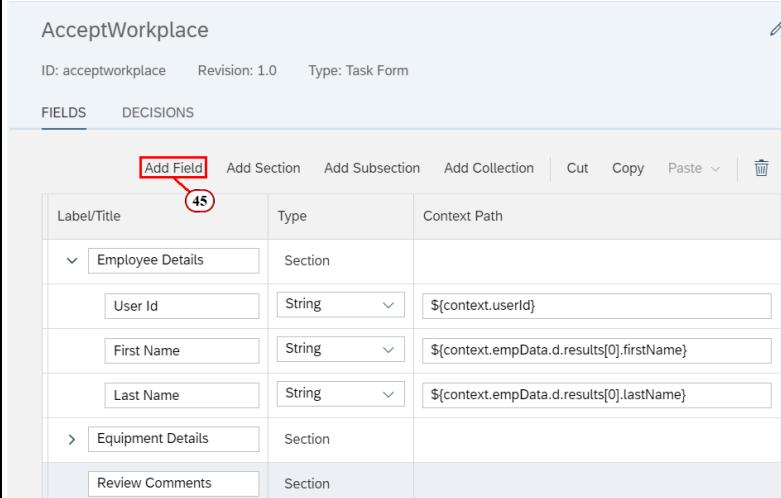
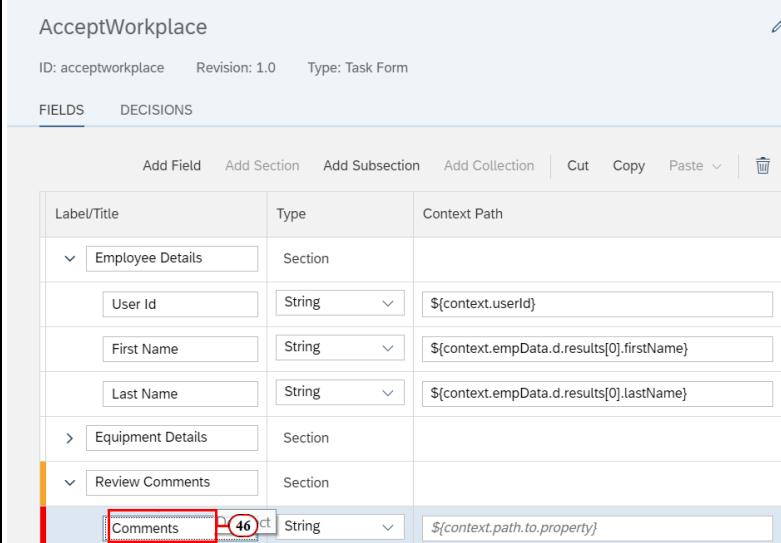
Explanation	Screenshot
<p>29. Enter <code> \${context.empData.d.results[0].lastName}</code> as the context path. Confirm your entry by pressing the Tab key.</p>	
<p>30. Click .</p>	
<p>31. Click .</p>	

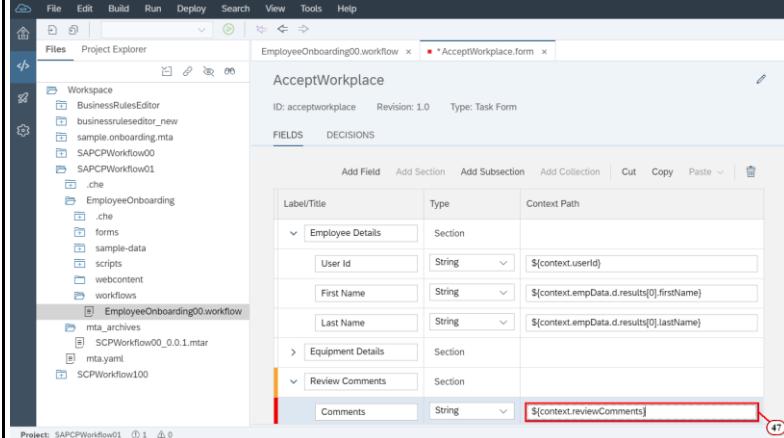
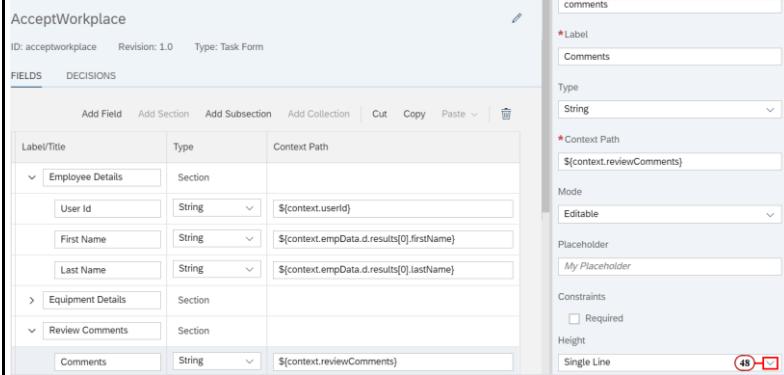
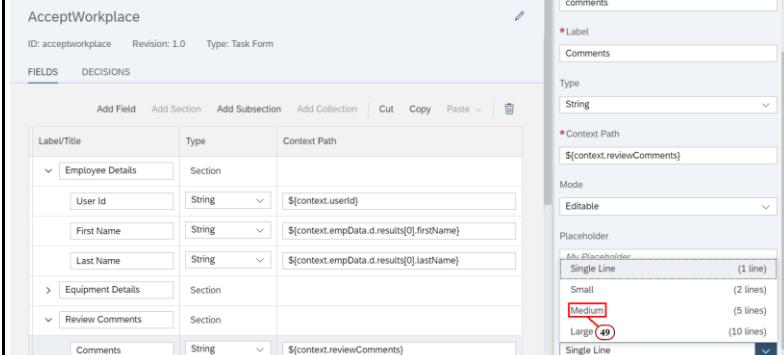
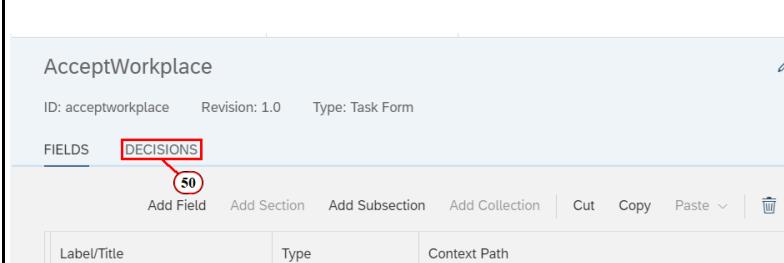
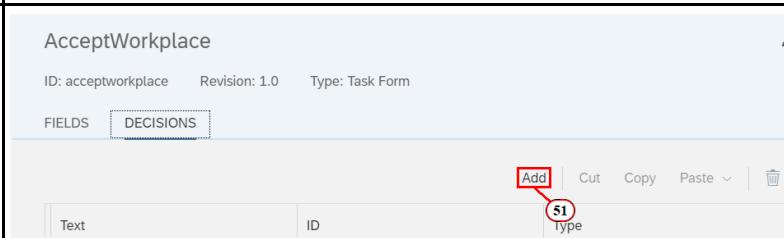
Explanation	Screenshot
32. Click Add Section .	 <p>The screenshot shows the 'AcceptWorkplace' interface with the 'FIELDS' tab selected. The top toolbar includes buttons for 'Add Field', 'Add Section' (highlighted with a red box), 'Add Subsection', 'Add Collection', 'Cut', 'Copy', 'Paste', and a trash bin icon. Below the toolbar is a table with three columns: 'Label/Title', 'Type', and 'Context Path'. The first row contains 'Employee Details' (Section type) with context path \${context.userId}. The second row contains 'Click to Select' (String type) with context path \${context.empData.d.results[0].firstName}. The third row contains 'First Name' (String type) with context path \${context.empData.d.results[0].lastName}.</p>
33. Enter Equipment Details in the section as Title/Label . Confirm your entry by pressing the Tab key .	 <p>The screenshot shows the 'AcceptWorkplace' interface with the 'FIELDS' tab selected. The top toolbar includes buttons for 'Add Field', 'Add Section' (highlighted with a red box), 'Add Subsection', 'Add Collection', 'Cut', 'Copy', 'Paste', and a trash bin icon. Below the toolbar is a table with three columns: 'Label/Title', 'Type', and 'Context Path'. The first row contains 'Employee Details' (Section type) with context path \${context.userId}. The second row contains 'User Id' (String type) with context path \${context.empData.d.results[0].firstName}. The third row contains 'First Name' (String type) with context path \${context.empData.d.results[0].lastName}. The fourth row contains 'Last Name' (String type) with context path \${context.empData.d.results[0].lastName}. The fifth row contains 'Equipment Details' (Section type) with context path \${context.path.to.property}.</p>
34. Click Add Collection .	 <p>The screenshot shows the 'AcceptWorkplace' interface with the 'FIELDS' tab selected. The top toolbar includes buttons for 'Add Field', 'Add Section', 'Add Subsection', 'Add Collection' (highlighted with a red box), 'Cut', 'Copy', 'Paste', and a trash bin icon. Below the toolbar is a table with three columns: 'Label/Title', 'Type', and 'Context Path'. The first row contains 'Employee Details' (Section type) with context path \${context.userId}. The second row contains 'Equipment Details' (Section type) with context path \${context.path.to.property}.</p>
35. Enter Equipment as the Title/Label . Confirm your entry by pressing the Tab key .	 <p>The screenshot shows the 'AcceptWorkplace' interface with the 'FIELDS' tab selected. The top toolbar includes buttons for 'Add Field', 'Add Section', 'Add Subsection', 'Add Collection' (highlighted with a red box), 'Cut', 'Copy', 'Paste', and a trash bin icon. Below the toolbar is a table with three columns: 'Label/Title', 'Type', and 'Context Path'. The first row contains 'Employee Details' (Section type) with context path \${context.userId}. The second row contains 'User Id' (String type) with context path \${context.empData.d.results[0].firstName}. The third row contains 'First Name' (String type) with context path \${context.empData.d.results[0].lastName}. The fourth row contains 'Last Name' (String type) with context path \${context.empData.d.results[0].lastName}. The fifth row contains 'Equipment' (Collection type) with context path \${context.path.to.property}.</p>

