SAP Fiori - Development check

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# Purpose of this document

This document provides the procedure to check the respect of SAP Fiori / UI5 development norms.

## List of check points

Reuse the document **SAP Fiori\_Check TEMPLATE** to fulfill the check list for a dedicated project.

## Architecture of the SAPUI5 applicative framework

## 

# **Control STEPS**

## Back-end controls

Back-end controls are all done through SAPgui transactions.

### Service Naming : SAPUI-ECC-1

*There can be more than one service used by an application, control must be done on all services*

#### Service ZTRA014\_ROUTESCHEDULE\_SRV

|  |  |
| --- | --- |
| **Rule to be controlled :**  Position 1 : Z<ZGAP Code>\_<Short description>  Words separated by underlined characters as explicit as possible  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule  **Eg** : ZTRA014\_ROUTESCHEDULE\_SRV  **Result** : OK / KO  **Comments** : |  |

### Entity Types Naming: SAPUI-ECC-2

*Many entities are defined in an Odata Service, all of them need to be controlled*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Start entity name with a lower case and use camel case for concatenated words (ex: salesOrder) Use explicit and functional terms, not "SAP dictionnary" terms (ex: VBAK)  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of all entities  **Eg** : routeItinerary  **Result** : OK / KO  **Comments** : |  |

### Entity properties: SAPUI-ECC-3

*Many properties are defined in an Odata Service for each entity type, all of them need to be controlled for each entity type*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Start entity property name with an upper case and use lower case for concatenated words Use explicit name instead of reuse abap technical name (ex: CompanyCode for BUKRS)  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of all entities properties  **Eg** : Shiptoname  **Result** : OK / KO  **Comments** : |  |

### EntitySets: SAPUI-ECC-4

*Many entitySets are defined in an Odata Service, all of them need to be controlled*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Concatenate the associated entity name and the word "Set" and use camel case for the concatenated words (ex: routeItinerarySet)  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of all EntitySets  **Eg** : routeItinerarySet  **Result** : OK / KO  **Comments** : |  |

### Association: SAPUI-ECC-5

*Many Associations can be defined in an Odata Service, all of them need to be controlled*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Concatenate in this order: the principal entity name to the dependent entity name and use camel case for concatenated words (ex: routeScheduleToRouteItinerary / principal entity = routeSchedule, dependent entity = routeItinerary)  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of all associations  **Eg** : routeScheduleToRouteItinerarySet  **Result** : OK / KO  **Comments** : |  |

### Association Sets: SAPUI-ECC-6

*Many Associations Sets can be defined in an Odata Service, all of them need to be controlled.*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Use the same name as the associated Association with Set at end of name  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of all Association Sets  **Eg** : routeScheduleToRouteItinerary  **Result** : OK / KO  **Comments** : |  |

### Function Import: SAPUI-ECC-7

*Many function imports can be defined in an Odata Service, all of them need to be controlled. However, function imports are not mandatory and in some cases, none are used.*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Start the function import name with a lower case and use camel case for concatenated words  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of all function Imports  **Eg** : deletePeriodcRS  **Result** : OK / KO  **Comments** : |  |

### Complex Types: SAPUI-ECC-8

*Many complex types can be defined in an Odata Service, all of them need to be controlled.*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Start complex type name with a lower case and use camel case for concatenated words  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of all complex types  **Eg** : ClassifCharParam  **Result** : OK / KO  **Comments** : |  |

### Navigation Properties: SAPUI-ECC-9

*Many Navigation properties can be defined in an Odata Service, all of them need to be controlled.*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Use the same name as the entity to which it is navigating to. Start with lower case and use camel case for concatenated words.  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of all navigation Properties  **Eg** :  **Result** : OK / KO  **Comments** : |  |

### Model Provider Class Name: SAPUI-ECC-10

*Model provider class is unique in an Odata Service, the naming of the class must be kept as generated,by SAP*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Auto generated by SAP  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of model provider class  **Eg** : ZTRA014\_ROUTESCHEDULE\_MPC  **Result** : OK / KO  **Comments** : |  |

