DATE : 18-03-2025

1. Maven and AEM Project Structure Guide

Maven Build Lifecycle
Maven operates through a well-defined build lifecycle that consists of multiple phases:

- **Clean: Deletes the target directory along with compiled files.**
- **Validate: Ensures the project's configuration is correct.**
- **Compile: Converts source code into executable bytecode.**
- **Test: Executes unit tests to verify functionality.**
- **Package: Assembles the project into a JAR or WAR file.**
- **Verify: Confirms the integrity of the generated package.**
- **Install: Stores the packaged artifact in the local repository.**
- **Deploy: Uploads the package to a remote repository for distribution.**

Command to Execute Maven Lifecycle:
mvn clean install

2.What is the pom.xml File and Why is it Used?
The POM (Project Object Model) XML file is the fundamental configuration file in a Maven project. It specifies:

- **Project Details (such as name, version, and group ID)**
- **Dependencies (external libraries required for the project)**
- **Plugins (for tasks like compilation, packaging, and deployment)**
- **Build Configuration (custom settings for the build process)**

Example pom.xml:

```
<project xmlns="http://maven.apache.org/POM/4.0.0" ...>
  <modelVersion>4.0.0</modelVersion>
  <groupId>com.myTraining</groupId>
  <artifactId>aem-project</artifactId>
  <version>1.0-SNAPSHOT</version>
  <packaging>pom</packaging>
</project>
```

3.How Do Dependencies Work?
Dependencies specify the external libraries a project requires. Maven automatically retrieves these from a central repository and adds them to the project.
Example Dependency in pom.xml:

```
<dependencies>
  <dependency>
    <groupId>org.apache.sling</groupId>
    <artifactId>org.apache.sling.api</artifactId>
    <version>2.20.0</version>
  </dependency>
</dependencies>
```

4.Checking the Maven Repository

Maven repositories store dependencies required for a project. They are categorized as:

- **Local Repository: Stored on your machine (~/.m2/repository/).**
- **Central Repository: Maven's default online repository.**
- **Remote Repository: Hosted by organizations for custom dependencies.**

Command to Check the Local Repository:

ls ~/.m2/repository/

5. How to Build All Modules Using Maven?

AEM projects typically follow a multi-module structure, where multiple modules are built together.
To compile and package all modules in the project, run:

mvn clean install

This command ensures that all modules are compiled, tested, and packaged in a single execution.

6. Can We Build a Specific Module?

Yes, you can build a specific module using the -pl (project list) flag.
Example: Build Only the Core Module

mvn clean install -pl core -am

The -am (also make) flag ensures that dependencies required by the specified module are also built.

7.Role of ui.apps, ui.content, and ui.frontend Folders

- **ui.apps: Contains AEM components, templates, and backend logic.**
- **ui.content: Stores sample content, including pages and digital assets.**
- **ui.frontend: Holds frontend resources like CSS, JavaScript, and client-side libraries.**

8. Why Use Run Modes?

Run modes enable environment-specific configurations (e.g., development, staging, production) in AEM.
Example: Running AEM in a Specific Mode

java -jar aem-author-p4502.jar -r author,dev

This command starts AEM in author mode with the development configuration.

9. What is the Publish Environment?

The publish environment (port 4503) is responsible for delivering content to end users. Content is first created and managed in the author environment (port 4502) and then replicated to the publish instance for public access.

10. Why Use the Dispatcher?

The Dispatcher is a key component in AEM, primarily used for:

- **Caching: Enhances performance by storing frequently accessed content.**
- **Security: Filters incoming requests before they reach the AEM instance.**
- **Load Balancing: Distributes traffic efficiently across multiple AEM instances.**

11. How to Access CRX/DE?

You can access CRX/DE (Content Repository Extreme Developer Edition) using the following URL:
http://localhost:4502/crx/de
This interface allows developers to view, edit, and manage AEM content structures.

DATE : 19-03-2025

Digital Asset Management (DAM) and Tasks Execution Guide

1. What is DAM and Why is it Used?

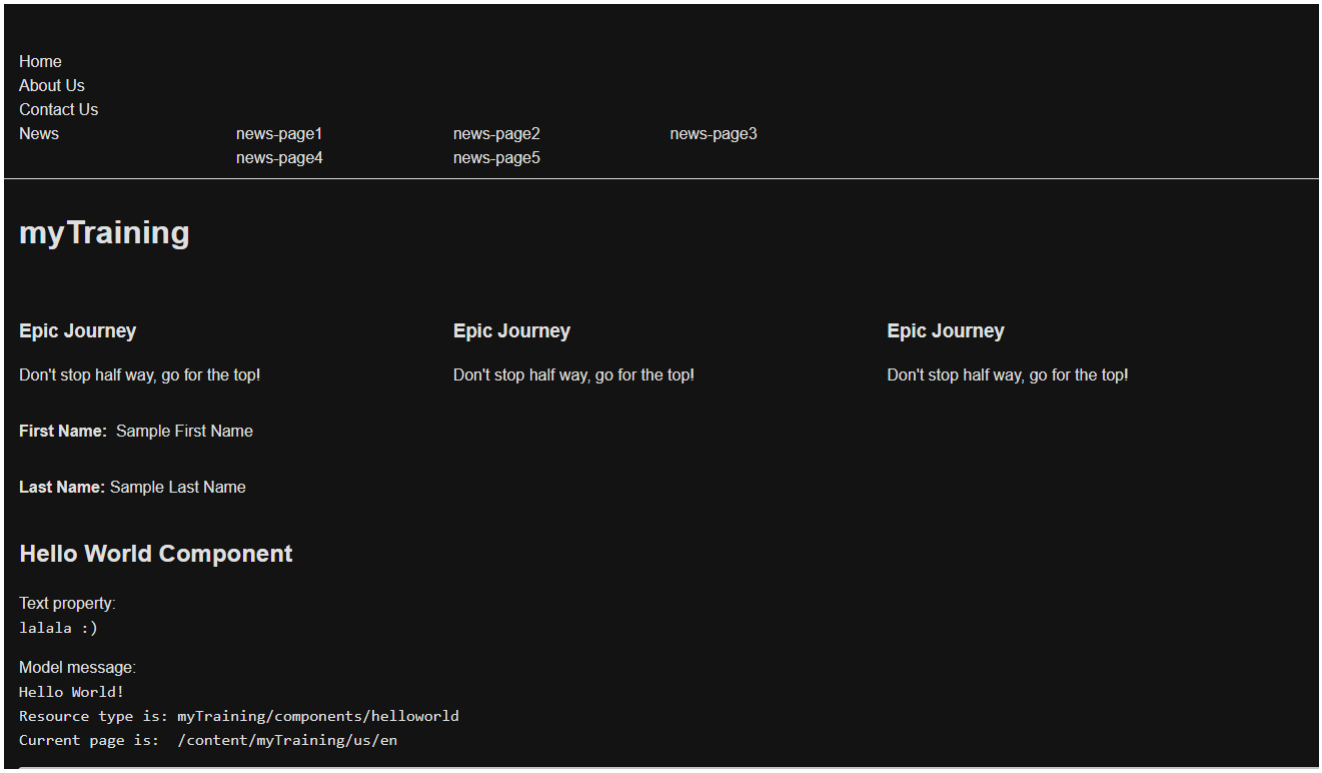
Digital Asset Management (DAM) is a system that helps organizations efficiently store, manage, and distribute digital assets like images, videos, and documents.
In Adobe Experience Manager (AEM), DAM is used to:

- **Centralize and organize digital assets.**
- **Enable easy retrieval and reuse of assets.**
- **Optimize asset delivery with renditions.**
- **Manage version control and access permissions effectively.**

2. Creating a Folder and Uploading Images in DAM

Follow these steps to create a folder and upload images in AEM's Digital Asset Management (DAM):

1. **Go to AEM Assets:**
   - **Navigate to AEM > Assets > Files.**
2. **Create a New Folder:**
   - **Click Create → Folder.**
   - **Set the path as: /content/dam/myTraining/us/en-us.**
3. **Upload Images:**
   - **Open the newly created folder.**
   - **Click Upload and select two images to add.**
4. **Open an AEM Page:**
   - **Go to AEM > Sites and open a page for editing.**
5. **Add an Image Component:**
   - **Drag and drop the Image Component onto the page.**
6. **Select and Author Images from DAM:**
   - **Click the component and choose an image from DAM.**
   - **Save and preview the page.**



3. What Are Renditions?

Renditions are automatically generated variations of an image in AEM DAM, optimized for different devices and use cases. These ensure efficient asset delivery by providing multiple sizes and formats.
Steps to Check Renditions:

1. **Go to AEM Assets:**
    - **Navigate to AEM > Assets > Files.**
2. **Open an Uploaded Image:**
    - **Select one of the images stored in DAM.**
3. **View Renditions:**
    - **Click on the Renditions tab to see the different available sizes.**

4. Adding First Name and Last Name Fields in the HelloWorld Component

Follow these steps to add First Name and Last Name fields to the HelloWorld component in AEM:
1. Open the HelloWorld Component

- **Navigate to the AEM Component Editor.**
- **Locate and open the HelloWorld component dialog.**

2. Add Fields to the Dialog

- **Add two fields inside the dialog XML (_cq_dialog.xml):**
    - **First Name (firstName)**
    - **Last Name (lastName)**

3. Modify helloworld.html to Display Values
Update helloworld.html to print the values stored in properties:
** First Name: ${properties.firstName} **
** Last Name: ${properties.lastName} **
This ensures that the values entered in the dialog are displayed correctly on the page.

5. Using @ValueMapValue in HelloWorldModel

Modify the Sling Model (HelloWorldModel.java) to use @ValueMapValue for retrieving the First Name and Last Name properties.
Updated HelloWorldModel.java:

```
@Model(adaptables = Resource.class)
public class HelloWorldModel {

   @ValueMapValue
   private String firstName;

   @ValueMapValue
   private String lastName;

   public String getFirstName() {
      return firstName;
   }

   public String getLastName() {
      return lastName;
   }
}
```

This ensures that the component retrieves the values stored in AEM properties and makes them available for rendering.

6. Why Use Package Manager? (Creating Packages)

The Package Manager in AEM is used for:

- **Exporting/Importing components and assets between different AEM instances.**
- **Ensuring Consistent Deployment across environments.**
- **Backing Up assets, configurations, and custom components.**

Steps to Create Packages:

1. Create a DAM Package (Images)

- **Navigate to AEM > Tools > Deployment > Package Manager.**
- **Click Create Package.**
- **Set the name as: DAM-Images-Package.**
- **Add the path: /content/dam/myTraining/us/en-us.**
- **Click Build and Download the package.**

2. Create a HelloWorld Component Package

- **In Package Manager, create another package.**
- **Name it: HelloWorld-Component-Package.**
- **Add the path: /apps/myTraining/components/helloworld.**
- **Click Build and Download the package.**

This method ensures easy content migration and deployment between AEM environments.

7. Configure Replication Agent and Publish a Page

1. Configure Replication Agent

- **Navigate to AEM > Tools > Deployment > Replication.**
- **Click on Agents on Author.**
- **Select and edit the default replication agent.**
- **Set the Transport URI to:**
- **http://localhost:4503/bin/receive**

(Assuming the default setup.)

