



**adaptTo()**

APACHE SLING & FRIENDS TECH MEETUP  
10-12 SEPTEMBER 2018

# Bootstrapping website development with Sling Models and HTL using Core Components

Vlad Băilescu\*, Burkhard Pauli, Richard Hand, Radu Cotescu

# WHAT



- Shorter time to value
- Build websites faster

# WHY

# AEM Project



# HOW

# Core Components: Technology

- HTL markup
  - Clean, HTML-based templating language
  - Use-objects
    - Sling Models
    - POJOs
    - Javascript
  - Open source
    - <https://github.com/Adobe-Marketing-Cloud/htl-spec>
    - <https://github.com/apache/sling/tree/trunk/bundles/scripting/sightly>
- Standardized BEM-style classes: cmp-breadcrumb\_\_item--active

\*BEM = Block Element Modifier

# Core Components: Tested

- Unit tests
  - Coverage > 80%
  - <https://codecov.io/gh/Adobe-Marketing-Cloud/aem-core-wcm-components>
- UI tests
  - Hobbes JS
    - <https://docs.adobe.com/docs/en/aem/6-3/develop/ref/test-api/index.html>
    - <https://github.com/Adobe-Marketing-Cloud/aem-core-wcm-components/tree/master/testing/it/ui-js>
  - Selenium



- Configurable
  - Edit Options
  - Content Policies
- Style System
  - Predefined classes
- Extensible

# Core Components: Extensible

- Proxy pattern
  - Core components are hidden by default
  - Create proxy components - `sling:resourceSuperType`
- Customize
  - HTL script
  - Sling Models implementation
  - Dialog tabs
- Composition
  - Include components using `data-sly-resource`
  - Reuse Sling Model implementation

NO, REALLY, HOW?

- Fictional online magazine and blog
- Mockup to fully functional website
- Available on GitHub and Adobe HelpX

# Steps

1. Setup
2. Base template and page, components
3. Styling and layout
4. Navigation and Search
5. Custom components



PLAY TIME!!!

# 1. Setup - Requirements

- Java 8
- Maven 3.5+
- AEM 6.4 (running, clean – no sample content)
- IDE & tools
  - Eclipse
  - IDEA
  - repo

# 1. Setup – Generate project

- Create project with Maven AEM Project Archetype
- Build
- Install on local AEM instance
- Review



## 1.1 Create project with Maven AEM Project Archetype

```
mvn org.apache.maven.plugins:maven-archetype-plugin:2.4:generate \  
-DarchetypeGroupId=com.adobe.granite.archetypes \  
-DarchetypeArtifactId=aem-project-archetype \  
-DarchetypeVersion=13 \  
-DarchetypeCatalog=https://repo.adobe.com/nexus/content/groups/public/
```