### Data Provider Class Name: SAPUI-ECC-11

*Data provider class is unique in an Odata Service, the naming of the class must be kept as generated,by SAP*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Auto generated by SAP  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of data provider class  **Eg** : ZTRA014\_ROUTESCHEDULE\_DPC  **Result** : OK / KO  **Comments** : |  |

### Technical Model Name: SAPUI-ECC-12

*Technical Model class is unique in an Odata Service, the naming of the class must be kept as generated,by SAP*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Auto generated by SAP  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of Technical Model Name  **Eg** :ZTRA014\_ROUTESCHEDULE\_MDL  **Result** : OK / KO  **Comments** : |  |

### Technical Service Name: SAPUI-ECC-13

*Technical Model class is unique in an Odata Service, the naming of the class must be kept as generated,by SAP*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Auto generated by SAP  **Control Process :**  Access to transaction SEGW on back-end system  Identify service  Check naming rule of Technical Service Name  **Eg** : ZTRA014\_ROUTESCHEDULE\_SRV  **Result** : OK / KO  **Comments** : |  |

## Gateway controls

Gateway controls are done through SAPGui and Launchpad designer

The Launchpad designer is accessible from the following URL for DU2 system :

https://sapdu2.subsidia.org/sap/bc/ui5\_ui5/sap/arsrvc\_upb\_admn/main.html

### Technical Model Name : SAPUI-Gateway-1

*The Technical name is unique and has to be checked*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Auto generated by SAP  **Control Process :**  Access to transaction /iwfnd/maint\_service on gateway system  Identify service  Check naming rule of model  **Eg** : ZTRA014\_ROUTESCHEDULE\_MDL  **Result** : OK / KO  **Comments** : |  |

### Technical Service Name: SAPUI-Gateway-2

*The Technical Service name is unique and has to be checked*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Keep the autogenerated name given by SAP.  **Control Process :**  Access to transaction /iwfnd/maint\_service on gateway system  Identify service  Check naming rule of model  **Eg** : ZTRA014\_ROUTESCHEDULE\_SRV  **Result** : OK / KO  **Comments** : |  |

### BSP Application: SAPUI-Gateway-3

*The BSP applications name has to be checked*

|  |  |
| --- | --- |
| **Rule to be controlled :**  15 characters limited.  Z<ZGAP Code>\_<Short name>  **Control Process :**  Access to transaction SE80 on gateway system  Identify BSP  Check naming rule of BSP Application  **Eg** : ZTRA014\_TST  **Result** : OK / KO  **Comments** : |  |

### Launchpad Role: SAPUI-Gateway-4

*The Launchpad role name is unique and has to be checked*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Z<ZGAP Code><Short name>  **Control Process :**  Access to transaction LPD\_CUST  Identify role  Check Naming  **Eg** : ZTRA014TST  **Result** : OK / KO  **Comments** : |  |

### Application Alias: SAPUI-Gateway-5

*The Application Alias must be unique and is used for the Launchpad Configuration*

|  |  |
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| **Rule to be controlled :**  Start with an upper case and use camel case for concatenated words.  **Control Process :**  Access to transaction LPD\_CUST on gateway system  Identify role  Check naming of alias  **Eg** : Manage  **Result** : OK / KO  **Comments** : |  |

### Application Component: SAPUI-Gateway-6

|  |  |
| --- | --- |
| **Rule to be controlled :**  decath.<Short name>  **Control Process :**  Access to transaction LPD\_CUST on gateway system  Identify role  Check naming rule of model  **Eg** : mdm.sd.customer.create  **Result** : OK / KO  **Comments** : |  |

### Launchpad Catalog: SAPUI-Gateway-7

*The Launchpad catalog is used for accessing the application.*

|  |  |
| --- | --- |
| **Rule to be controlled :**  First letter should be Z  **Control Process :**  Access to Launchpad designer on gateway system  Identify Catalog  Check naming rule of catalog  **Eg** : ZSAP\_DEV  **Result** : OK / KO  **Comments** : |  |

