1. What is DAM and Why Do We Use It?

Digital Asset Management (DAM) is a system within AEM that stores, manages, and distributes digital assets such as images, videos, and documents. It allows users to efficiently manage assets, apply metadata, and use renditions for optimized delivery.
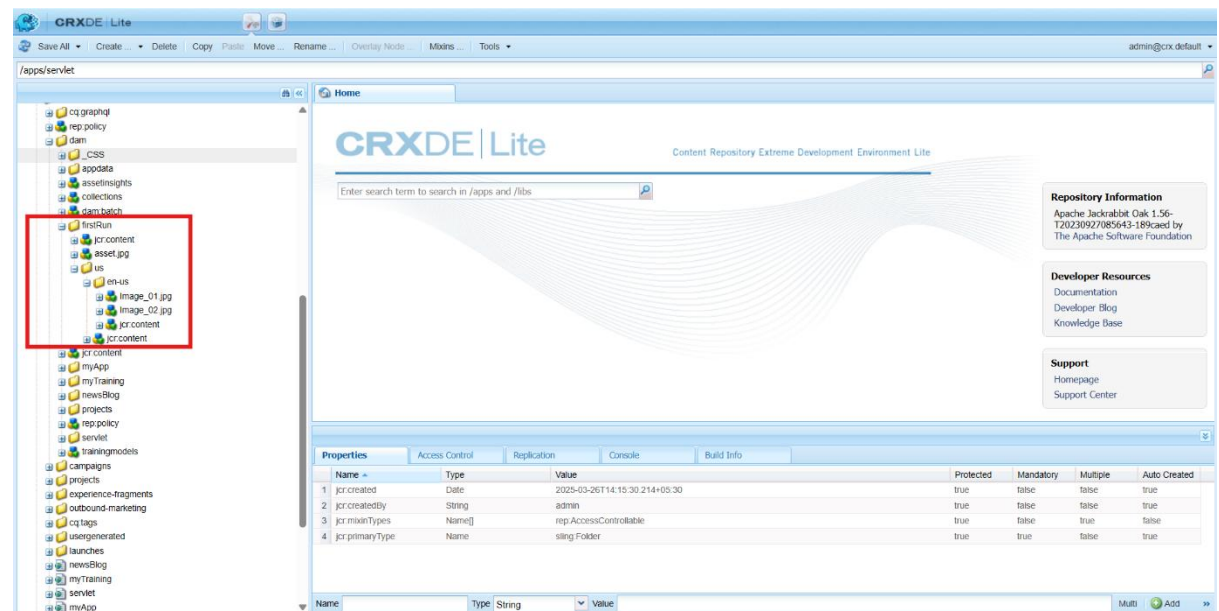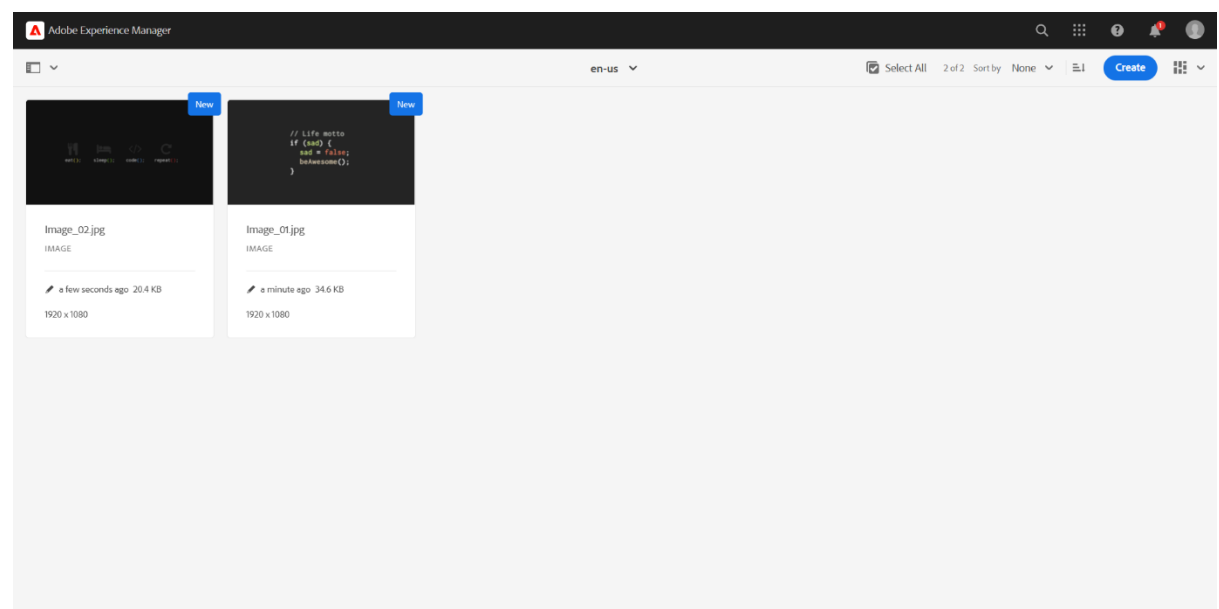
2. Create and Upload Images to DAM

