SAP BTP Workflow Introduce

**In this session You will learn:**

## How to setup BTP workflow management environment

## Build a workflow scenario with task UI

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# STEP 1: Set up Workflow environment by BTP booster (Setup by administrator and just onetime effort for each sub-account)

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| **Explanation** | **Screenshot** |
| From your global account page, choose the Boosters from left-hand navigation. Among the available options, click “Start” to Set up account for Workflow Management. |  |
| If you have multiple sub-accounts, then you will get a wizard to select the sub-account where you want to set up SAP Workflow Management capabilities. In the wizard, select the Subaccount, Org and Space. Click “Finish” to start the Booster. |  |
| Automated onboarding will be started with pre-configured steps.  It will take 4-5 minutes to complete the entire set up. | Recipe In Progress |

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| **Explanation** | **Screenshot** |
| Wait until you see the success popup window once the booster completes successfully.  Click on the “Go to Application” to open Workflow Management Launchpad. |  |
| You can see the Workflow Management launchpad where you can configure and monitor your processes. |  |
| Navigate to the subaccount, you can view all the services and instances created by booster. |  |

# STEP 2: Create MTA project

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| **Explanation** | **Screenshot** |
| Open BAS, choose “New Project from Template” menus.  In the “Project From Template” windows, choose “Basic Multitarget Application”, click “Start” to create MTA project. |  |
| Enter the “project name” and click “Finish”. |  |
| We can see the MTA project has been created success |  |

# STEP 3: Create Approuter Configuration Module

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| **Explanation** | **Screenshot** |
| Right click the mta.yaml file, choose “create MTA Module from Template” menus |  |
| In the “MTA Module From Template” windows, choose “Approuter Configuration”, click “Start” to create Approuter. |  |
| Choose “Managed Approuter” HTML5 application runtime and plan to add UI option as “Yes”, and enter the Approuter name.  And then click “Next” button. |  |
| We can see the approuter has been create success |  |

# STEP 4: Create Workflow Task UI

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| **Explanation** | **Screenshot** |
| Right click the mta.yaml file, choose “create MTA Module from Template” menus |  |
| Choose “Task UI”.  And then click “Next” button. |  |
| Enter “View name”, “application title”, “namespace”, “description” and the click “Finish” button. |  |
| We can see the workflow task UI has been create success |  |

# STEP 5: Create Workflow Module

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| **Explanation** | **Screenshot** |
| Right click the mta.yaml file, choose “create MTA Module from Template” menus |  |
| In the “MTA Module From Template” windows, choose “Workflow Module”, click “Start” to create Workflow Module. |  |
| Enter the work module name.  And then click “Next” button. |  |
| Enter “workflow name”, “namespace”, “description” and the click “Finish” button. |  |
| We can see the workflow module has been create success |  |

# STEP 6: Introduce how to implement a real workflow case - task UI

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| **Explanation** | **Screenshot** |
| First of all, we need to get what the task UI should look like. |  |
| System will auto implement the code to get the global data (a JSON model which call “context”) which transfer from workflow module, as the task UI module is created by “New MTA module from template” wizard.  首先，我们需要知道任务UI应该是什么样子。  当任务UI模块由“New MTA module from template”向导创建时，系统将自动实现代码以获取从工作流模块转移过来的全局数据(一个称为“context”的JSON模型)。 |  |
| The object “context” is a bridge of communication between task UI and workflow module.  We can bind the data from workflow module by prefix with “context” and the field name in the view of task UI.  对象“context”是任务UI和工作流模块之间沟通的桥梁。  我们可以在任务UI视图中通过前缀context和字段名来绑定工作流模块中的数据。 |  |
| When you click the “Approve” button in task, the component has auto implemented the code which will update back the context data to workflow module.  Normally, we don’t need to change any code, all of them are auto generate by task UI wizard.  当您点击任务中的“Approve”按钮时，组件已经自动实现了将上下文数据更新回工作流模块的代码。  通常情况下，我们不需要修改任何代码，所有的代码都是由任务UI向导自动生成的。 |  |