### Launchpad Catalog Group: SAPUI-Gateway-8

*The Launchpad Catalog Group is used to for Launchpad access configuration to the application and roles configuration*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Group should begin with ZFIO\_  **Control Process :**  Acces to Launchpad designer on gateway system  Identify Catalog Group  Check naming rule of catalog group  **Eg** : ZFIO\_GRP\_LOG\_LOGISTICS  **Result** : OK / KO  **Comments** : |  |

## SAPUI Project structure

### View Locations : SAPUI-Project-1

*The organisation of SAPUI project needs to follow best practices*

|  |  |
| --- | --- |
| **Rule to be controlled :**  View files should be placed into a separated folder  **Control Process :**  Access to WebIDE  Open project  Check content of view directory  View files are named \*.view.\*  Each View file must have it’s associated controller file (in folder controller)  **Result** : OK / KO  **Comments** : |  |

### View Types : SAPUI-Project-2

*View files must not have mixed types*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Do not mix view types (xml,js,html,json)  Always use XML views  **Control Process :**  Access to WebIDE  Open project  Check content of view directory for uniqueness of view type files.  **Eg** : all view files are name : \*.view.xml  **Result** : OK / KO  **Comments** : |  |

### XML Fragments : SAPUI-Project-3

*XML fragments are reusable items of a SAPUI project*

|  |  |
| --- | --- |
| **Rule to be controlled :**  use xml fragments as much as possible to reuse items  **Control Process :**  Access to WebIDE  Open project  Check for directory fragment and check content of directory  **Result** : OK / KO  **Comments** : |  |

### Internationalization Files : SAPUI-Project-4

*Internationalization files must always be placed at the same place in a SAPUI project*

|  |  |
| --- | --- |
| **Rule to be controlled :**  internationalization files should be placed into separate i18n folder  **Control Process :**  Access to WebIDE  Open project  Check for directory i18n and check content of directory, there should only be \*.properties files  **Result** : OK / KO  **Comments** : |  |

### Media Files : SAPUI-Project-5

*Media files must always be placed at the same place in a SAPUI project*

|  |  |
| --- | --- |
| **Rule to be controlled :**  media files should be placed into separate folder img  **Control Process :**  Access to WebIDE  Open project  Check for directory img and check content of directory  **Result** : OK / KO  **Comments** : |  |

## Javascript issues

All javascript controls can be achieved using two different interfaces : Eclipse or WebIDE.

Each control has been done using both interfaces, to evaluate the time gain of using one or the other

### Variables Naming : SAPUI-Javascript-1

*Variable naming is the base of development norms*

|  |  |
| --- | --- |
| **Rule to be controlled :**  do not use '\_' as a start letter. First letter should be in lower case. Use camel case  **Control Process :**  Access to WebIDE  Open project  In WebIDE  Search files for ESLint no-underscore-dangle error  **Result** : OK / KO  **Comments** : |  |

### Function Naming : SAPUI-Javascript-2

*To differenciate constructor and “normal” methods / functions, the naming rule is different*

|  |  |
| --- | --- |
| **Rule to be controlled :**  A method/function should always start with a small letter. Use camel case for concatenated words.  Underscore should be use for private function/method. Although setting '\_' do not truly set the method/function to privacy, it helps the visual recognition.  **Control Process :**  Access to WebIDE  Open project  Eclipse and IDE control  Search project for string “function(“. Check rule for each occurrence.  **Result** : OK / KO  **Comments** : |  |

### Call-Back Hell : SAPUI-Javascript-3

*Call-back Hell is leads to some really confusing and difficult-to-read code. Furthermore it can have impact on performance and debugging issues.*

|  |  |
| --- | --- |
| **Rule to be controlled :**  do not generate a callback Hell. Do not imbricate function calls, prefer an iterative mode.  Level accepted is 3 levels of nesting  **Control Process :**  Access to WebIDE  Open project  In WebIDE : For each \*.js file, check if ES-Lint rule Max-nested-callbacks has no occurrences  **Result** : OK / KO  **Comments** :  *On the example : function onBack is nested in getHeaderFooterOptions* |  |