Steps:

1. Navigate to **CRXDE Lite**.
2. Create a folder at /content/dam/firstRun/us/en-us.
3. Upload two images into this folder.
4. Author these images on a page using the Image Component.
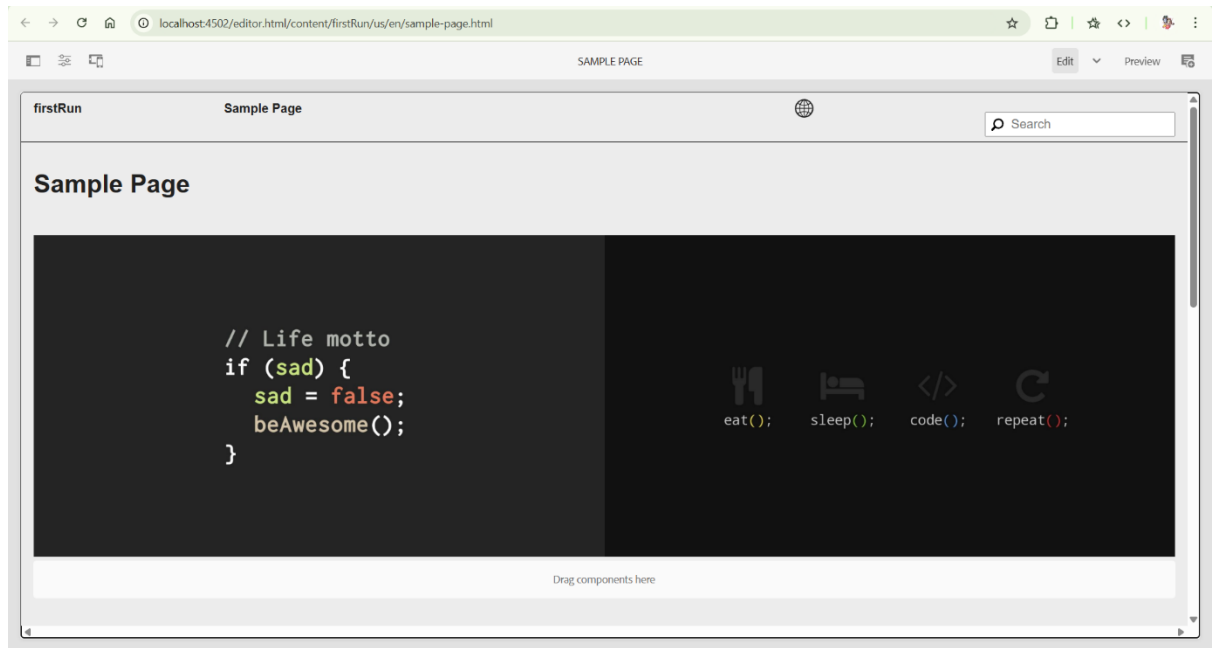
Screenshot:

- CRXDE Lite showing the newly created DAM folder.

- AEM interface displaying uploaded images.

