



adaptTo()

EUROPE'S LEADING AEM DEVELOPER CONFERENCE

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AEM Cloud Service from a Developer Perspective

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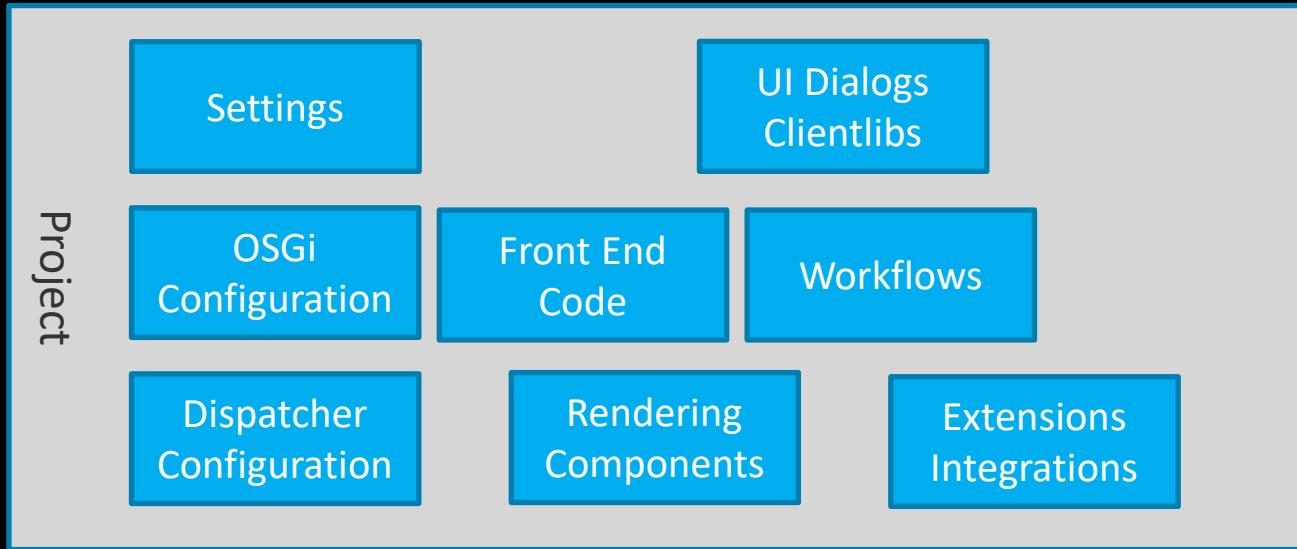