- **Click Test Connection, then Save the settings.**

2. Publish a Page

- **Go to AEM > Sites.**
- **Select the page you want to publish.**
- **Click Publish to replicate the page to the publish instance.**

3. Test Replication via Command Line

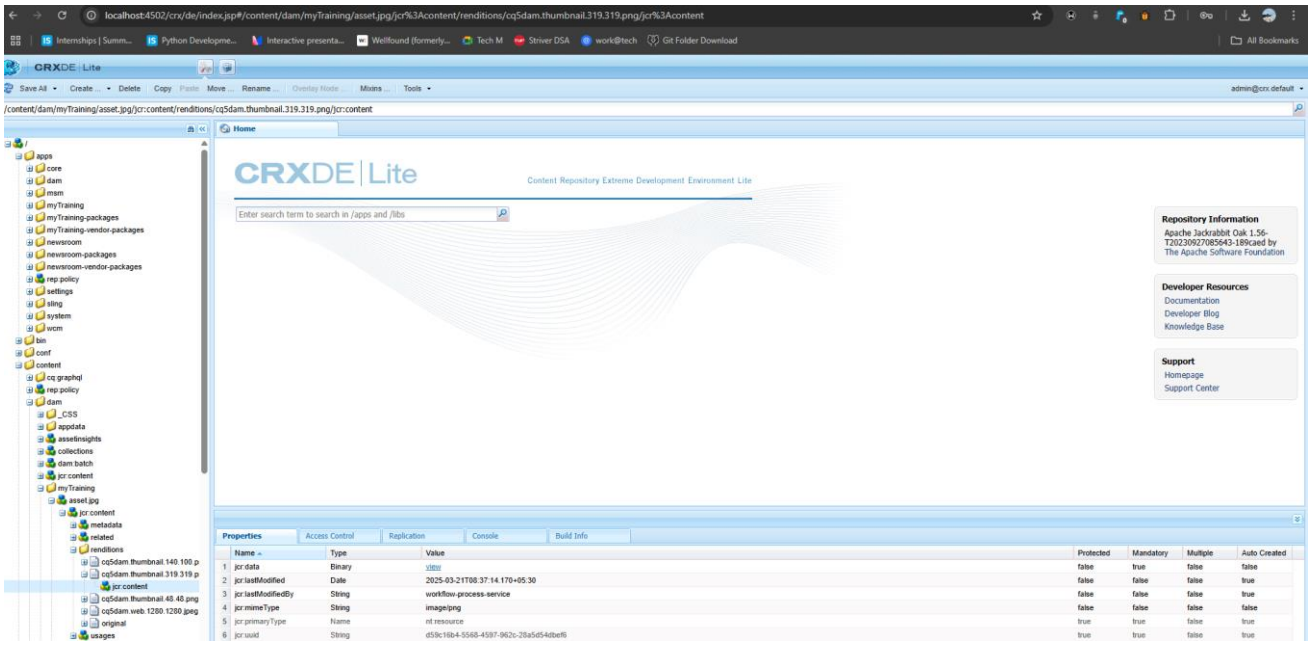
Run the following cURL command to manually trigger replication:

curl -u admin:admin -X POST "http://localhost:4502/bin/replicate.json" -d "path=/content/my-page&type=activate"

This confirms that the page is successfully sent from the author instance to the publish instance.

Final Note:

- **If issues arise, check logs in AEM Error.log (/crx-quickstart/logs)**
- **For further debugging, use AEM Web Console (http://localhost:4502/system/console).**



Home
About Us
Contact Us
News news-page1 news-page2 news-page3
news-page4 news-page5

myTraining

Epic Journey

Don't stop half way, go for the top!

Epic Journey

Don't stop half way, go for the top!

Epic Journey

Don't stop half way, go for the top!

First Name: Sample First Name

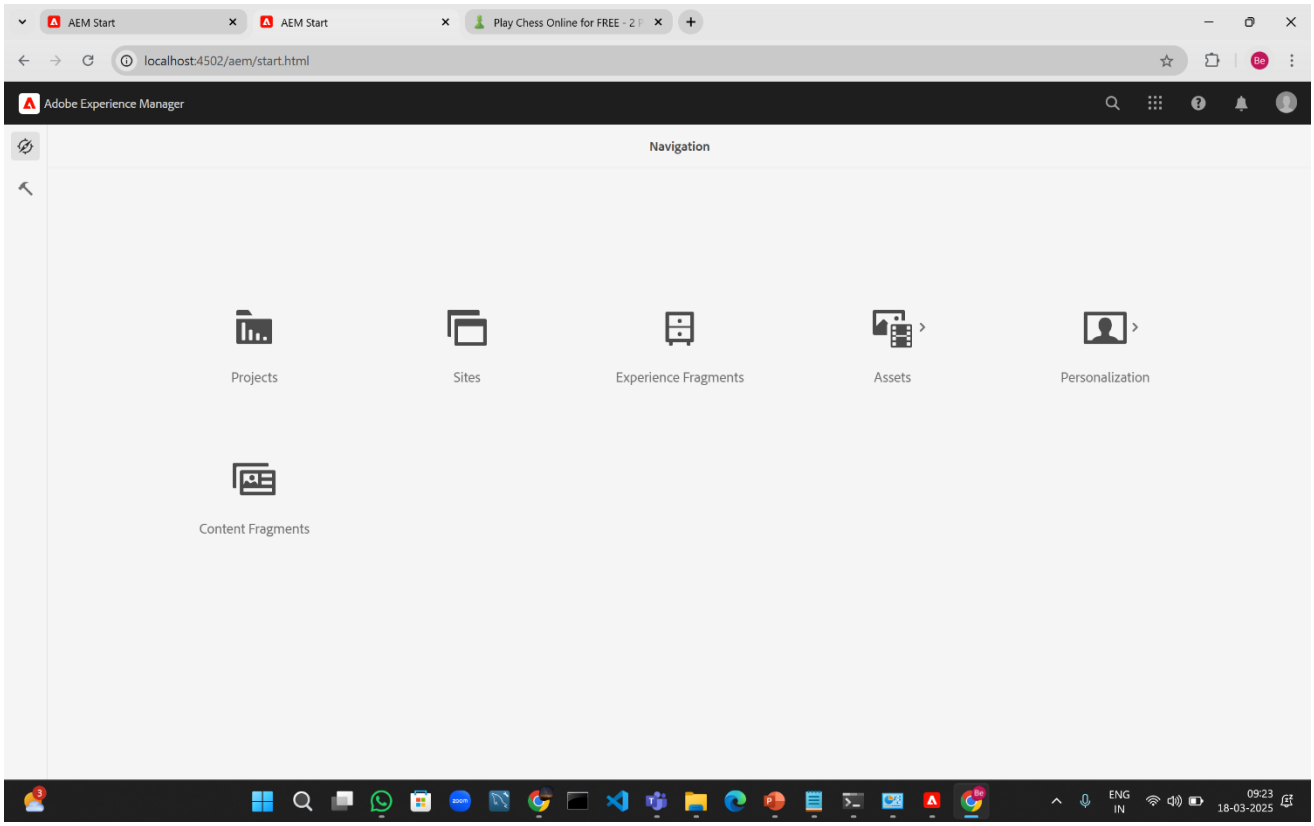
Last Name: Sample Last Name

Hello World Component

Text property:
`lalala :)`

Model message:

```
Hello World!
Resource type is: myTraining/components/helloworld
Current page is:  /content/myTraining/us/en
```



DATE : 20-03-2025

Applying CSS Styling

To ensure proper styling, inspect the page using **Developer Tools (F12) > Elements Tab** and verify the following styles:

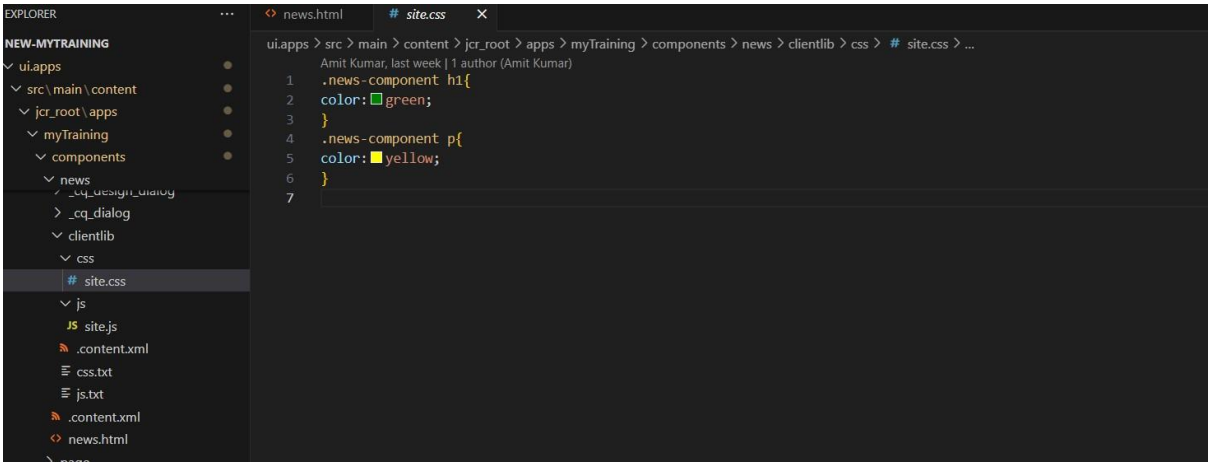
h2 { color: green; }

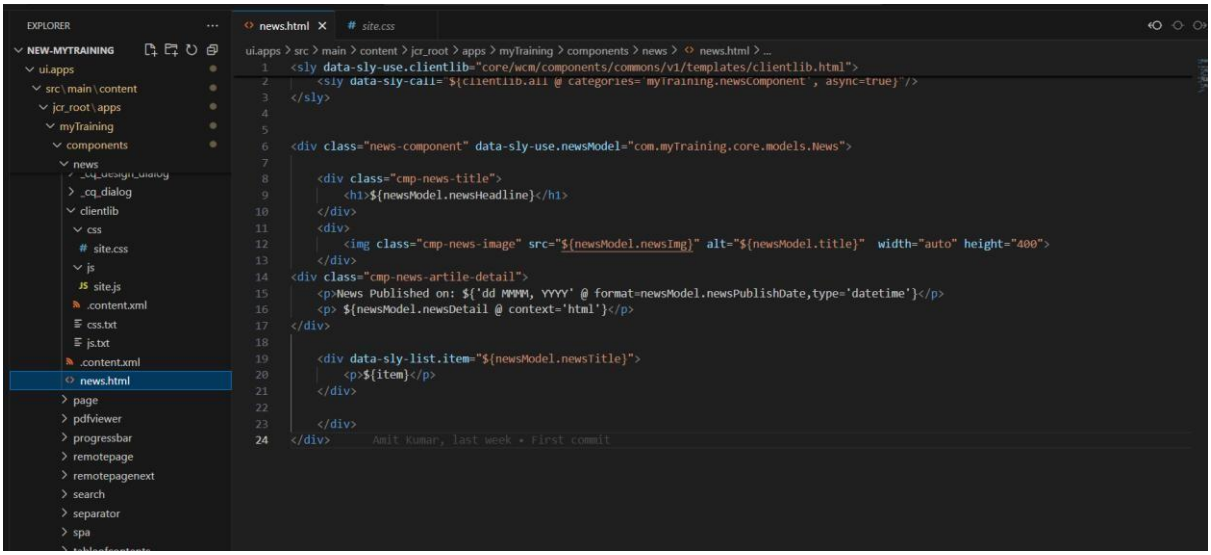
p { color: yellow; }

.date { color: black; }

Steps to Apply CSS in AEM:

1. **Locate the Component's CSS File:** Navigate to **ui.frontend → clientlibs → your-component → css/style.css**.
2. **Apply the CSS Styles:** Add the styles inside the appropriate CSS file:
3. h2 { color: green; }
4. p { color: yellow; }
5. .date { color: black; }
6. **Ensure the Styles Are Loaded:** Verify that the **CSS client library** is included in your component's HTML file:
7. <cq:includeClientLib categories="your-component"/>
8. **Check in Browser:** Open **Developer Tools (F12) > Elements Tab** and confirm that **Heading (<h2>)** is **green**, **News details (<p>)** are **yellow**, and **Date** is **black**.