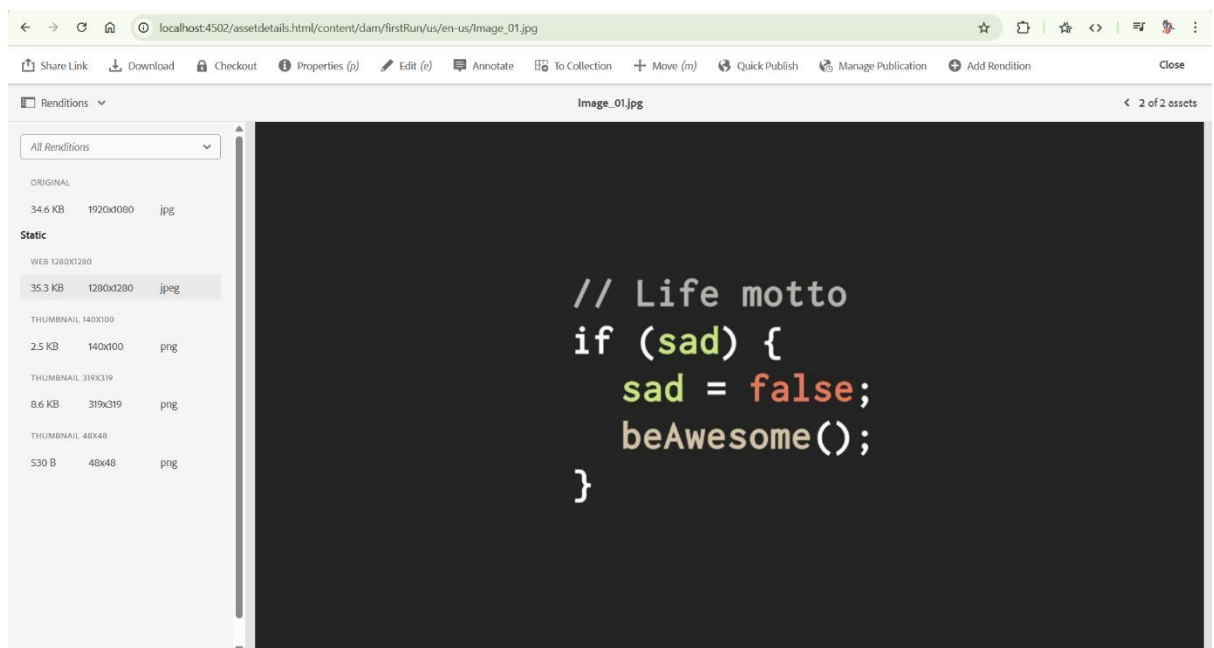- Image Component rendering images on the page.

3. What is Renditions?

Renditions in AEM refer to automatically generated versions of an uploaded image in different resolutions or formats. They help optimize asset delivery across devices.
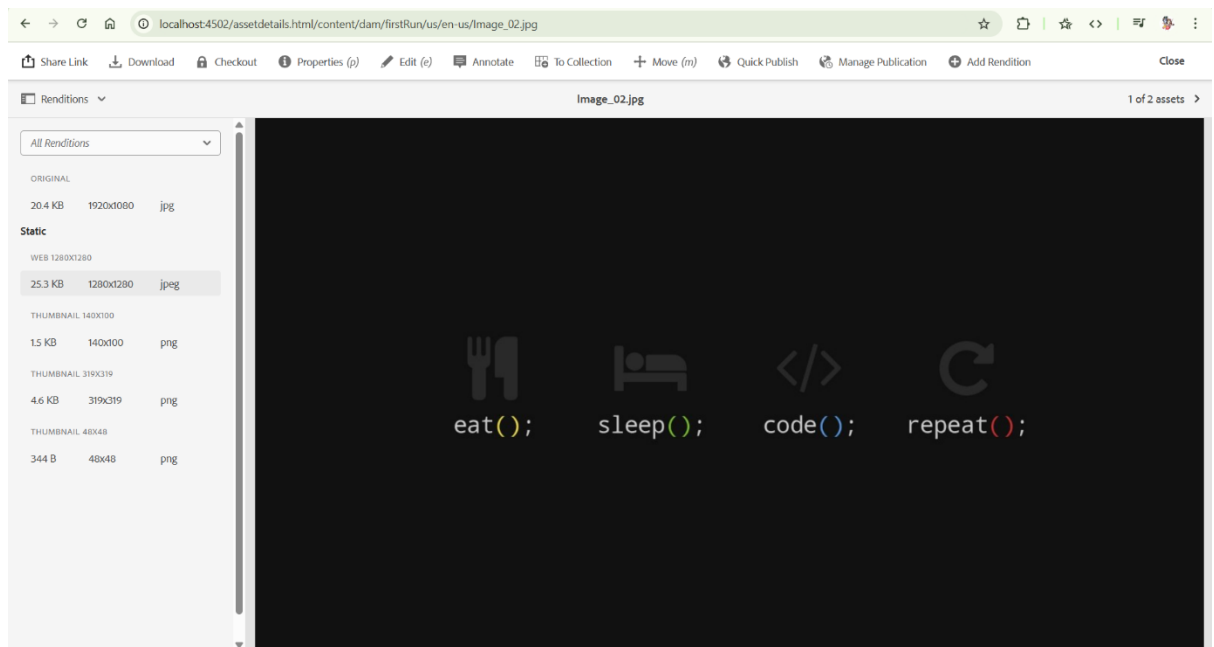
Steps to Check Renditions:

1. Go to **AEM Assets** and open the uploaded image.
2. Click on **Renditions** in the left panel.
3. View available renditions, such as thumbnails and web-optimized versions.

Screenshot:

- AEM Assets UI displaying renditions.

4. Modify HelloWorld Component

Steps:

1. Add two new fields: FirstName and LastName.

2. Use @ValueMapValue in HelloWorldModel to fetch these properties.

3. Print these values in helloWorld.html.

Java Code:

HelloWorldModel.java

```java
package com.firstRun.core.models;
import org.apache.sling.api.resource.Resource;
import org.apache.sling.models.annotations.Model;
import org.apache.sling.models.annotations.injectorspecific.ValueMapValue;

@Model(adaptables = Resource.class)
public class HelloWorldModel {
  @ValueMapValue
  private String firstName;

  @ValueMapValue
  private String lastName;

  public String getFullName(){
    return firstName + " " + lastName;
  }
}
```
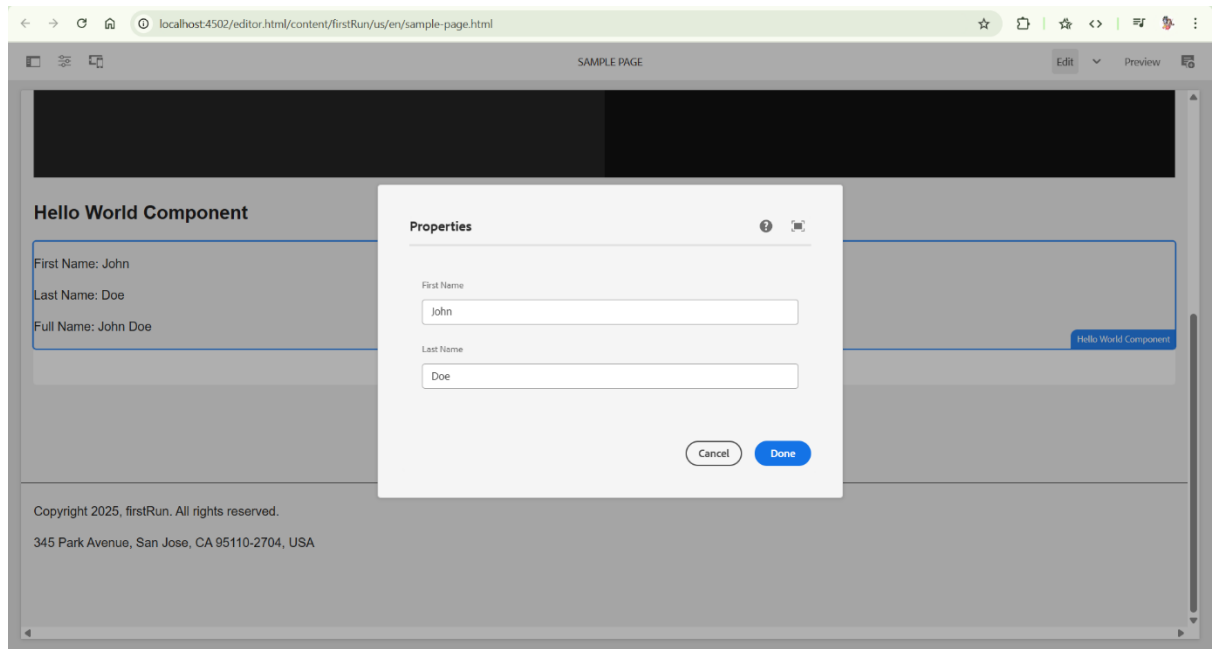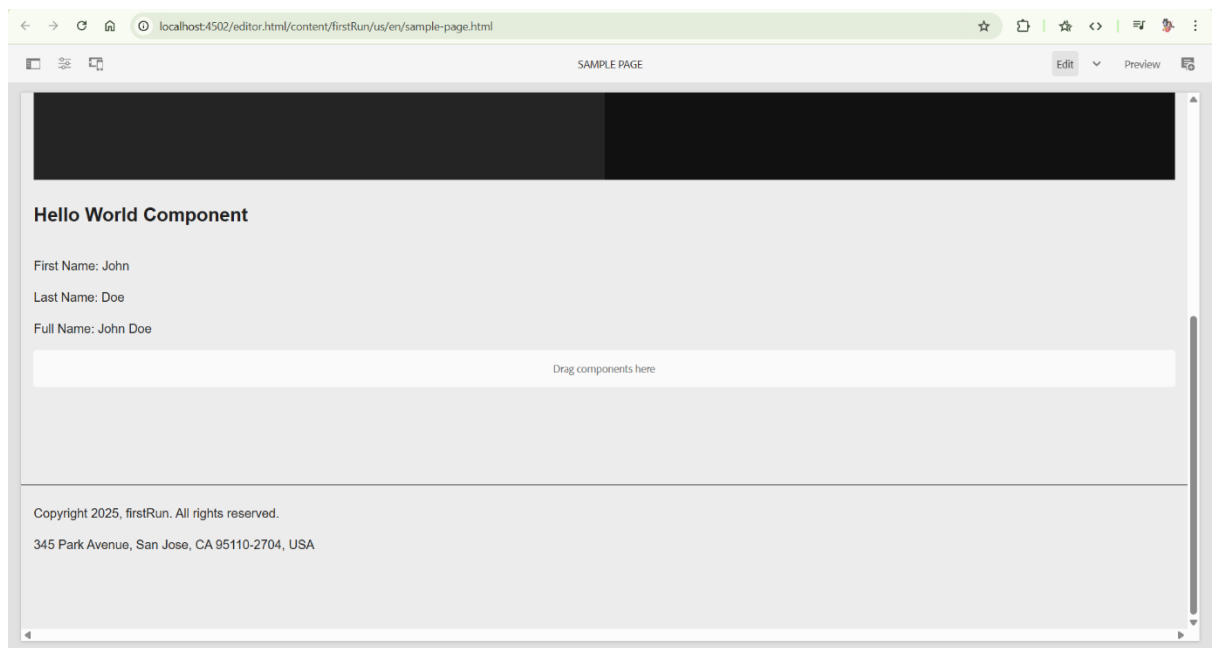
Screenshot:

- Component dialog showing FirstName and LastName fields.

- Rendered values in the component output.

5. Why We Use Package Manager in AEM

The Package Manager in AEM is used for exporting, importing, and managing content packages. It helps in:
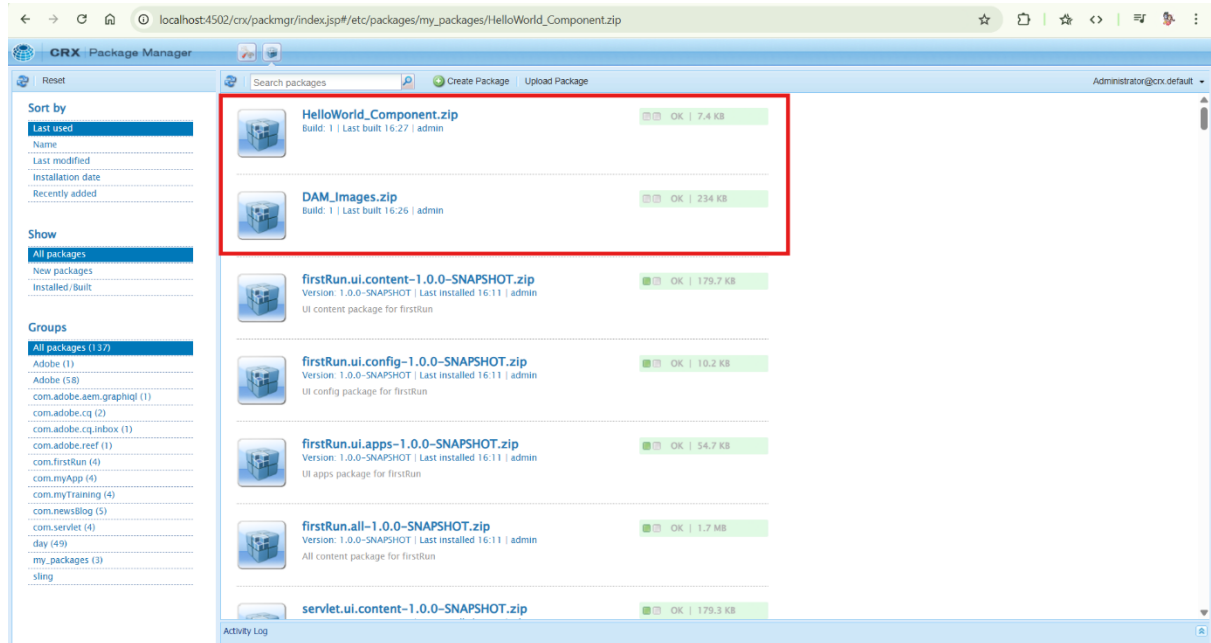
- Content Migration: Moving content between environments.
- Backup & Restore: Packaging components, templates, and assets.
- Deployment: Deploying code and configurations in different AEM instances.
- Version Control: Tracking changes and rolling back to previous versions.