- AEM Development
- Local Development
- A Glimpse into the Future

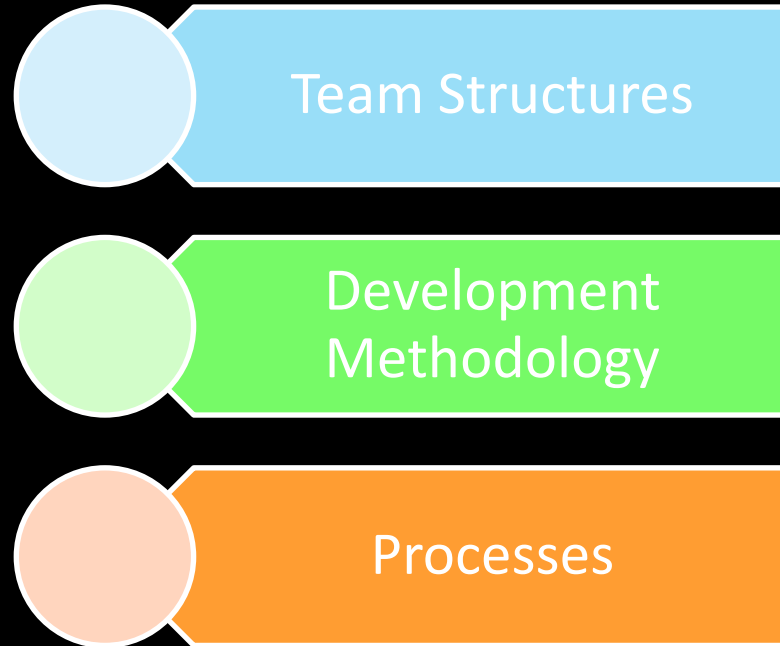


AEM Development

Elements of an AEM Project



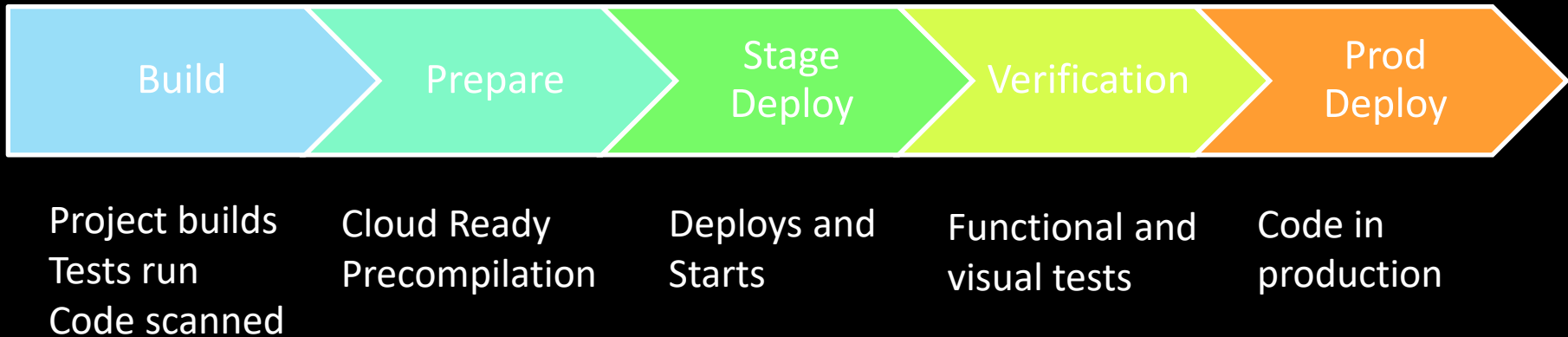
Development Flexibility



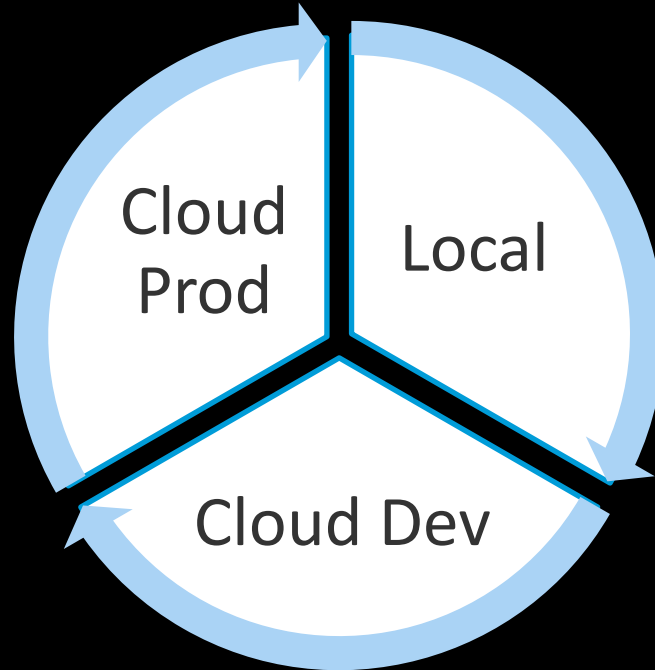
Mandatory : Cloud Manager

- Configuration of environments
- CI/CD pipelines
 - Code scanning pipeline
 - Non production pipeline
 - Production pipeline
- Single source of truth
- Quality Gates!

Cloud Manager CI/CD Pipeline



Development Flow



- Release Train
- CI/CD
- Feature Toggles

Local Development

- Java 11
- AEM SDK
- IDE
- Apache Maven
- Frontend: Node

- AEM Maven Archetype
- Revisit from time to time
- Migration: Use available tools

- Maven Central
- Single Dependency: AEM SDK API
- Keep current!



AEM Analyzer Maven Plugin

- Validate project build
- Java Package Exports/Imports
- OSGi Configuration Validation
- Deprecated Java API
- Outdated libraries

- Run modes are for provisioning
 - author, publish – code and config
 - dev, stage, prod – config
- Environment-Specific configuration values
 - Use Cloud Manager API

