



Week 2: Development Phase I

## Unit 4: Designer – Advanced Workflow Creation

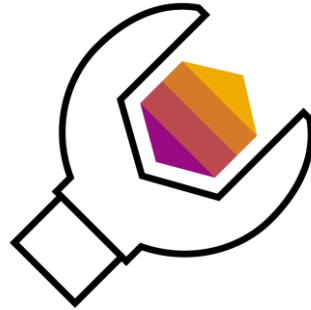
## Development Phases



## What is workflow?

### Workflow Design Phase:

development of the automation scripts



Advanced Workflow Design



## Workflow Designer: Advanced Design

### Asynchronous loop pattern

- Start Loop | Exit Loop | Loop next

### Switch pattern

- Wait multiple | Switch output

### Reuse step pattern

- Reuse step

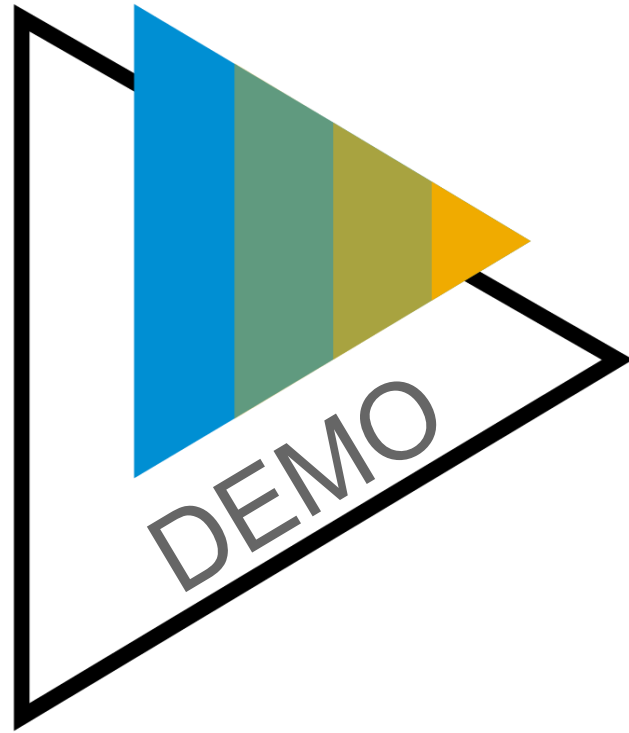
### Out of scenario pattern

- Out of scenario | Additional pattern



Designer – Advanced Workflow Creation

## WorkFlow Design - Advance

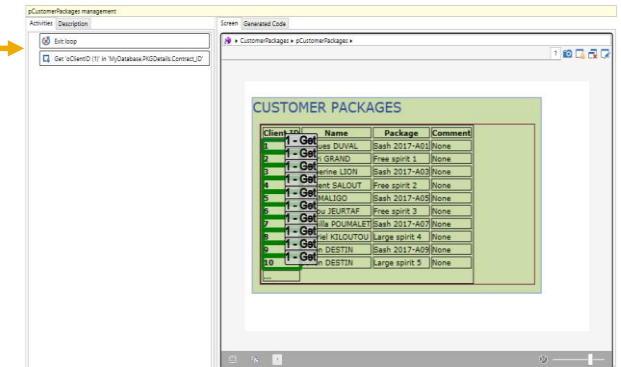
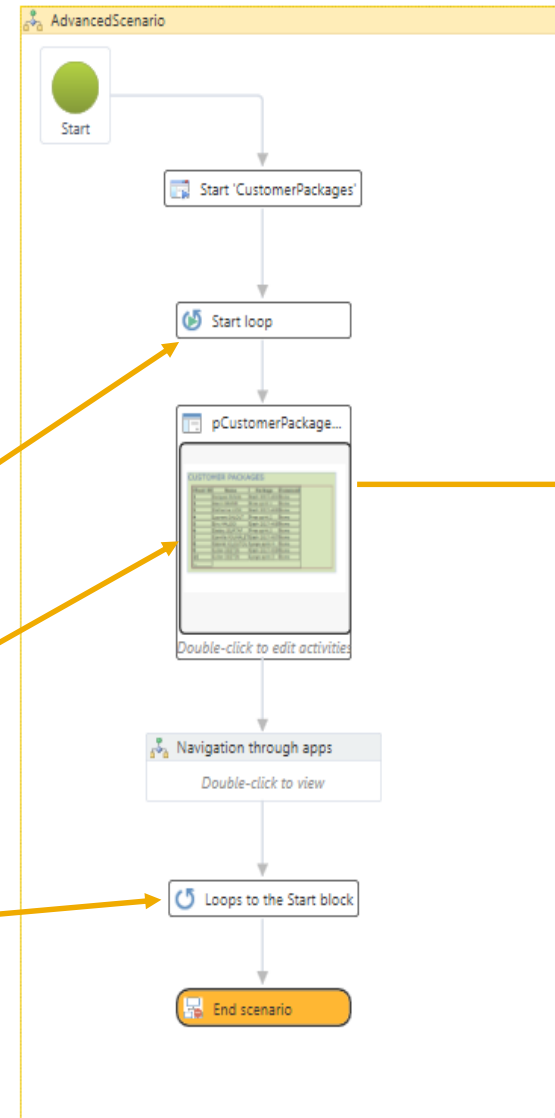
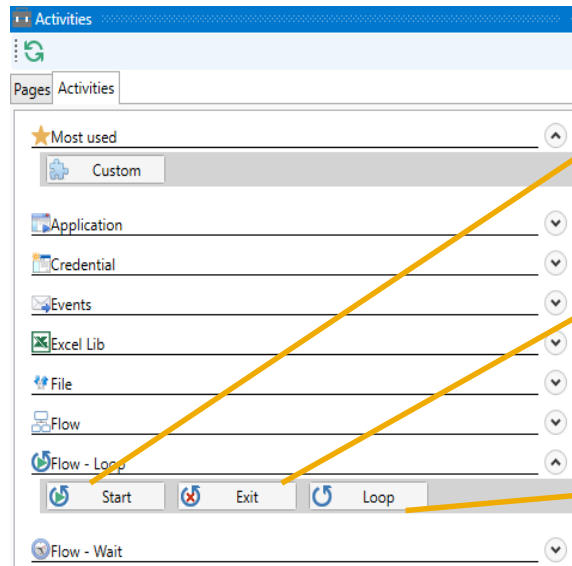


# Designer – Advanced Workflow Creation

## Pattern: asynchronous loop

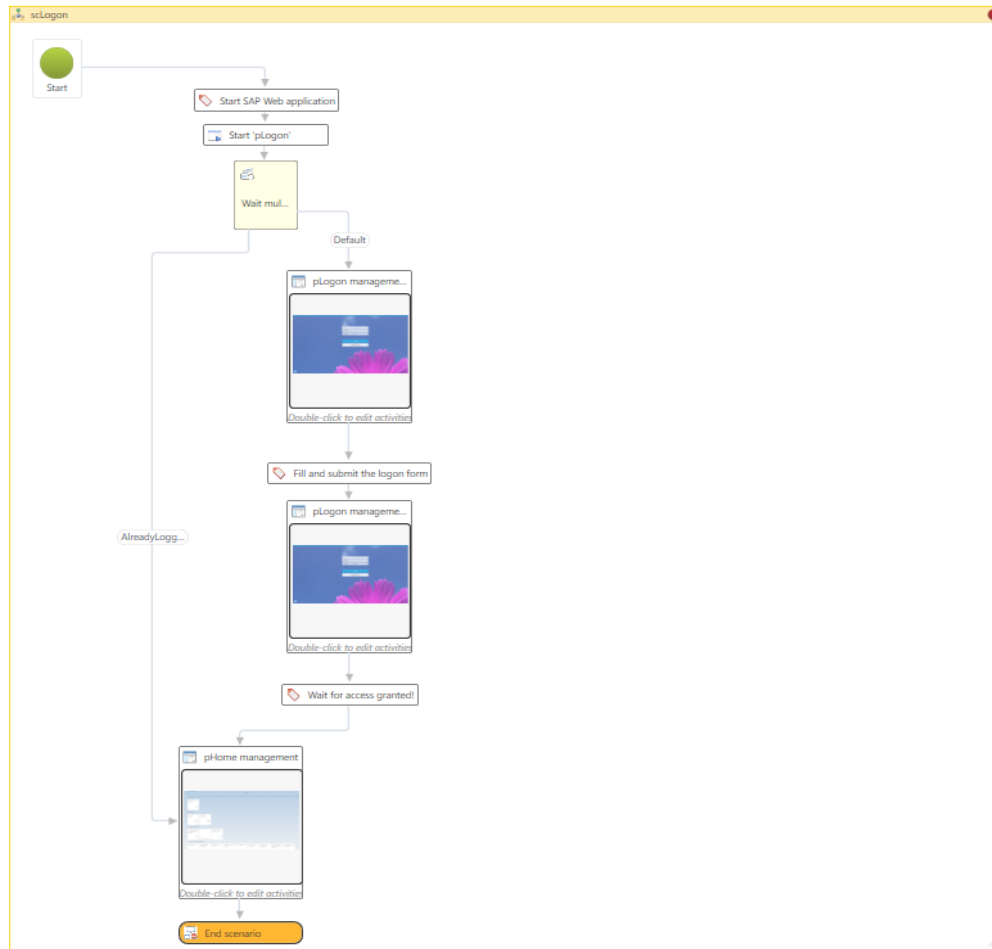
### Asynchronous Loop:

- **Start loop activity:** the starting of the loop
- **Loop next activity:** the limit of the loop
- **Exit loop activity:** the condition that allows to exit the loop



# Designer – Advanced Workflow Creation

## Pattern: Wait multiple

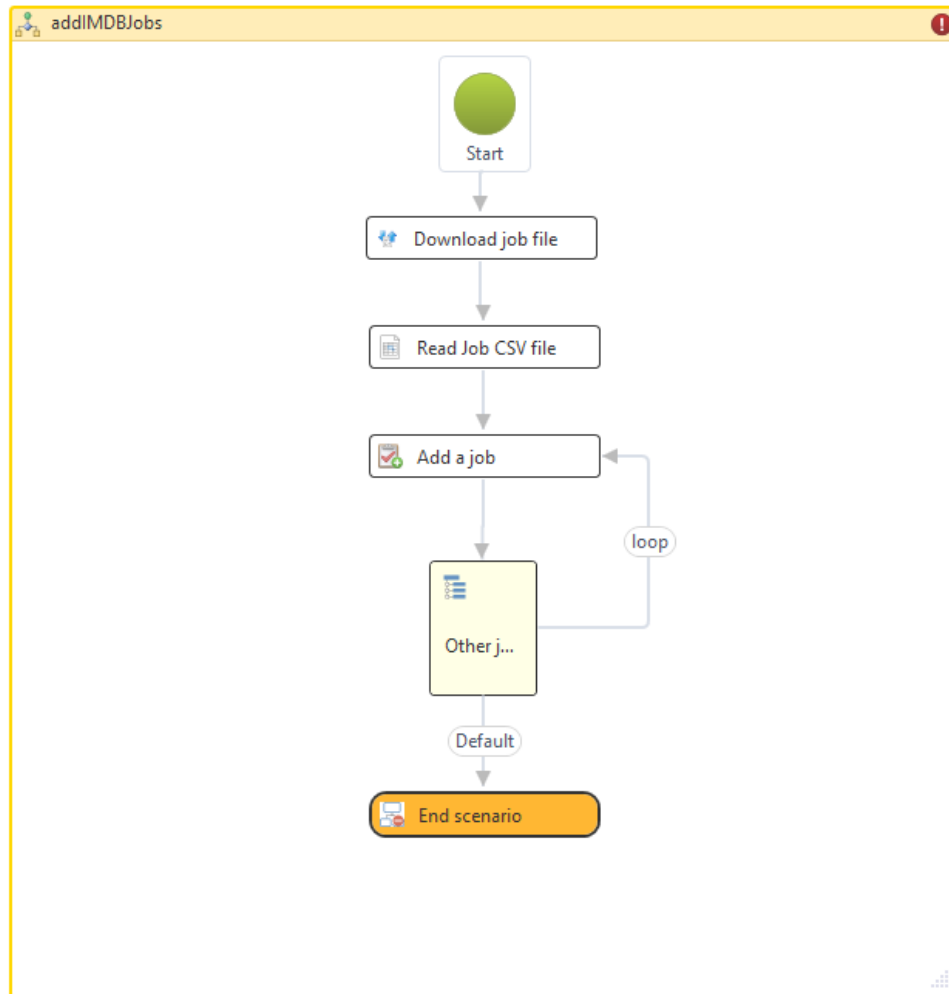


```
27 // -----
28 SAPS4HANA.scenario({ scLogon: function(ev, sc) {
29     var rootData_SAPUser = sc.data;
30
31     sc.setMode(e.scenario.mode.clearIfRunning);
32     sc.setScenarioTimeout(600000); // Default timeout for global scenario.
33     sc.onError(function(sc, st, ex) { sc.endScenario(); }); // Default error handler.
34     sc.onTimeout(30000, function(sc, st) { sc.endScenario(); }); // Default timeout handler for each step.
35     sc.step(SAPS4HANA.steps.stLaunchLogon, SAPS4HANA.steps.stFillLogonForm, 'Default');
36     sc.step(SAPS4HANA.steps.stFillLogonForm, SAPS4HANA.steps.stWaitAccessGranted);
37     sc.step(SAPS4HANA.steps.stWaitAccessGranted, null);
38     ctx.dataManagers.rootData_SAPUser.setID('dbef9289-6867-472b-a0a3-9324356ae2ff') ;
39
40     // -----
41     // Step: stLaunchLogon
42     // -----
43     SAPS4HANA.step({ stLaunchLogon: function(ev, sc, st) {
44         var rootData_SAPUser = sc.data;
45         ctx.workflow('scLogon', 'a45b968e-11b3-4468-8012-08729e78862b') ;
46         // Start SAP Web application
47         ctx.log("Logon page launched.", e.logIconType.Info);
48         // Start 'pLogon'
49         SAPS4HANA.pLogon.start();
50         // Wait until the Page loads
51         SAPS4HANA.pHome.wait(function(ev) {
52             // End scenario
53             sc.endScenario();
54             sc.endStep('AlreadyLogged'); // end Scenario
55             return;
56         });
57         // Wait until the Page loads
58         SAPS4HANA.pLogon.wait(function(ev) {
59             sc.endStep('Default'); // stFillLogonForm
60             return;
61         });
62     });
63
64     // -----
65     // Step: stFillLogonForm
66     // -----
67     SAPS4HANA.step({ stFillLogonForm: function(ev, sc, st) {
68         var rootData_SAPUser = sc.data;
69         ctx.workflow('scLogon', 'a45b968e-11b3-4468-8012-08729e78862b') ;
70     });
71 }
```

