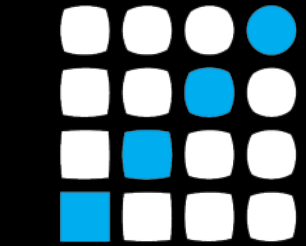

EUROPE'S LEADING AEM DEVELOPER CONFERENCE

27th – 29th SEPTEMBER 2021

AEM Cloud Service from a Developer Perspective

Carsten Ziegeler, Adobe

About Me

Carsten Ziegeler

Principal Scientist

AEM Cloud Engineering

Adobe

#cziegeler

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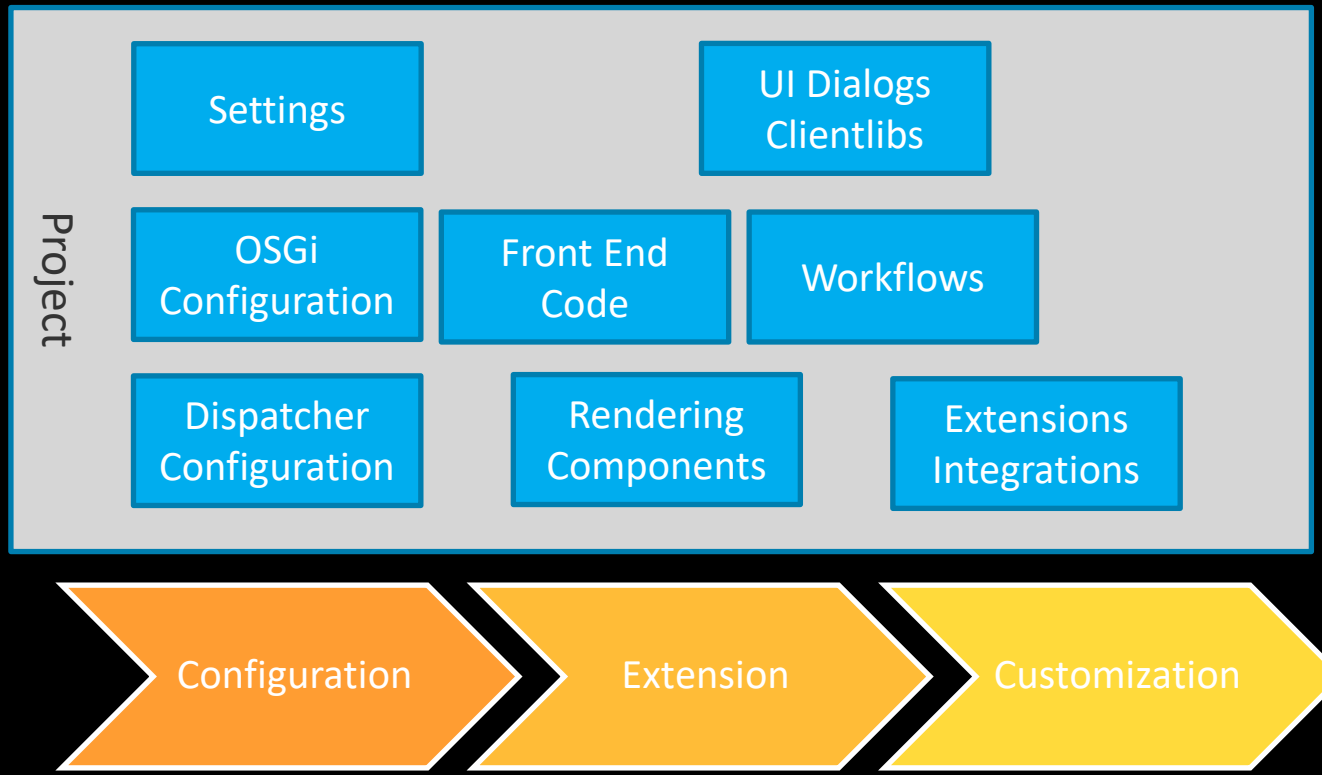
Runbook