- JSON format, leveraging placeholders

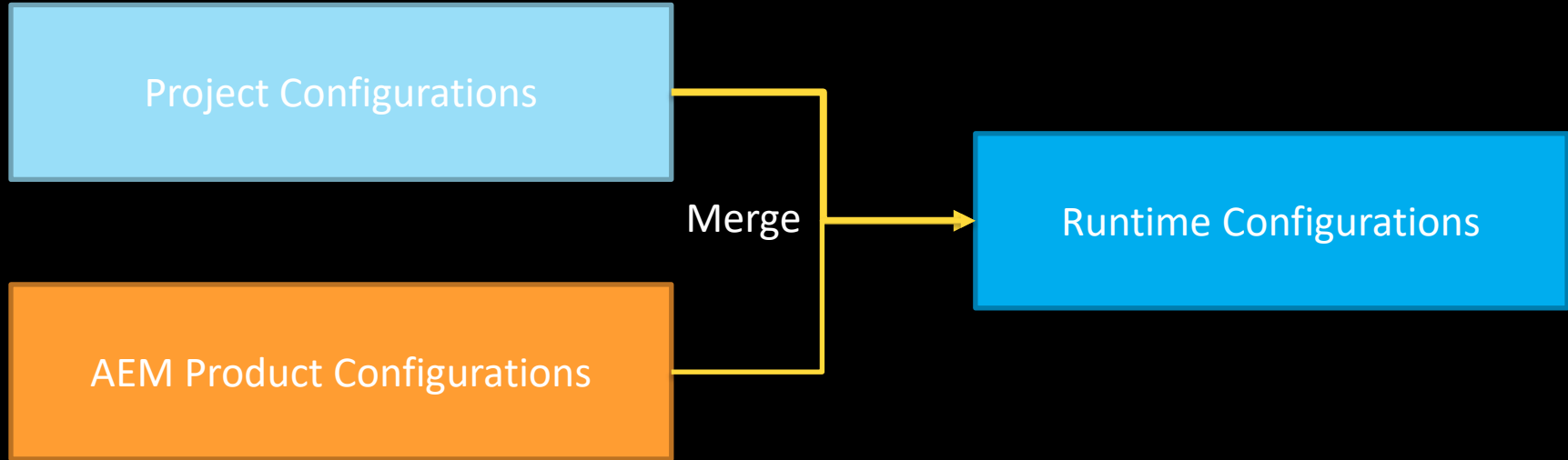
```
{  
  "service.endpoint" : "https://some/where",  
  "service.user" : "$[env:SERVICE_USER]",  
  "service.token" : "$[secret:SERVICE_TOKEN]",  
  "cache.ttl:Long" : "4000"  
}
```

- JSON format, leveraging placeholders and defaults

```
{  
  "service.endpoint" :  
    "$[env:SERVICE_ENDPOINT;default=https://dev.some/where]",  
  "service.user" : "$[env:SERVICE_USER]",  
  "service.token" : "$[secret:SERVICE_TOKEN]",  
  "cache.ttl:Long" : "$[env:SERVICE_CACHE_TTL:Long;default=0]"  
}
```

- Use direnv or similar

OSGi Configuration Defaults and Merging



OSGi Configuration Defaults - Example

```
{  
  ...  
  "resource.resolver.mapping": [  
    "/:/"  
  ],  
  "resource.resolver.log.unclosed": false  
}
```

```
{  
  "resource.resolver.log.unclosed": true  
}
```

```
{  
  ...  
  "resource.resolver.mapping": [  
    "/:/"  
  ],  
  "resource.resolver.log.unclosed": true  
}
```

- OSGi Declarative Services Release 7
 - Constructor Injection
 - Field references
 - Avoid dynamic configuration lookup
 - Avoid mixing with raw framework API
 - Make optional references dynamic
- Avoid blindly copying existing code

ConsumerType vs ProviderType vs CQBP-84

Product APIs annotated with `@ProviderType` should not be implemented or extended by customers

Java Annotations mainly for interfaces:

- `ConsumerType` : To be implemented by users of an API
- `ProviderType`: To be used by users of an API, provided by the implementation