### Use Strict : SAPUI-Javascript-4

*The Use Strict directive is a literal expression that indicates that the code should be executed in “strict mode”. You cannot for example use undeclared variables.*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Use Strict must be specified in all scripts  **Control Process :**  Access to WebIDE  Open project  Search for “use strict” string and check that all Js files comply  **Result** : OK / KO  **Comments** :  *This point is not correctly taken in account by sap before 1.27.0 version of framework*  *Normaly string should be present in all function definitions* |  |

### Variable use : SAPUI-Javascript-5

|  |  |
| --- | --- |
| **Rule to be controlled :**  all variables should be declared before used  The var statement should be the first statement in the function body.  **Control Process :**  Access to WebIDE  Open project  WebIDE control : check for occurrences of ESlint no-unused-vars / no-use-before-define  **Result** : OK / KO  **Comments** : |  |

### Constants values : SAPUI-Javascript-6

*Constants can be used in javascript coding but the constraints that are induced by there use can be blocking. IE does not interpret the const instruction correctly. If possible, use var rather than constants.*

|  |  |
| --- | --- |
| **Rule to be controlled :**  constants variables should be in all caps separated by '\_'  **Control Process :**  Access to WebIDE  Open project  Search for “@const” string and check that all occurrences define a variable who’s naming is correct  **Eg** : const ALPHA\_STRING = ...  **Result** : OK / KO  **Comments** : |  |

### Constants variables : SAPUI-Javascript-7

*Constants can be used in javascript coding but the constraints that are induced by there use can be blocking. IE does not interpret the const instruction correctly. If possible, use var rather than constants.*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Use @const to indicate a constant (non-overwritable) pointer (a variable or property). !! Do not use 'const' key word as it is not supported by IE  **Control Process :**  Access to WebIDE  Open project  Search for “const” string. If some are found, other than @const, do constant values check again with “const” string.  **Result** : OK / KO  **Comments** : |  |

### Function definitions : SAPUI-Javascript-8

|  |  |
| --- | --- |
| **Rule to be controlled :**  There should be no space between the name of a function and the '(' of its parameter list..  **Control Process :**  Access to WebIDE  Open project  In WebIDE : search for ESLint no-spaced-func error  **Result** : OK / KO  **Comments** : |  |

## Css issues

### Overriding style : SAPUI-CSS-1

|  |  |
| --- | --- |
| **Rule to be controlled :**  Do not override control class styling directly  **Control Process :**  Access to WebIDE  Open project  Review all xml and js files of project and check for css styling. Review link to see all possible checks : http://www.w3schools.com/cssref/  **Result** : OK / KO  **Comments** :  *Don't : .sapMInputBaseError {*  *font-weight: bold;}*  *Do :*  *Add a custom CSS class to the control in those situations where you want additional styling:*  *oButton.addStyleClass("poaAppError");*  *Then provide the style for this class:*  *.poaAppError {*  *font-weight: bold;}* |  |

### Dom styling : SAPUI-CSS-2

|  |  |
| --- | --- |
| **Rule to be controlled :**  Don't style DOM elements names directly, except on margins.  **Control Process :**  Access to WebIDE  Open project  Same control as earlier  **Result** : OK / KO  **Comments** :  *Don't : div { width: 120px;}*  *Do : .myStyleClass { width: 120px;}* |  |

### CSS selectors : SAPUI-CSS-3

|  |  |
| --- | --- |
| **Rule to be controlled :**  Don't use generated IDs in CSS selectors  **Control Process :**  Access to WebIDE  Open project  Search for string “style” and verify they are used in css files or through addStyle instruction  **Result** : OK / KO  **Comments** : |  |

### Hardcoded style : SAPUI-CSS-4

*As themes are applied in launchpad, Css must be used or extended rather than using hard-coded entries*

|  |  |
| --- | --- |
| **Rule to be controlled :**  Don't use hard-coded colors, font sizes and images if the app should be themable  **Control Process :**  Access to WebIDE  Open project  Search for hard-coded colors (#XXXXXX)  Search for font styling : “font-“  All occurrences should be in css files  **Eg :**  .sapUiRGLContainer>.sapUiFormTitle{  font-size : 0.9rem;  **Result** : OK / KO  **Comments** : |  |