

SCR Annotations for Fun and Profit

Lightningtalks.adaptTo(Berlin, 2012)

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Huh?

- Short intro on how to use SCR annotations to easily define servlets and services, use references to access services, define configurable components, etc.
- Show ease of "new style" annotations compared to "old style" JavaDoc comments

How to: Use annotations

```
...  
<dependencies>  
  ...  
  <dependency>  
    <groupId>org.apache.felix</groupId>  
    <artifactId>org.apache.felix.scr.annotations</artifactId>  
    <version>1.7.0</version>  
    <scope>provided</scope>  
  </dependency>  
  ...  
</dependencies>  
...
```


How to: Maven plugin

```
...  
<build>  
  <plugins>  
    <plugin>  
      <groupId>org.apache.felix</groupId>  
      <artifactId>maven-scr-plugin</artifactId>  
      <version>1.8.0</version>  
    </plugin>  
    ...  
  </plugins>  
</build>  
...
```


Reference: Old Style

```
...  
/**  
 * @scr.reference  
 */  
private SlingRepository repo;  
...
```


Reference: New Style

...

@Reference

private SlingRepository repo;

...

Servlet: Old Style

```
/**
 * Foo Bar Servlet
 *
 * @scr.component metatype="false"
 * @scr.service interface="javax.servlet.Servlet"
 * @scr.property name="sling.servlet.methods" value="POST"
 * @scr.property name="sling.servlet.selectors" value="foobar"
 * @scr.property name="sling.servlet.resourceTypes" value="adapitto2012/
components/page"
 **/
public class FooBarServlet extends SlingAllMethodsServlet {

    ...

}
```


Servlet: New Style

```
/**
 * Foo Bar Servlet
 **/

@SlingServlet(
    resourceTypes = {"adapto2012/components/page"},
    methods       = {"POST"},
    selectors     = {"foobar"}
)
public class FooBarServlet extends SlingAllMethodsServlet {

    ...
}
```


SlingServlet options

- Based on resourceType (recommended!)
 - resourceTypes - Required
 - selectors - Optional
 - extensions - Optional
 - methods - Optional
- Based on path (caution - no access control!)
 - paths - Required

Configurable Component: Define

```
@Component(  
    label = "adaptTo() - Sample Configurable Component",  
    description = "This is a sample for a configurable component",  
    metatype = true  
)  
public class SampleConfigurableComponent {  
    @Property(  
        label = "Hostname",  
        description = "Hostname of some external service"  
    )  
    static final String PROP_HOSTNAME = "hostname";  
}
```








Configurable Component: Configure

Adobe CQ5 Web Console Configuration



Authenticator	Background Servlets & Jobs	Bundle Resource Provider	Bundles	Components	Configuration		
Configuration Status	CRX Change History	CRX Login Tokens	Crypto Support	Dependency Finder	Disk Benchmark		
Events	Http Whiteboard	JMX	Licenses	Log Service	Memory Usage	MIME Types	OSGI Installer
Package Admin	Product Information	Profiler	Recent requests	Repository Check	Services	Sling Adapters	
Sling Eventing	Sling Log Support	Sling Resource Resolver	System Information				

Configuration Admin Service is running.

			Configurations
Name	Bundle	Actions	
adaptTo() - Sample Configurable Component	-	  	
Adobe CRX Token Authentication Handler: Cleanup Task	-	  	

adaptTo() - Sample Configurable Component

This is a sample for a configurable component

Hostname

Hostname of some external service (hostname)

Configuration Information

Configuration: Retrieve

```
protected void activate(ComponentContext context) {  
    Dictionary configProperties = context.getProperties();  
    String hostName = (String)configProperties.get(PROP_HOSTNAME);  
}
```


Other annotations

Define a service (which you can then @Reference)
@Service

Sling filters:
@SlingFilter
@SlingFilterScope

Override default method names:
@Activate
@Deactivate
@Modified

Some best practices

- Only set metatype to true if you want your component to be configurable through the Apache Felix web console. Defaults are false for annotations (so better than JavaDoc tags)
- Always set nice labels and descriptions to avoid cryptic entries in the Apache Felix web console (also applies to non configurable components!)

Documentation

- SCR Annotations

<http://felix.apache.org/site/scr-annotations.html>

- Sling SCR Annotations

<http://felix.apache.org/site/extending-scr-annotations.html>

- Maven Plugin

<http://felix.apache.org/site/apache-felix-maven-scr-plugin.html>

Thank you!