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

AEM Development

Elements of an AEM Project



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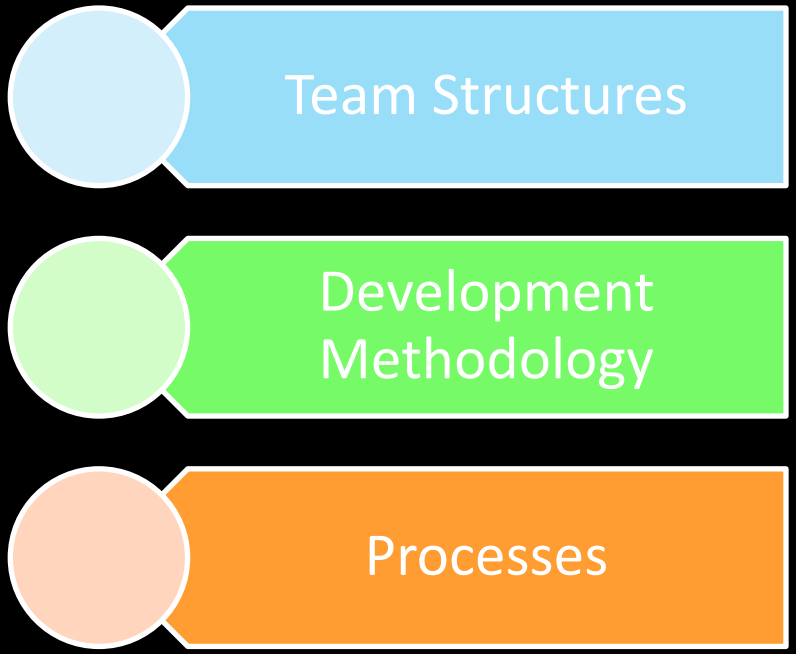
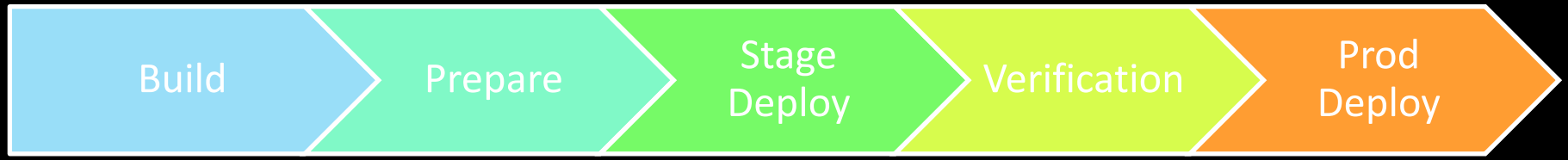
Development Flexibility



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



Build	Prepare	Stage Deploy	Verification	Prod Deploy
Project builds Tests run Code scanned	Cloud Ready Precompilation	Deploys and Starts	Functional and visual tests	Code in production

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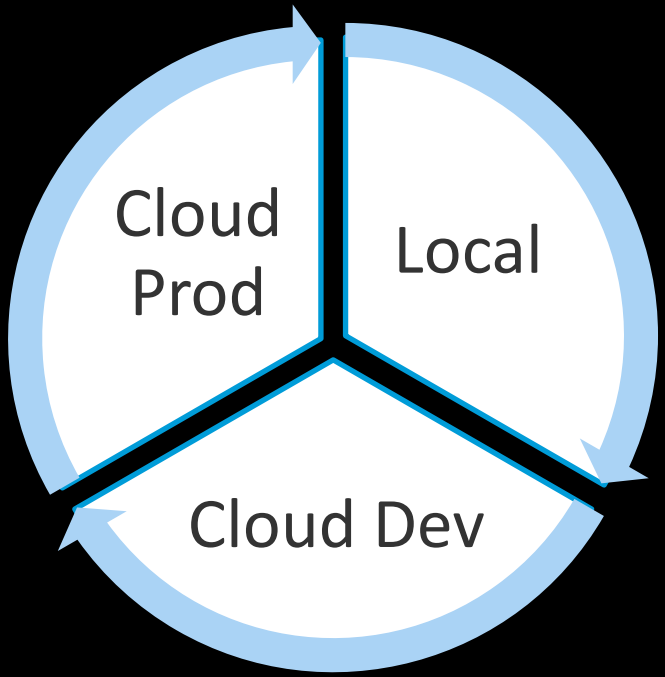
Development Flow