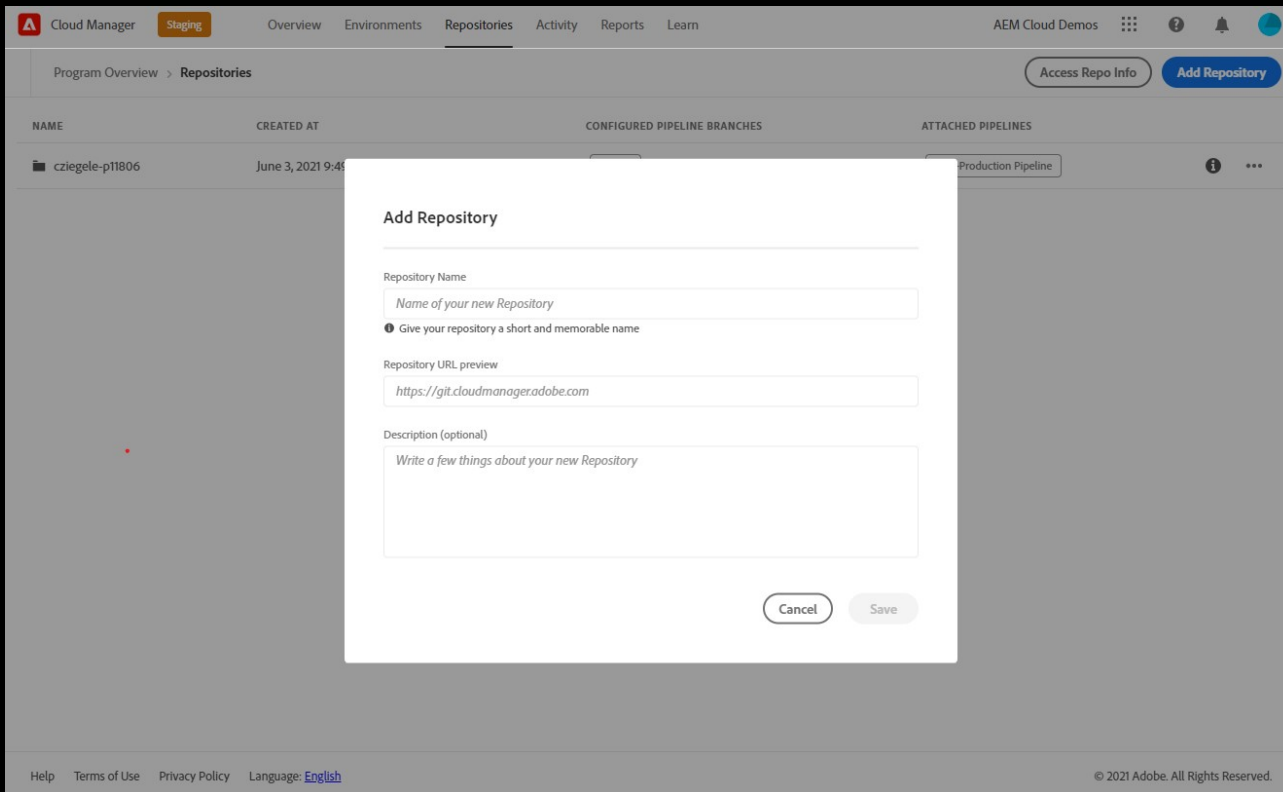
Annotation impacts version import ranges!

Example: Extend `SlingHttpServletRequestWrapper` instead of implementing `SlingHttpServletRequest`

A Glimpse into the Future

- Monthly releases for new features
- Frequent updates in between
- Prerelease - preview features one month earlier
 - SDK – Run mode
 - SDK API – prerelease SDK API
 - Cloud Dev/Sandbox Environment – Set env var

Cloud Manager Git Repositories



The screenshot displays the Adobe Cloud Manager interface. At the top, there is a navigation bar with 'Cloud Manager' and 'Staging' tabs, and a menu with 'Overview', 'Environments', 'Repositories', 'Activity', 'Reports', and 'Learn'. The main content area shows a 'Program Overview > Repositories' view with a table of repositories. A modal dialog titled 'Add Repository' is open in the center, containing the following fields and options:

- Repository Name:** A text input field with the placeholder text 'Name of your new Repository'.
- Give your repository a short and memorable name:** A radio button that is selected.
- Repository URL preview:** A text input field with the placeholder text 'https://git.cloudmanager.adobe.com'.
- Description (optional):** A text area with the placeholder text 'Write a few things about your new Repository'.

At the bottom of the dialog are 'Cancel' and 'Save' buttons. The background table shows a repository named 'cziegele-p11806' created on 'June 3, 2021 9:45' with 'Production Pipeline' attached.

