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Agenda

• Introduction
• SAP FIORI Extensibility concepts
• SAP FIORI Extensibility prior to SAP River RDE
• SAP FIORI Extensibility with SAP River RDE
• Example
• Useful resources
Introduction
We bring to you all you need to successfully develop and manage SAP UI5 Applications with the SAP River Rapid Development Environment.

On SCN Pages, you find links to White Papers, How-To Guides, Blogs and other resources: http://scn.sap.com/docs/DOC-55465
SAP River Rapid Development Environment
Enablement 2/2

This is the second webinar on Sap River RDE. Others will come. In order to be updated, please check the following resource:
http://scn.sap.com/docs/DOC-55468/

In addition to assets published on SCN, we - the Customer Experience Group (CEG) - will yet again embark in a series of free webinars, featuring product experts from across SAP.

Recordings of all webinars will be made available on the OnTopic pages!

**Dates & Registrations**
Dates will be added as available.
All webinars start at 7am PST.

*Follow* this page and subscribe to email notifications: you’ll be up-to-date for new registration links, available recordings and more!

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*more to come after summer break!*
FIORI Extensibility concepts
SAP Fiori Extensibility by Content Layer

SAP Fiori applications can be extended by enhancing one or multiple content layers, depending on the extension requirements and the application type.

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<thead>
<tr>
<th>Content Layer</th>
<th>When an Extension is Required</th>
<th>Relevance</th>
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</thead>
<tbody>
<tr>
<td>UI</td>
<td>The back-end logic and content required for the app extension exists in the Gateway layer, but is not exposed in the app's UI.</td>
<td>Transactional Analytical</td>
</tr>
<tr>
<td>Gateway (OData)</td>
<td>The back-end logic and content required for the app extension exists in the Business Suite layer, but is not exposed in the app's Gateway service.</td>
<td>Transactional Analytical</td>
</tr>
<tr>
<td>HANA</td>
<td>The back-end content required for the app extension exists in the HANA models, but is not exposed in the app's OData service.</td>
<td>Analytical</td>
</tr>
<tr>
<td>Business Suite</td>
<td>The back-end logic and content required for the application enhancement does not exist in the Business Suite.</td>
<td>Transactional</td>
</tr>
<tr>
<td>Search Model</td>
<td>The back-end logic is not exposed in the application's Gateway service.</td>
<td>Factsheets</td>
</tr>
</tbody>
</table>
Fiori Extensibility Example

SAP Delivered Standard Application

Custom Application (extending standard)

New Field

Hide Control

New Function
What are the SAPUI5 extensibility concepts?

- SAPUI5 supports the adaptation of standard applications to specific requirements. The information about the adapted objects is stored in the component configuration. The standard application itself is not changed. The customized application becomes the start-up project and launches the standard application with the additional customizing configuration.

- SAPUI5 supports the following adaptations of the standard:
  - View extensions by using extension points to insert custom content (views or fragments)
  - Replacing standard views with customized views
  - Modifying views by changing specific properties
  - Controller extensions by adding code or overriding existing code
  - Customizing i18N resource texts

* not in Beta Release, planned for future release
SAP Fiori extensibility concept
UI Extensibility

**Parent Application Project**

**Component.js**

**Extension Project**

**Component.js**

- declare
- load
- extend

**modifications free**

**Extensions**
SAP Fiori extensibility concept
Component.js

```javascript
jQuery.sap.declare("<app name>.Component");

sap.ui.component.load({
  name: "cus.sd.salesorder.monitor",
  url: "sap/bc/ui5_ui5/sap/SD_SO_MON"
});

<app name>.Component.extend("<app name>", {
  metadata: {
    version: "1.0",
    config: {
    },
    customizing: {
    }
  }
});
```
Fiori UI Extension possibilities in the MVC app

Models
(OData)

Controllers
(JavaScript)

Views
(XML Views)

data binding

implementation

interface

- OData Extension in NetWeaver Gateway

• View Extension
  Custom view content in a predefined extension point of the standard view

• View Modification
  Modify certain properties, i.e. hide a control in the standard view
  - View Replacement
    Custom view replacing a standard view

• Controller Extension
  Runtime merging of standard and custom controller
  - Add controller customer functions
  - Override standard controller functions
• Extension configuration exists within Component.js of the extended application by utilizing the following properties…

• **sap.ui.viewExtensions** is used for providing custom view content in a specified extension point in the standard delivered application.

• **sap.ui.viewModifications** is used for overriding certain properties of controls in the standard delivered application.

• **sap.ui.viewReplacements** is used for replacing a view in a delivered standard application with a custom view.

