

Widget Development

Focus Area: Front-end



Group Workshop

Back-end

Services Integration

Content Services

Advanced Security

Targeting

Publishing

Front-end

Widget Development

Widget Extras

Container Development

Foundation

Portal Essentials

Portal Technologies

Portal Tools

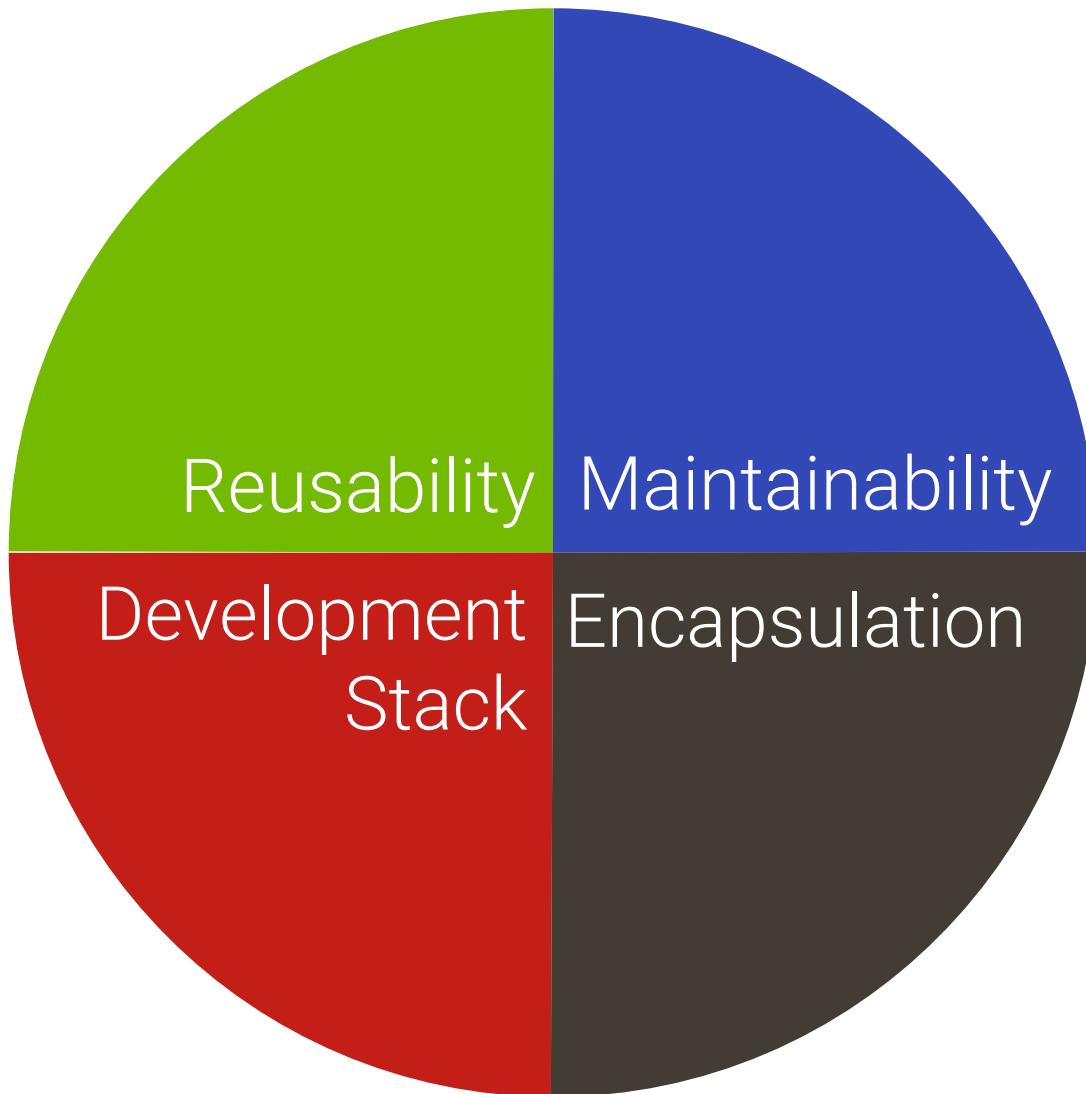
Portal APIs

1. Understanding Widgets
2. Widget Collection 2.X
3. BB-CLI
4. Setup Portal Theme
5. How to develop widgets

Understanding Widgets

Widgets Overview

“Widgets are **autonomous** mini-**applications**, designed to run within a web page. They implement **reusable** pieces of **business logic**, with which you can compose your web application.”