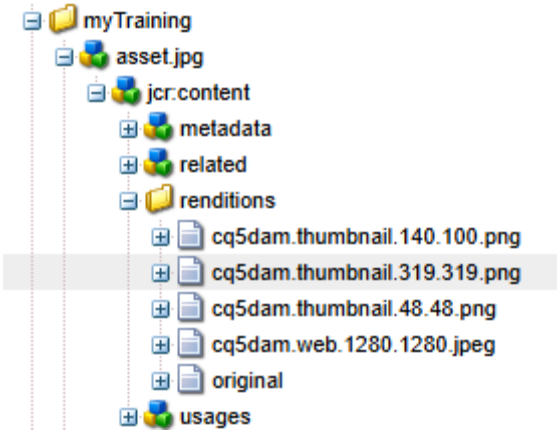
8. Extra ClientLibs (extraClientLibs) How to

Check:

- Open the multi-field component's **HTL (HTML Template Language) file**.

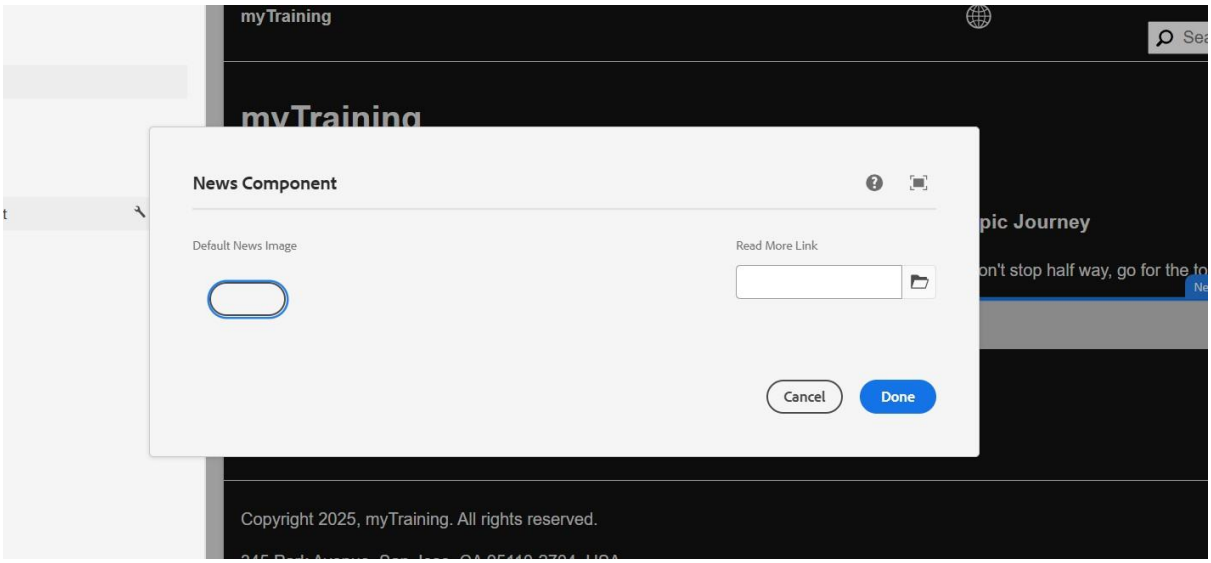
DATE: 21-03-2025

1. Create a News Room Page Component using the Base Page Component



2. Create Custom Page Property: "NEWS Configurations"

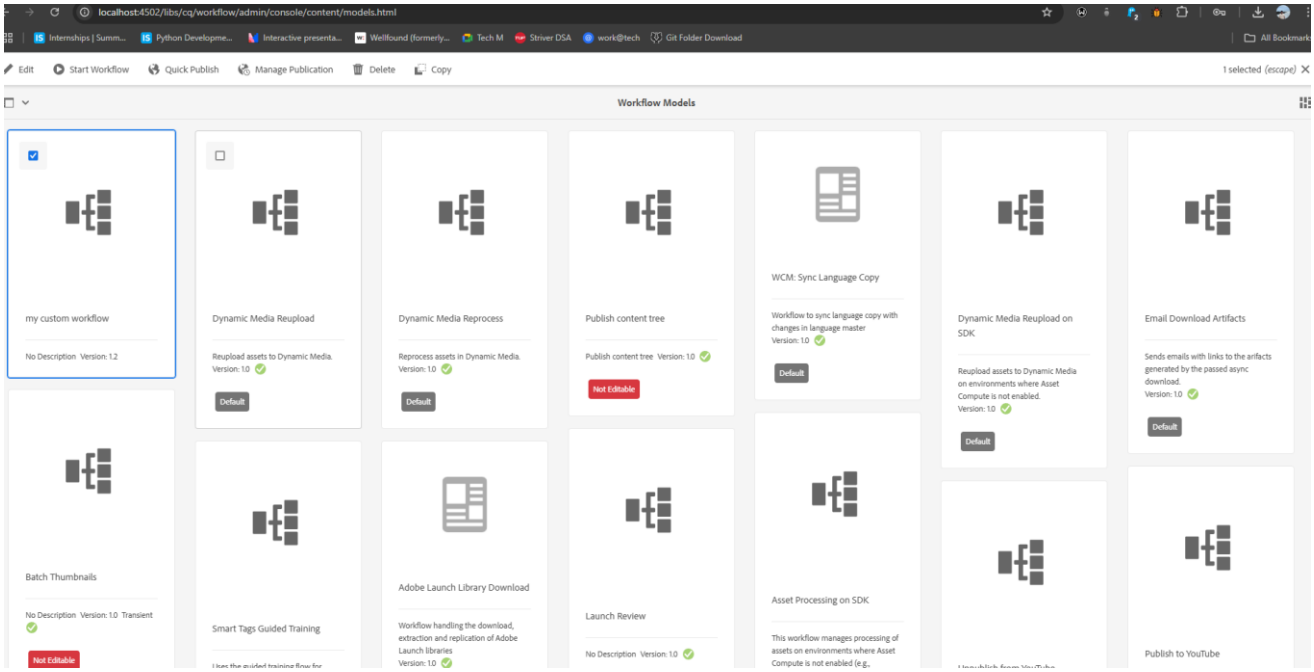
3. Add "Read More" CTA for News Articles



4. **Creating News Room Template Type Using News Room Page Component**

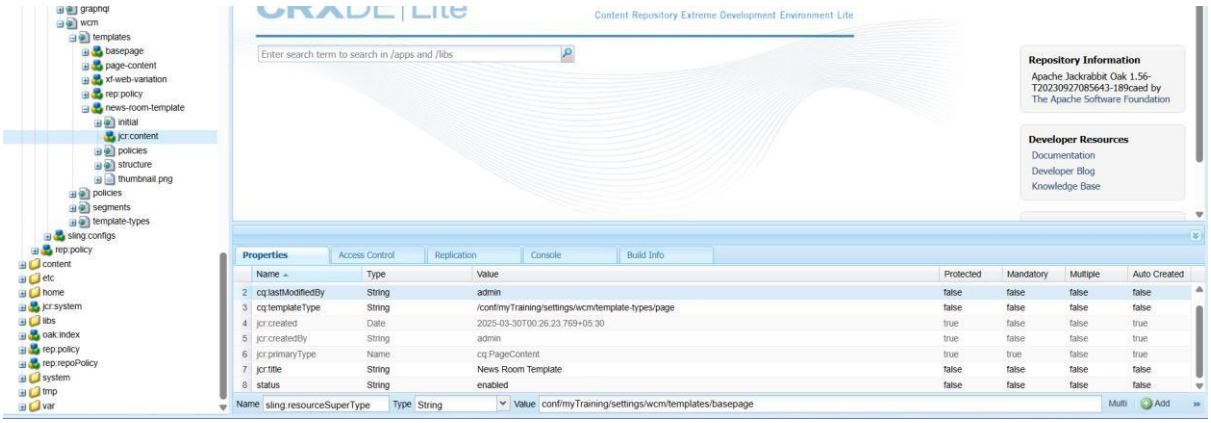
Steps to Implement:

1. **Navigate to Template Types: Go to AEM > Tools > General > Template Types.**
2. **Create a New Template Type: Click Create and name it News Room Template Type.**
3. **Set Allowed Resource Type: Configure the Allowed Resource Type as:**
4. **your-project/components/page/newsroompage**
5. **Save and Enable the Template Type.**



How to Verify:

- Go to **Template Editor** and check if the template type appears.
- Try creating a template using this type.



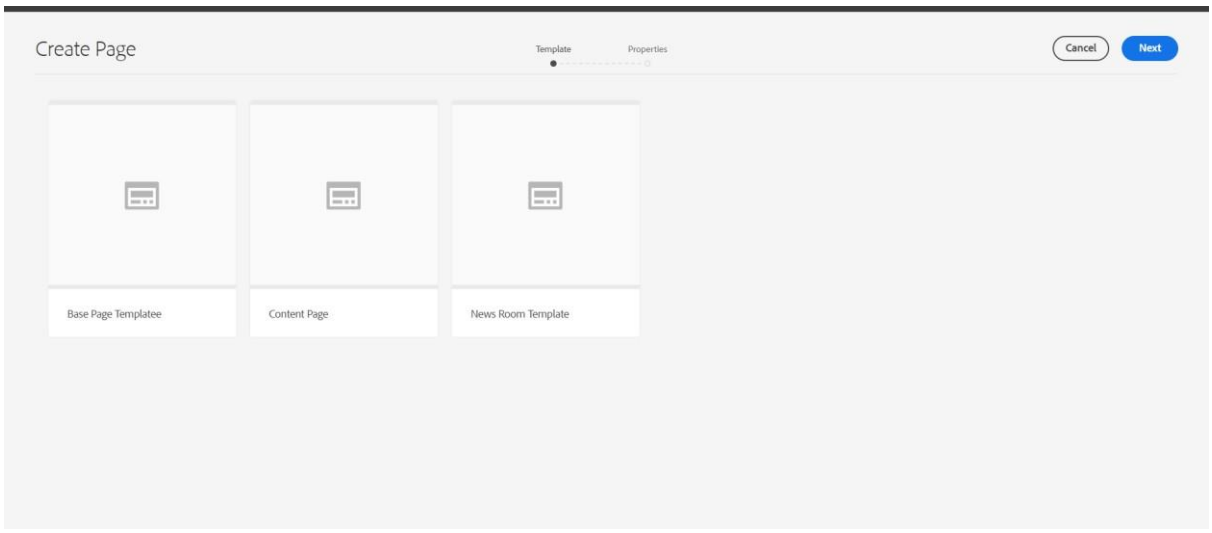
Creating News Room Template Using News Room Template Type