## 1.1 Create project with Maven AEM Project Archetype

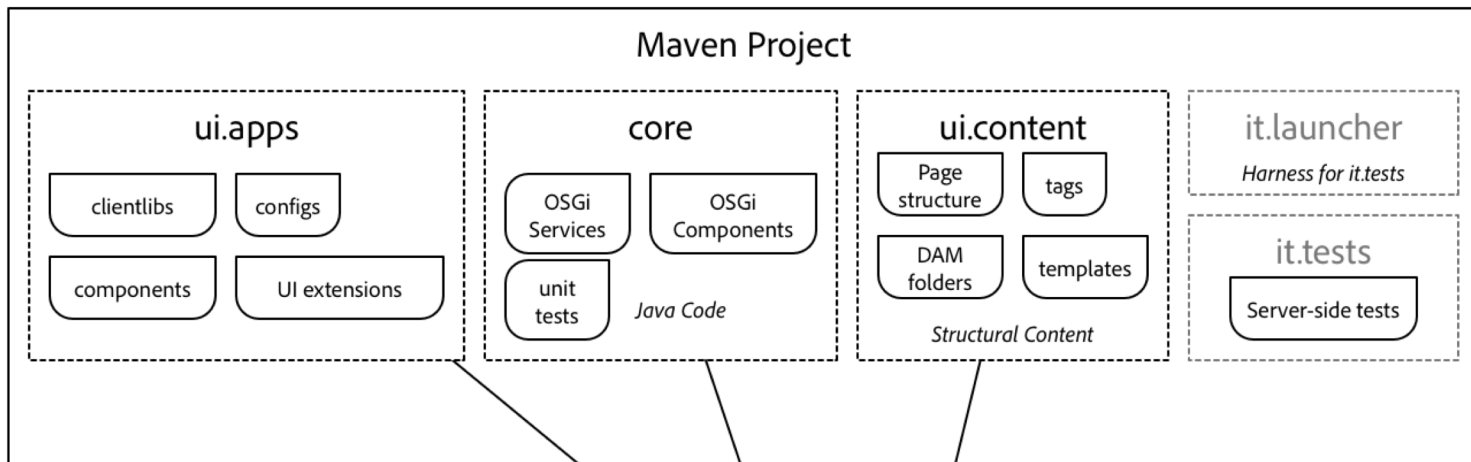
- groupId: com.adobe.aem.guides
- artifactId: aem-guides-wknd
- version: 0.0.1-SNAPSHOT
- package: com.adobe.aem.guides.wknd
- appsFolderName: wknd
- artifactName: WKND Sites Project
- componentGroupName: WKND.Content
- confFolderName: wknd
- contentFolderName: wknd
- cssId: wknd
- packageGroup: aem-guides/wknd
- siteName: WKND Site



## 1.2 Build project and install on local running AEM

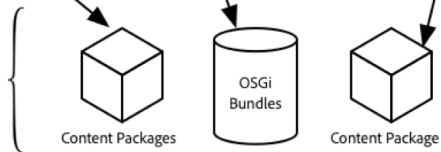
```
cd aem-guides-wknd  
mvn -PautoInstallPackage clean install
```

# 1.3 Review



Managed in Source Control

AEM Representation



## 1.3 Review

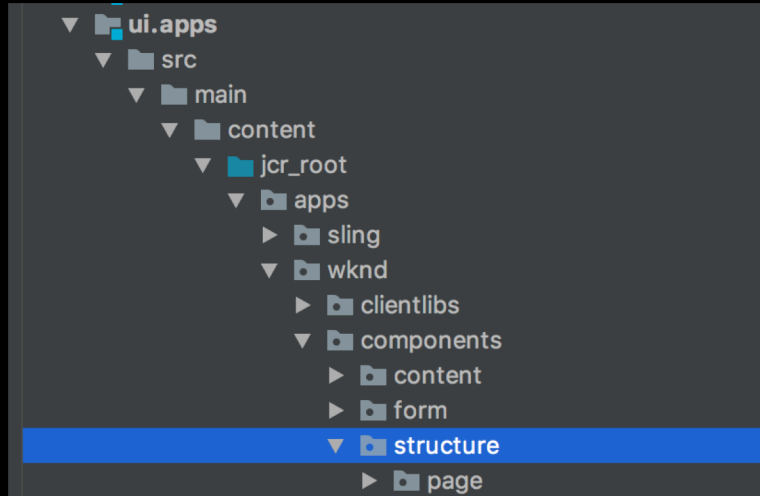
- Project structure
  - aem-guides-wknd/ui.apps/pom.xml – Includes Core Components
- Package Manager - <http://localhost:4502/crx/packmgr/index.jsp>
- Bundles Console - <http://localhost:4502/system/console/bundles>
- Sites Console - <http://localhost:4502/sites.html>
- Sites Editor - <http://localhost:4502/editor.html/content/wknd/en.html>

## 2. Base template and components

- Inspect structure
- Basic components
- Checkout sample project & install
- Inspect templates