Model

Page
Instance

Widget Instance

Portal
Catalog

Widget Portal
Catalog Item

Server
Catalog

Widget Server
Catalog Item

Resources

Widget Definition
(index.html)

Widget Chrome

Javascript

CSS

<<extends>>

<<extends>>

TemplateName

src

widgetChrome

Standard_Template

standard_template

Web

Tablet

Smartphone

Widget Definition

Widget Development

HTML5
Document

XML Compliant

g:namespace

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml"
      xmlns:g="http://www.backbase.com/2008/gadget" xml:lang="en">
<head>
    <meta http-equiv="Content-Type" content="text/xml; charset=UTF-8" />
    <link rel="stylesheet" href="styles/base.css" type="text/css" />
    <script src="scripts/index.js"></script>
</head>

<body>
    <h1>Widget Title</h1>
</body>
</html>
```

Bank Portal

```
<head>
    <title>Bank Portal</title>
    <link href="account-balance.css"/>
    <script src="jquery.js"></script>
    <script src="stock-ticker.js"></script>
    <script src="account-balance.js"></script>
</head>
<body>
```

My Stocks Widget

```
<head>
    <script src="jquery.js"></script>
    <script src="stock-ticker.js"><script>
</head>
<body>
```

```
</body>
```

Account Balance Widget

```
<head>
    <link href="account-balance.css"/>
    <script src="jquery.js"></script>
    <script src="account-balance.js"><script>
</head>
<body>
```

```
</body>
```

```
</body>
```

- Use project-specific classes on the body tag and subsequent elements
- Do not use classes as JavaScript selectors
- Do not use ID attributes
- No inline JavaScript
- No inline CSS



Scaffold a Basic Agnostic Widget

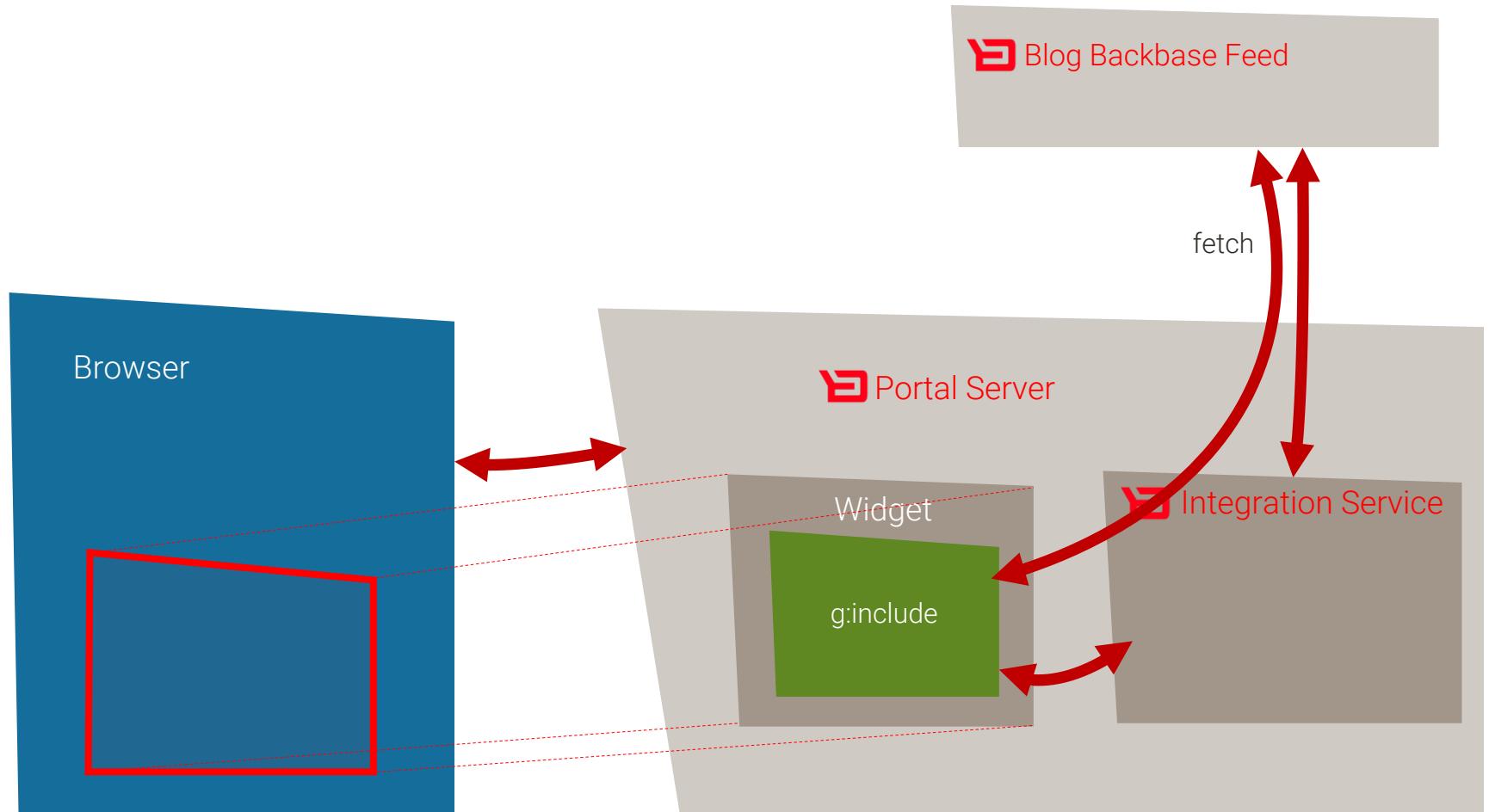
- 1) Scaffold basic widget in the “prebuilt” folder using “bb-generate” with the **default template** and name it “**widget-training-basic-agn**”
- 2) Go to the **model.xml** to remove the **Widget Chrome** property as the target value is not included in the current collection
- 3) Add a **heading** in the body of the **Widget Definition** and import the widget to the portal

g:preferences

g:onload

g:include

g:model





Implement g:include functionality

- 1) Add the **g:include** tag into the **body** of the Widget Definition

