1. Create SampleServlet

- Create a servlet that responds with a JSON message.

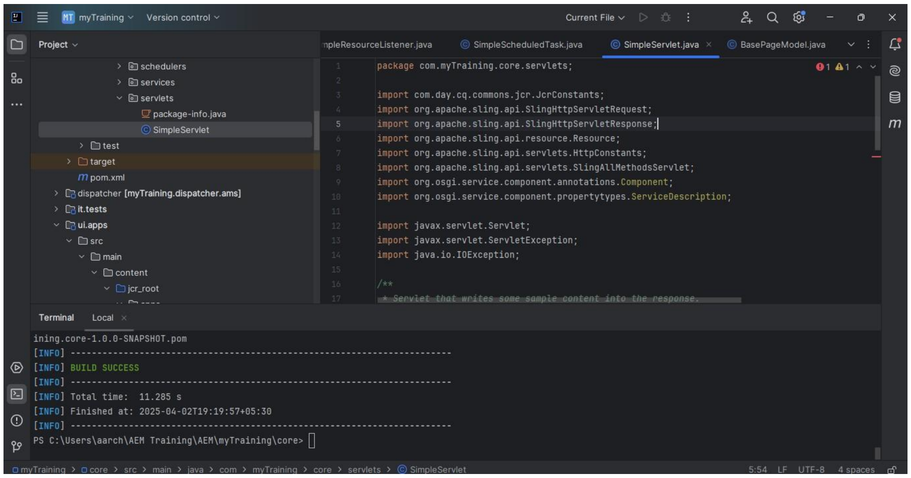
- Register the servlet using **resourceType**.

Implementation

1. Extend `SlingAllMethodsServlet`.

2. Use `@SlingServletResourceTypes` annotation to register the servlet.

3. Handle `GET` requests and return a JSON response.



```
package com.myTraining.core.servlets;

import com.day.cq.commons.jcr.JcrConstants;
import org.apache.sling.api.SlingHttpServletRequest;
import org.apache.sling.api.SlingHttpServletResponse;
import org.apache.sling.api.resource.Resource;
import org.apache.sling.api.servlets.HttpConstants;
import org.apache.sling.api.servlets.SlingAllMethodsServlet;
import org.osgi.service.component.annotations.Component;
import org.osgi.service.component.propertytypes.ServiceDescription;

import javax.servlet.Servlet;
import javax.servlet.ServletException;
import java.io.IOException;

/**
 * Servlet that writes some sample content into the response.
```

```
ining.core-1.0.0-SNAPSHOT.pom
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  11.285 s
[INFO] Finished at: 2025-04-02T19:19:57+05:30
[INFO] ------------------------------------------------------------------------
PS C:\Users\aarch\AEM Training\AEM\myTraining\core>
```

```
@Designate(ocd = SampleServlet.Config.class)
@SlingServletResourceTypes(resourceTypes = "myTraining/components/sample", methods =
{"GET"}, extensions = "json")
public class SampleServlet extends SlingAllMethodsServlet
   { @Override
   protected void doGet(SlingHttpServletRequest request, SlingHttpServletResponse response)
throws ServletException, IOException {
      response.setContentType("application/json");
      response.getWriter().write("{\"message\": \"Hello from SampleServlet!\"}");
   }}
```

2. Create `CreatePageServlet`

Objective

- Create a servlet to generate new pages dynamically in AEM.

- Register the servlet using a **path-based approach**.

