Agenda

Overview

Developing Applications

Data Binding

SAPUI5 Developer Studio
Overview
Getting started with SAPUI5

SAPUI5 stands for SAP UI Development Toolkit for HTML5 (also known as Phoenix and UI5).

SAP's HTML5 Toolkit for Quickly Building Lightweight Business UIs on Multiple Platforms
Any Screen on Any Device
Cutting-Edge Controls
Powerful Theming & Branding
Efficiency and Performance
Any Screen on Any Device

Both Mobile and Desktop Web Apps
Separate Implementation

Special Controls for Mobile Apps
Limitation for Mobile Controls: WebKit-based Browser needed

Full Flexibility for Designing Screens

Supports RIA like client-side features based on JavaScript
Cutting-Edge Controls

Proven User-Experience

Business relevant Controls
e.g. Contact Card

Fully supports SAP Product standards

Supports an extensibility concept regarding custom controls
Include their own JavaScript, HTML and CSS into SAPUI5 based pages
Create composite controls from existing SAPUI5 controls
Write new SAPUI libraries and new controls
Powerful Theming & Branding

Easily customizable Themes
LESS: Variables in CSS-Files
Bowers-based ThemeDesigner

Allows change of themes for customer branding in an effective manner
Efficiency and Performance

High Reuse-Factor
Due to readily available Controls

Allows usage of own JavaScript and HTML

Based on JQuery
Main Offerings

Client side
- Control libraries (JavaScript, CSS and image files)
- Core (JavaScript Files)
- Test suite (HTML, JavaScript files)

Server side (optional)
- Application development tools in Eclipse
- Control development tools in Eclipse
- Resource handler in Java and ABAP
- Theming generator (e.g. ThemeDesigner)
UI5 Browser Support

Internet Explorer
Version 9
Version 8

Firefox
Version 3.6 and latest version

Chrome
Latest version

Safari
Latest version

Internet Explorer 8 is supported with graceful degradation for CSS3 features like rounded corners, text-shadows, etc.
Model-View-Controller Concept

Manages data and notifies views of changes

- **Model**
  - Manages data and notifies views of changes
  - Bound to one or more views

- **View**
  - generates an output representation to the user

- **Controller**
  - sends commands to the model to update the model’s state
Developing Applications
Components of a basic SAPUI5 App

HTML File
Base Frame App-File referencing all required Ressources
Will be loaded in the Browser

View Files
Defines the Apperance of the SAPUI5 App

Controller
Defines the Behavior of the SAPUI5 App
SAPUI5 Apps always have to contain a bootstrap, to initializes the SAPUI5 runtime.

Attributes of the bootstrap are evaluated and used to configure the runtime e.g. theme, control libraries to be used
Instead of putting the attributes in the bootstrap, they can also be added as URL parameters
View Files

File in which the User Interface is declared
Contains controls like layouts and TextFields
Displays controls in an HTML element called "UI area"

Can be implementet with XML, JSON, HTML or JavaScript
Data Binding
SAPUI5 Data Binding

Data Binding is an automatic update relationship between a model and an UI Controls configuration.

Example:
A TextField changes color based on model field value.
Model field value is updated automatically based on user input.

Most commonly used are Data Binding with properties and with aggregations.
Data Binding Model Implementations

SAPUI5 data binding supports three different model implementations.

**JSON model**
- supports data in a JavaScript Object Notation format
- supports two way binding

**XML model**
- supports XML data
- supports two way binding

**OData model**
- supports OData compliant data
- creates OData requests and handles OData responses
- includes the open source library dataJS to handle OData requests and data
About Binding Paths

{  
  company: {  
    name: "ACME",
    info: {  
      employees: 3
    },
    contacts: [{
      name: "Barbara",
      phone: "873"
    },{
      name: "Gerry",
      phone: "734"
    }]
  }
}

Absolute binding paths within this model:
/company/name
/company/info/employees
/company/contacts

Relative binding paths within the "/company" context:
  name
  info/employees
  contacts

Relative binding paths within an aggregation binding of "/company/contacts":
  name
  phone
Property Binding

Most of the properties of a control can be bound to model properties.

Example:
Instead of hard coding a TextFields 'value' property the same is configured to point to a specific field in the model.
When the value changes through user input the model is automatically updated.
When the model changes, the UI is also updated automatically.
Aggregation binding is used to bind a collection of values, like binding multiple rows to a table.

To use aggregation you will have to use a control that acts as a template. At runtime the template will be cloned according to the number of entries in the model.

Example:
A table should only have as many rows as there are entries in the data model. As a consequence the rows are an aggregation that is bound to the data model. To achieve this you would specify one row as template.
Internationalization and Localization

Similar to the Resource Files in Java
One Resource File per Language
SAPUI5 will automatically load the correct Resource File and apply the Translations
SAPUI5 Developer Studio
Overview

SAPUI5 Developer Studio is a set of tools for Eclipse that greatly simplify the development process for SAPUI5 applications and controls, including:

- Wizards for project and view/controller creation
- Wizards for control development
- Code Completion for SAPUI5 controls
- TeamProvider for BSP repositories
- Application preview with an embedded Jetty server
- Proxy-servlet to prevent cross-site-scripting errors
Installation - Customer

• **Prerequisite:** Install the latest [Java Development Kit 6](https://tools.hana.ondemand.com/#sapui5), if it is not installed already.

• **Download Eclipse Juno (version 4.2 or higher)**

The full installation information is available at SAP Development Tools for Eclipse at:
[https://tools.hana.ondemand.com/#sapui5](https://tools.hana.ondemand.com/#sapui5)
UI5 Resources - External

- UI development toolkit for HTML5 – Demo kit
- SAPUI5 Developer Center
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