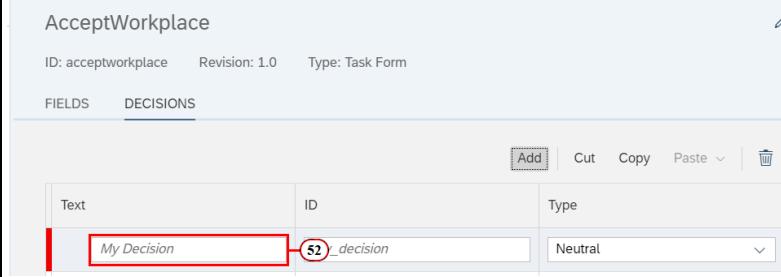
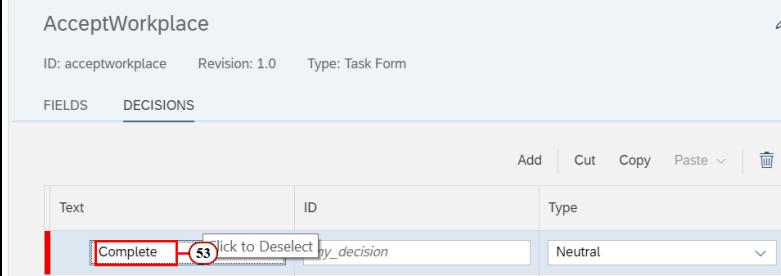
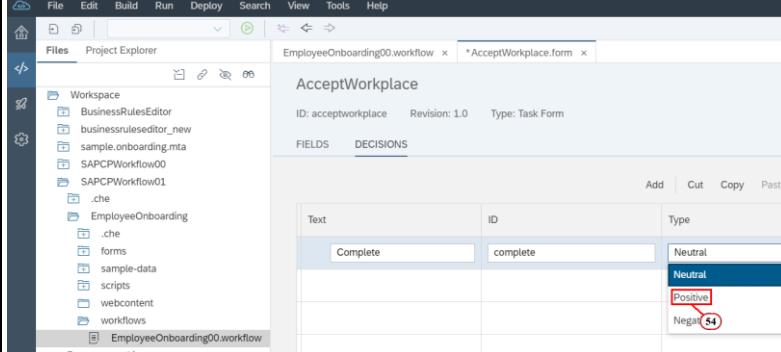
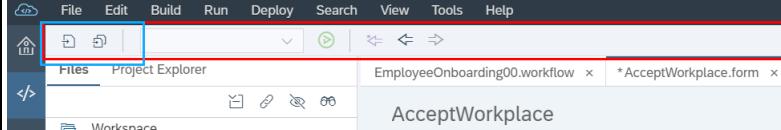
Explanation	Screenshot																								
<p>36. Enter <code> \${context.equipment.EquipmentsInfo}</code> as the context path to the Collection.</p> <p>Confirm your entry by pressing the Tab key.</p>	 <table border="1"> <thead> <tr> <th data-bbox="659 393 865 415">Label/Title</th> <th data-bbox="865 393 976 415">Type</th> <th data-bbox="976 393 1373 415">Context Path</th> </tr> </thead> <tbody> <tr> <td data-bbox="659 437 865 460">Employee Details</td> <td data-bbox="865 437 976 460">Section</td> <td data-bbox="976 437 1373 460"></td> </tr> <tr> <td data-bbox="659 482 865 505">User Id</td> <td data-bbox="865 482 976 505">String</td> <td data-bbox="976 482 1373 505"><code> \${context.userId}</code></td> </tr> <tr> <td data-bbox="659 527 865 550">First Name</td> <td data-bbox="865 527 976 550">String</td> <td data-bbox="976 527 1373 550"><code> \${context.empData.d.results[0].firstName}</code></td> </tr> <tr> <td data-bbox="659 572 865 595">Last Name</td> <td data-bbox="865 572 976 595">String</td> <td data-bbox="976 572 1373 595"><code> \${context.empData.d.results[0].lastName}</code></td> </tr> <tr> <td data-bbox="659 617 865 640">Equipment Details</td> <td data-bbox="865 617 976 640">Section</td> <td data-bbox="976 617 1373 640"></td> </tr> <tr> <td data-bbox="659 662 865 685">Equipment</td> <td data-bbox="865 662 976 685">Collection</td> <td data-bbox="976 662 1373 685"><code> \${context.equipment.EquipmentsInfo}</code> 36</td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	<code> \${context.userId}</code>	First Name	String	<code> \${context.empData.d.results[0].firstName}</code>	Last Name	String	<code> \${context.empData.d.results[0].lastName}</code>	Equipment Details	Section		Equipment	Collection	<code> \${context.equipment.EquipmentsInfo}</code> 36			
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<p>37. Click Add Field to add a column to the Collection.</p>	 <table border="1"> <thead> <tr> <th data-bbox="659 864 865 887">Label/Title</th> <th data-bbox="865 864 976 887">Type</th> <th data-bbox="976 864 1373 887">Context Path</th> </tr> </thead> <tbody> <tr> <td data-bbox="659 909 865 932">Employee Details</td> <td data-bbox="865 909 976 932">Section</td> <td data-bbox="976 909 1373 932"></td> </tr> <tr> <td data-bbox="659 954 865 977">User Id</td> <td data-bbox="865 954 976 977">String</td> <td data-bbox="976 954 1373 977"><code> \${context.userId}</code></td> </tr> <tr> <td data-bbox="659 999 865 1021">First Name</td> <td data-bbox="865 999 976 1021">String</td> <td data-bbox="976 999 1373 1021"><code> \${context.empData.d.results[0].firstName}</code></td> </tr> <tr> <td data-bbox="659 1044 865 1066">Last Name</td> <td data-bbox="865 1044 976 1066">String</td> <td data-bbox="976 1044 1373 1066"><code> \${context.empData.d.results[0].lastName}</code></td> </tr> <tr> <td data-bbox="659 1089 865 1111">Equipment Details</td> <td data-bbox="865 1089 976 1111">Section</td> <td data-bbox="976 1089 1373 1111"></td> </tr> <tr> <td data-bbox="659 1134 865 1156">Equipment</td> <td data-bbox="865 1134 976 1156">Collection</td> <td data-bbox="976 1134 1373 1156"><code> \${context.equipment.EquipmentsInfo}</code></td> </tr> <tr> <td data-bbox="659 1179 865 1201"></td> <td data-bbox="865 1179 976 1201"></td> <td data-bbox="976 1179 1373 1201"></td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	<code> \${context.userId}</code>	First Name	String	<code> \${context.empData.d.results[0].firstName}</code>	Last Name	String	<code> \${context.empData.d.results[0].lastName}</code>	Equipment Details	Section		Equipment	Collection	<code> \${context.equipment.EquipmentsInfo}</code>			
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<p>38. Enter Product Id as the Title/Label of the new Field.</p> <p>Confirm your entry by pressing the Tab key.</p>	 <table border="1"> <thead> <tr> <th data-bbox="659 1381 865 1403">Label/Title</th> <th data-bbox="865 1381 976 1403">Type</th> <th data-bbox="976 1381 1373 1403">Context Path</th> </tr> </thead> <tbody> <tr> <td data-bbox="659 1426 865 1448">Employee Details</td> <td data-bbox="865 1426 976 1448">Section</td> <td data-bbox="976 1426 1373 1448"></td> </tr> <tr> <td data-bbox="659 1471 865 1493">User Id</td> <td data-bbox="865 1471 976 1493">String</td> <td data-bbox="976 1471 1373 1493"><code> \${context.userId}</code></td> </tr> <tr> <td data-bbox="659 1516 865 1538">First Name</td> <td data-bbox="865 1516 976 1538">String</td> <td data-bbox="976 1516 1373 1538"><code> \${context.empData.d.results[0].firstName}</code></td> </tr> <tr> <td data-bbox="659 1560 865 1583">Last Name</td> <td data-bbox="865 1560 976 1583">String</td> <td data-bbox="976 1560 1373 1583"><code> \${context.empData.d.results[0].lastName}</code></td> </tr> <tr> <td data-bbox="659 1605 865 1628">Equipment Details</td> <td data-bbox="865 1605 976 1628">Section</td> <td data-bbox="976 1605 1373 1628"></td> </tr> <tr> <td data-bbox="659 1650 865 1673">Equipment</td> <td data-bbox="865 1650 976 1673">Collection</td> <td data-bbox="976 1650 1373 1673"><code> \${context.equipment.EquipmentsInfo}</code></td> </tr> <tr> <td data-bbox="659 1695 865 1718">Product Id</td> <td data-bbox="865 1695 976 1718">String</td> <td data-bbox="976 1695 1373 1718"><code> \${item.relative.path.to.property}</code> 38</td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	<code> \${context.userId}</code>	First Name	String	<code> \${context.empData.d.results[0].firstName}</code>	Last Name	String	<code> \${context.empData.d.results[0].lastName}</code>	Equipment Details	Section		Equipment	Collection	<code> \${context.equipment.EquipmentsInfo}</code>	Product Id	String	<code> \${item.relative.path.to.property}</code> 38
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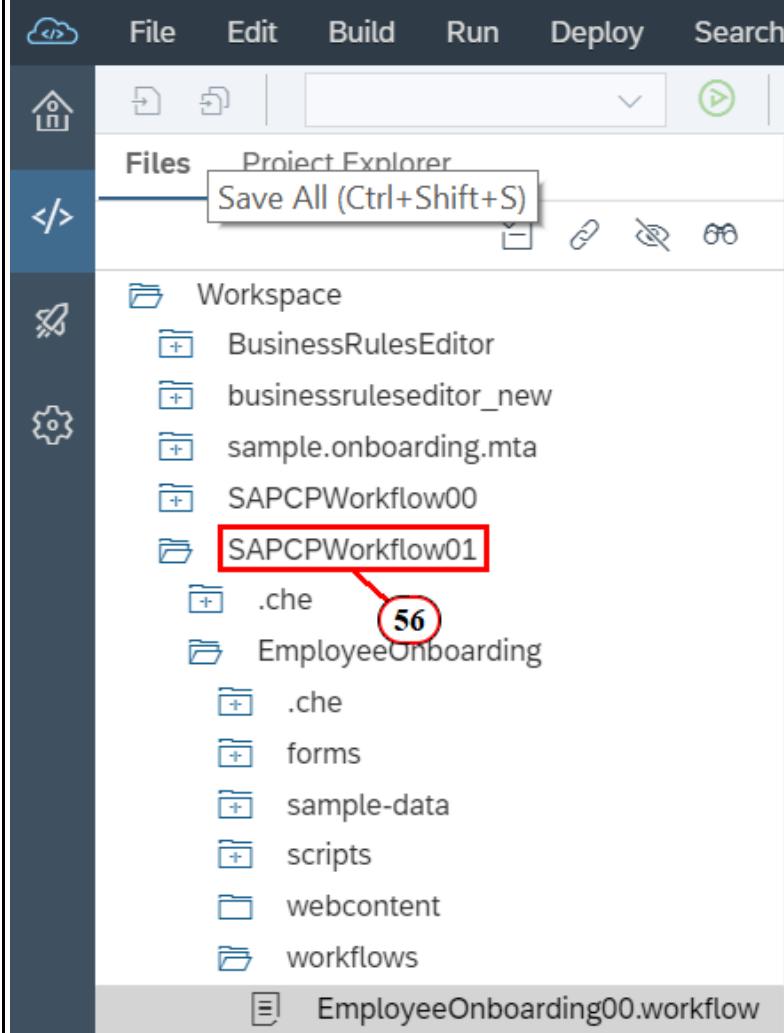
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<p>39. Enter <code>\$(item.ProductID)</code> as the context Path.</p> <p>Confirm your entry by pressing the Tab key.</p>	 <table border="1"> <thead> <tr> <th>Label/Title</th> <th>Type</th> <th>Context Path</th> </tr> </thead> <tbody> <tr> <td>Employee Details</td> <td>Section</td> <td></td> </tr> <tr> <td>User Id</td> <td>String</td> <td>\${context.userId}</td> </tr> <tr> <td>First Name</td> <td>String</td> <td>\${context.empData.d.results[0].firstName}</td> </tr> <tr> <td>Last Name</td> <td>String</td> <td>\${context.empData.d.results[0].lastName}</td> </tr> <tr> <td>Equipment Details</td> <td>Section</td> <td></td> </tr> <tr> <td>Equipment</td> <td>Collection</td> <td>\${context.equipment.EquipmentsInfo}</td> </tr> <tr> <td>Product ID</td> <td>String</td> <td><code>\$(item.ProductID)</code> (highlighted with a red box)</td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	\${context.userId}	First Name	String	\${context.empData.d.results[0].firstName}	Last Name	String	\${context.empData.d.results[0].lastName}	Equipment Details	Section		Equipment	Collection	\${context.equipment.EquipmentsInfo}	Product ID	String	<code>\$(item.ProductID)</code> (highlighted with a red box)			
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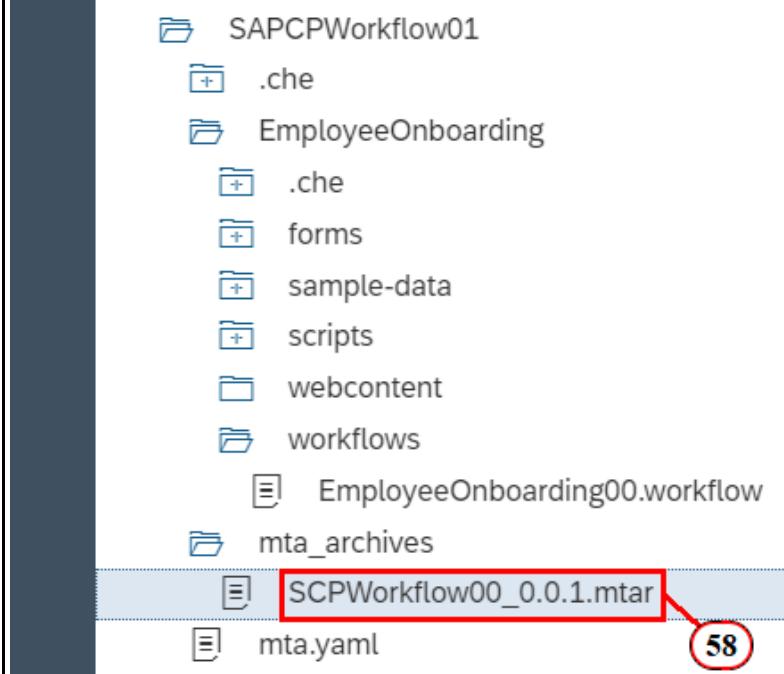
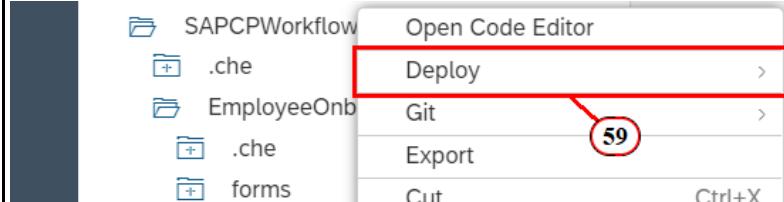
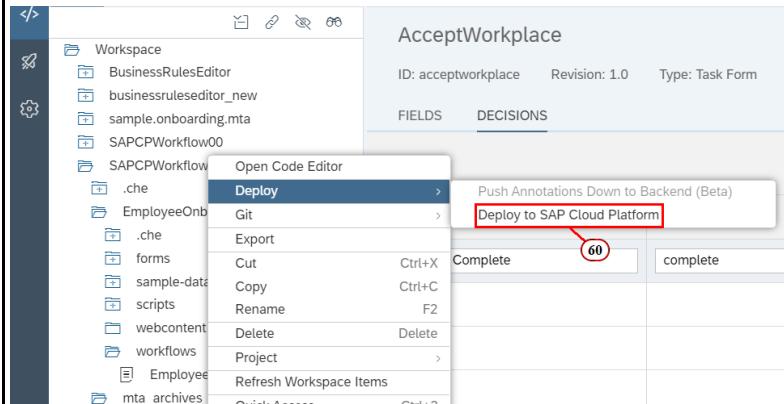
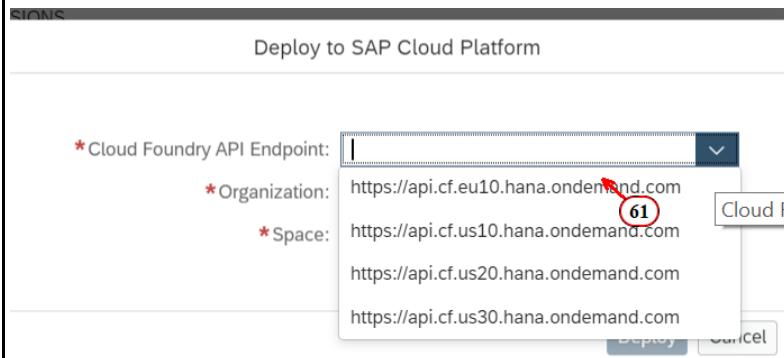
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<p>42. Enter \${item.ProductDesc} as the context path.</p> <p>Confirm your entry by pressing the Tab key.</p>	 <table border="1"> <thead> <tr> <th>Label/Title</th> <th>Type</th> <th>Context Path</th> </tr> </thead> <tbody> <tr> <td>Employee Details</td> <td>Section</td> <td></td> </tr> <tr> <td>User Id</td> <td>String</td> <td> \${context.userId}</td> </tr> <tr> <td>First Name</td> <td>String</td> <td> \${context.empData.d.results[0].firstName}</td> </tr> <tr> <td>Last Name</td> <td>String</td> <td> \${context.empData.d.results[0].lastName}</td> </tr> <tr> <td>Equipment Details</td> <td>Section</td> <td></td> </tr> <tr> <td>Equipment</td> <td>Collection</td> <td> \${context.equipment.EquipmentsInfo}</td> </tr> <tr> <td>Product ID</td> <td>String</td> <td> \${item.ProductID}</td> </tr> <tr> <td>Description</td> <td>String</td> <td> \${item.ProductDesc} 42</td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	\${context.userId}	First Name	String	\${context.empData.d.results[0].firstName}	Last Name	String	\${context.empData.d.results[0].lastName}	Equipment Details	Section		Equipment	Collection	\${context.equipment.EquipmentsInfo}	Product ID	String	\${item.ProductID}	Description	String	\${item.ProductDesc} 42
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<p> Add the following Fields to the Collection.</p> <table border="1"> <tr> <td>Title/Label</td> </tr> <tr> <td>Price</td> </tr> <tr> <td>Currency</td> </tr> <tr> <td>Cost Center</td> </tr> </table>	Title/Label	Price	Currency	Cost Center	 <table border="1"> <thead> <tr> <th>Label/Title</th> <th>Type</th> <th>Context Path</th> </tr> </thead> <tbody> <tr> <td>Product ID</td> <td>String</td> <td> \${item.ProductID}</td> </tr> <tr> <td>Description</td> <td>String</td> <td> \${item.ProductDesc}</td> </tr> <tr> <td>Price</td> <td>Float</td> <td> \${item.Price}</td> </tr> <tr> <td>Currency</td> <td>String</td> <td> \${item.Currency}</td> </tr> <tr> <td>Cost Center</td> <td>String</td> <td> \${item.CostCenter}</td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Product ID	String	\${item.ProductID}	Description	String	\${item.ProductDesc}	Price	Float	\${item.Price}	Currency	String	\${item.Currency}	Cost Center	String	\${item.CostCenter}					
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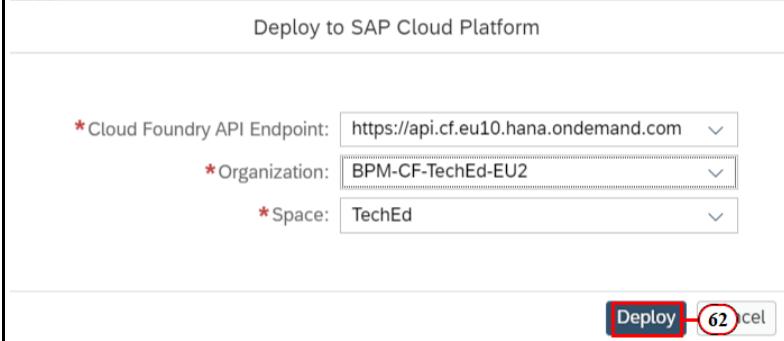
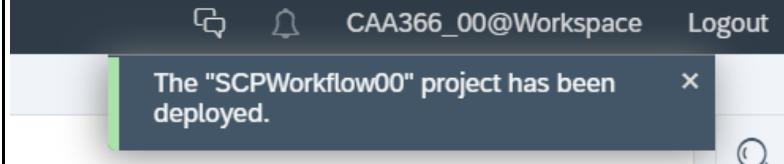
Explanation	Screenshot																								
<p>44. Enter Review Comments as the Title/Label.</p> <p>Confirm your entry by pressing the Tab key.</p>	 <table border="1"> <thead> <tr> <th data-bbox="647 444 901 473">Label/Title</th> <th data-bbox="901 444 997 473">Type</th> <th data-bbox="997 444 1389 473">Context Path</th> </tr> </thead> <tbody> <tr> <td data-bbox="647 489 901 518">Employee Details</td> <td data-bbox="901 489 997 518">Section</td> <td data-bbox="997 489 1389 518"></td> </tr> <tr> <td data-bbox="647 534 901 563">User Id</td> <td data-bbox="901 534 997 563">String</td> <td data-bbox="997 534 1389 563">\${context.userId}</td> </tr> <tr> <td data-bbox="647 579 901 608">First Name</td> <td data-bbox="901 579 997 608">String</td> <td data-bbox="997 579 1389 608">\${context.empData.d.results[0].firstName}</td> </tr> <tr> <td data-bbox="647 624 901 653">Last Name</td> <td data-bbox="901 624 997 653">String</td> <td data-bbox="997 624 1389 653">\${context.empData.d.results[0].lastName}</td> </tr> <tr> <td data-bbox="647 669 901 698">> Equipment Details</td> <td data-bbox="901 669 997 698">Section</td> <td data-bbox="997 669 1389 698"></td> </tr> <tr> <td data-bbox="647 714 901 743">Review 44 Click to Deselect</td> <td data-bbox="901 714 997 743">Section</td> <td data-bbox="997 714 1389 743"></td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	\${context.userId}	First Name	String	\${context.empData.d.results[0].firstName}	Last Name	String	\${context.empData.d.results[0].lastName}	> Equipment Details	Section		Review 44 Click to Deselect	Section				
Label/Title	Type	Context Path																							
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Review 44 Click to Deselect	Section																								
<p>45. Click Add Field.</p>	 <table border="1"> <thead> <tr> <th data-bbox="647 961 901 990">Label/Title</th> <th data-bbox="901 961 997 990">Type</th> <th data-bbox="997 961 1389 990">Context Path</th> </tr> </thead> <tbody> <tr> <td data-bbox="647 1006 901 1035">Employee Details</td> <td data-bbox="901 1006 997 1035">Section</td> <td data-bbox="997 1006 1389 1035"></td> </tr> <tr> <td data-bbox="647 1051 901 1080">User Id</td> <td data-bbox="901 1051 997 1080">String</td> <td data-bbox="997 1051 1389 1080">\${context.userId}</td> </tr> <tr> <td data-bbox="647 1096 901 1125">First Name</td> <td data-bbox="901 1096 997 1125">String</td> <td data-bbox="997 1096 1389 1125">\${context.empData.d.results[0].firstName}</td> </tr> <tr> <td data-bbox="647 1140 901 1170">Last Name</td> <td data-bbox="901 1140 997 1170">String</td> <td data-bbox="997 1140 1389 1170">\${context.empData.d.results[0].lastName}</td> </tr> <tr> <td data-bbox="647 1185 901 1215">> Equipment Details</td> <td data-bbox="901 1185 997 1215">Section</td> <td data-bbox="997 1185 1389 1215"></td> </tr> <tr> <td data-bbox="647 1230 901 1260">Review Comments</td> <td data-bbox="901 1230 997 1260">Section</td> <td data-bbox="997 1230 1389 1260"></td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	\${context.userId}	First Name	String	\${context.empData.d.results[0].firstName}	Last Name	String	\${context.empData.d.results[0].lastName}	> Equipment Details	Section		Review Comments	Section				
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<p>46. Enter Comments as the Title/Label.</p> <p>Confirm your entry by pressing the Tab key.</p>	 <table border="1"> <thead> <tr> <th data-bbox="647 1484 901 1513">Label/Title</th> <th data-bbox="901 1484 997 1513">Type</th> <th data-bbox="997 1484 1389 1513">Context Path</th> </tr> </thead> <tbody> <tr> <td data-bbox="647 1529 901 1558">Employee Details</td> <td data-bbox="901 1529 997 1558">Section</td> <td data-bbox="997 1529 1389 1558"></td> </tr> <tr> <td data-bbox="647 1574 901 1603">User Id</td> <td data-bbox="901 1574 997 1603">String</td> <td data-bbox="997 1574 1389 1603">\${context.userId}</td> </tr> <tr> <td data-bbox="647 1619 901 1648">First Name</td> <td data-bbox="901 1619 997 1648">String</td> <td data-bbox="997 1619 1389 1648">\${context.empData.d.results[0].firstName}</td> </tr> <tr> <td data-bbox="647 1664 901 1693">Last Name</td> <td data-bbox="901 1664 997 1693">String</td> <td data-bbox="997 1664 1389 1693">\${context.empData.d.results[0].lastName}</td> </tr> <tr> <td data-bbox="647 1709 901 1738">> Equipment Details</td> <td data-bbox="901 1709 997 1738">Section</td> <td data-bbox="997 1709 1389 1738"></td> </tr> <tr> <td data-bbox="647 1754 901 1783">Review Comments</td> <td data-bbox="901 1754 997 1783">Section</td> <td data-bbox="997 1754 1389 1783"></td> </tr> <tr> <td data-bbox="647 1792 901 1821">Comments 46 Click to Deselect</td> <td data-bbox="901 1792 997 1821">String</td> <td data-bbox="997 1792 1389 1821">\${context.path.to.property}</td> </tr> </tbody> </table>	Label/Title	Type	Context Path	Employee Details	Section		User Id	String	\${context.userId}	First Name	String	\${context.empData.d.results[0].firstName}	Last Name	String	\${context.empData.d.results[0].lastName}	> Equipment Details	Section		Review Comments	Section		Comments 46 Click to Deselect	String	\${context.path.to.property}
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Review Comments	Section																								
Comments 46 Click to Deselect	String	\${context.path.to.property}																							