Cloud Manager : Specialized Pipeline Types

CDN

Web Server

Web Tier Pipeline
(https / dispatcher configs)
Update in Minutes

Front End Code

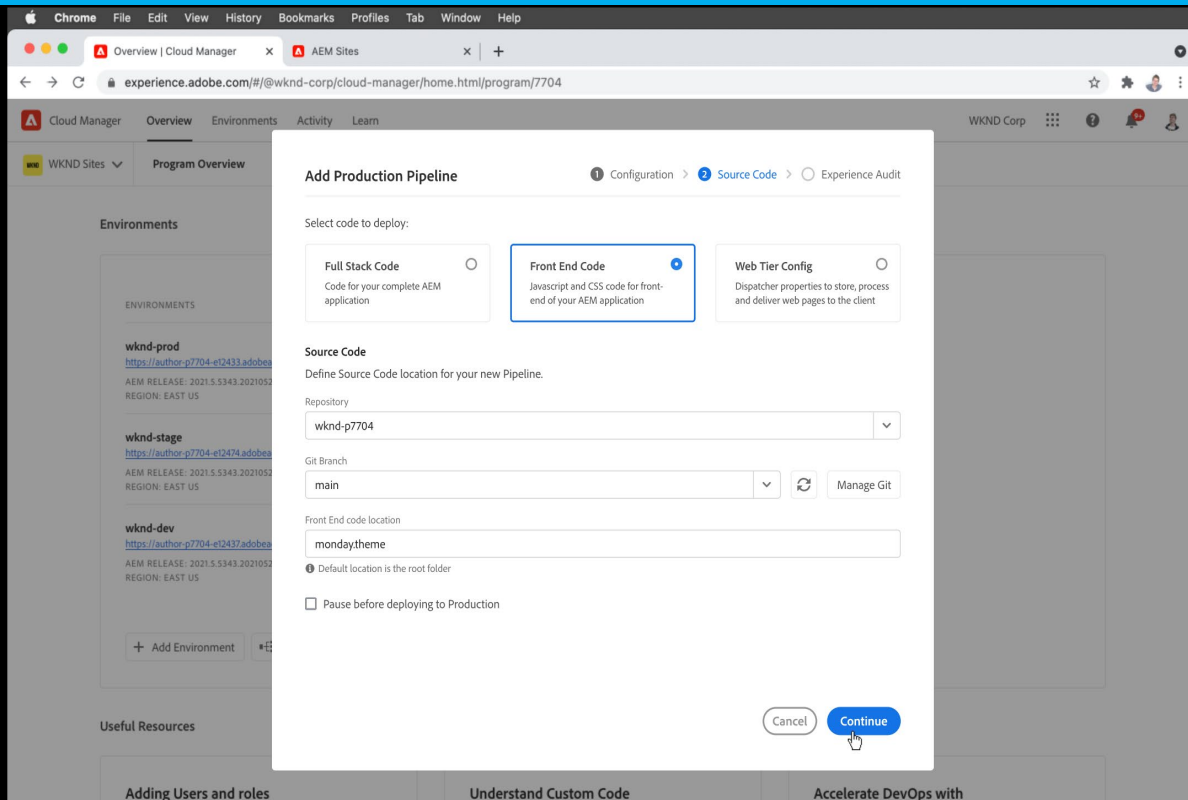
Front End Pipeline(s)
(Themes, Libraries, SPAs, PWAs,...)
Deploy in Minutes

OSGi Configuration

Back End Code

Full Stack Pipeline
(Java Code, OSGi Configurations,...)

Pipeline Configuration



The screenshot shows a web browser window displaying the Adobe Cloud Manager interface. A modal dialog titled "Add Production Pipeline" is open, showing the "Source Code" configuration step. The dialog has three tabs: "Configuration", "Source Code" (selected), and "Experience Audit".

Select code to deploy:

- Full Stack Code
Code for your complete AEM application
- Front End Code
Javascript and CSS code for front-end of your AEM application
- Web Tier Config
Dispatcher properties to store, process and deliver web pages to the client

Source Code
Define Source Code location for your new Pipeline.

Repository:

Git Branch:

Front end code location:

Default location is the root folder

Pause before deploying to Production

Buttons:

Recipe

Take Away

- Define YOUR development setup
- Leverage available tooling
- Integrate the AEM Analyzer Plugin !

Q & A

References

- Enterprise Team Setup : <https://experienceleague.adobe.com/docs/experience-manager-cloud-service/implementing/using-cloud-manager/managing-code/enterprise-team-dev-setup.html>
- Cloud Manager Repositories: <https://experienceleague.adobe.com/docs/experience-manager-cloud-service/implementing/using-cloud-manager/managing-code/cloud-manager-repositories.html>
- Moving to Cloud Service: <https://experienceleague.adobe.com/docs/experience-manager-cloud-service/moving/home.html>
- OSGi Configurations: <https://experienceleague.adobe.com/docs/experience-manager-cloud-service/implementing/deploying/configuring-osgi.html>
- AEM Analyzer Plugin: <https://experienceleague.adobe.com/docs/experience-manager-core-components/using/developing/archetype/build-analyzer-maven-plugin.html>
- Logging: <https://experienceleague.adobe.com/docs/experience-manager-cloud-service/implementing/using-cloud-manager/manage-logs.html>