```
<!-- generic g:include rendering external content -->
<g:include src="http://blog.backbase.com/feed">
</g:include>
```

- 2) Now **inspect** the element to understand the g:include functionality

```
<catalog>
  <widget>
    <name>widget-training-basic</name>
    <contextItemName>[BBHOST]</contextItemName>
    <properties>
      ...
      <property name="sourceURL" label="Source URL" viewHint="user">
        <value type="string">http://blog.backbase.com/feed</value>
      </property>
      ...
    </properties>
  </widget>
</catalog>
```



Refactor Widget to consume a property

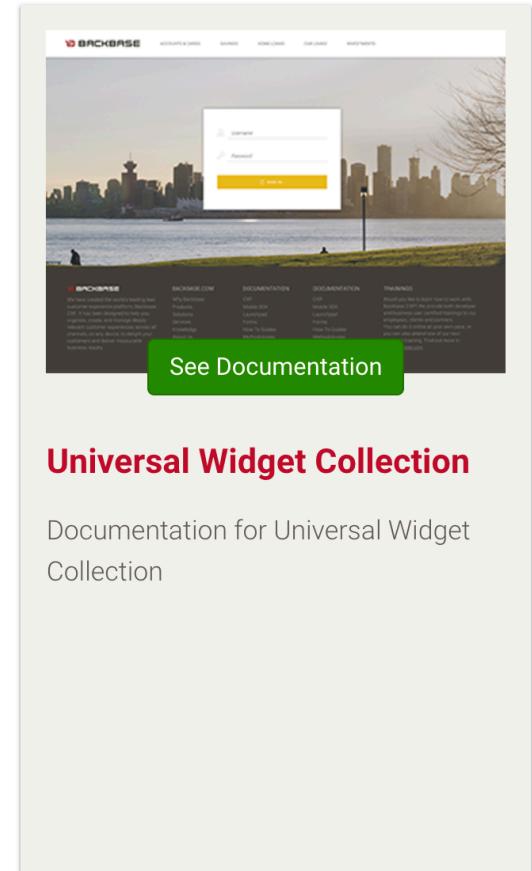
- 1) Add a **new property** to the widget in the **model.xml**
- 2) Use the property by modifying the **g:include** tag as below:

```
<!-- generic g:include rendering external content -->
<g:include src="${sourceUrl}">
</g:include>
```

- 3) Change the **value** of this property through **Widget Settings** that refers to a path that returns **XML/HTML**

Universal Widget Collection

- Content Widget
- Structured Content Widget
- Breadcrumb Container
- Login Widget
- Navigation Widget
- Columns Container



Universal Widget Collection

Documentation for Universal Widget Collection

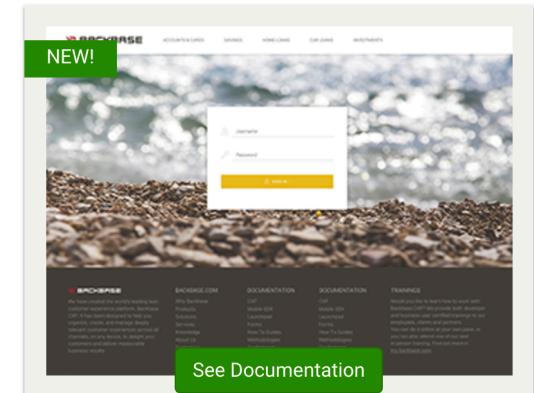
[See Documentation](#)

Widget Collection 2.X

Widget Development - Understanding Widgets

Widget Collection Retail Banking 2.X

- Out-the-box Functionality
 - Login, Transactions List, Product Summary and many more...
- Extendable & Upgradable
- Frontend Building Blocks



Retail Banking

Documentation for Retail Banking.

Frontend Building Blocks

Set of elements or components

- Basic Libraries
- Configuration
- Events
- i18n
- Error Handling
- Storage
- Default Theme
- Mobile Plugins Connector
- Vendor Libraries
- UI Components