• **sap.ui.controllerExtensions** is used for replacing a controller in a delivered standard application with a custom controller.
Extensibility prior to SAP River RDE
UI Extensibility prior to SAP River RDE

These are the steps that you would have performed in order to extend a SAP FIORI App prior to SAP River RDE:

• Install ABAP Development Tools for SAP Netweaver.
• Refer to https://tools.hana.ondemand.com/#abap for setting up ABAP Team Provider
• Install the SAPUI5 Application Development Tool for Eclipse.
• Refer to SAP Note 1747308 for the Installation of UI development toolkit for HTML5 (SAPUI5)
• Ensure that all SAPUI5 plugins are version 1.16.2 or higher
• Version numbers appear on the Installed Software tab. See Help About Eclipse Installation Details.
• Ensure the local Tomcat webserver is configured to work with SAPUI5 Eclipse
<table>
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<th>Task</th>
<th>Definition</th>
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<td>1</td>
<td>Download the SAP-delivered standard application from the ABAP system</td>
</tr>
<tr>
<td>2</td>
<td>Test the SAP-delivered standard application in the local Launchpad sandbox environment</td>
</tr>
<tr>
<td>3</td>
<td>Create a custom application that extends an SAP-delivered standard application</td>
</tr>
<tr>
<td>4</td>
<td>Check the SAP-enabled extension options</td>
</tr>
<tr>
<td>5</td>
<td>Define the extensions metadata</td>
</tr>
<tr>
<td>6</td>
<td>Test the custom application on the local Launchpad sandbox environment</td>
</tr>
<tr>
<td>7</td>
<td>Upload the custom application to the ABAP system</td>
</tr>
<tr>
<td>8</td>
<td>Smoke-test the custom application on the ABAP system</td>
</tr>
<tr>
<td>9</td>
<td>Configure the custom application on Fiori Launchpad</td>
</tr>
<tr>
<td>10</td>
<td>Test the custom application on Fiori Launchpad</td>
</tr>
</tbody>
</table>
Extensibility with SAP River RDE
New extensibility project

When creating a new extension project, you need to identify the parent SAPUI5 or standard Fiori application being extended.

Two options. Either you can:
1. import the parent app to the workspace
2. or, access the parent app remotely

The tool creates the extension project in your workspace and generates the files such as:
- Component.js
- index.html
- Etc.
Extensibility by means of a template

The template for extending an SAPUI5 or SAP Fiori app guides the user through a step-by-step process. All extension options of the SAPUI5 / SAP Fiori extensibility concept are provided in the template:

- Create extension project
- Extend controller
- Extend/replace view
- Replace view, replace service
- Add new views to existing project

To add a new extension, select the extension project and choose one of the available templates.

File > New > Extension
Extensibility via template: Replace view example

This example illustrates the sequence of screens
Visual extensibility

- The Application Outline pane is displayed next to the app.
- While running the app, you can select an object either in the Application Outline pane or directly in the app on the left side.
- Appropriate extension options can be chosen.

Tools > Extensibility Pane
Example
Example environment 1/2

https://account.hanatrial.ondemand.com/
Example environment 2/2

- The content of this example can be found at the following SCN link: https://scn.sap.com/docs/DOC-55602

How to Extend a SAP Fiori App (HCM_TS_APV) from Remote Using the Extensibility Pane

created by SIMMACO FERRIERO on May 25, 2014 4:12 PM, last modified by SIMMACO FERRIERO on Jun 15, 2014 2:21 PM

In this How-To Guide we will start off by extending an existing SAP FIORI app (HCM_TS_APV) directly from the gateway server. We will extend an existing view; we will add a new button to it and some logic to the new button. Finally we will see how to hide an existing control in the extended app. For some of these extensions we will use the Extensibility Pane feature.

View this SAP How-to Guide
Useful resources
Useful links

SAP River RDE
- Trial version (Beta Release): https://account.hanatrial.ondemand.com/cockpit
- Official documentation: https://help.hana.ondemand.com/
  under Platform Solutions choose SAP River Rapid Development Environment
- Within SAP River RDE: Choose Help > Documentation

Additional related information to SAP River RDE
  Go to SAP HANA Cloud Platform > Getting Started

SAPUI5
- UI Development Toolkit for HTML5 - Demo Kit (interactive doc on SAPUI5 / OpenUI5):
  https://sapui5.hana.ondemand.com/sdk/
  https://openui5.hana.ondemand.com/
- OpenUI5: http://sap.github.io/openui5/
- UI Development with SAPUI5 documentation:

SAP HANA Marketplace

SAP HANA Academy
- YouTube Channel: http://www.youtube.com/user/saphanaacademy