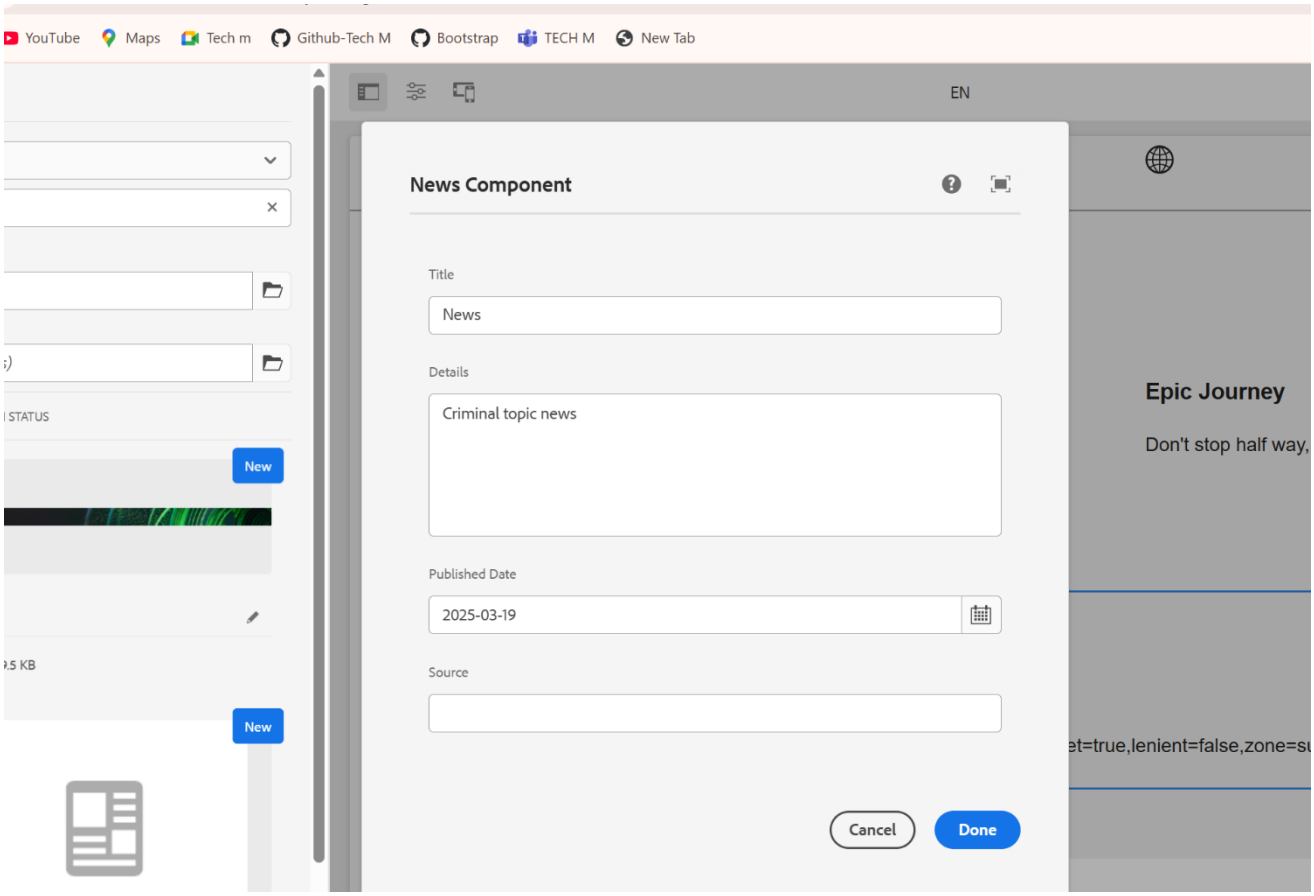
Steps to Implement:

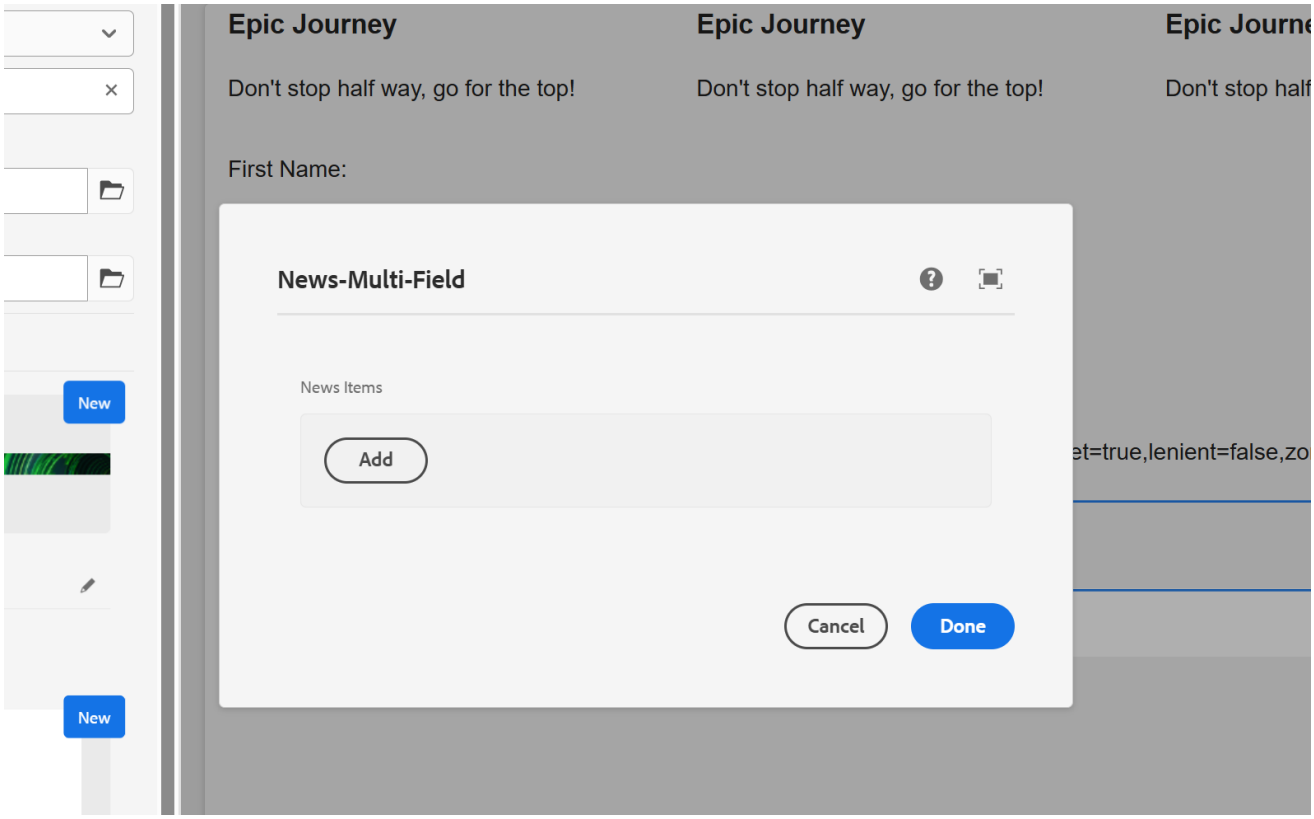
1. **Navigate to Templates: Go to AEM > Templates and click Create.**
2. **Select Template Type: Choose News Room Template Type as the base.**
3. **Define the Structure: Add required components like Header, News Listing, Footer, etc.**
4. **Save and Enable the Template.**

How to Verify:

- **Ensure the News Room Template appears under Templates in AEM.**
- **Create a new page using this template and check if the structure is applied correctly.**


Create Page
Template
Properties
Cancel
Next
Base Page Templatee
Content Page
News Room Template

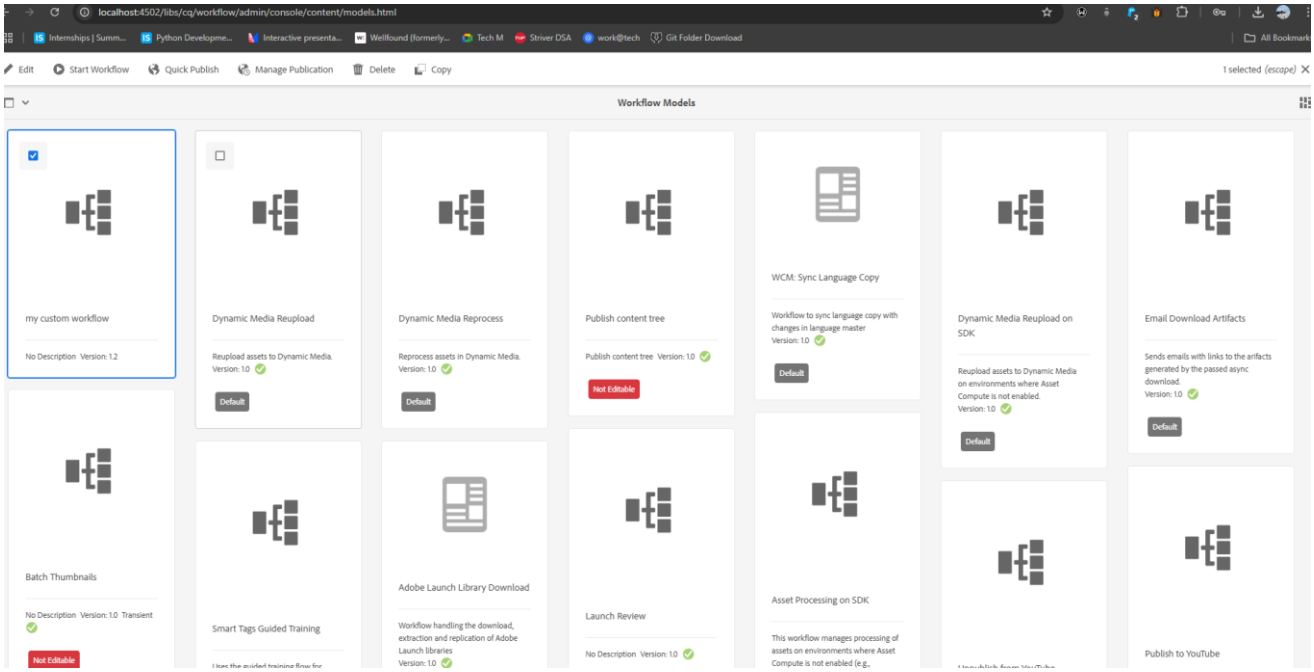

YouTube
Maps
Tech m
Github-Tech M
Bootstrap
TECH M
New Tab
EN
News Component
Title
News
Details
Criminal topic news
Published Date
2025-03-19
Source
Cancel
Done
Epic Journey
Don't stop half way,
STATUS
New
New