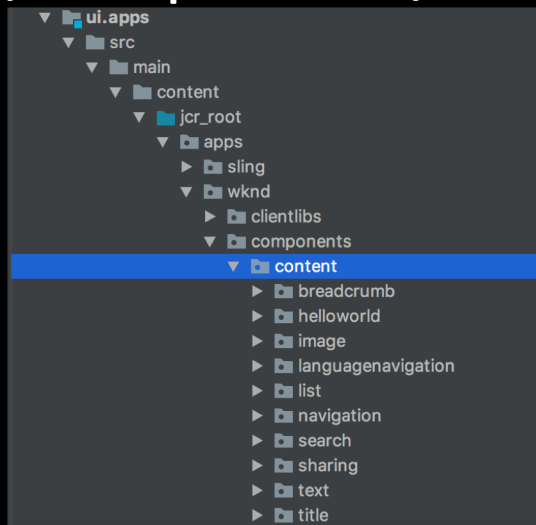
## 2.1 Inspect structure

- ui.apps
  - /apps/wknd/components/structure



## 2.2 Basic components

- Ui.apps
  - /apps/wknd/components/content





## 2.3 Checkout sample project & install

- Checkout project from

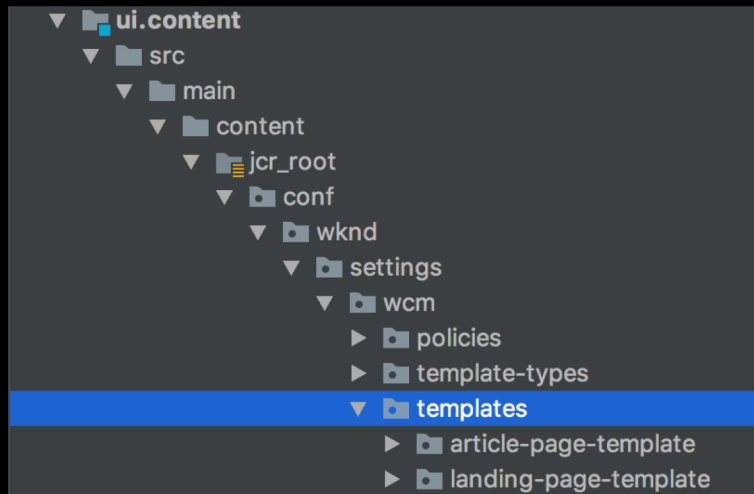
<https://github.com/Adobe-Marketing-Cloud/aem-guides-wknd>