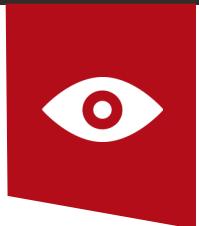


[See Documentation](#)

FBB

Frontend Building Blocks

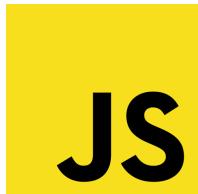
Let's take a look at the documentation of Widget Collection to see what it offers

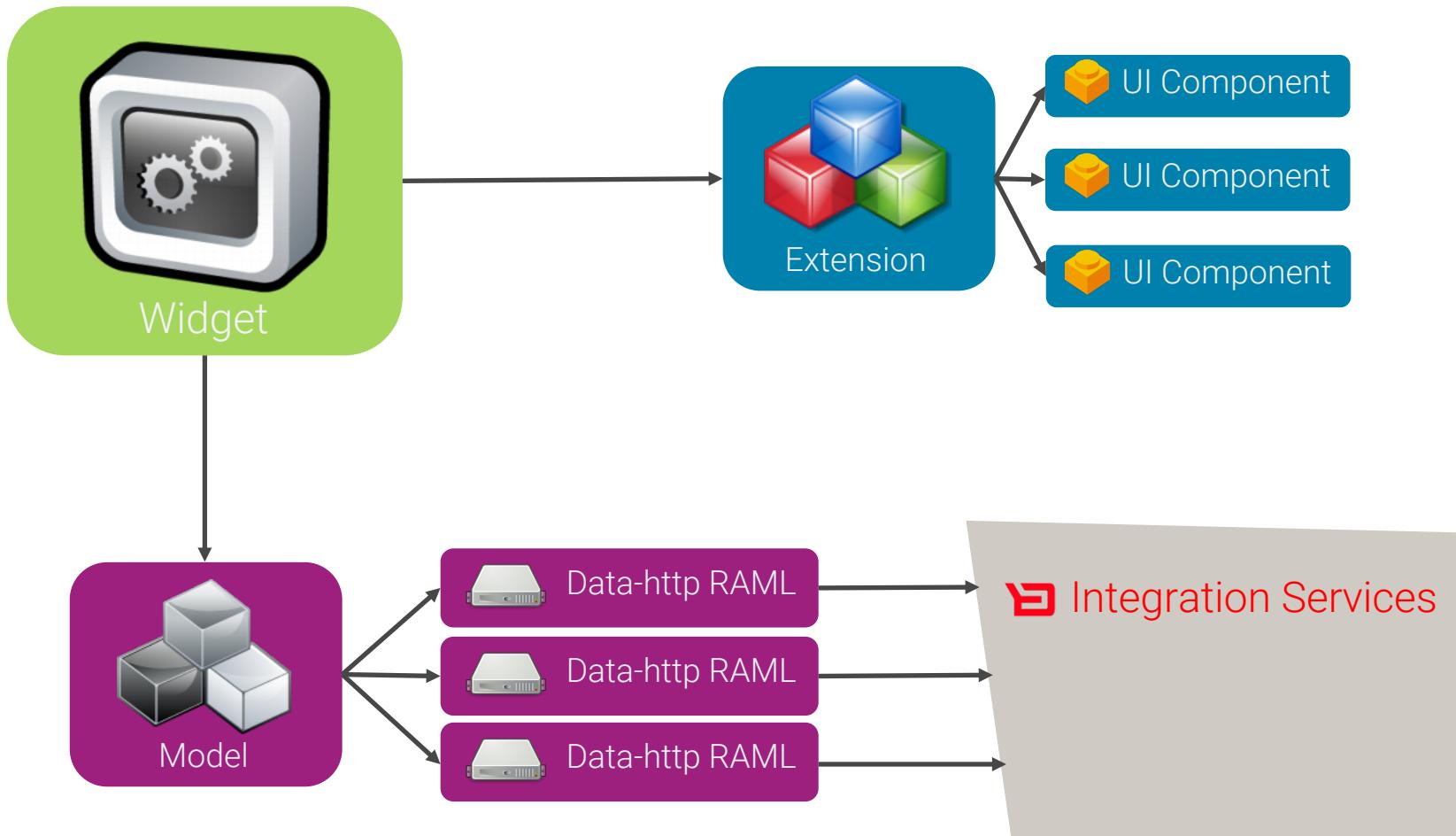


Development Stack



Logic-less templates.





Portal Item Type



Widget



Feature

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml"
      xmlns:g="http://www.backbase.com/2008/gadget" xml:lang="en">
<head>
    <meta charset="utf-8" />
    <title>Transaction List</title>
    <script src="(...)/scripts/vendor-bb-systemjs.js"></script>
    <script src="(...)/scripts/config-bb-module-loader.js "></script>
    <script src="(...)/scripts/lib-bb-start.js"></script>
</head>

<body g:onload="BB.Widget.ngStart(__WIDGET__);">
    <div ng-cloak="ng-cloak" class="widget-bb-transaction-list-ng">
        <g:include src="${contextRoot}/(...)/${extension}/templates/template.ng.html"
                   local="true">
        </g:include>
    </div>
</body>
</html>
```