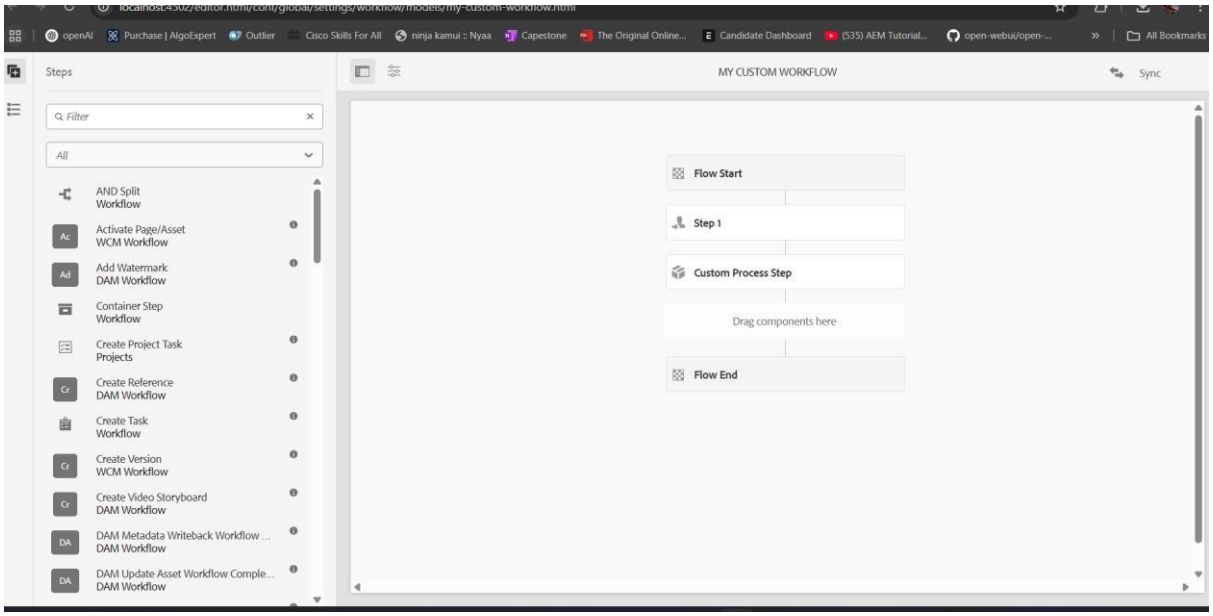


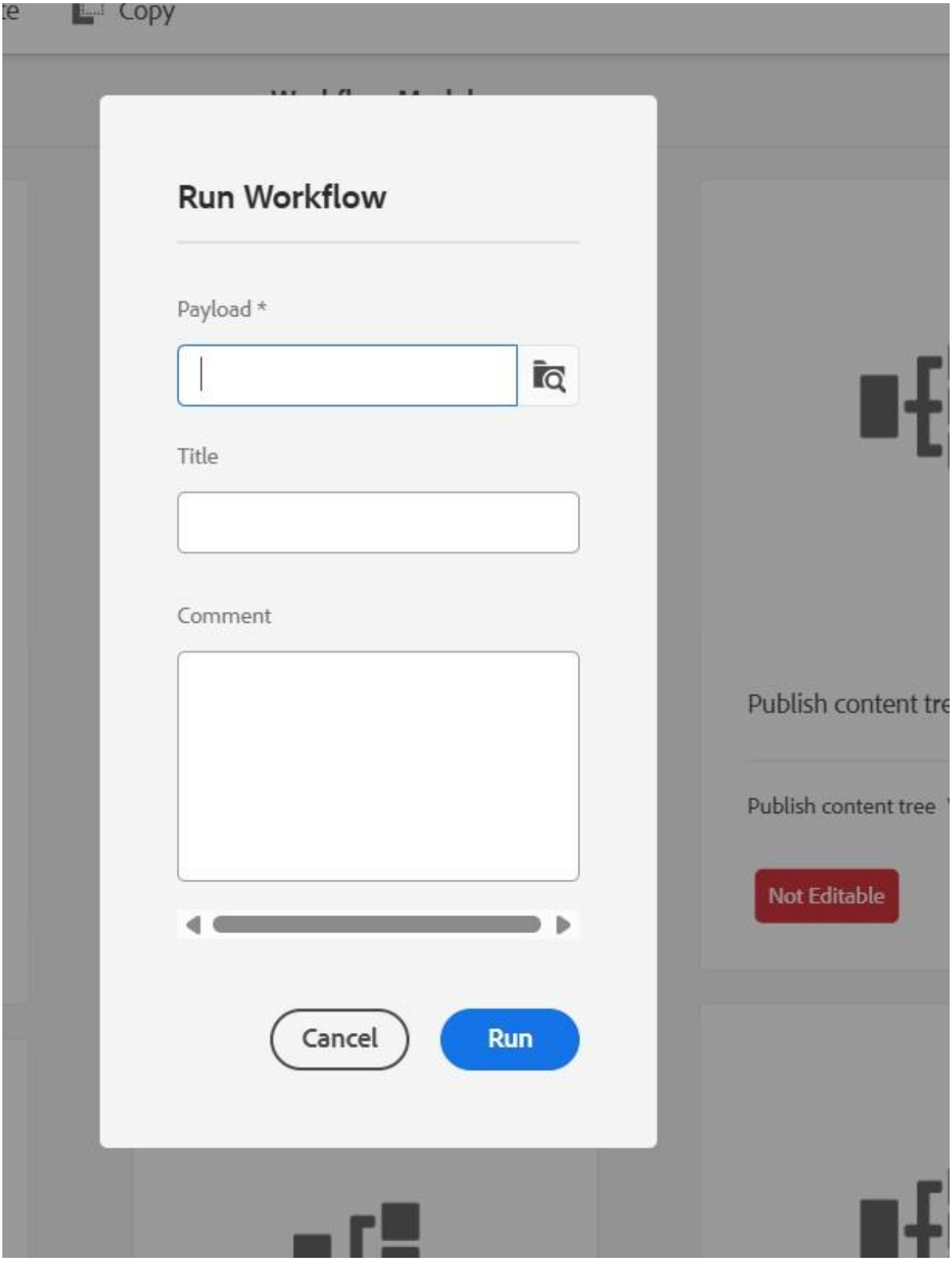
DATE : 25-03-2025

Steps to Check Custom Workflow in AEM

1. **Verify Workflow Model:**
    - **Navigate to AEM Start → Tools → Workflow → Models.**
    - **Ensure "my custom workflow" is listed.**
    - **Open it and confirm that the custom workflow process step is properly configured.**
2. **Trigger the Workflow on a Page:**
    - **Go to AEM > Sites and select a page.**
    - **Click on Page Properties → Start Workflow.**
    - **Choose your custom workflow and start it.**
3. **Check Logs:**
    - **Open AEM error.log file located at crx-quickstart/logs/error.log.**
    - **Look for log statements that print the page title to confirm execution.**


localhost:4502/libs/cq/workflow/admin/console/content/models.html
Edit
Start Workflow
Quick Publish
Manage Publication
Delete
Copy
1 selected (escape)
Workflow Models
my custom workflow
No Description Version: 1.2
Dynamic Media Reupload
Reupload assets to Dynamic Media.
Version: 1.0
Default
Dynamic Media Reprocess
Reprocess assets in Dynamic Media.
Version: 1.0
Default
Publish content tree
Publish content tree Version: 1.0
Not Editable
WCM: Sync Language Copy
Workflow to sync language copy with changes in language master
Version: 1.0
Default
Dynamic Media Reupload on SDK
Reupload assets to Dynamic Media on environments where Asset Compute is not enabled.
Version: 1.0
Default
Email Download Artifacts
Sends emails with links to the artifacts generated by the passed async download.
Version: 1.0
Default
Batch Thumbnails
No Description Version: 1.0 Transient
Not Editable
Smart Tags Guided Training
Adobe Launch Library Download
Workflow handling the download, extraction and replication of Adobe Launch libraries
Version: 1.0
Launch Review
No Description Version: 1.0
Asset Processing on SDK
This workflow manages processing of assets on environments where Asset Compute is not enabled (e.g.,
Publish to YouTube

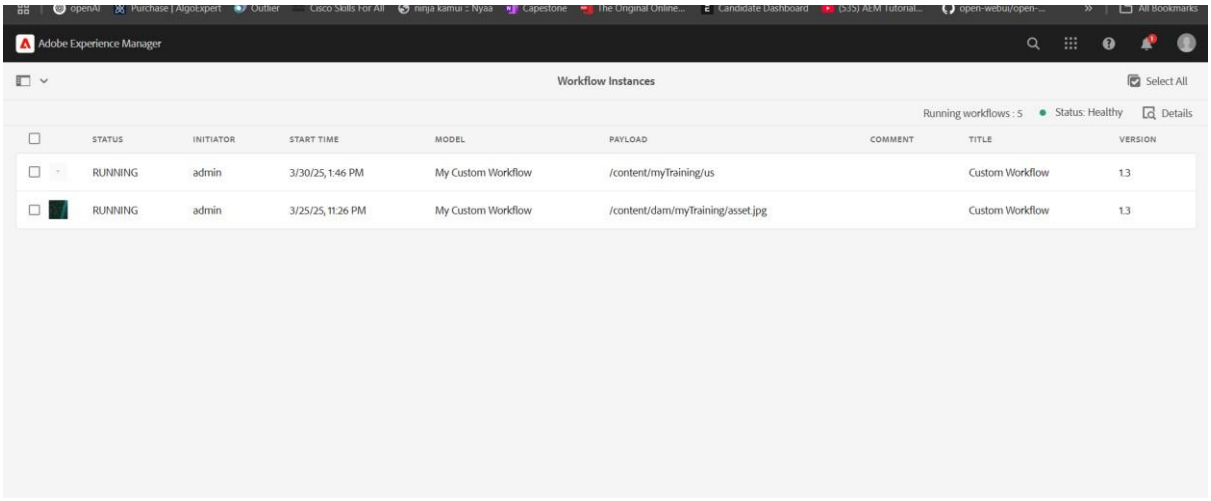

openAI
Purchase | AlgoExpert
Outlier
Cisco Skills For All
ninja kamui :: Nyaa
Capestone
The Original Online...
Candidate Dashboard
(535) AEM Tutorial...
open-webui/open-...
All Bookmarks
Steps
Filter
All
AND Split
Workflow
Activate Page/Asset
WCM Workflow
Add Watermark
DAM Workflow
Container Step
Workflow
Create Project Task
Projects
Create Reference
DAM Workflow
Create Task
Workflow
Create Version
WCM Workflow
Create Video Storyboard
DAM Workflow
DAM Metadata Writeback Workflow ...
DAM Workflow
DAM Update Asset Workflow Comple...
DAM Workflow
MY CUSTOM WORKFLOW
Sync
Flow Start
Step 1
Custom Process Step
Drag components here
Flow End

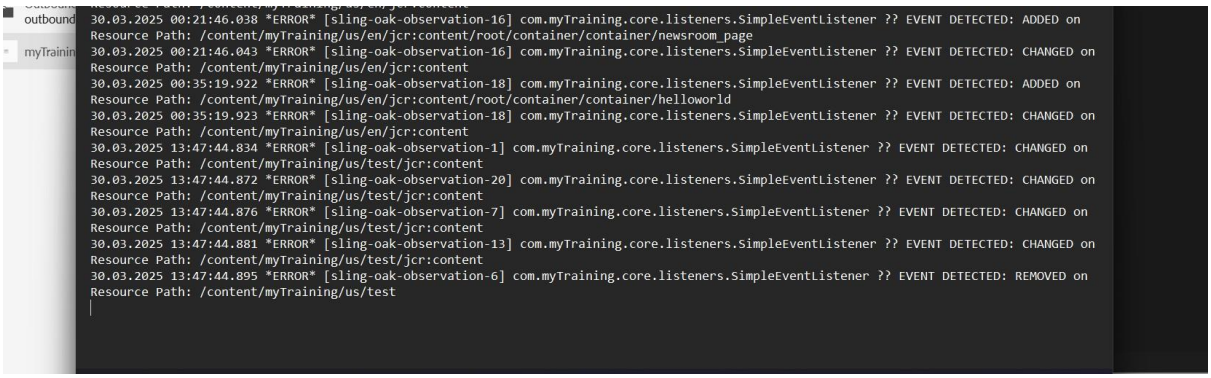

Copy
Run Workflow
Payload *
Title
Comment
Cancel
Run
Publish content tre
Publish content tree
Not Editable

2. Verify Event Handler Execution

Steps to Check:

- Perform an action that triggers the event (e.g., creating, modifying, or deleting a page or an asset).
- **Check Logs:** ○ Open error.log and look for log messages related to the resource path.