Explanation	Screenshot
<p>47. Enter <code> \${context.reviewComments}</code> as the context path.</p> <p>Confirm your entry by pressing the Tab key.</p>	
<p>48. Click drop down Height ▾.</p>	
<p>49. Select Medium.</p>	
<p>50. Click DECISIONS.</p> <p></p> <p>DECISIONS are added as actions in the footer bar of the task UIs. You could add multiple decisions relevant for a scenario and include appropriate type so that it will be rendered as a positive, neutral or a negative decision.</p>	
<p>51. Click Add.</p>	

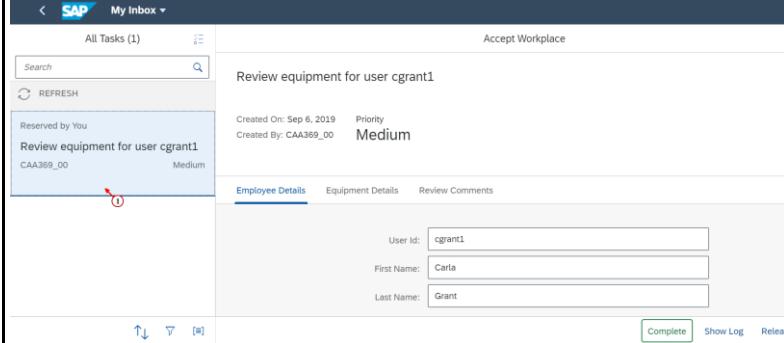
Explanation	Screenshot						
52. Click <i>My Decision</i> .	 <p>AcceptWorkplace ID: acceptworkplace Revision: 1.0 Type: Task Form FIELDS DECISIONS Add Cut Copy Paste ⌘ ⌘ ⌘ ⌘ ⌘</p> <table border="1"> <thead> <tr> <th data-bbox="647 444 906 473">Text</th> <th data-bbox="906 444 1013 473">ID</th> <th data-bbox="1013 444 1389 473">Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="647 473 906 518"><i>My Decision</i></td> <td data-bbox="906 473 1013 518">52_decision</td> <td data-bbox="1013 473 1389 518">Neutral</td> </tr> </tbody> </table>	Text	ID	Type	<i>My Decision</i>	52_decision	Neutral
Text	ID	Type					
<i>My Decision</i>	52_decision	Neutral					
53. Enter Complete as the Text .	 <p>AcceptWorkplace ID: acceptworkplace Revision: 1.0 Type: Task Form FIELDS DECISIONS Add Cut Copy Paste ⌘ ⌘ ⌘ ⌘ ⌘</p> <table border="1"> <thead> <tr> <th data-bbox="647 720 906 750">Text</th> <th data-bbox="906 720 1013 750">ID</th> <th data-bbox="1013 720 1389 750">Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="647 750 906 795"><i>Complete</i></td> <td data-bbox="906 750 1013 795">53</td> <td data-bbox="1013 750 1389 795">Neutral</td> </tr> </tbody> </table>	Text	ID	Type	<i>Complete</i>	53	Neutral
Text	ID	Type					
<i>Complete</i>	53	Neutral					
54. Click Positive.	 <p>AcceptWorkplace ID: acceptworkplace Revision: 1.0 Type: Task Form FIELDS DECISIONS Add Cut Copy Paste ⌘ ⌘ ⌘ ⌘ ⌘</p> <table border="1"> <thead> <tr> <th data-bbox="647 1042 906 1071">Text</th> <th data-bbox="906 1042 1013 1071">ID</th> <th data-bbox="1013 1042 1389 1071">Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="647 1071 906 1116"><i>Complete</i></td> <td data-bbox="906 1071 1013 1116">complete</td> <td data-bbox="1013 1071 1389 1116">Neutral</td> </tr> </tbody> </table> <p>Positive Type will render a button with green color in the footer bar.</p> <p>Complete</p>	Text	ID	Type	<i>Complete</i>	complete	Neutral
Text	ID	Type					
<i>Complete</i>	complete	Neutral					
55. Click Save All .	 <p>File Edit Build Run Deploy Search View Tools Help Save All</p>						