# STEP 7: Introduce how to implement a real workflow case – workflow module

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| **Explanation** | **Screenshot** |
| In previous step, we have introduced how to implement a task UI, and we learn that the object(context) with JSON format, which is a bridge of communication between task UI and workflow module.  So before we design workflow module, we need to consider the context format which include: the data display in task UI、some control data from start UI (A UI module which trigger the work follow process, and will introduce in another topic).  在前面的步骤中，我们介绍了如何实现一个任务UI，我们了解了JSON格式的对象(context)，它是任务UI和工作流模块之间沟通的桥梁。  所以在设计工作流模块之前，我们需要考虑上下文格式，包括:在任务UI中显示的数据，来自开始UI的一些控制数据(一个触发工作跟随过程的UI模块，将在另一个主题中介绍)。 | **Context example:**  {  "application\_no": "C202208050007",  "instance\_id": "a5b25b9a-d744-11ec-bbc8-eeee0a8a0051",  "definition\_id": "zccs.wf\_credit\_limit\_approve",  "definition\_version": "47",  "parent\_instance\_id": "",  "root\_instance\_id": "a5b25b9a-d744-11ec-bbc8-eeee0a8a0051",  "status": "P",  "status\_description": "Processing",  "application\_date": "2022/07/19",  "application\_time": "10:23:38",  "pic": "Z17073219",  "pic\_name": "PUNK WU",  "applicant": "Z17073219",  "applicant\_name": "PUNK WU",  "applicant\_email\_address": "punk\_wu@wistron.com",  "applicant\_login\_id": "Punk\_Wu@wistron.com",  "company": "L130",  "production\_type": "PCP000",  "production\_description": "Digital Appliance BU",  "customer\_code": "0000000007",  "customer\_name": "富森科技(股)公司",  "credit\_limit": "50000",  "old\_credit\_limit": "30000",  "approvals": [  {  "sequence": 1,  "level\_id": "XC",  "level\_name": "REVIEWER",  "department": "ML2810",  "approver\_id": "Z17073219",  "approver\_name": "Punk Wu",  "approver\_email\_address": "punk\_wu@wistron.com",  "approver\_login\_id": "Punk\_Wu@wistron.com",  "approve\_date": "",  "approve\_time": "",  "approve\_status": "P",  "approve\_status\_description": "",  "comment": "",  "origin\_approver\_id": "",  "origin\_approver\_name": "",  "origin\_emailaddress": "",  "origin\_login\_id": "",  "approve\_by": ""  },  {  "sequence": 2,  "level\_id": "07",  "level\_name": "DEPT.",  "department": "ML2810",  "approver\_id": "Z17073219",  "approver\_name": "Punk Wu",  "approver\_email\_address": "punk\_wu@wistron.com",  "approver\_login\_id": "Punk\_Wu@wistron.com",  "approve\_date": "",  "approve\_time": "",  "approve\_status": "P",  "approve\_status\_description": "",  "comment": "",  "origin\_approver\_id": "",  "origin\_approver\_name": "",  "origin\_emailaddress": "",  "origin\_login\_id": "",  "approve\_by": ""  }  ]  } |
| This is all steps for our real case for credit limit approval application process flow.  Let’s introduce what each step we do  以上所有步骤为我们真实案例的信贷额度审批申请流程流程。  让我们来介绍一下我们每一步要做什么 |  |
| In this step we add a script task, it will prepare the email and workflow receiver in new sent step. And also do some preparation for task UI display data.  We can binding the script task with a JavaScript file.  After add script task, we can click “Create File” linkage to add a java script file.  在这个步骤中，我们添加了一个脚本任务，它将在new sent步骤中准备电子邮件和工作流接收器。并且也为任务UI的显示数据做了一些准备。  我们可以将脚本任务与JavaScript文件绑定。  添加脚本任务完成后，可以点击“创建文件”链接添加java脚本文件。 |  |
| The next step is sent email to first approve, in this step we need to config the email receiver, email subject, email content.  下一步是发送邮件先审批，在这一步我们需要配置邮件接收者，邮件主题，邮件内容。 |  |
| In user task, we define the receiver in Workflow Management Launchpad.  Click “Select” button to choose the task UI which we create in previous step.  在用户任务中，我们在工作流管理启动板中定义接收器。  点击“Select”按钮，选择我们在上一步创建的任务UI。 |  |
| In this step, we define a script task to update the approve status, next approval email and workflow receiver, all approver is finish approve or not, and prepare the data for next step - update approve list status service  在这一步中，我们定义了一个脚本任务来更新审批状态、下一个审批邮件和工作流接收方，所有的审批人都完成审批或不完成审批，并为下一步更新审批列表状态服务准备数据 |  |
| In this service task step, we need to key in the destination which maintain in SAP BTP Cockpit, service from, service path( /odata/v4/CreditLimitService/CreditLimitApproval(application\_no='${context.current\_approval.application\_no}',sequence=${context.current\_approval.sequence}) ), HTTP method, request body |  |
| In the exclusive gateway, if user click the reject button, then it will go to reject branch and send the reject mail to applicant.  Else go to adjust all approver is finish approve or not gateway  在独占网关中，如果用户点击拒绝按钮，则会进入拒绝分支机构，将拒绝邮件发送给申请人。  否则去调整所有审批人是否完成审批网关 |  |
| If all approver has approve, then will send mail to applicant. |  |
| If user reject current status or all approver has approved, the service task will update the header approve status |  |
| After all the workflow step has been defined, we can build and deploy the MTA project to BTP.  We can manual trigger the workflow in BTP workflow launchpad with the JSON format.  But normally, the workflow is started by start UI.  在定义了所有的工作流步骤之后，我们可以构建MTA项目并将其部署到BTP。  我们可以用JSON格式在BTP工作流启动板中手动触发工作流。  但通常，工作流是由start UI启动的。 |  |
| We can find credit limit application has send to my inbox. |  |
| We can check workflow instance’s status by click “Monitor Workflows”  我们可以找到信用限额申请已经发送到我的收件箱。    我们可以通过点击“监控工作流”来检查工作流实例的状态 |  |