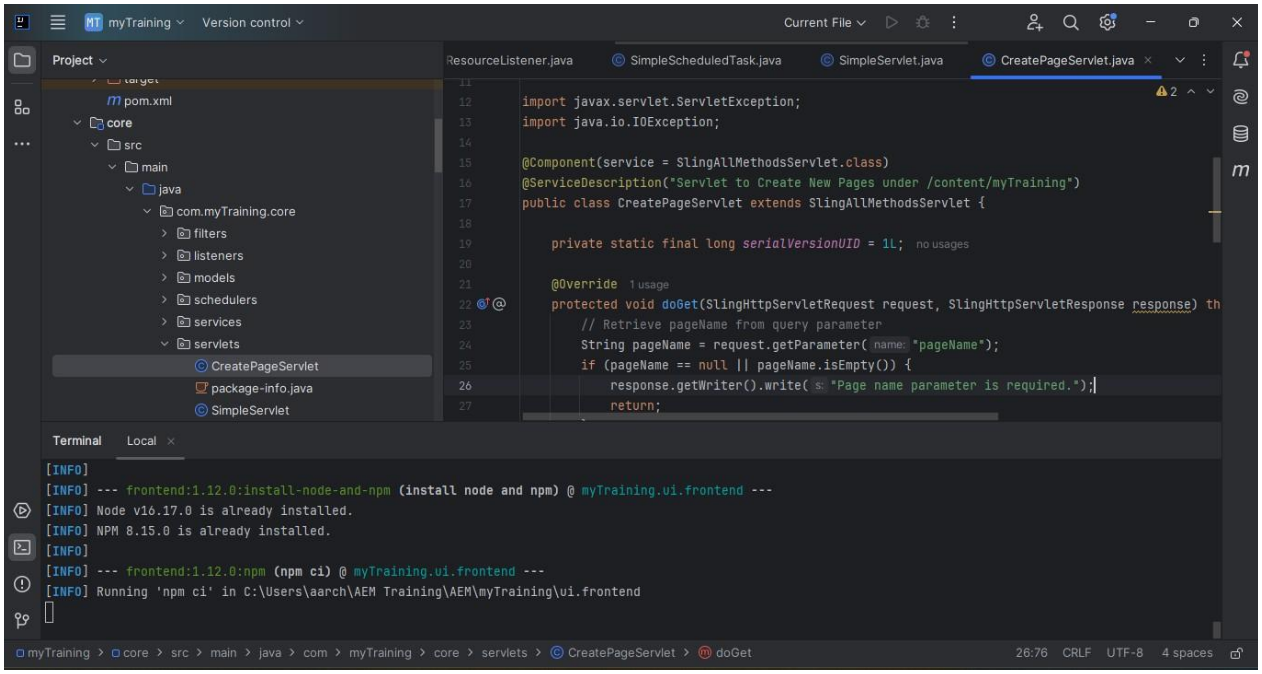
Implementation

1. Extend `SlingSafeMethodsServlet`.

2. Use `@SlingServletPaths` to define a unique servlet path.

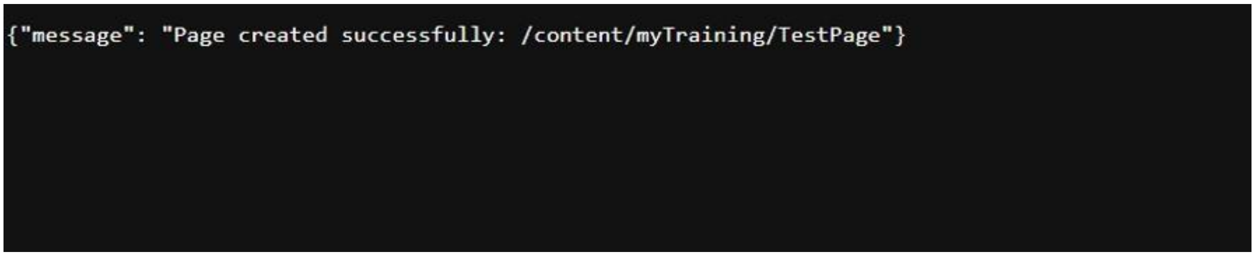
3. Accept a page name from the user and create a new page in AEM.

```
@SlingServletPaths("/bin/createpage")
public class CreatePageServlet extends SlingSafeMethodsServlet
    { @Reference
    private ResourceResolverFactory resolverFactory;

    @Override
    protected void doGet(SlingHttpServletRequest request, SlingHttpServletResponse response)
throws ServletException, IOException {
        String pageName = request.getParameter("pageName");
        try (ResourceResolver resolver = resolverFactory.getServiceResourceResolver(null))
            { PageManager pageManager = resolver.adaptTo(PageManager.class);
            if (pageManager != null) {
                Page newPage = pageManager.create("/content/us/en", pageName,
"/apps/wknd/components/page", pageName);
                response.getWriter().write("Page created successfully: " + newPage.getPath());
            }
        } catch (Exception e) {
            response.getWriter().write("Error: " + e.getMessage());
        }
    }
}
```