**Wait multiple: unpredictable branch in the workflow**

## Designer – Advanced Workflow Creation

### Pattern: Switch output



```
addIMDBJobs x AutomateAmazon
26 // Download job file
27 ctx.fso.file.downloadOrCopy(ctx.options.path.server + "/IMDBJobs.csv", ctx.o
28   sc.endStep(); // stReadJobs
29   return;
30   });
31   });
32   // -----
33   // Step: stReadJobs
34   // -----
35   IMDB.step({ stReadJobs: function(ev, sc, st) {
36     var rootData = sc.data;
37     ctx.workflow('addIMDBJobs', '5d2d433e-bfc0-4526-be4a-13bd44fce34b');
38     // Read Job CSV file
39     var file = ctx.options.path.log + "\\IMDBJobs.csv";
40     var txt = ctx.fso.file.read(file, e.file.encoding.UTF8);
41     var obj = ctx.json.CSV2Object(txt, '\t');
42     sc.localData.jobs = ctx.array(obj);
43     sc.endStep();
44     return;
45   });
46   // -----
47   // Step: stAddJob
48   // -----
49   IMDB.step({ stAddJob: function(ev, sc, st) {
50     var rootData = sc.data;
51     ctx.workflow('addIMDBJobs', '45eb6acc-6e68-4bdd-9975-499a0e6b839f');
52     // Adds a job in job manager.
53     if (!sc.localData.jobs.atEnd()) {
54       ctx.galaxyAPI.addJob({
55         scenario: IMDB.scenarios.searchIMDB,
56         priority: e.priority.low,
57         data: sc.localData.jobs.item()
58       }, function(code, label, job) {
59         sc.localData.jobs.moveToNext();
60         sc.endStep(e.step.exit.loop); // next one
61       });
62     } else {
63       sc.endStep(); // finished
64     }
65   });
66   });
67   });
```