Bank Portal

```
<head>
  <title>Bank Portal</title>
  <script src="vendor-bb-systemjs/scripts/vendor-bb-systemjs.js"/>
  <script src="config-bb-module-loader/scripts/config-bb-module-loader.js"></script>
  <script src="lib-bb-start/scripts/lib-bb-start.js"></script>
</head>
<body>
```

My Stocks Widget

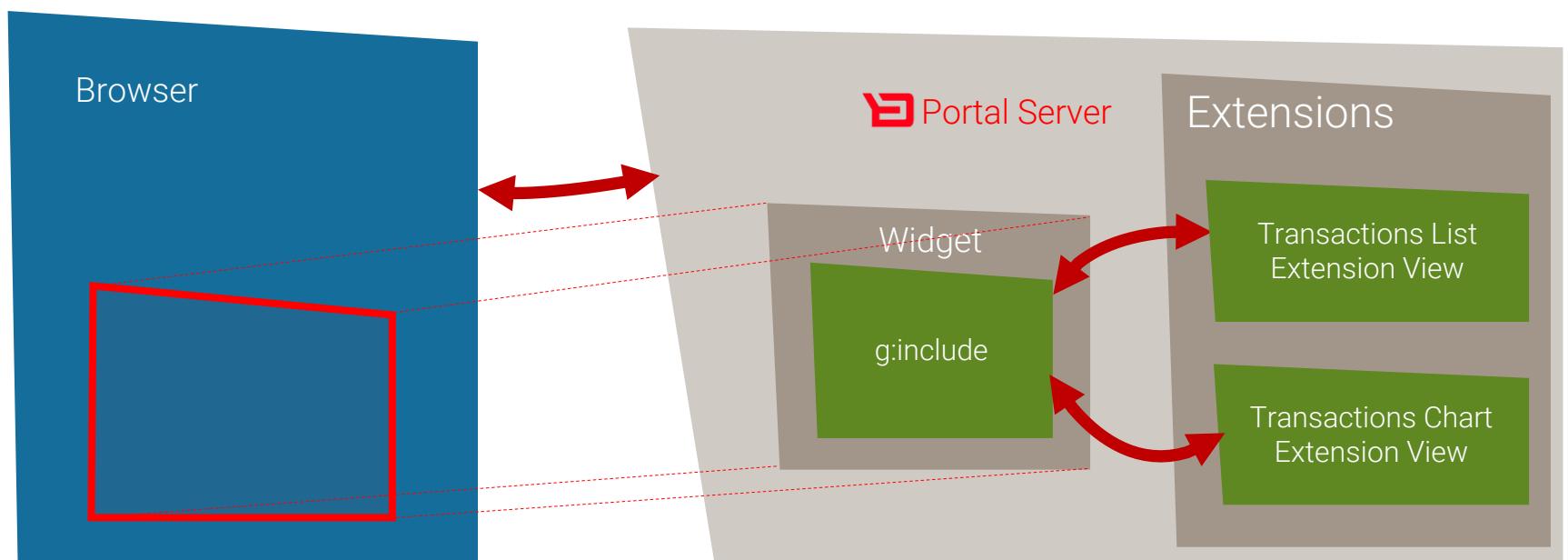
```
<head>
  <script src="vendor-bb-systemjs/scripts/vendor-bb-systemjs.js"></script>
  <script src="config-bb-module-loader/scripts/config-bb-module-loader.js"><script>
  <script src="lib-bb-start/scripts/lib-bb-start.js"><script>
</head>
<body>
```

Account Balance Widget

```
<head>
  <script src="vendor-bb-systemjs/scripts/vendor-bb-systemjs.js"></script>
  <script src="config-bb-module-loader/scripts/config-bb-module-loader.js"><script>
  <script src="lib-bb-start/scripts/lib-bb-start.js"><script>
</head>
<body>
```

```
</body>
```

```
</body>
```



BB-CLI

Widget Development

What is BB-CLI?

bb-cli is a command line tool provided and supported by  BACKBASE
To ease front-end development for Backbase Platform.

- BB-CLI commands
 - bb-generate
 - bb-package
 - bb-import
 - bb-config
 - bb-test
 - bb-serve
 - bb-customize
 - bb-convert
 - bb-bundle
- and many more...

What is the naming convention?

{type}-{project}-{name}-{subname}-{meta}

- | | |
|---------|--|
| type | - Item type (widget, extension, model, data provider etc.) |
| project | - Name of the project. For building blocks and released widgets it's always bb |
| name | - Name of the item which also acts as an identifier. Items with the same name will conflict with each other. |
| subname | - Additional name to further describe the item. Allows for more additional subnames |
| meta | - Meta information of the package, eg. ng for angular related packages |

Naming Convention Examples

Item	Naming Convention	Example
Widget	widget-{project}-{name}-{subname}-ng	widget-bb-contact-ng
Extension	ext-{project}-{name}-{subname}-ng	ext-bb-contact-list-ng
Model	model-{project}-{name}-{subname}-ng	model-bb-contact-ng
Data Provider	data-{project}-{name}-{subname}-ng	data-bb-contact-http-ng
UI Component	ui-{project}-{name}-{subname}-ng	ui-bb-avatar-ng

Follow the naming convention

Widget Architecture 2.X heavily relies on naming convention. Not following the naming conventions can lead to **issues** resolving dependencies.

Setup Portal Theme

Widget Development

Backbase
Themes

VS

Widget
Styles



Setup the theme for the your portal

- 1) Create your own Theme through “bb-customize” based on the Retail Theme and name it “**theme-training-default**”

- 2) Create a **Master Page** and configure it to use your **Training Theme**

Thank you!

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