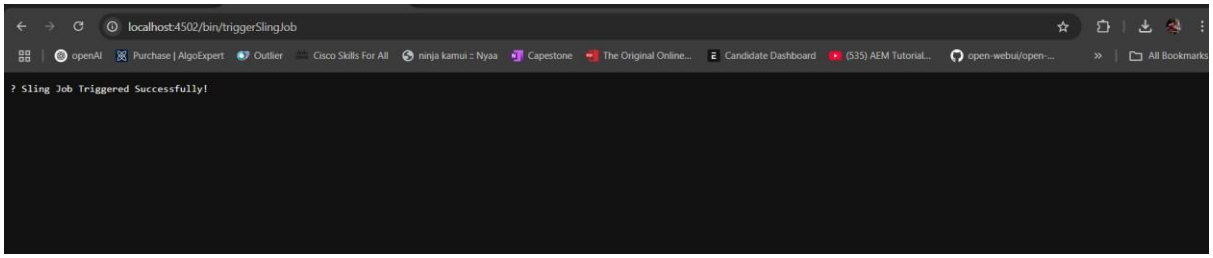


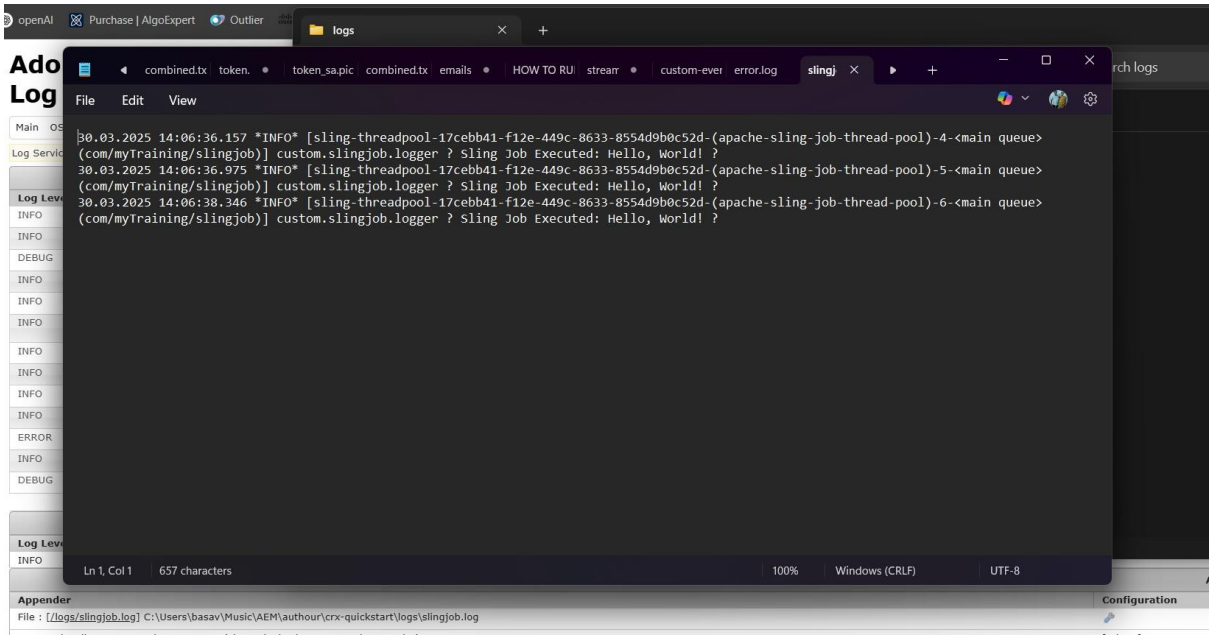


Verifying Sling Job Execution in AEM

Steps to Check:

1. **Navigate to Jobs Console:**
    - **Go to AEM Start → Tools → Operations → Jobs.**
    - **Ensure your custom Sling Job appears in the list.**
2. **Check Logs:**
    - **Open error.log file located at crx-quickstart/logs/error.log**





3. Verify Scheduler Execution Steps

to Check:

- Wait for **5 minutes** after deploying the scheduler.
- **Check Logs:** ○ Open error.log and look for **"Yellow World"** printed at every 5-minute interval.

Expected Output in Logs:

Yellow World printed by Scheduler

4. Verify User Group & Permissions

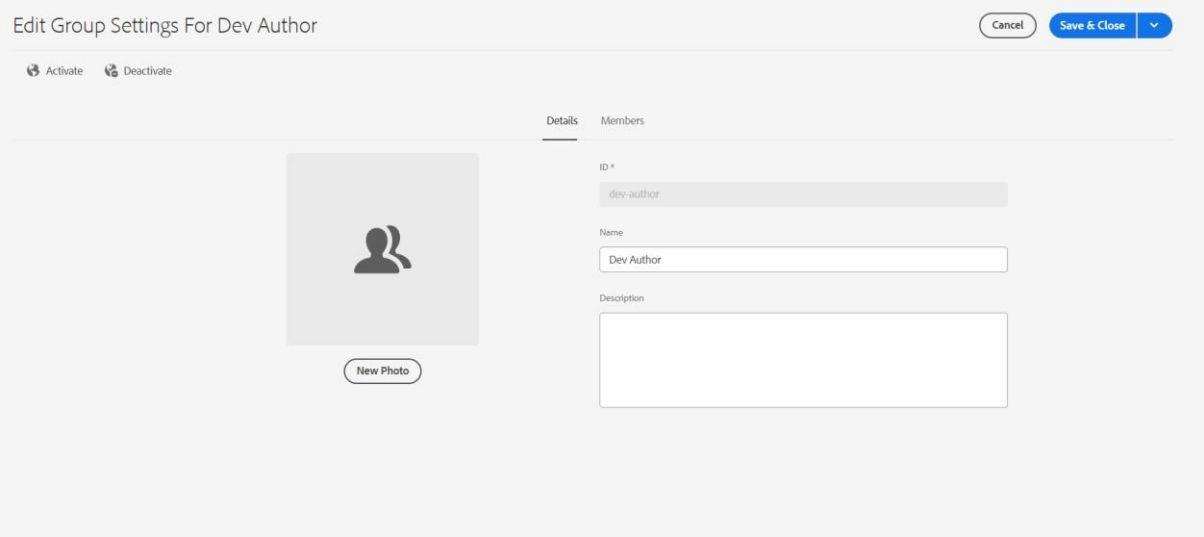
Steps to Check:

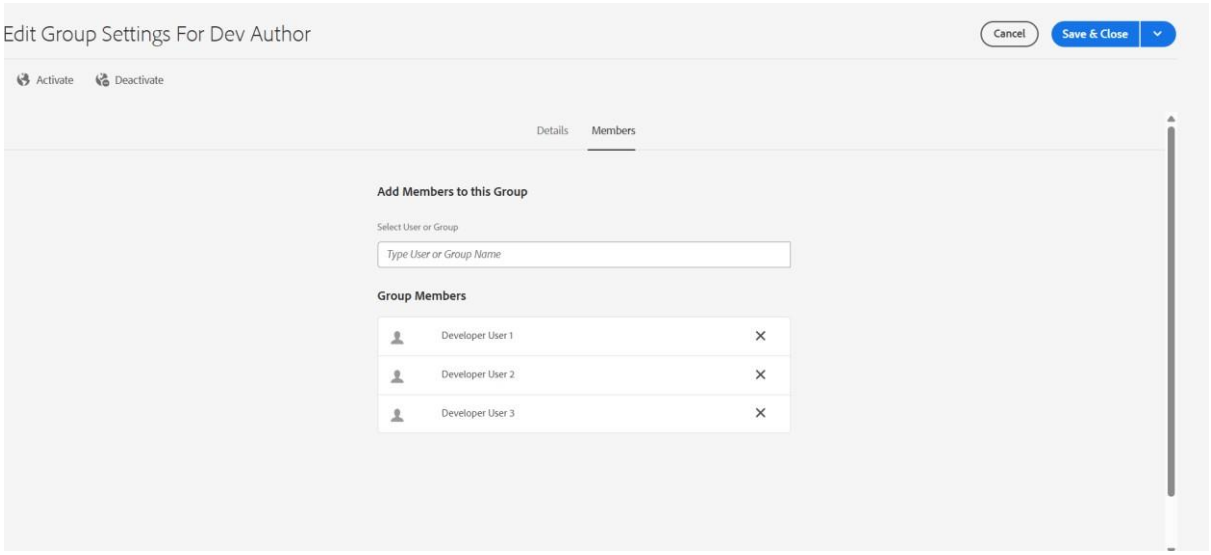
- Go to **AEM Start → Tools → Security → Groups**.
- Find **"Dev Author"** group and open it.
- Ensure the three users are **added**.
- Check **Permissions:**
    - Go to **/useradmin** (http://localhost:4502/useradmin). ○ Select the group and verify **Read access** is set for /content and /dam.

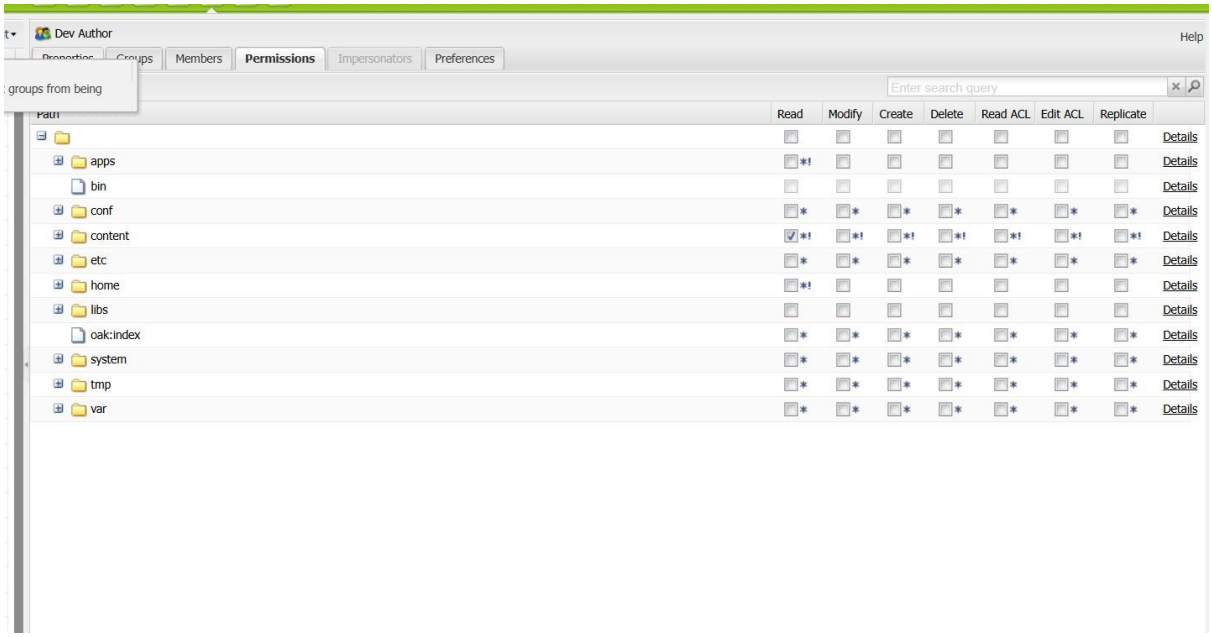
- Ensure **Replication Access** is enabled under **Replicator Permissions**.