**Switch output: predictable branch in the workflow**



## Designer – Advanced Workflow Creation

### Pattern: Reuse step

Drag and drop a step from the first workflow (**scLauncher**) to the second workflow (**scSimpleScenario**)

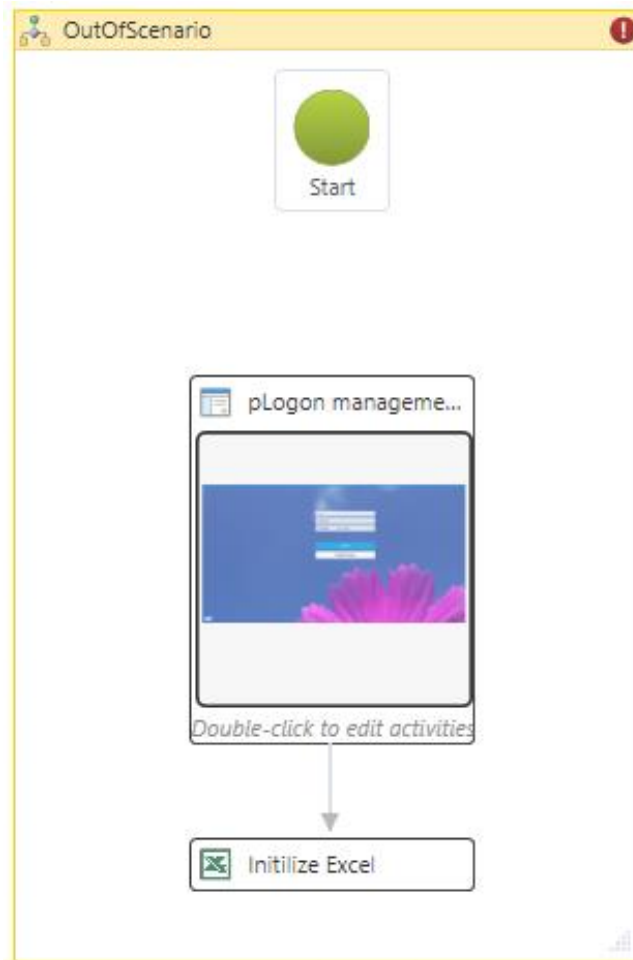
The screenshot displays the SAP Workflow Designer interface. On the left, the 'Workflows' tree shows a hierarchy: GLOBAL > POPUPS > SampleCRM > CRMAutomation > Amazon > LoopExample > SwitchPageExample > SwitchOutputExample > Scenario SwitchOutput > pHome management. The 'pHome management' workflow is selected. The center pane shows a workflow diagram for 'ReuseSteps' with a 'Start' node and a 'Reuse pHomemanagement' step. The right pane shows the 'Properties' window for the 'Reuse pHomemanagement' step, with the following values:

1 - General	
Display Name	Reuse pHomemanagement
Description	Reuse step or steps.
2 - Activity	
Step to reuse	pHome management
3 - Code generation	
Is Step	<input checked="" type="checkbox"/>
Step name	

## Designer – Advanced Workflow Creation

### Pattern: OutOfScenario

No connection to the start block



```
1 // *****  
2 // ***** Out of Scenario treatments *****  
3 // *****  
4  
5  
6 //-----  
7 // pLogon management  
8 //-----  
9 ctx.workflow('OutOfScenario', '8fd76e99-f11e-43d0-9412-105159527179') ;  
10 // Wait until the Page loads  
11 SAPS4HANA.pLogon.wait(function(ev) {  
12     SAPS4HANA.pLogon.oSapAlias.set(rootData.SAPUser.login);  
13     SAPS4HANA.pLogon.oSapPassword.set(rootData.SAPUser.password);  
14     // Select English language  
15     SAPS4HANA.pLogon.btnLogOn.click();  
16     // Initilize Excel  
17     ctx.options.excel.newXlsInstance = false;  
18     ctx.options.excel.visible = true;  
19     ctx.options.excel.displayAlerts = false;  
20     ctx.excel.initialize();  
21     return;  
22 });  
23
```

# Thank you.

**Contact information:**

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