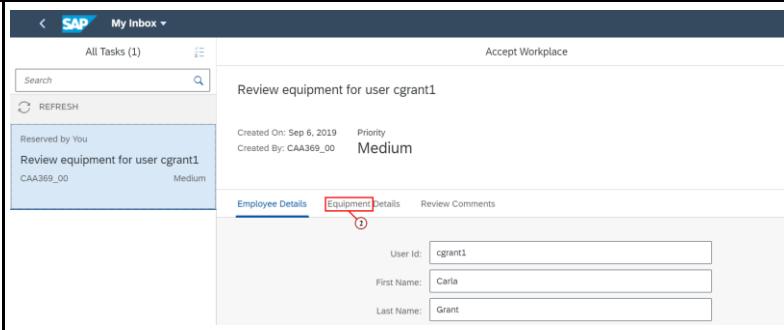
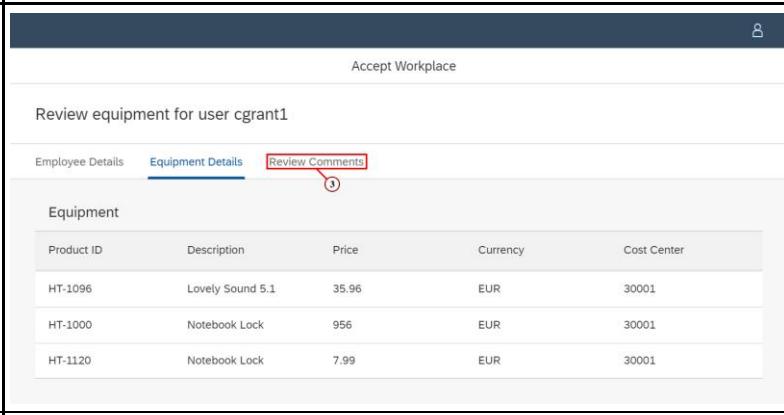
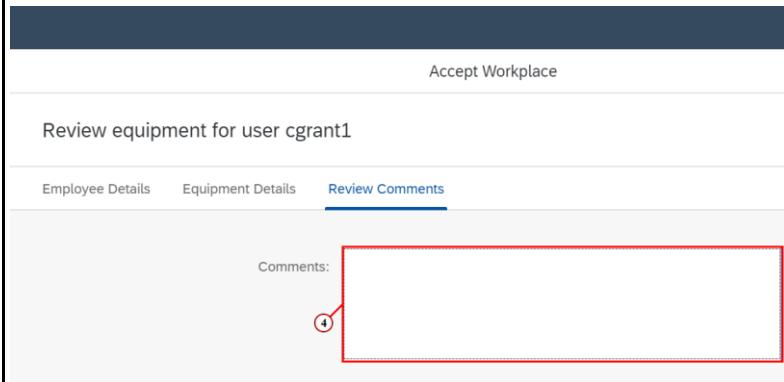
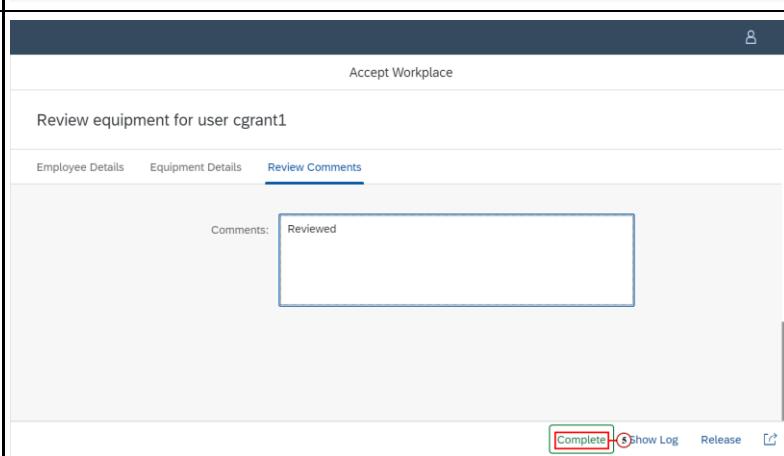
Explanation	Screenshot
<p>56. Click on SAPCPWorkflow01 with the right mouse button.</p>	 <p>The screenshot shows the SAP Studio interface with the Project Explorer view open. The SAPCPWorkflow01 folder is highlighted with a red box and a circled number 56. A context menu is visible over the folder.</p>
<p>57. Click Build.</p> <p> A successful build will display a message toast and show the logs in the console.</p>	 <p>The screenshot shows the context menu for the SAPCPWorkflow01 folder. The Build option is highlighted with a red box and a circled number 57.</p>

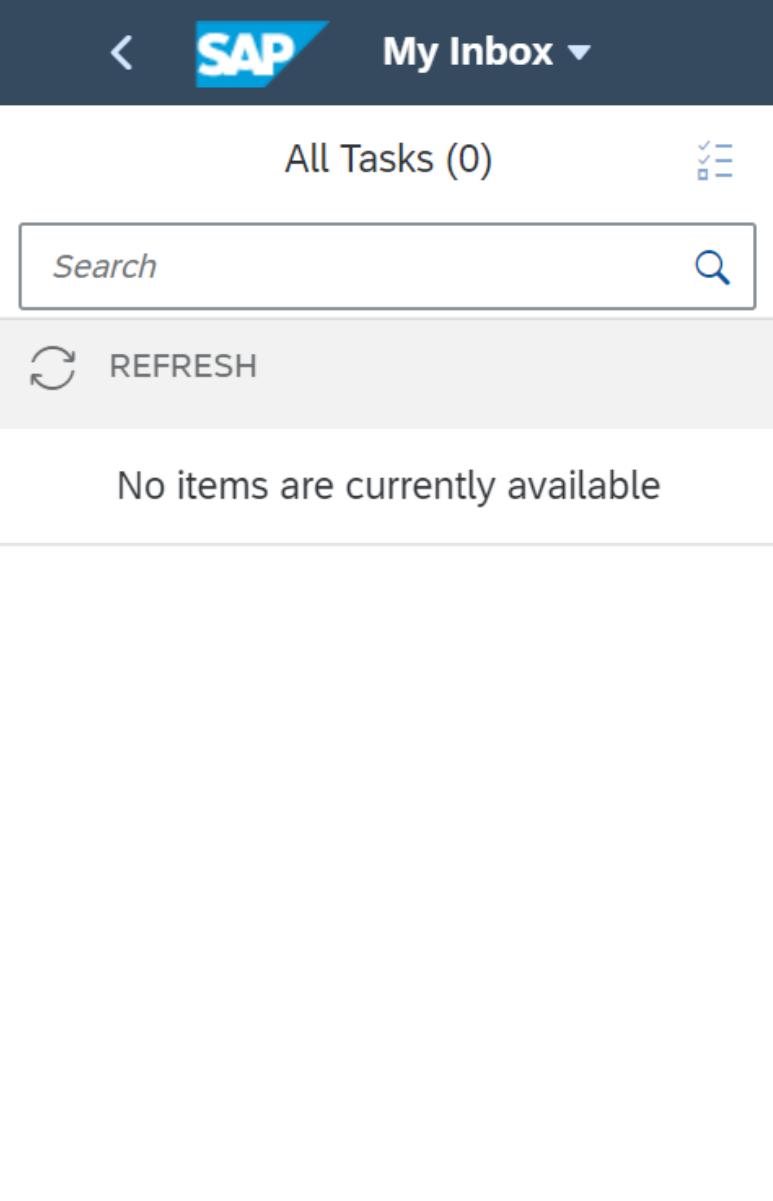
Explanation	Screenshot
58. Open the mta_archives folder and click on <code>SCPWorkflow00_0.0.1.mtar</code> with the right mouse button.	
59. Click Deploy	
60. Click Deploy to SAP Cloud Platform	
61. Select Cloud Foundry API Endpoint, Organization and Space.	

Explanation	Screenshot
62. Click Deploy .	 <p>The screenshot shows the SAP Cloud Platform deployment interface. It includes fields for the Cloud Foundry API Endpoint (https://api.cf.eu10.hana.ondemand.com), Organization (BPM-CF-TechEd-EU2), and Space (TechEd). A red box highlights the 'Deploy' button at the bottom right.</p>
 <p>A successful deployment will show a message toast with success message. Deployment logs are also available in the console.</p>	 <p>The screenshot shows a message toast in the SAP Fiori application. It displays the text "The \"SCPWorkflow00\" project has been deployed." with a close button (X) to its right.</p>

Execute Workflow

Explanation	Screenshot
 <p>In this section you have to create a new workflow instance and complete two user tasks as described in the chapter Execute Workflow. After Completing the user tasks follow the below</p> <ul style="list-style-type: none"> • Search and Find Workflow API Packagein SAP API Business Hub • Configure SAP API business Hub using Workflow service instance credentials. • Execute the API by sending a messageto your workflow instance. 	
1. Select the new Task Review Equipment for Carla Grant1	 <p>The screenshot shows the SAP Fiori My Inbox interface. It displays a task titled "Review equipment for user cgrant1". The task details include "Created On: Sep 6, 2019", "Created By: CAA369_00", and "Priority: Medium". The task is assigned to "Employee Details" (User Id: cgrant1, First Name: Carla, Last Name: Grant). Buttons for "Complete", "Show Log", and "Release" are visible at the bottom.</p>

Explanation	Screenshot																				
2. Click Equipment	 <p>SAP My Inbox - All Tasks (1)</p> <p>Review equipment for user cgrant1</p> <p>Created On: Sep 6, 2019 Priority: Medium Created By: CAA369_00</p> <p>Employee Details Equipment Details Review Comments</p> <p>User Id: cgrant1 First Name: Carla Last Name: Grant</p>																				
3. Click Review Comments	 <p>Accept Workplace</p> <p>Review equipment for user cgrant1</p> <p>Employee Details Equipment Details Review Comments</p> <table border="1"> <thead> <tr> <th>Product ID</th> <th>Description</th> <th>Price</th> <th>Currency</th> <th>Cost Center</th> </tr> </thead> <tbody> <tr> <td>HT-1096</td> <td>Lovely Sound 5.1</td> <td>35.96</td> <td>EUR</td> <td>30001</td> </tr> <tr> <td>HT-1000</td> <td>Notebook Lock</td> <td>956</td> <td>EUR</td> <td>30001</td> </tr> <tr> <td>HT-1120</td> <td>Notebook Lock</td> <td>7.99</td> <td>EUR</td> <td>30001</td> </tr> </tbody> </table>	Product ID	Description	Price	Currency	Cost Center	HT-1096	Lovely Sound 5.1	35.96	EUR	30001	HT-1000	Notebook Lock	956	EUR	30001	HT-1120	Notebook Lock	7.99	EUR	30001
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HT-1000	Notebook Lock	956	EUR	30001																	
HT-1120	Notebook Lock	7.99	EUR	30001																	
4. Enter Reviewed in the text field.	 <p>Accept Workplace</p> <p>Review equipment for user cgrant1</p> <p>Employee Details Equipment Details Review Comments</p> <p>Comments:</p>																				
5. Click Complete	 <p>Accept Workplace</p> <p>Review equipment for user cgrant1</p> <p>Employee Details Equipment Details Review Comments</p> <p>Comments: Reviewed</p> <p>Complete Show Log Release</p>																				

Explanation	Screenshot
	 A screenshot of the SAP Fiori My Inbox application. The header features the SAP logo and the text "My Inbox". Below the header, there is a search bar with the placeholder "Search" and a magnifying glass icon. A "REFRESH" button with a circular arrow icon is located just below the search bar. The main content area displays the message "No items are currently available".

Summary

You have completed the exercise!