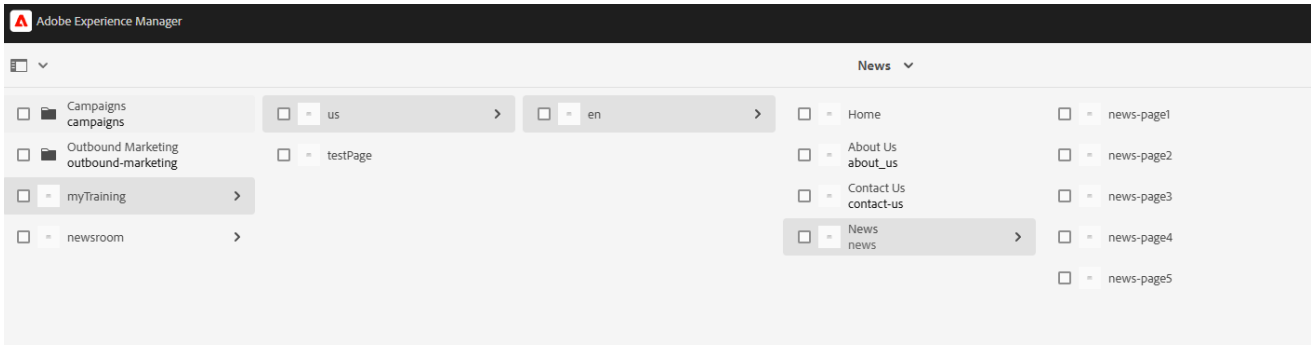
Test Permissions by Logging in as a User in the Group

- Login with one of the created users.
- Try to **view** a page under /content and an asset in /dam.
- Try **editing** or **deleting** content (should be restricted).
- Try **replicating** content (should be allowed).




Edit Group Settings For Dev Author
Cancel
Save & Close
Activate
Deactivate
Details
Members
Add Members to this Group
Select User or Group
Type User or Group Name
Group Members
Developer User 1
Developer User 2
Developer User 3


Dev Author
Help
Members
Permissions
Impersonators
Preferences
groups from being
Enter search query
Path
Read
Modify
Create
Delete
Read ACL
Edit ACL
Replicate
apps
bin
conf
content
etc
home
libs
oak:index
system
tmp
var
Details


Adobe Experience Manager
News
Campaigns
campaigns
Outbound Marketing
outbound-marketing
myTraining
newsroom
us
testPage
en
Home
About Us
about_us
Contact Us
contact-us
News
news
news-page1
news-page2
news-page3
news-page4
news-page5

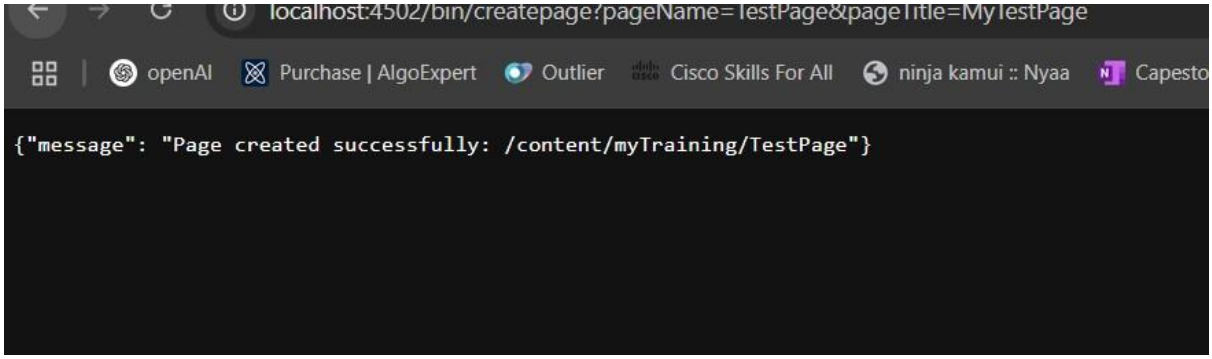
DATE : 26-03-2025

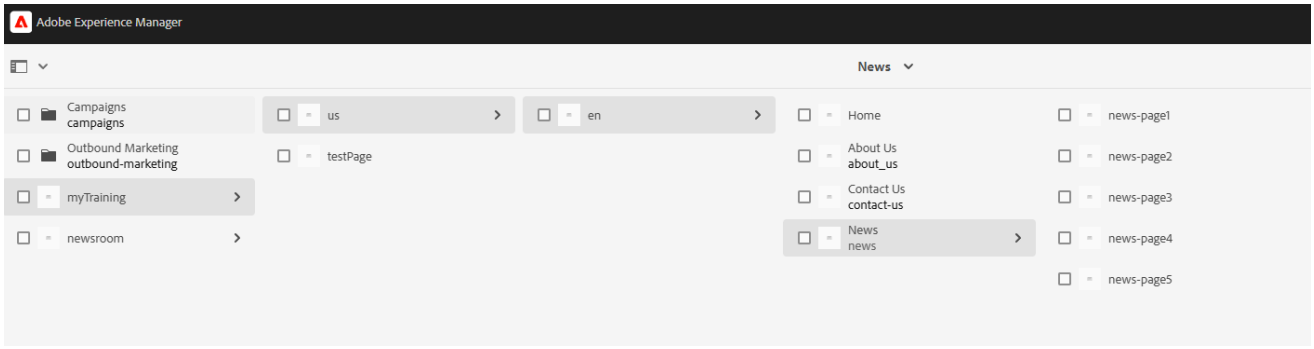
1. SampleServlet (resourceType-based registration) Check

Output:

- **URL Format:** http://localhost:4502/content/samplepage.sample.json • Replace samplepage with the actual page where you registered the servlet.
- If it returns the expected JSON response, the servlet is working.

2. CreatePageServlet (Registered via path) Check Output:

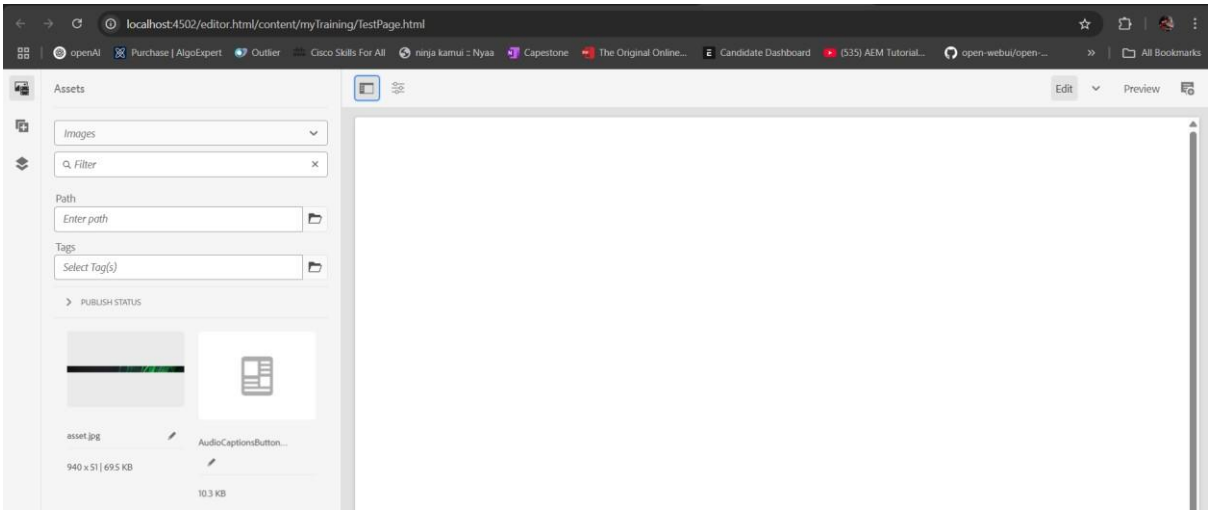




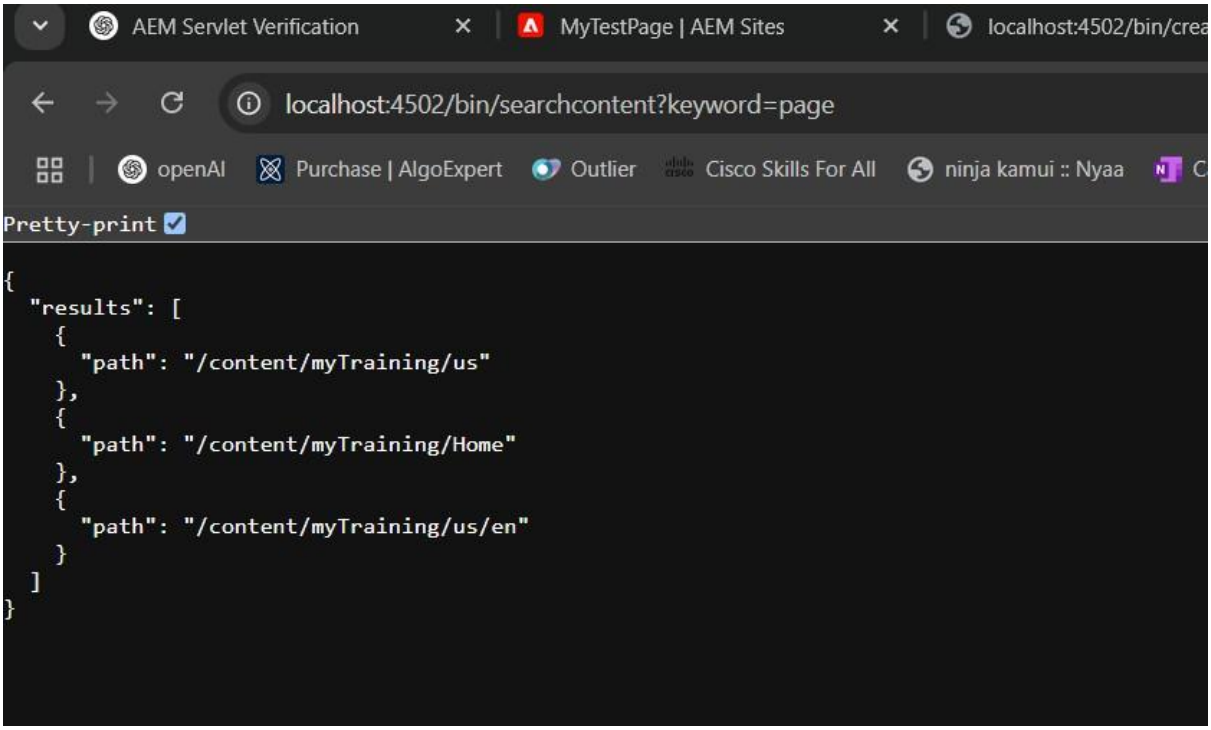
3. Page Creation Using PageManager API Check Output:

- **Steps:**
    1. Run CreatePageServlet (Step 2).