Steps to Create Packages:

1. Open **AEM Package Manager**.

2. Create **two packages**:
   o One for **DAM images**.
   o One for **HelloWorld Component**.

3. Build and install the packages.

Screenshot:

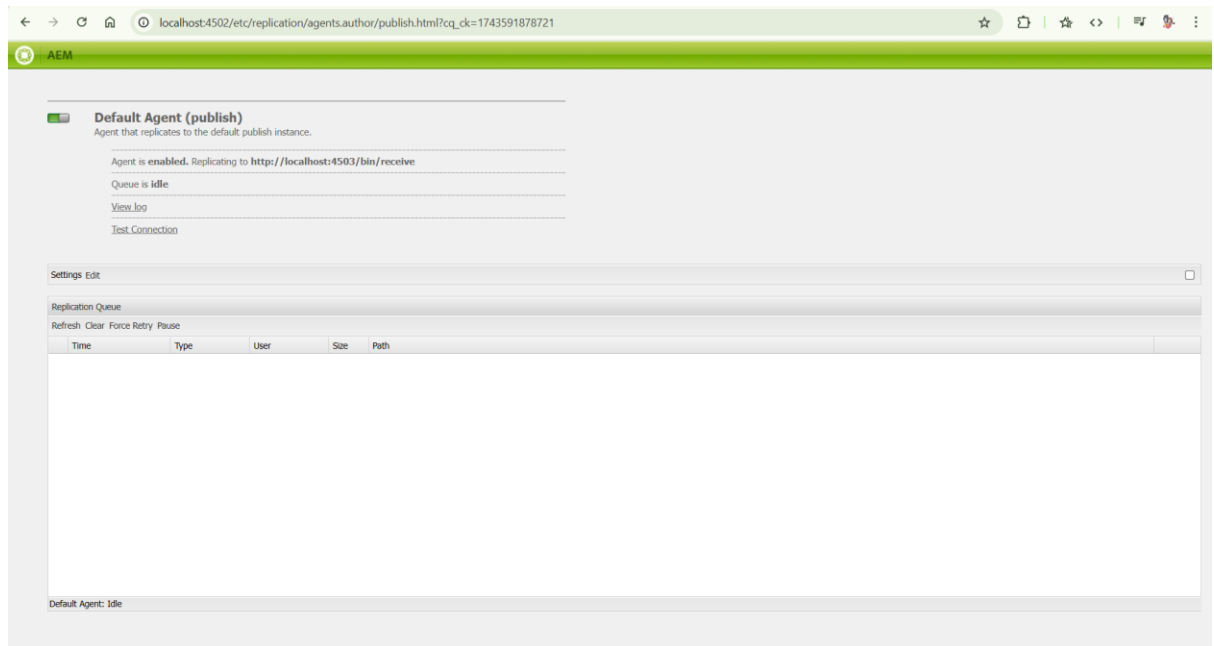- Package Manager UI showing both created packages.

6. Configure Replication Agent & Publish a Page

Steps:

1. Go to **Tools → Deployment → Replication**.

2. Configure the **Replication Agent**.

3. Publish a page from **Author (4502) to Publish (4503)**.

4. Verify the published page on **4503**.

Screenshot:

- Replication Agent configuration page.

- Published page verification on 4503.