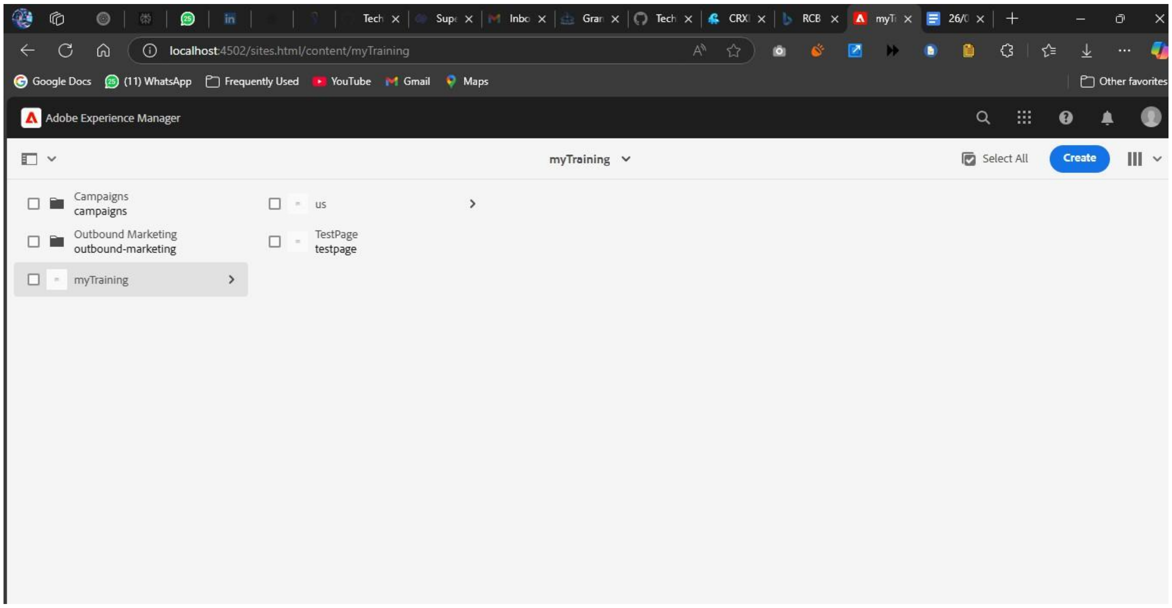
```
import javax.servlet.ServletException;
import java.io.IOException;

@Component(service = SlingAllMethodsServlet.class)
@ServiceDescription("Servlet to Create New Pages under /content/myTraining")
public class CreatePageServlet extends SlingAllMethodsServlet {

    private static final long serialVersionUID = 1L;  no usages

    @Override  1 usage
    protected void doGet(SlingHttpServletRequest request, SlingHttpServletResponse response) th
        // Retrieve pageName from query parameter
        String pageName = request.getParameter( name: "pageName");
        if (pageName == null || pageName.isEmpty()) {
            response.getWriter().write( s: "Page name parameter is required.");
            return;
```

```
[INFO]
[INFO] --- frontend:1.12.0:install-node-and-npm (install node and npm) @ myTraining.ui.frontend ---
[INFO] Node v16.17.0 is already installed.
[INFO] NPM 8.15.0 is already installed.
[INFO]
[INFO] --- frontend:1.12.0:npm (npm ci) @ myTraining.ui.frontend ---
[INFO] Running 'npm ci' in C:\Users\aarch\AEM Training\AEM\myTraining\ui.frontend
```



```
{"message": "Page created successfully: /content/myTraining/TestPage"}
```