- Install

```
mvn -PautoInstallPackage clean install
```

## 2.4 Inspect templates

- ui.content
  - /conf/wknd/settings/wcm/templates



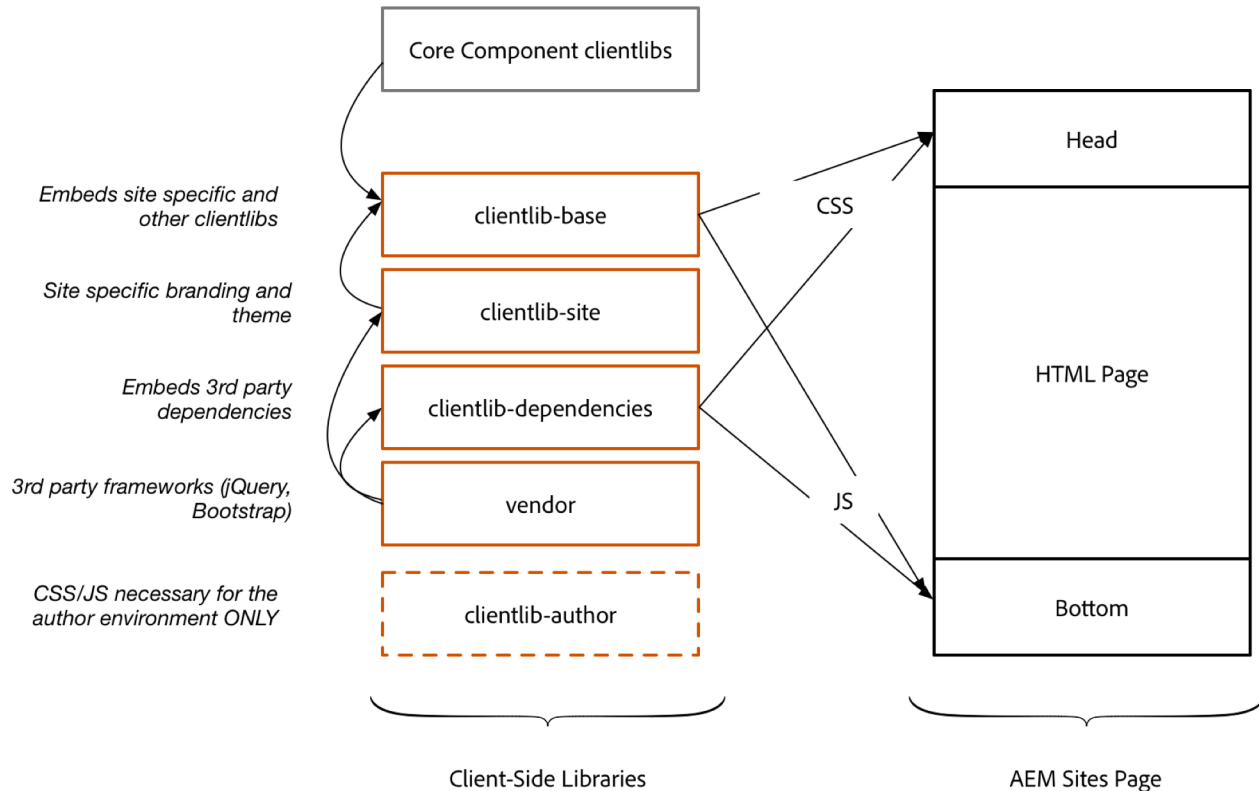
- Tools > General > Templates

- <http://localhost:4502/libs/wcm/core/content/sites/templates.html/conf/wknd/settings/wcm/templates/>

## 3. Styling and layout

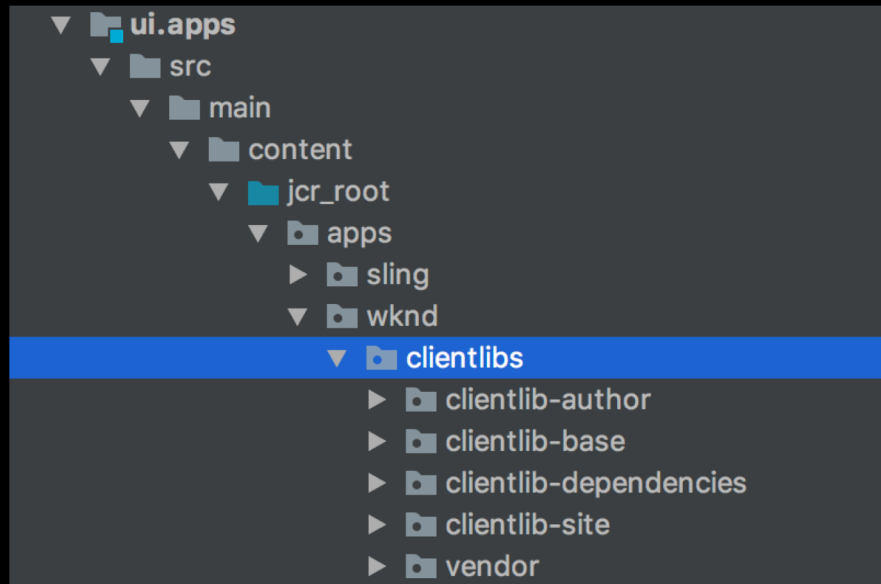
- Client libraries and assets
- Responsive grid and Layout Mode
- Style System