You are now able to:

- Model a Form as a Workflow Task UI.
- Define Sections , Fields and binding Workflow Context.
- Define Collection and binding Workflow Context with collection.
- Define Decisions as user actions in a Workflow Task UI.

WORKFLOW APIs USING SAP API BUSINESS HUB

Overview

Estimated time: 20 minutes

Objective

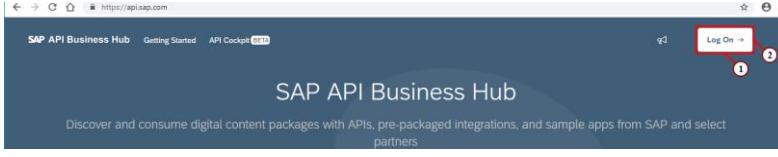
In the following exercise you will learn the basics of testing workflow related APIs available in SAP API Business Hub.

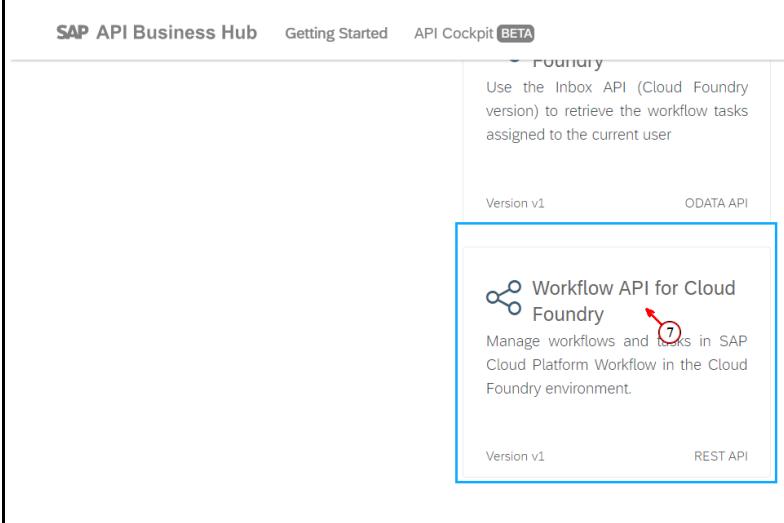
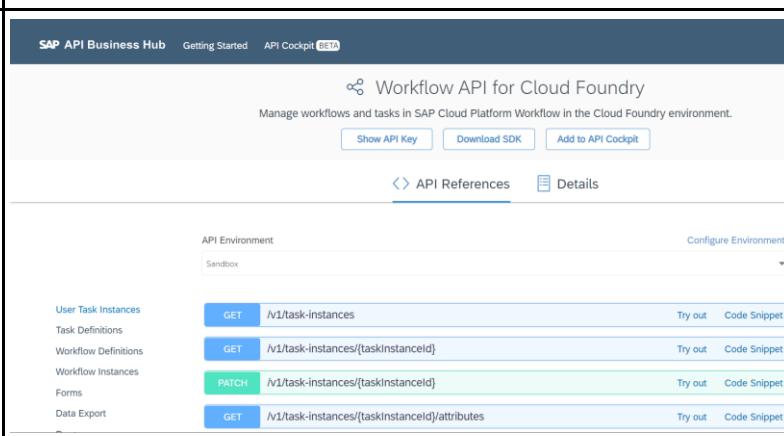
Exercise Description

In this exercise you will do the following:

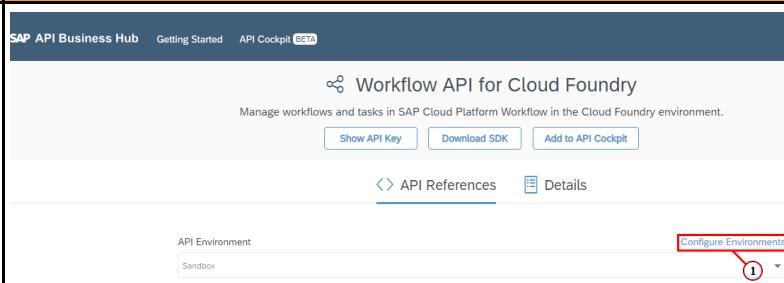
- Discover SAP Cloud Platform Workflow API in SAP API Business Hub
- Configure Environment for Cloud foundry
- Execute Workflow Defination related End points
- Execute Workflow Instance related End points
- Execute User Task Instances related End points

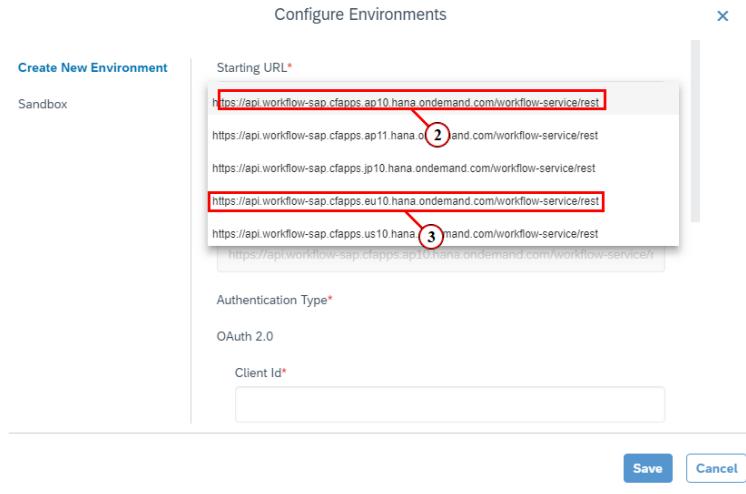
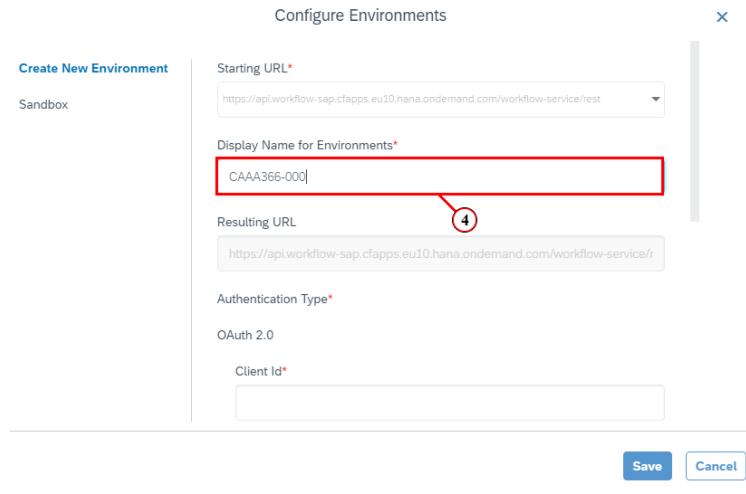
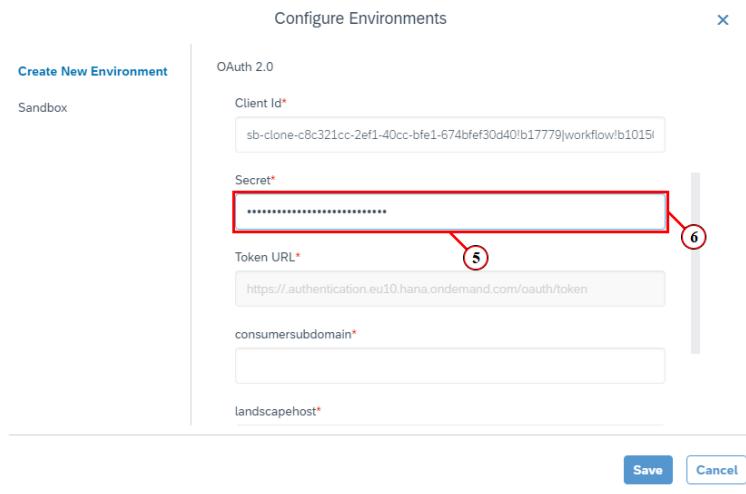
Discover SAP Cloud Platform Workflow API in SAP API Business Hub

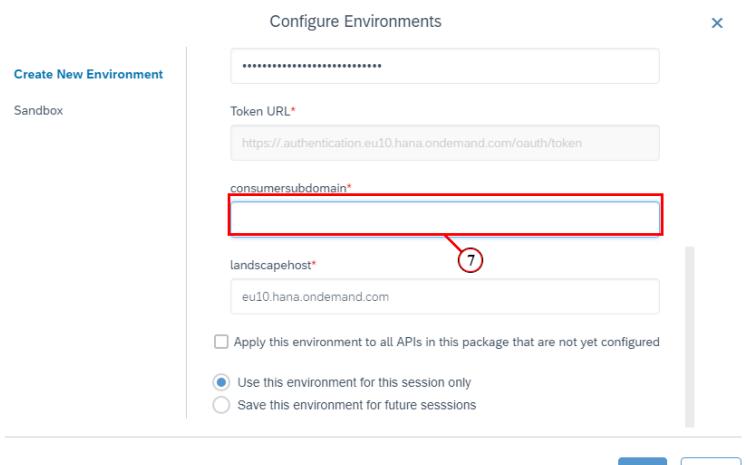
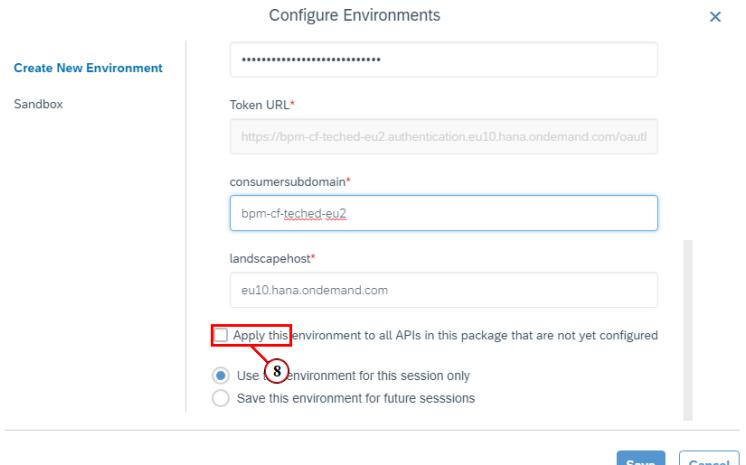
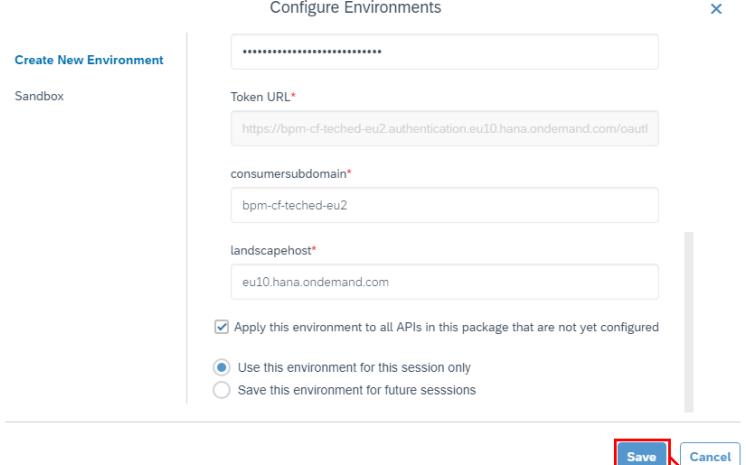
Explanation	Screenshot
<p>1. Open SAP API Business Hub.</p> <p>2. Click Log On.</p> <p>Logon using your SAP Cloud Platform user account.</p> <p>3. Click on the search area.</p>	
<p>4. Enter SAP Cloud Platform Workflow in the search box.</p> <p>Confirm your entry by pressing the Enter key.</p>	
<p>5. Enter Cloud Platform Workflow in the search box.</p> <p>Confirm your entry by pressing the Enter key.</p>	
<p>6. Click SAP Cloud Platform Workflow.</p>	