# STEP 8: Exercise

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| **Explanation** | **Screenshot** |
| Prepare the Json data for this exercise.  Change the approver name, workflow receive id, to your own data in BTP trail environment.  为本练习准备Json数据。  将审批者名称、工作流接收id更改为您自己在BTP跟踪环境中的数据。 | **Context example:**  {  "approvals": [  {  "sequence": 1,  "approver\_name": "Punk Wu",  "workflow\_receiver\_id": "Punk\_Wu@wistron.com",  "approve\_status": "",  "comment": ""  },  {  "sequence": 2,  "approver\_name": "Punk Wu",  "workflow\_receiver\_id": "Punk\_Wu@wistron.com",  "approve\_status": "",  "comment": ""  }  ]  } |
| Create a MAT project, approuter config module, workflow task UI module, workflow module |  |
| Add new script task in workflow  Create a script file and add new code |  |
| Add new user task in workflow  Modify the subject and users  And select the task UI in the same project |  |
| Add two Exclusive Gateway in workflow  Modify sequence flow condition |  |
| Add new script task in workflow  Create a script file and add new code:  //context which key in task UI  var comment = $.context.current\_comment;  //Clear approve comment context to avoid next approver get the previous on approver's comment  $.context.current\_comment = "";  //context which write by task UI  var approved = $.context.approved;  //approval list  var approvals = $.context.approvals;    //Variabels  var current\_workflow\_receiver\_id;  var finished;  var length = approvals.length;  var current\_index;  //Update the status  for (var i = 0; i < length; i++) {  if (approvals[i].approve\_status == "") {  current\_index = i;  //Click approve button  if (approved == true) {  approvals[i].approve\_status = "Approved";  approvals[i].comment = comment;  if (i != length-1) {  current\_workflow\_receiver\_id = approvals[i+1].workflow\_receiver\_id;  finished = false;  }  //All approver has approved  else {  current\_workflow\_receiver\_id = "";  finished = true;  };  }  //Click reject button  else {  approvals[i].approve\_status = "Rejected";  approvals[i].comment = comment;  finished = false;  }  break;  };  }  $.context.approvals = approvals;  $.context.current\_workflow\_receiver\_id = current\_workflow\_receiver\_id;  $.context.finished = finished; |  |
| Modify the XML view of task UI to display the necessary:  <mvc:View controllerName="zvcf.zvcfuiapprove.controller.ui\_approve" xmlns:mvc="sap.ui.core.mvc" displayBlock="true"  xmlns:table="sap.ui.table"  xmlns="sap.m">  <App id="app">  <pages>  <Page id="\_IDGenPage1" showHeader="false" showFooter="false">  <content>  <Input value="{context>/current\_comment}" id="idComment"/>  <table:Table id="idTableAprovals" rows="{context>/approvals}">  <table:columns>  <table:Column id="idColumnSequence" width="10%">  <Label id="idLabelSequence" text="Sequence" />  <table:template>  <Text id="idTextSequence" text="{context>sequence}" wrapping="false"/>  </table:template>  </table:Column>  <table:Column id="idColumnApprover\_name" width="10%">  <Label id="idLabelApprover\_name" text="approver\_name" />  <table:template>  <Text id="idTextApprover\_name" text="{context>approver\_name}" wrapping="false"/>  </table:template>  </table:Column>  <table:Column id="idColumnApprove\_status" width="15%">  <Label id="idLabelApprove\_status" text="Approve Status" />  <table:template>  <Text id="idTextApprove\_status" text="{context>approve\_status}" wrapping="false"/>  </table:template>  </table:Column>  <table:Column id="idColumnComment" width="30%">  <Label id="idLabelComment" text="Comment" />  <table:template>  <Text id="idTextComment" text="{context>comment}" wrapping="false"/>  </table:template>  </table:Column>  </table:columns>  </table:Table>  </content>  </Page>  </pages>  </App>  </mvc:View> |  |
| Open the workflow management launchpad in sub account |  |
| Start workflow by click “Monitor Workflows” |  |
| Copy the Jason data which prepare by the step one and click “启动新实例并关闭”按钮：  {  "approvals": [  {  "sequence": 1,  "approver\_name": "Punk Wu",  "workflow\_receiver\_id": "Punk\_Wu@wistron.com",  "approve\_status": "",  "comment": ""  },  {  "sequence": 2,  "approver\_name": "Punk Wu",  "workflow\_receiver\_id": "Punk\_Wu@wistron.com",  "approve\_status": "",  "comment": ""  }  ]  } |  |
| The workflow has sent to my inbox |  |
| After click input comment and click “Approve” button |  |
| The workflow will send to my inbox and then you can approve it again |  |
| Then we can see that this workflow task has disappear in your inbox |  |
| Display the finished task by change the filter status  Then we can seed the finished task in workflow monitor |  |
| Start a new instance again |  |
| Reject it in your inbox |  |
| Monito workflow instance |  |
| The task finished and the context has updated |  |