# 3.1 Client libraries



## 3.1 Client libraries

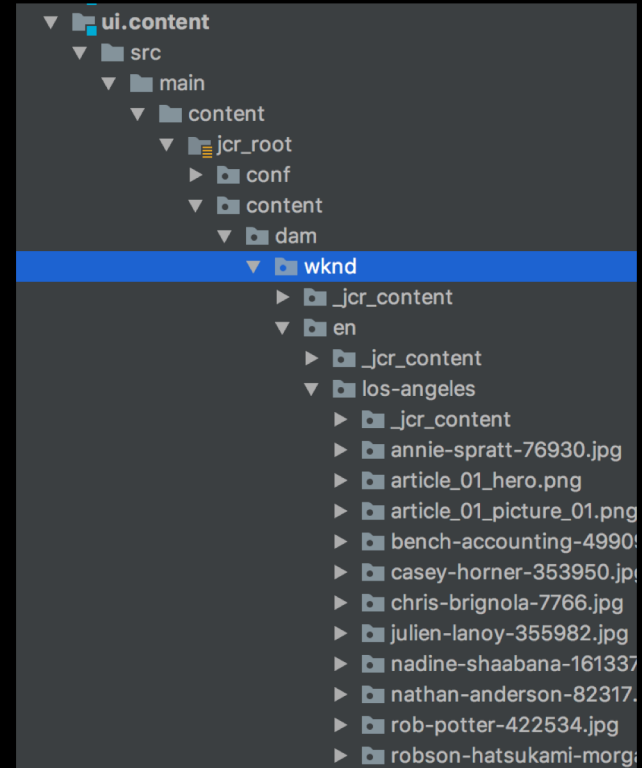
- ui.apps
  - /apps/wknd/clientlibs



- Included via
  - /apps/wknd/components/structure/page/custom[footer|header]libs.html

## 3.2 Assets

- ui.content
  - /content/dam/wknd
- Assets console
  - <http://localhost:4502/assets.html>



# 3.3 Responsive grid & mobile emulator

donec. Enim lobortis scelerisque fermentum dui faucibus in ornare quam viverra. Vitae proin sagittis nisl rhoncus mattis. Pellentesque eu tincidunt tortor aliquam nulla facilisi cras fermentum. Adipiscing diam donec adipiscing tristique risus nec feugiat in fermentum.

gravida neque convallis a cras semper auctor. A erat nam at lectus urna duis. Commodo odio aenean sed adipiscing diam. Tellus cras adipiscing enim eu turpis egestas pretium aenean pharetra. Vitae semper quis lectus nulla. Tincidunt dui ut ornare lectus sit. Commodo sed egestas egestas fringilla phasellus faucibus scelerisque eleifend donec.



Drag components here




# 3.4 Style System

### Policy

First choose a policy to apply. Policies can be shared across templates


Select policy

WKND Title - Article v

+ 

Policy Title \*

WKND Title - Article

Policy Description 

*Add a description*


Other templates also using the selected policy

There is no item.