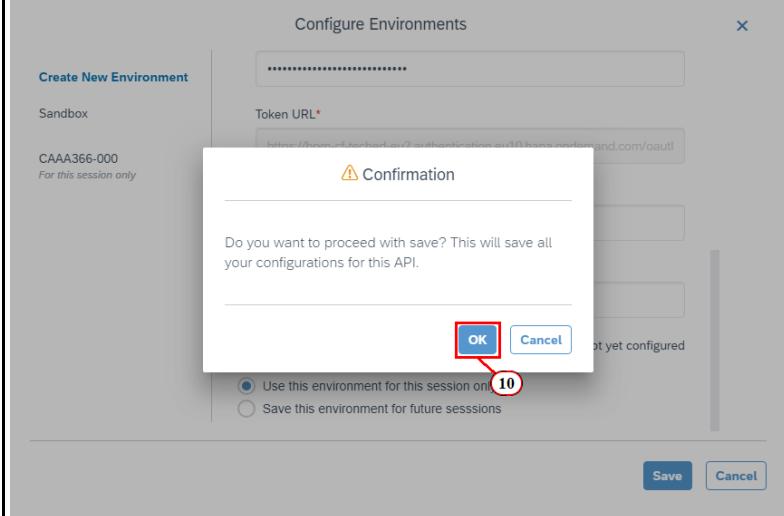
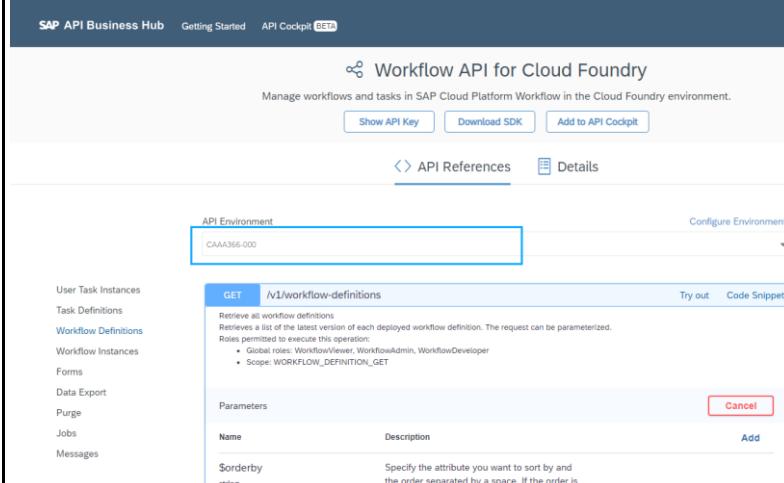
Explanation	Screenshot
7. Click here .	 <p>The screenshot shows the SAP API Business Hub interface. In the top right corner, there is a section titled "Workflow API for Cloud Foundry". Below this title, it says "Manage workflows and tasks in SAP Cloud Platform Workflow in the Cloud Foundry environment." There are three API versions listed: "Version v1" (ODATA API), "Version v1" (REST API), and "Version v1" (Workflow API for Cloud Foundry). A red arrow points to the "Workflow API for Cloud Foundry" link.</p>
	 <p>The screenshot shows the "Workflow API for Cloud Foundry" details page. At the top, there is a brief description: "Manage workflows and tasks in SAP Cloud Platform Workflow in the Cloud Foundry environment." Below this are buttons for "Show API Key", "Download SDK", and "Add to API Cockpit". Under the heading "API Environment", there is a dropdown menu set to "Sandbox". On the right, there is a "Configure Environments" button. Below these, there is a table of API endpoints with columns for "User Task Instances", "Task Definitions", "Workflow Definitions", "Workflow Instances", "Forms", and "Data Export". Each endpoint row has "Try out" and "Code Snippet" buttons.</p>

Configure Environment for Cloud Foundry

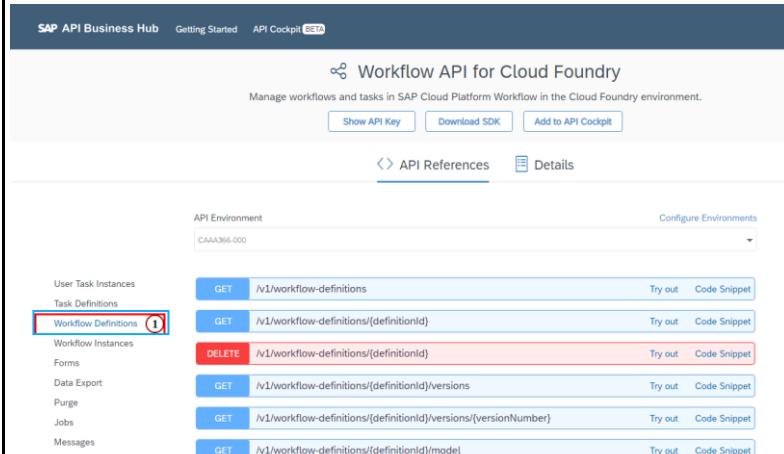
Explanation	Screenshot
1. Click Configure Environments	 <p>The screenshot shows the "Workflow API for Cloud Foundry" details page. At the top, there is a brief description: "Manage workflows and tasks in SAP Cloud Platform Workflow in the Cloud Foundry environment." Below this are buttons for "Show API Key", "Download SDK", and "Add to API Cockpit". Under the heading "API Environment", there is a dropdown menu set to "Sandbox". On the right, there is a "Configure Environments" button. A red box highlights this button, and a red arrow points to it from the explanation text. The number "1" is circled in red at the bottom right of the highlighted area.</p>

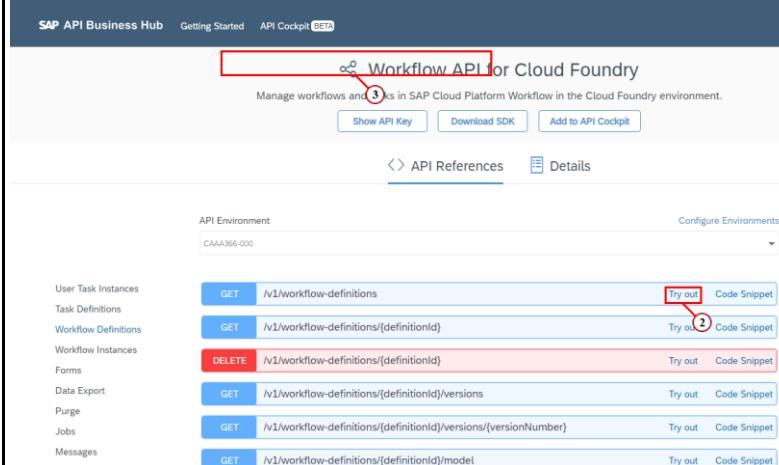
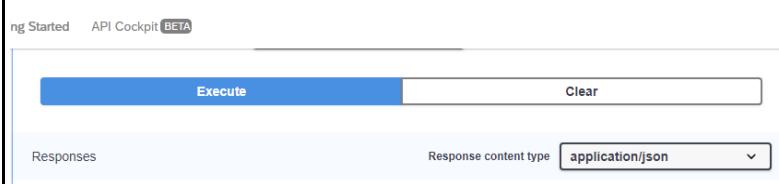
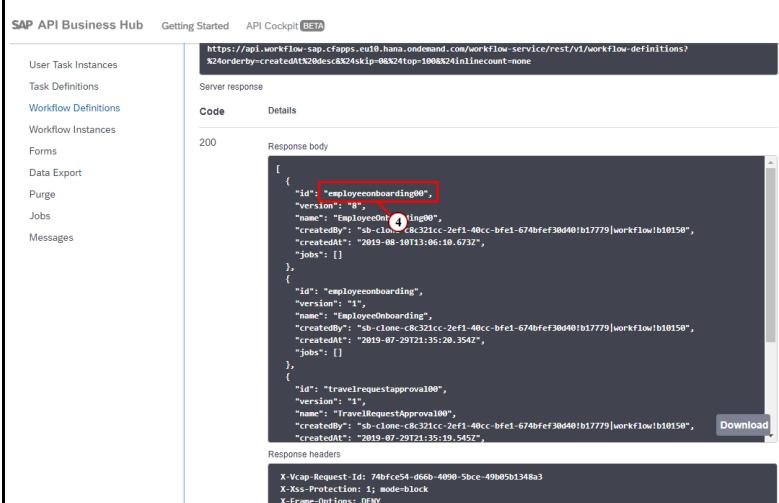
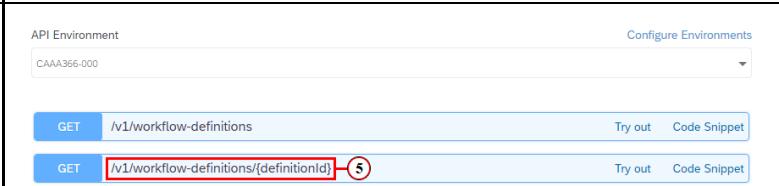
Explanation	Screenshot
<p>2. click here to show url options in drop down</p> <p>3. Click https://api.workflow-sap.cfapps.eu10.hana.ondemand.com/workflow-service/rest</p>	 <p>The screenshot shows the 'Configure Environments' dialog. In the 'Starting URL*' dropdown, two options are highlighted with red circles: 'https://api.workflow-sap.cfapps.ap10.hana.ondemand.com/workflow-service/rest' (circled 2) and 'https://api.workflow-sap.cfapps.eu10.hana.ondemand.com/workflow-service/rest' (circled 3). Other options like 'https://api.workflow-sap.cfapps.ap11.hana.ondemand.com/workflow-service/rest' and 'https://api.workflow-sap.cfapps.jp10.hana.ondemand.com/workflow-service/rest' are also visible.</p>
<p>4. Enter CAA366-XXX in the text box.</p>	 <p>The screenshot shows the 'Configure Environments' dialog. The 'Display Name for Environments*' input field contains 'CAA366-000' and is highlighted with a red box. The 'Resulting URL' dropdown below it is circled with a red circle 4.</p>
<p>5. Enter Client Id as sb-clone-544b2b90-5d5e-43c0-8312-f4c9f5922c43!b17779 workflow!b1015!</p> <p>6. Enter Secret as woBhgT35Lh5LJzd2XIJ+szwcX/8=</p>	 <p>The screenshot shows the 'Configure Environments' dialog for OAuth 2.0. The 'Client Id*' input field contains 'sb-clone-c8c321cc-2ef1-40cc-bfe1-674bfef30d40!b17779 workflow!b1015!' and is highlighted with a red box. The 'Secret*' input field contains '*****' and is highlighted with a red box. The 'Token URL*' dropdown below it is circled with a red circle 5.</p>

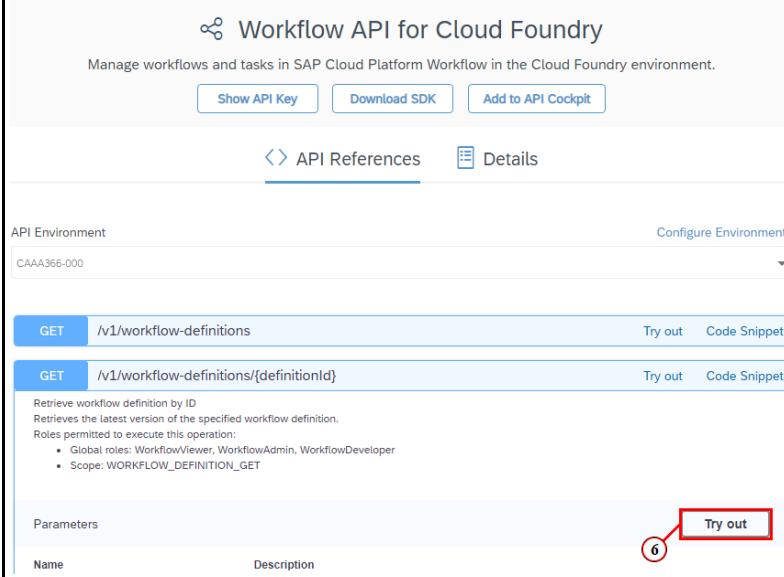
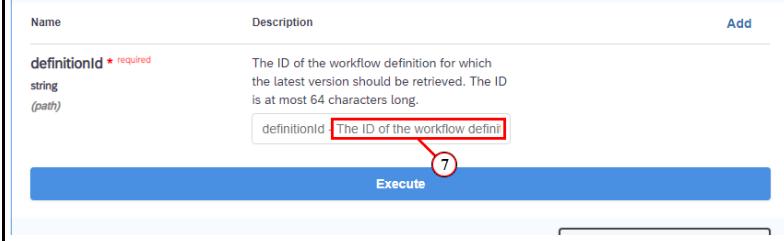
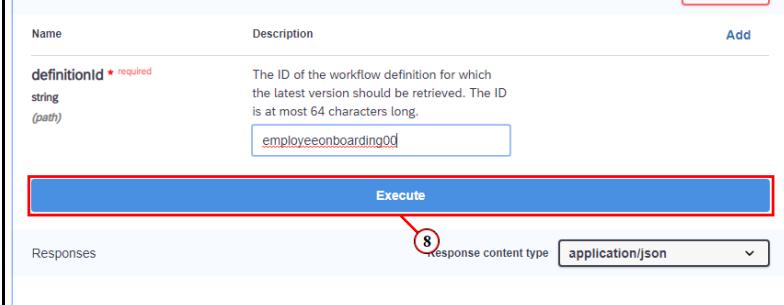
Explanation	Screenshot
7. Enter bpm-cf-teched-eu2 as consumersubdomain	 <p>Configure Environments</p> <p>Create New Environment</p> <p>Sandbox</p> <p>Token URL* https://authentication.eu10.hana.ondemand.com/oauth/token</p> <p>consumersubdomain* bpm-cf-teched-eu2 (highlighted with a red box and circled index 7)</p> <p>landscapehost* eu10.hana.ondemand.com</p> <p><input type="checkbox"/> Apply this environment to all APIs in this package that are not yet configured</p> <p><input checked="" type="radio"/> Use this environment for this session only</p> <p><input type="radio"/> Save this environment for future sessions</p> <p>Save Cancel</p>
8. Select checkbox Apply this environment to all APIs in this package that are not yet configured	 <p>Configure Environments</p> <p>Create New Environment</p> <p>Sandbox</p> <p>Token URL* https://bpm-cf-teched-eu2.authentication.eu10.hana.ondemand.com/oauth</p> <p>consumersubdomain* bpm-cf-teched-eu2</p> <p>landscapehost* eu10.hana.ondemand.com</p> <p><input checked="" type="checkbox"/> Apply this environment to all APIs in this package that are not yet configured (highlighted with a red box and circled index 8)</p> <p><input checked="" type="radio"/> Use this environment for this session only</p> <p><input type="radio"/> Save this environment for future sessions</p> <p>Save Cancel</p>
9. Click Save	 <p>Configure Environments</p> <p>Create New Environment</p> <p>Sandbox</p> <p>Token URL* https://bpm-cf-teched-eu2.authentication.eu10.hana.ondemand.com/oauth</p> <p>consumersubdomain* bpm-cf-teched-eu2</p> <p>landscapehost* eu10.hana.ondemand.com</p> <p><input checked="" type="checkbox"/> Apply this environment to all APIs in this package that are not yet configured</p> <p><input checked="" type="radio"/> Use this environment for this session only</p> <p><input type="radio"/> Save this environment for future sessions</p> <p>Save Cancel (highlighted with a red box and circled index 9)</p>