Page Created Succesfully:



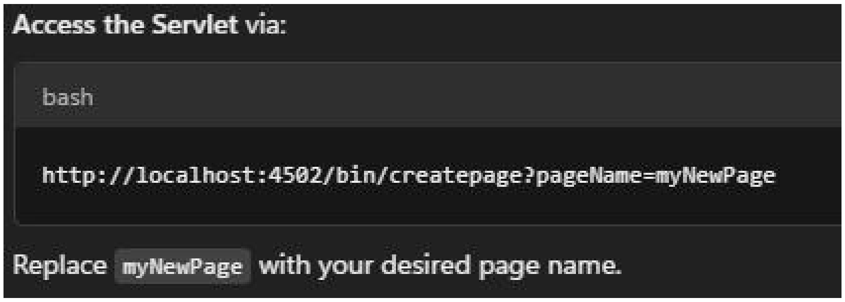
3. Create Pages in AEM via User Input

Objective

- Allow users to specify a page name and dynamically generate pages.

Steps

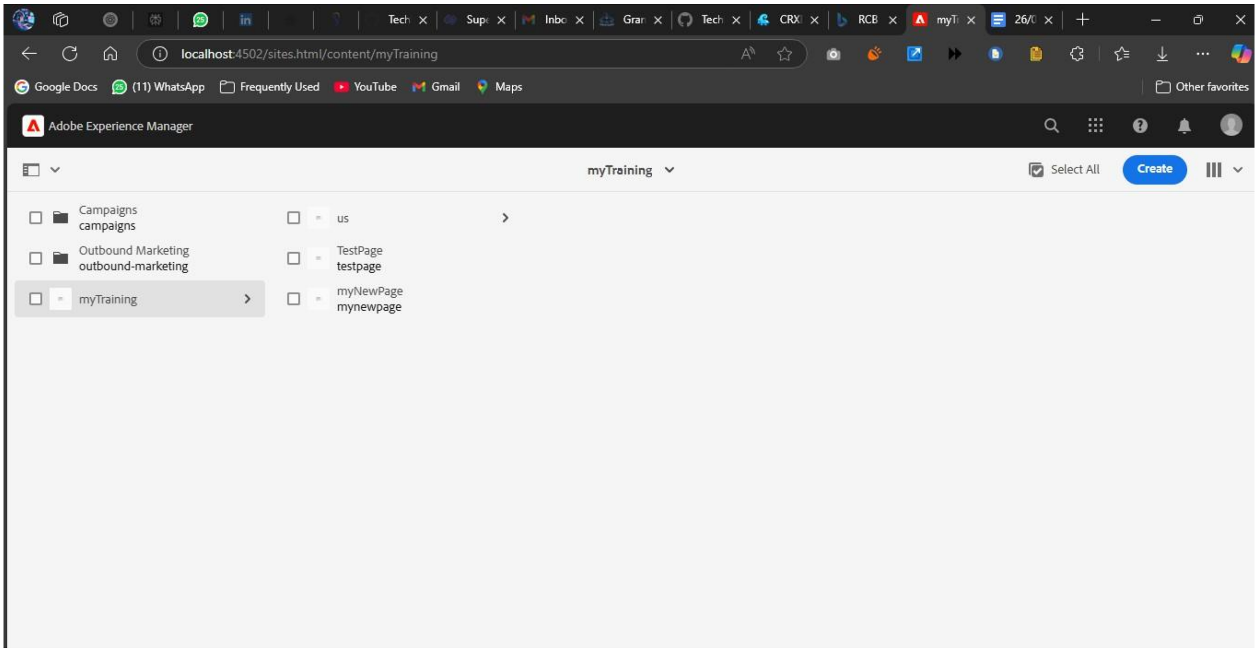
1. The servlet reads the `pageName` from the request parameter.
2. Uses the `PageManager` API to create a new page inside `/content/us/en`.
3. Returns success or error messages as responses.