### Properties

Then adjust the settings of the selected policy to configure the component

Sizes Styles


Default CSS Classes 

Allowed Styles

Group Name   Styles can be combined  

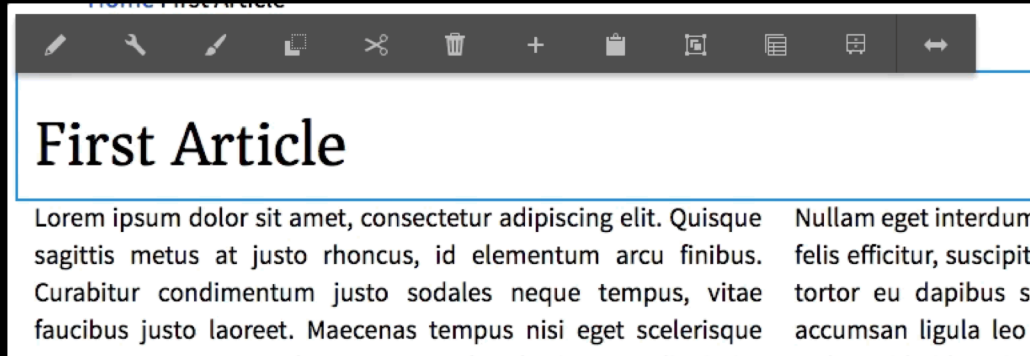
Styles

Underline

cmp-title--underline 



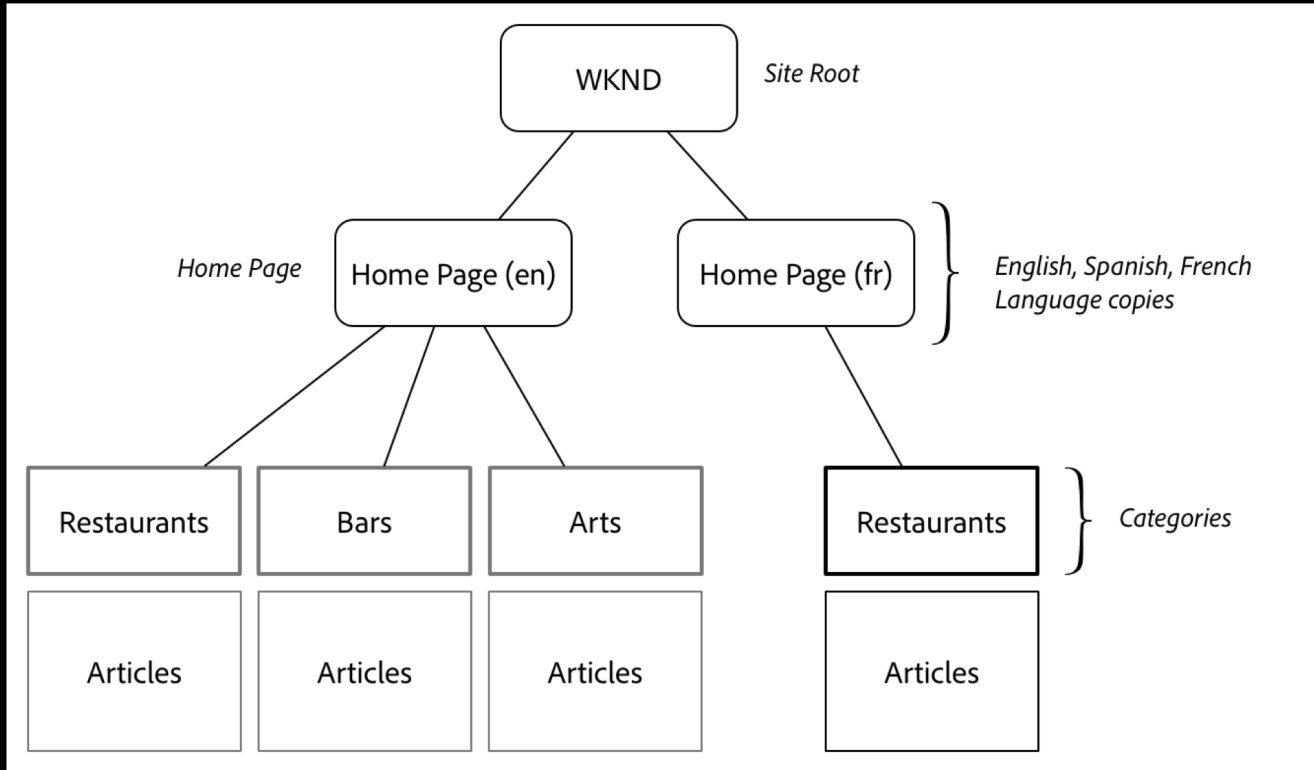
## 3.4 Style System



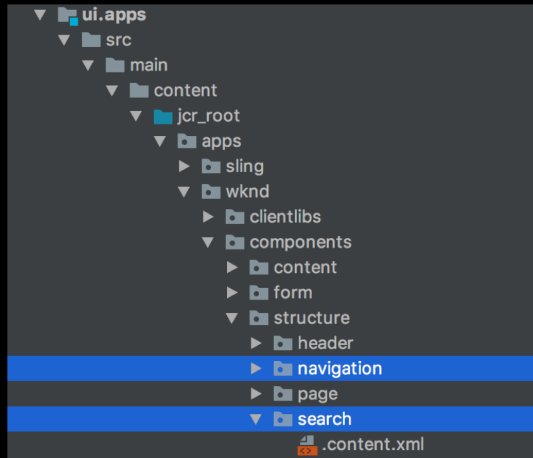
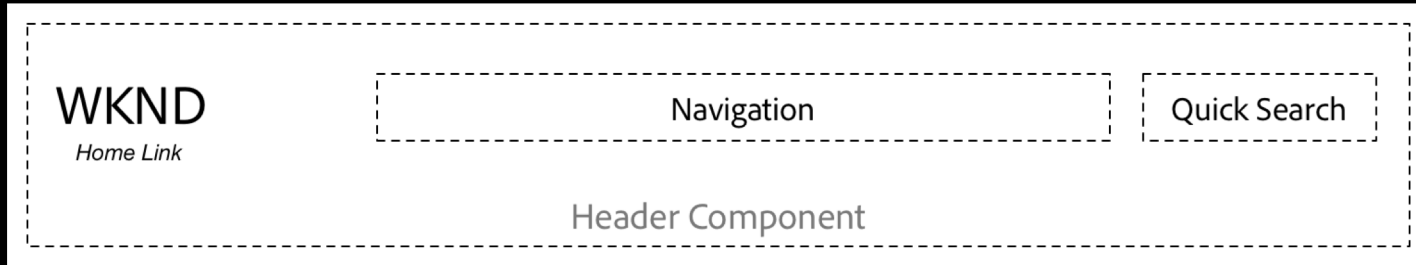
## 4. Navigation and Search

- Site structure
- Navigation
- Search

# 4.1 Site structure



## 4.2 Navigation & Search



## 5. Custom Components

- Custom components
- HTL template
- Sling Model
- (Optional) Customize the Sling Model of an existing component

## 5. Custom Components

- Custom components
  - HelloWorld
  - Card
- HTL template
- Sling Model
- Edit dialog

## HTL template

```
<p data-sly-test="${properties.text}">Text  
property: ${properties.text}</p>
```

```
<pre data-sly-  
use.hello="com.adobe.aem.guides.wknd.core.models  
.HelloWorldModel">  
HelloWorldModel says:  
${hello.message}  
</pre>
```

## Sling Model

```
@Model(adaptables=Resource.class)  
public class HelloWorldModel {  
  
    @Inject  
    private SlingSettingsService settings;  
  
    @Inject @Named("sling:resourceType") @Default(values="No resourceType")  
    protected String resourceType;  
  
    private String message;  
  
    @PostConstruct  
    protected void init() {  
        message = "\tHello World!\n";  