Page created:

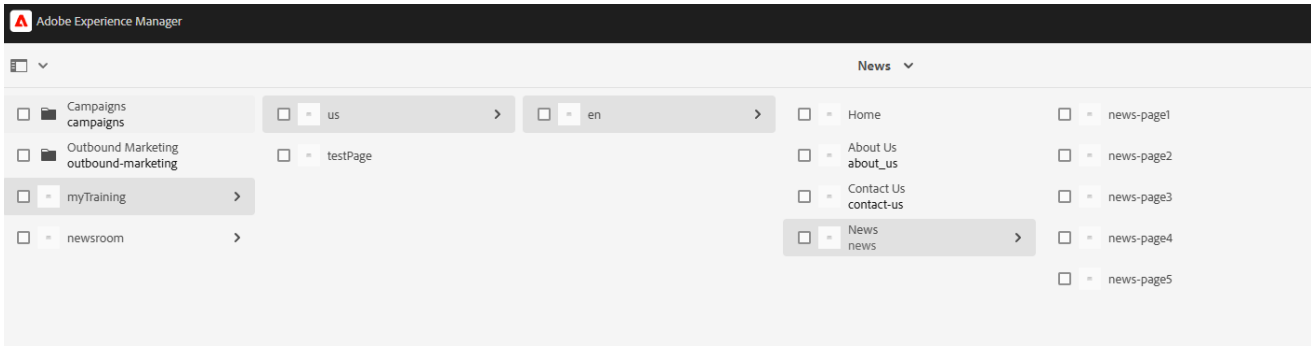


4. SearchServlet (PredicateMap-based search)

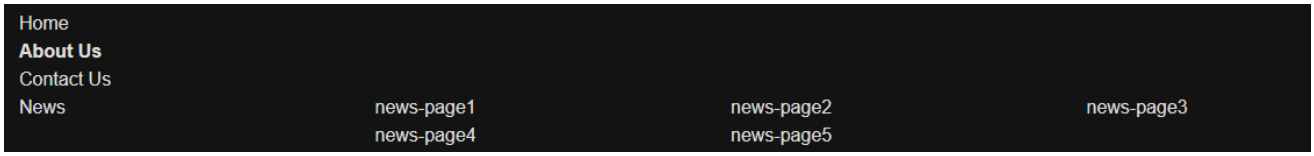


DATE : 24-03-2025

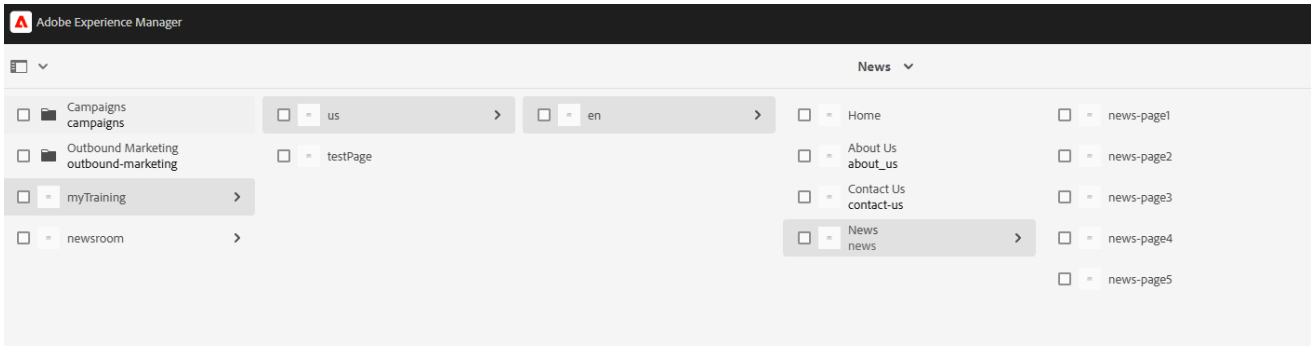
Task 1: Create 5 News Article Pages under /content/us/en/news



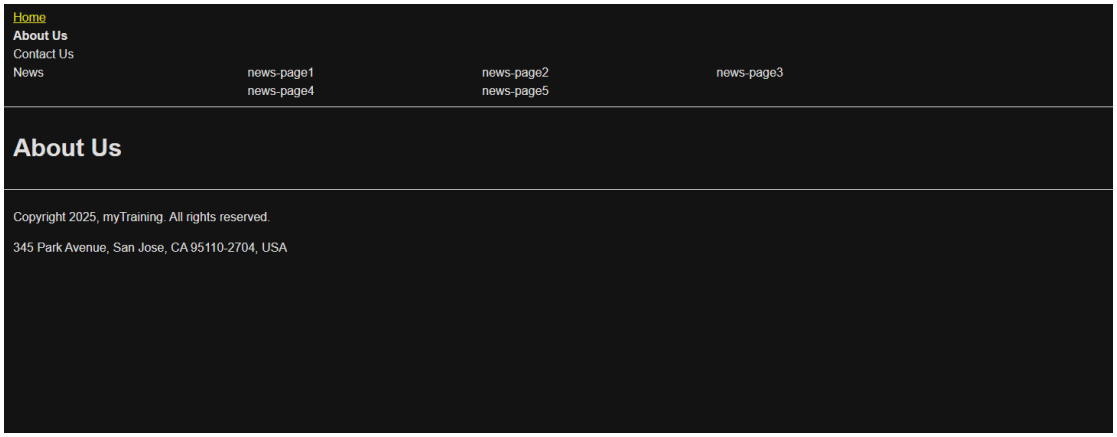
Task 2: Create Header Experience Fragment and Use These Pages as Menu



Task 3: Create "Contact Us" and "About Me" Pages



About me page:

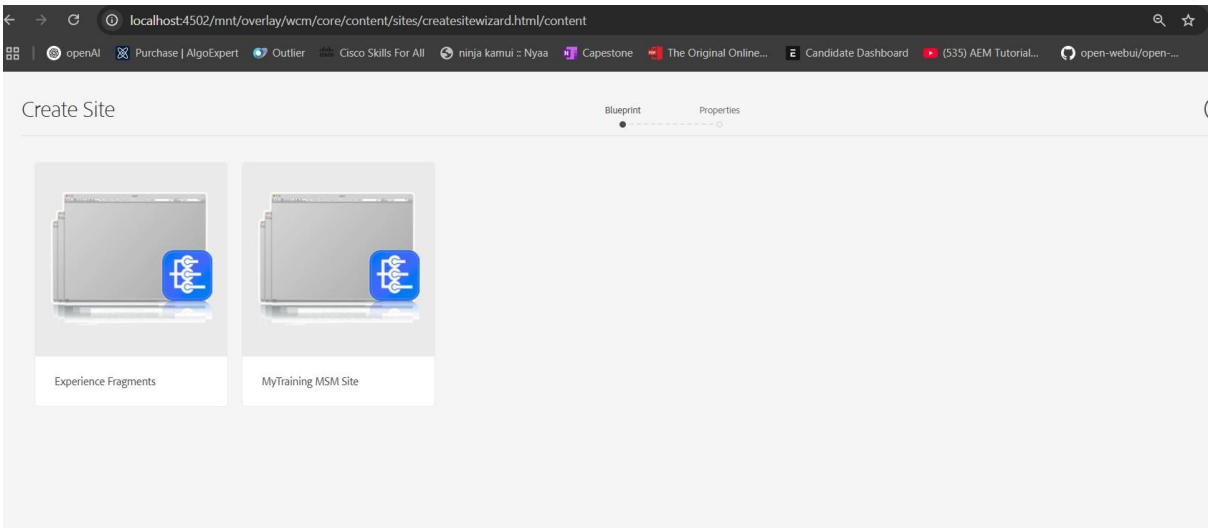


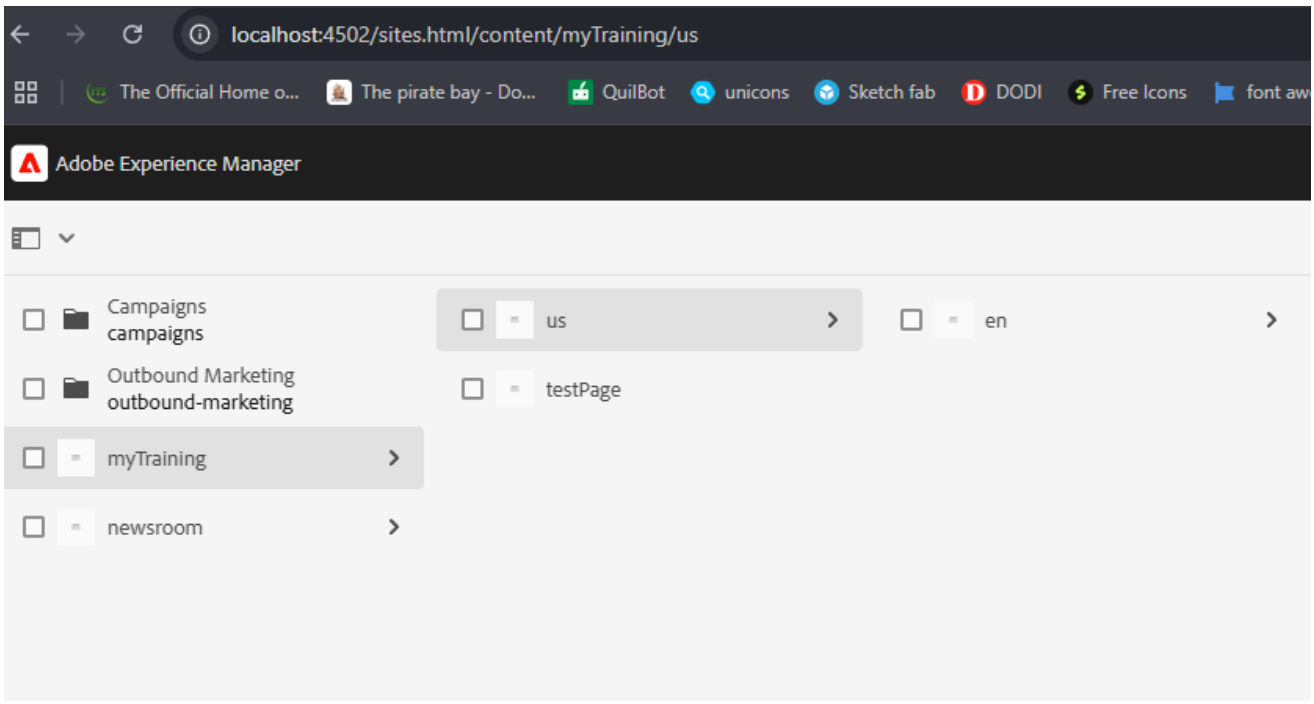
Contact page:

Task 4: Create Footer Experience Fragment with 4 Sections

DATE : 27-03-2025

Step 3: Create a Site Using MSM with us/en as the Source




localhost:4502/sites.html/content/myTraining/us
The Official Home o...
The pirate bay - Do...
QuilBot
unicons
Sketch fab
DODI
Free Icons
Adobe Experience Manager
Campaigns
campaigns
Outbound Marketing
outbound-marketing
myTraining
newsroom
us
testPage
en