Explanation	Screenshot
<p>10. Click OK.</p>	
	

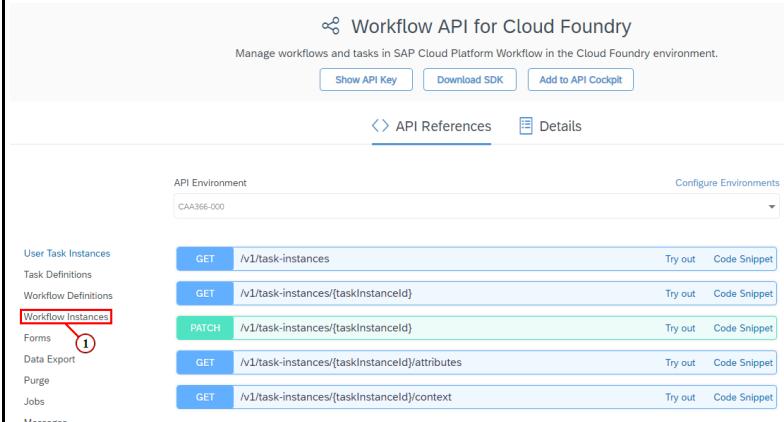
Execute Workflow Definition APIs

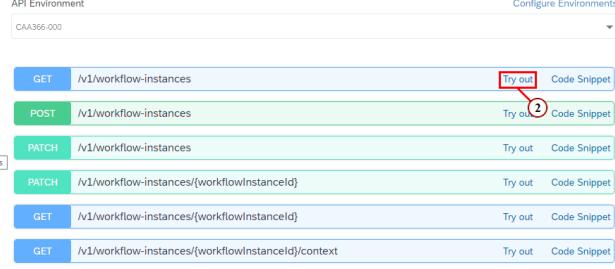
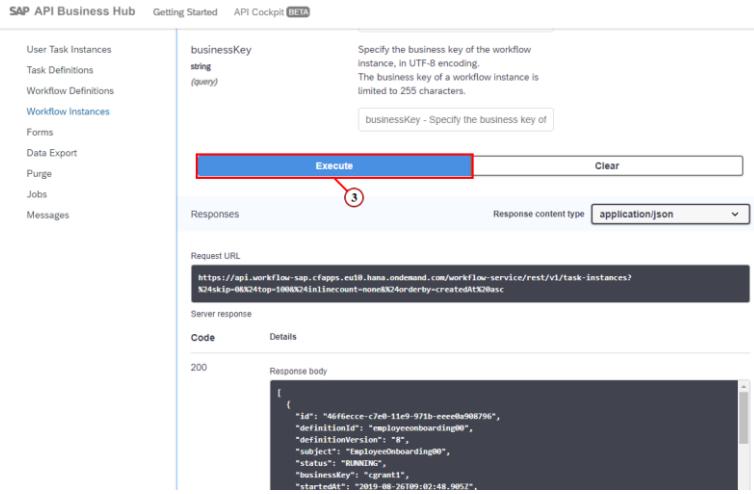
Explanation	Screenshot
<p>1. Click on Workflow Definitions to show workflow definition APIs.</p>	

Explanation	Screenshot																												
2. Click Try Out for opening the API details	 <p>SAP API Business Hub Getting Started API Cockpit BETA</p> <p>Workflow API for Cloud Foundry</p> <p>Manage workflows and tasks in SAP Cloud Platform Workflow in the Cloud Foundry environment.</p> <p>Show API Key Download SDK Add to API Cockpit</p> <p>API References Details</p> <p>API Environment CAAA366-000 Configure Environments</p> <p>User Task Instances Task Definitions Workflow Definitions Workflow Instances Forms Data Export Purge Jobs Messages</p> <table border="1"> <thead> <tr> <th>Method</th> <th>Endpoint</th> <th>Try out</th> <th>Code Snippet</th> </tr> </thead> <tbody> <tr> <td>GET</td> <td>/v1/workflow-definitions</td> <td>Try out</td> <td>Code Snippet</td> </tr> <tr> <td>GET</td> <td>/v1/workflow-definitions/{definitionId}</td> <td>Try out</td> <td>Code Snippet</td> </tr> <tr> <td>DELETE</td> <td>/v1/workflow-definitions/{definitionId}</td> <td>Try out</td> <td>Code Snippet</td> </tr> <tr> <td>GET</td> <td>/v1/workflow-definitions/{definitionId}/versions</td> <td>Try out</td> <td>Code Snippet</td> </tr> <tr> <td>GET</td> <td>/v1/workflow-definitions/{definitionId}/versions/{versionNumber}</td> <td>Try out</td> <td>Code Snippet</td> </tr> <tr> <td>GET</td> <td>/v1/workflow-definitions/{definitionId}/model</td> <td>Try out</td> <td>Code Snippet</td> </tr> </tbody> </table>	Method	Endpoint	Try out	Code Snippet	GET	/v1/workflow-definitions	Try out	Code Snippet	GET	/v1/workflow-definitions/{definitionId}	Try out	Code Snippet	DELETE	/v1/workflow-definitions/{definitionId}	Try out	Code Snippet	GET	/v1/workflow-definitions/{definitionId}/versions	Try out	Code Snippet	GET	/v1/workflow-definitions/{definitionId}/versions/{versionNumber}	Try out	Code Snippet	GET	/v1/workflow-definitions/{definitionId}/model	Try out	Code Snippet
Method	Endpoint	Try out	Code Snippet																										
GET	/v1/workflow-definitions	Try out	Code Snippet																										
GET	/v1/workflow-definitions/{definitionId}	Try out	Code Snippet																										
DELETE	/v1/workflow-definitions/{definitionId}	Try out	Code Snippet																										
GET	/v1/workflow-definitions/{definitionId}/versions	Try out	Code Snippet																										
GET	/v1/workflow-definitions/{definitionId}/versions/{versionNumber}	Try out	Code Snippet																										
GET	/v1/workflow-definitions/{definitionId}/model	Try out	Code Snippet																										
	 <p>Getting Started API Cockpit BETA</p> <p>Execute Clear</p> <p>Responses Response content type application/json</p>																												
4. Copy employeeonboardingXX from response body	 <p>SAP API Business Hub Getting Started API Cockpit BETA</p> <p>https://api.workflow-sap.cfapps.eu10.hana.ondemand.com/workflow-service/rest/v1/workflow-definitions?X2Orderby=createdAt&X2skip=0&X2top=1000&X2inlineCount=none</p> <p>User Task Instances Task Definitions Workflow Definitions Workflow Instances Forms Data Export Purge Jobs Messages</p> <p>Server response</p> <p>Code Details</p> <p>200 Response body</p> <pre>[{"id": "employeeonboarding00", "version": "0", "name": "EmployeeOnboarding", "createdBy": "sb-clone-c8321cc-2ef1-40cc-bfe1-674bfef30d401b17779 workflow/b10150", "createdAt": "2019-08-10T13:06:10.673Z", "jobs": []}, {"id": "employeeonboarding", "version": "1", "name": "EmployeeOnboarding", "createdBy": "sb-clone-c8321cc-2ef1-40cc-bfe1-674bfef30d401b17779 workflow/b10150", "createdAt": "2019-07-29T21:35:20.354Z", "jobs": []}, {"id": "travelrequestapproval00", "version": "1", "name": "TravelRequestApproval00", "createdBy": "sb-clone-c8321cc-2ef1-40cc-bfe1-674bfef30d401b17779 workflow/b10150", "createdAt": "2019-07-29T21:35:19.545Z"}, {"id": "travelrequestapproval", "version": "1", "name": "TravelRequestApproval", "createdBy": "sb-clone-c8321cc-2ef1-40cc-bfe1-674bfef30d401b17779 workflow/b10150", "createdAt": "2019-07-29T21:35:19.545Z"}]</pre> <p>Download</p> <p>Response headers</p> <p>X-Vcap-Request-Id: 740fc054-d600-4090-5bce-49805b1348a3 X-Xss-Protection: 1; mode=block X-Frame-Options: DENY</p>																												
5. Click /v1/workflow-definitions/{definitionId}	 <p>API Environment CAAA366-000 Configure Environments</p> <p>GET /v1/workflow-definitions Try out Code Snippet</p> <p>GET /v1/workflow-definitions/{definitionId} Try out Code Snippet</p>																												

Explanation	Screenshot			
6. Click Try out	 <p>Workflow API for Cloud Foundry</p> <p>Manage workflows and tasks in SAP Cloud Platform Workflow in the Cloud Foundry environment.</p> <p>Show API Key Download SDK Add to API Cockpit</p> <p>API References Details</p> <p>API Environment CAAA366-000 Configure Environments</p> <p>GET /v1/workflow-definitions Try out Code Snippet</p> <p>GET /v1/workflow-definitions/{definitionId} Try out Code Snippet</p> <p>Retrieve workflow definition by ID Retrieves the latest version of the specified workflow definition. Roles permitted to execute this operation: • Global roles: WorkflowViewer, WorkflowAdmin, WorkflowDeveloper • Scope: WORKFLOW_DEFINITION_GET</p> <p>Parameters</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Description</th> </tr> </thead> </table> <p>Try out (red box)</p>	Name	Description	
Name	Description			
7. Enter the copied Workflow definition Id	 <p>Name Description Add</p> <p>definitionId * required string (path) The ID of the workflow definition for which the latest version should be retrieved. The ID is at most 64 characters long.</p> <p>definitionId The ID of the workflow defini... (red box)</p> <p>Execute (red box)</p>			
8. Click Execute	 <p>Parameters</p> <table border="1"> <thead> <tr> <th>Name</th> <th>Description</th> <th>Add</th> </tr> </thead> </table> <p>definitionId * required string (path) The ID of the workflow definition for which the latest version should be retrieved. The ID is at most 64 characters long.</p> <p>definitionId employeeonboarding0 (red box)</p> <p>Execute (red box)</p> <p>Responses Response content type application/json</p>	Name	Description	Add
Name	Description	Add		

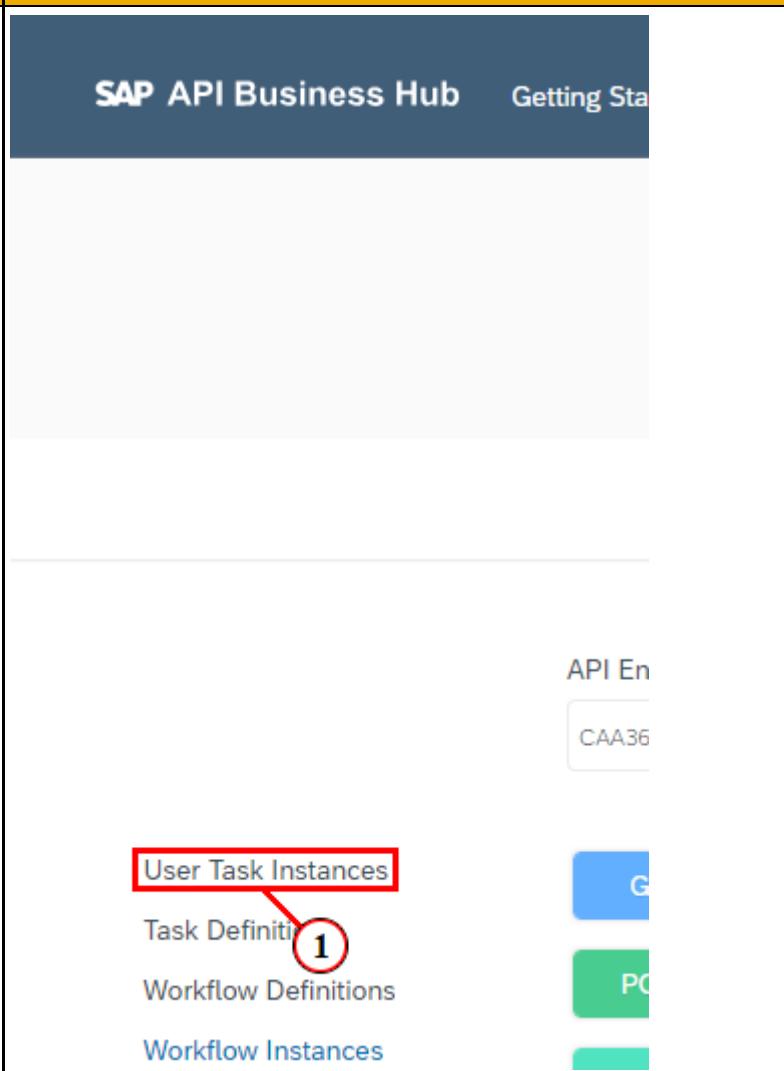
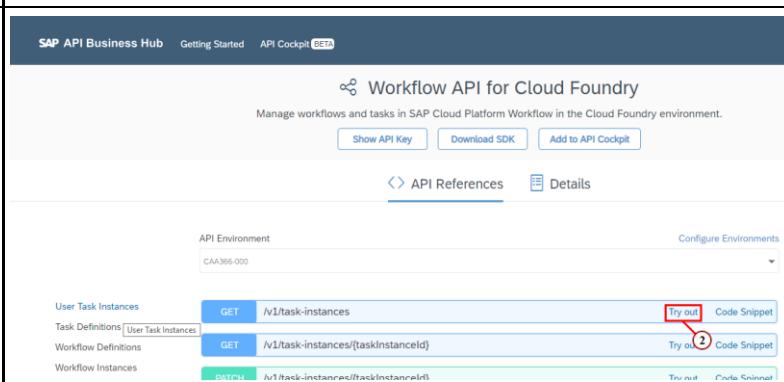
Execute Workflow Instances APIs