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Suggestions

- Release Train
- CI/CD
- Feature Toggles

Local Development

Development Setup

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

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Getting Started

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

Apache Maven Dependencies

- 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

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Environment Handling

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

Defining OSGi Configurations

- JSON format, leveraging placeholders

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

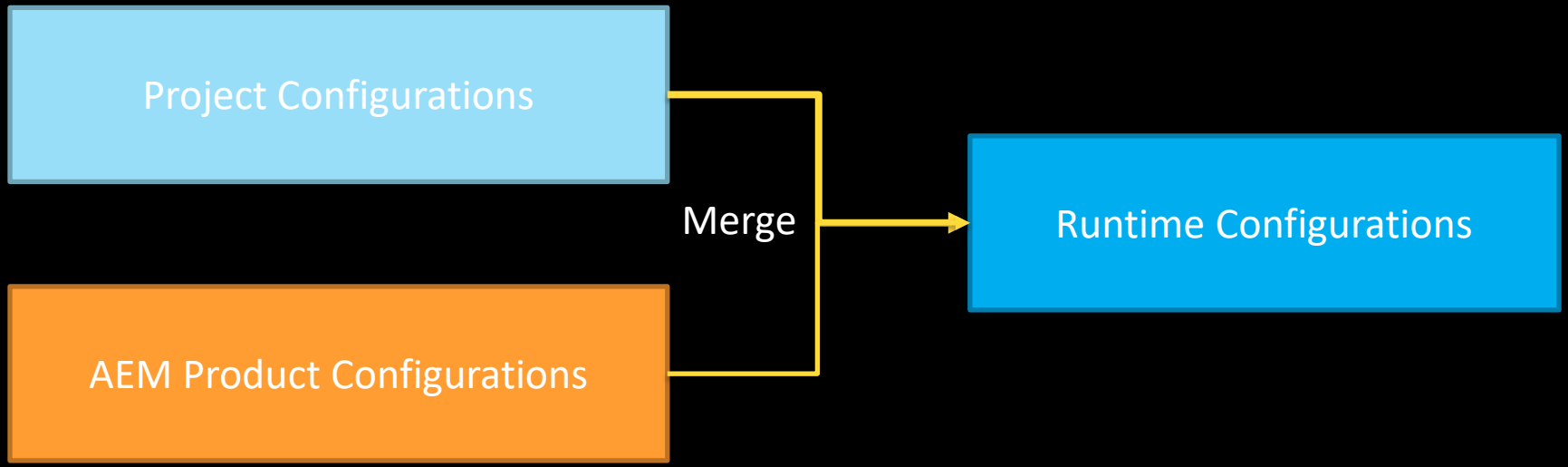
Defining OSGi Configurations

- 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

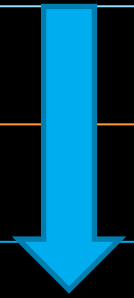
OSGi Configuration Defaults and Merging



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 Development

- 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

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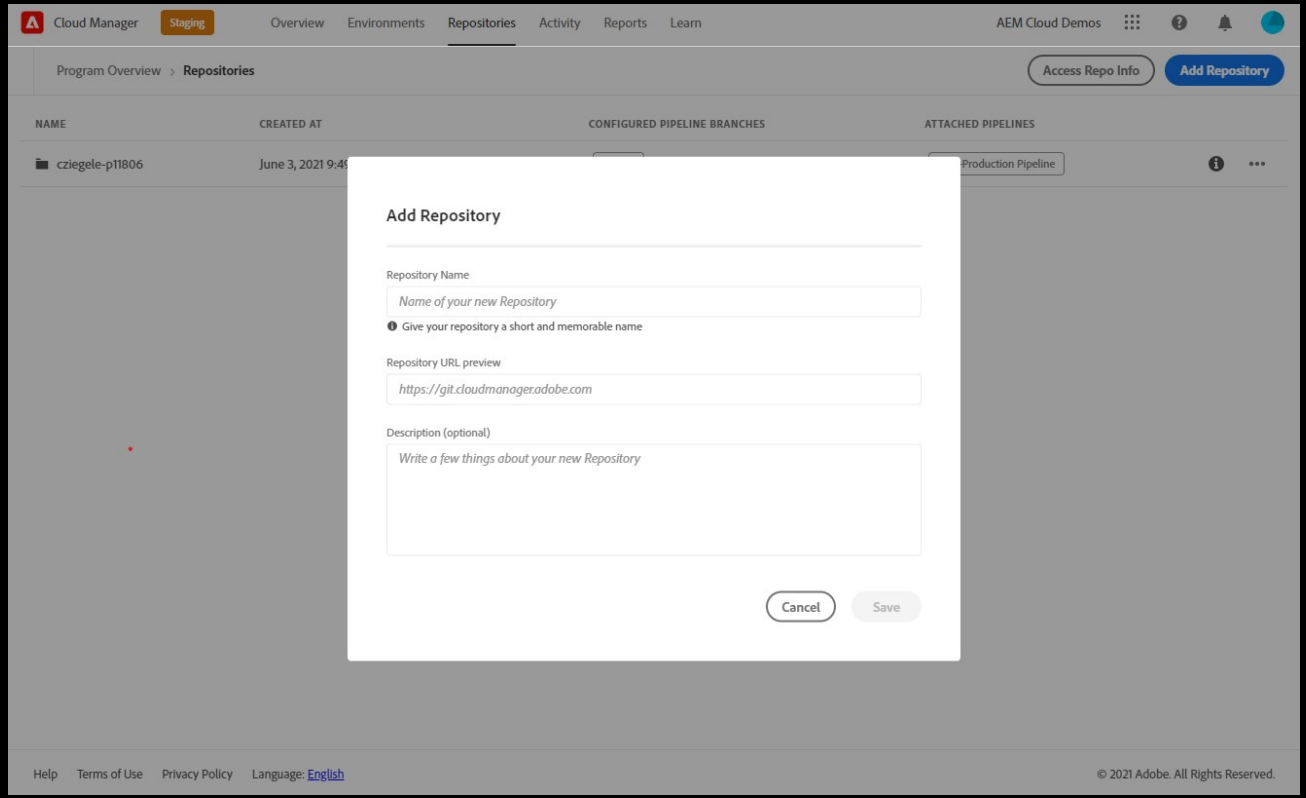
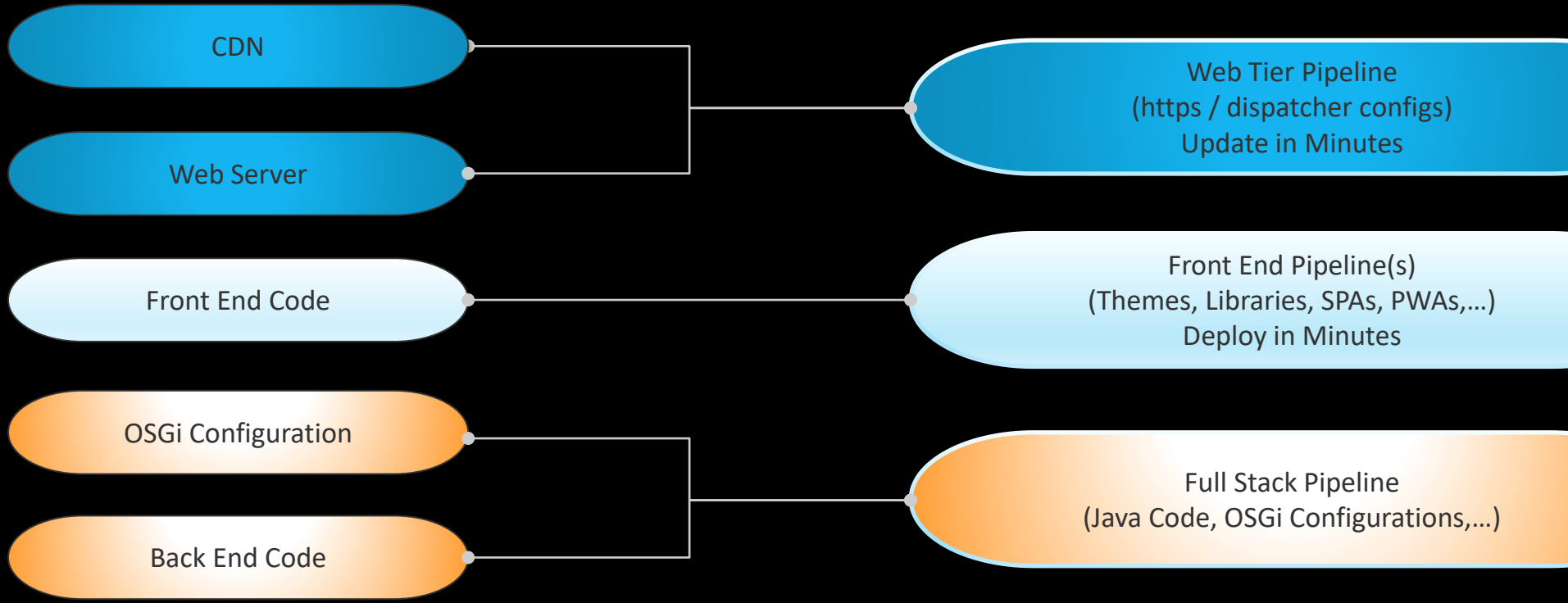
AEM (Pre)release