Access the Servlet via:

```bash
http://localhost:4502/bin/createpage?pageName=myNewPage
```

Replace `myNewPage` with your desired page name.



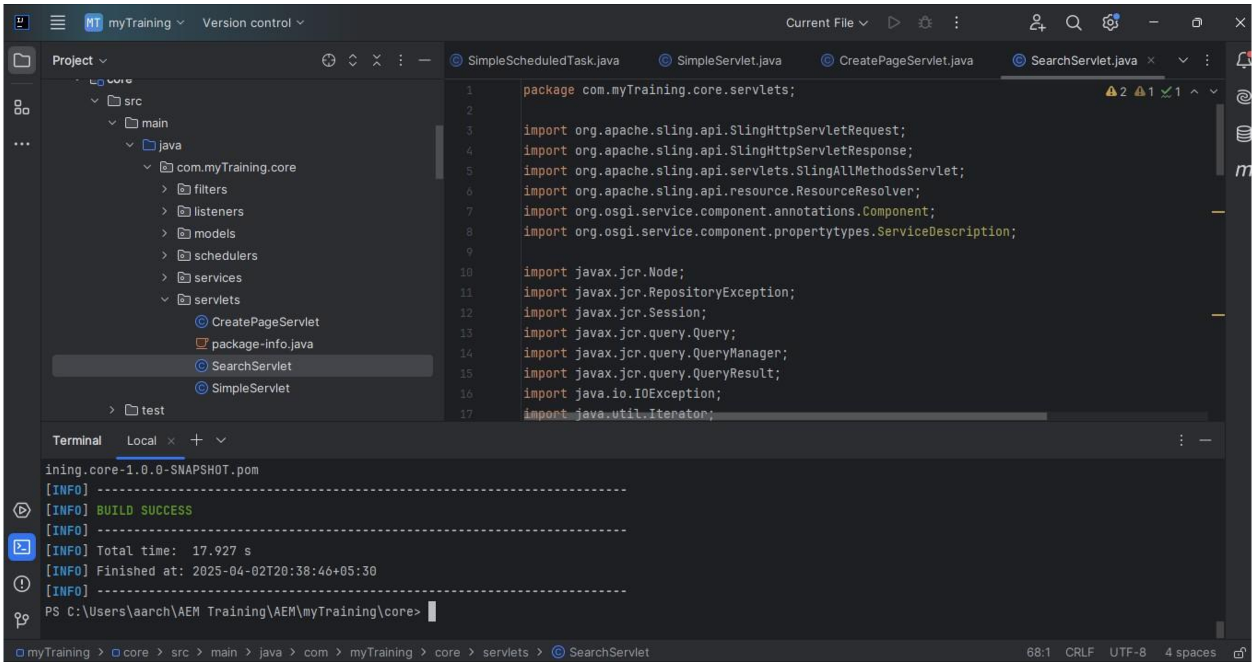
4. Implement `SearchServlet` Using PredicateMap

Objective

- Implement a search functionality in AEM.
- Use **QueryBuilder API** and `PredicateMap` to filter results.