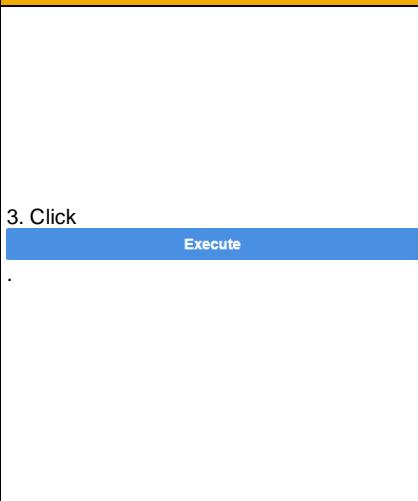
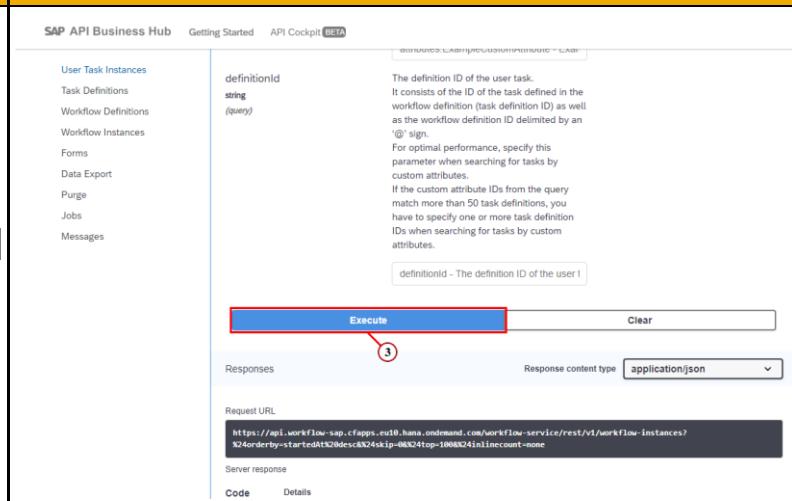
Explanation	Screenshot
1. Click Workflow Instances	 <p>Workflow API for Cloud Foundry</p> <p>Manage workflows and tasks in SAP Cloud Platform Workflow in the Cloud Foundry environment.</p> <p>Show API Key Download SDK Add to API Cockpit</p> <p>API References Details</p> <p>API Environment CAAA366-000 Configure Environments</p> <p>User Task Instances Task Definitions Workflow Definitions Workflow Instances (red box) Forms (1) Data Export Purge Jobs Messages</p> <p>GET /v1/task-instances Try out Code Snippet</p> <p>GET /v1/task-instances/{taskInstanceId} Try out Code Snippet</p> <p>PATCH /v1/task-instances/{taskInstanceId} Try out Code Snippet</p> <p>GET /v1/task-instances/{taskInstanceId}/attributes Try out Code Snippet</p> <p>GET /v1/task-instances/{taskInstanceId}/context Try out Code Snippet</p>

Explanation	Screenshot
<p>2. Click Try out</p>	
<p>3. Click Execute</p>	

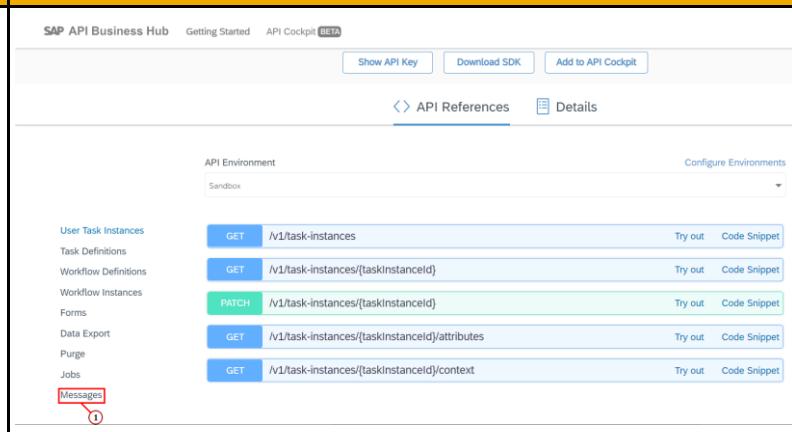
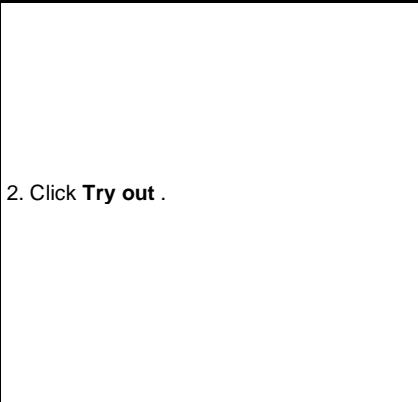
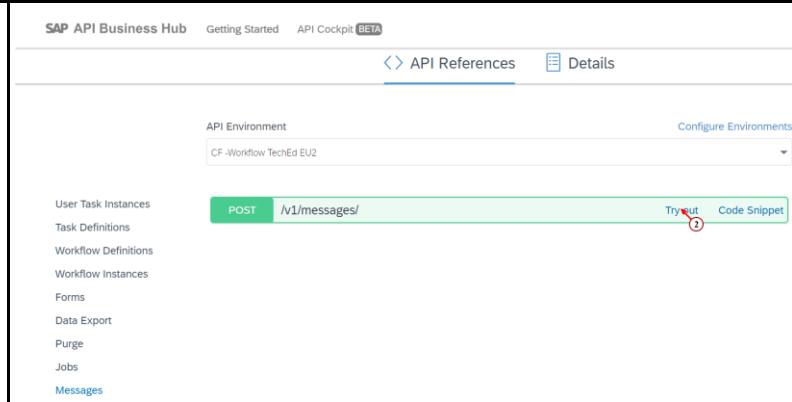
Execute User Task Instance APIs

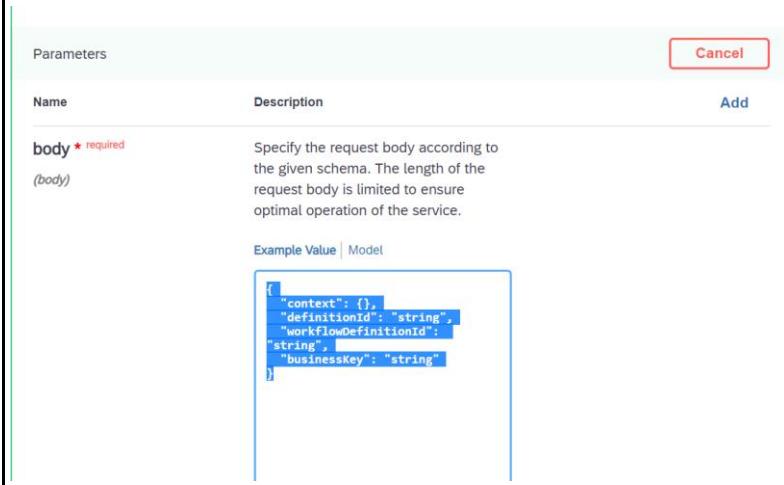
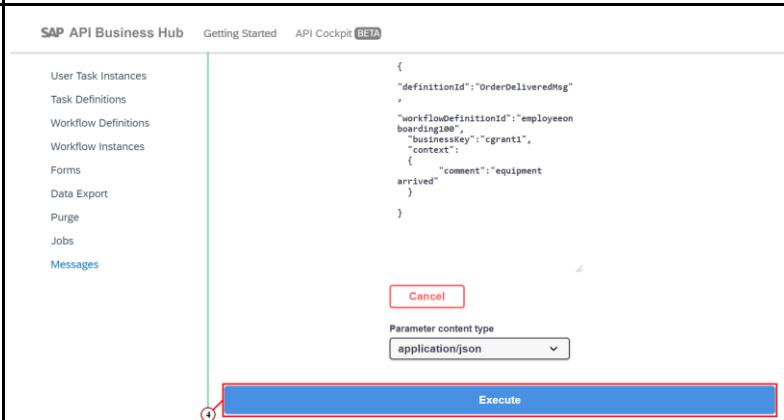
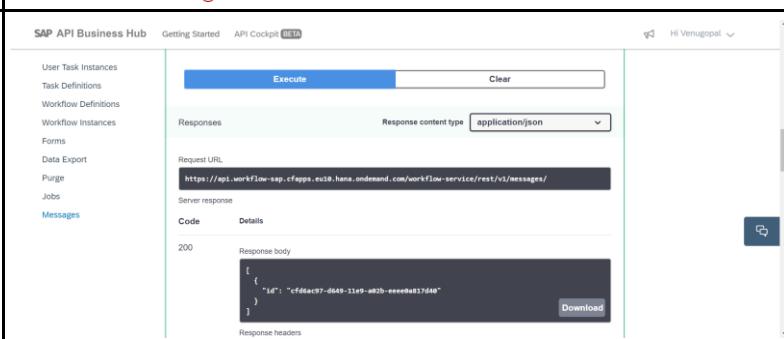
Explanation	Screenshot
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Explanation	Screenshot
<p>1. Click User Task Instances.</p>	
<p>2. Click Try out.</p>	

Explanation	Screenshot
<p>3. Click Execute</p> 	 <p>The screenshot shows the SAP API Business Hub interface. On the left, there is a sidebar with links: User Task Instances, Task Definitions, Workflow Definitions, Workflow Instances, Forms, Data Export, Purge, Jobs, and Messages. The 'Messages' link is highlighted with a red box and circled with a number 1. In the main area, there is a search bar with the placeholder 'definitionId - The definition ID of the user task'. Below the search bar is a large blue button labeled 'Execute' with a circled number 3. To the right of the search bar, there is a 'Clear' button. Further down, there are sections for 'Responses', 'Request URL', 'Server response', and 'Code' and 'Details' buttons.</p>

Execute Messages APIs

Explanation	Screenshot
<p>1. Click Messages</p> 	 <p>The screenshot shows the SAP API Business Hub interface. On the left, there is a sidebar with links: User Task Instances, Task Definitions, Workflow Definitions, Workflow Instances, Forms, Data Export, Purge, Jobs, and Messages. The 'Messages' link is highlighted with a red box and circled with a number 1. In the main area, there is a table of API endpoints under the heading 'API Environment: Sandbox'. The table includes rows for GET /v1/task-instances, GET /v1/task-instances/{taskinstanceid}, PATCH /v1/task-instances/{taskinstanceid}, GET /v1/task-instances/{taskinstanceid}/attributes, and GET /v1/task-instances/{taskinstanceid}/context. Each row has 'Try out' and 'Code Snippet' buttons.</p>
<p>2. Click Try out.</p> 	 <p>The screenshot shows the SAP API Business Hub interface. On the left, there is a sidebar with links: User Task Instances, Task Definitions, Workflow Definitions, Workflow Instances, Forms, Data Export, Purge, Jobs, and Messages. In the main area, there is a table of API endpoints under the heading 'API Environment: CF-Workflow TechEd EU2'. The table includes a single row for POST /v1/messages/. The 'Try out' button for this endpoint is highlighted with a red box and circled with a number 2.</p>

Explanation	Screenshot
<p>3. Replace the default content with the below JSON. Replace XX with your user id.</p> <pre>{ "definitionId": "OrderDeliveredMsg", "workflowDefinitionId": "employeeonboardingXX", "businessKey": "cgrant1", "context": { "comment": "equipment arrived" } }</pre>	
<p>4. Click Execute</p>	
<p>A successful execution of the API shows the workflow instance Id consumed the message.</p>	

Summary

You have completed the exercise!

You are now able to:

1. Configure Workflow API endpoint in SAP API Business Hub
2. Execute Workflow APIs to create, update and read workflow service artefacts.

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3.

Click

Execute