        message += "\tThis is instance: " + settings.getSlingId() + "\n";  
        message += "\tResource type is: " + resourceType + "\n";  
    }  
  
    public String getMessage() {  
        return message;  
    }  
}
```

- **HTL template** - `/apps/wknd/components/content/card/card.html`
- **Sling Model**
  - **Interface** - `com.adobe.aem.guides.wknd.core.components.Card`
  - **Implementation** - `com.adobe.aem.guides.wknd.core.components.impl.CardImpl`
- **Edit dialog**
- **Design dialog – Style System support**



## Task #1 – Setup Teaser and add Styles

- Update the core components version to 2.1.0
- Create a proxy teaser component
- Add custom stylesheet and variations for the teaser component

## Task #2 – Create custom teaser

- Create a custom teaser sling model which delegates to the v1 teaser component
- Extend the sling model to add custom behavior (e.g. date of the linked page)
- Add a custom HTL output



Thank You!

- WKND Tutorial
  - <https://helpx.adobe.com/experience-manager/kt/sites/using/getting-started-wknd-tutorial-develop.html>
  - <https://github.com/Adobe-Marketing-Cloud/aem-guides-wknd>
- Core Components
  - <https://github.com/Adobe-Marketing-Cloud/aem-core-wcm-components>
  - <https://github.com/Adobe-Marketing-Cloud/aem-core-wcm-components/wiki/Delegation-Pattern-for-Sling-Models>
- Sling Models
  - <https://sling.apache.org/documentation/bundles/models.html>