Implementation

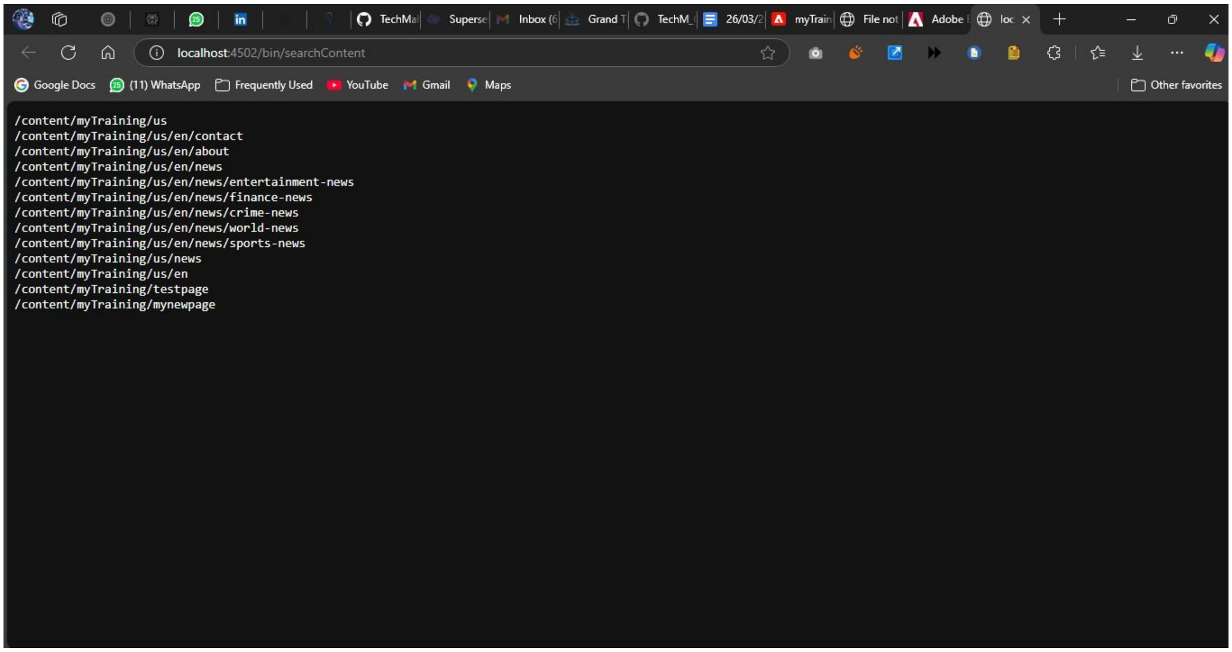
1. Extend `SlingSafeMethodsServlet`.
2. Use `@SlingServletPaths` to define the endpoint `/bin/searchcontent`.
3. Construct a `PredicateMap` with search criteria.
4. Fetch search results and return matching page paths.



```java
package com.myTraining.core.servlets;

import org.apache.sling.api.SlingHttpServletRequest;
import org.apache.sling.api.SlingHttpServletResponse;
import org.apache.sling.api.servlets.SlingAllMethodsServlet;
import org.apache.sling.api.resource.ResourceResolver;
import org.osgi.service.component.annotations.Component;
import org.osgi.service.component.propertytypes.ServiceDescription;

import javax.jcr.Node;
import javax.jcr.RepositoryException;
import javax.jcr.Session;
import javax.jcr.query.Query;
import javax.jcr.query.QueryManager;
import javax.jcr.query.QueryResult;
import java.io.IOException;
import java.util.Iterator;
```

```
ining.core-1.0.0-SNAPSHOT.pom
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  17.927 s
[INFO] Finished at: 2025-04-02T20:38:46+05:30
[INFO] ------------------------------------------------------------------------
PS C:\Users\aarch\AEM Training\AEM\myTraining\core>
```

Search Results:



```
/content/myTraining/us
/content/myTraining/us/en/contact
/content/myTraining/us/en/about
/content/myTraining/us/en/news
/content/myTraining/us/en/news/entertainment-news
/content/myTraining/us/en/news/finance-news
/content/myTraining/us/en/news/crime-news
/content/myTraining/us/en/news/world-news
/content/myTraining/us/en/news/sports-news
/content/myTraining/us/news
/content/myTraining/us/en
/content/myTraining/testpage
/content/myTraining/mynewpage
```