- 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

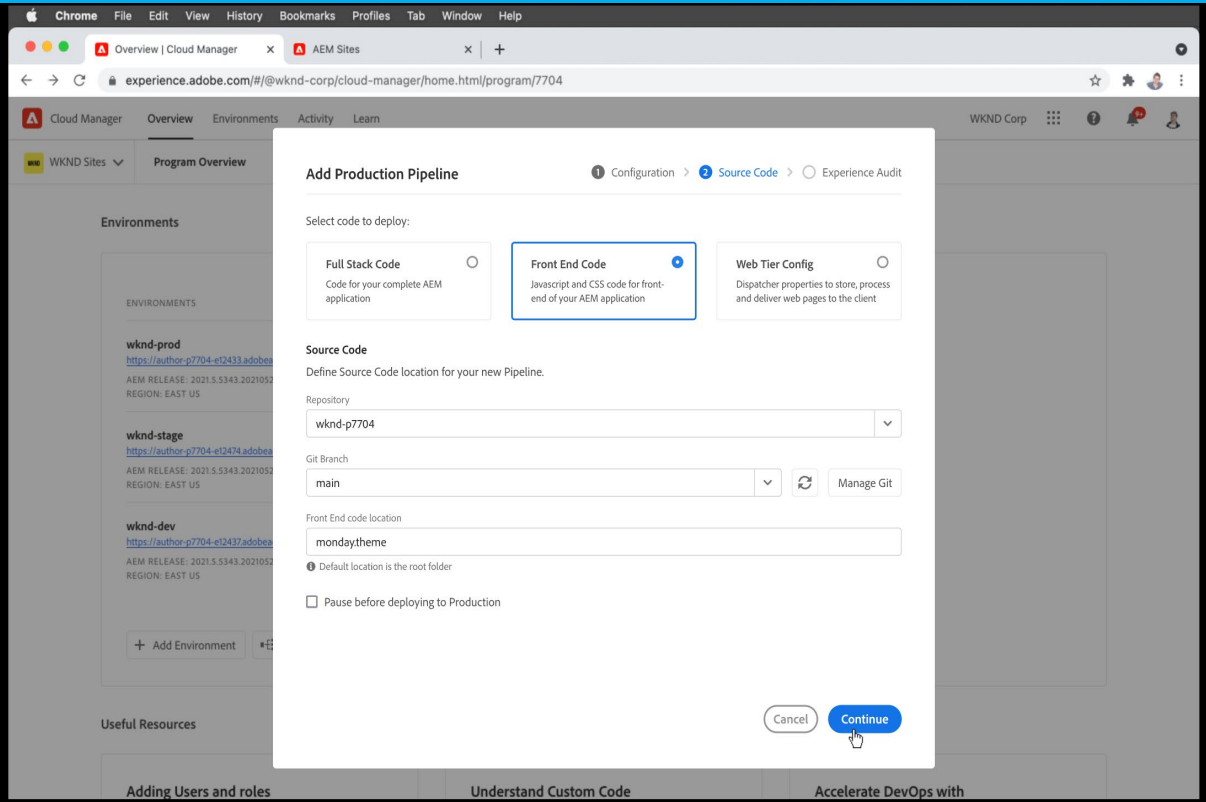
Cloud Manager Git Repositories



Cloud Manager : Specialized Pipeline Types



Pipeline Configuration



Recipe

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Take Away

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

Q & A

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References

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- Cloud Manager Repositories: https://experienceleague.adobe.com/docs/experience-manager-cloud-service/implementing/using-cloud-manager/managing-code/cloud-manager-repositories.html
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