Implementation & Validation of Phase I & II

This pipeline is bifurcated into two. These pipelines are manual pipelines(CI Disabled) as per the agreement with the AEM team. One pipeline on Dev Branch (non-prod) **to deploy on Dev and Stage** Environments. And the other pipeline on the **Master Branch to generate an artifact** and to save it in Azure Artifacts.

Implementation Design of APRO Phase I

> ***Link to the AWCM Pipeline Phase I***
>
> *Pipeline to deploy the code with different AWCM Profiles in different Environments*

Tools/Utilities:

- Maven (Version - 3.6.0)
- Azure Pipelines yml

Pool used:

- vmss-ubu-1804-agentpool

AWCM Profiles for Dev Environment:

- dev-author-deploy
- dev-publish-deploy

AWCM Profiles for Stage Environment:

- stage-author1-deploy
- stage-publish1-deploy
- stage-publish2-deploy
- stage-publish3-deploy

All the possible combinations of above profiles are also enabled as parameters

Pipeline Stages (Dev Branch):

There are three stages in the pipeline. Build to compile the code. Deploy to Dev Environment & Deploy to Stage Environment.

- Build

In this stage, the code gets compiled using Maven task. Sonar Prepare and Build breaker tasks are added to break the build in case of Quality gate failure

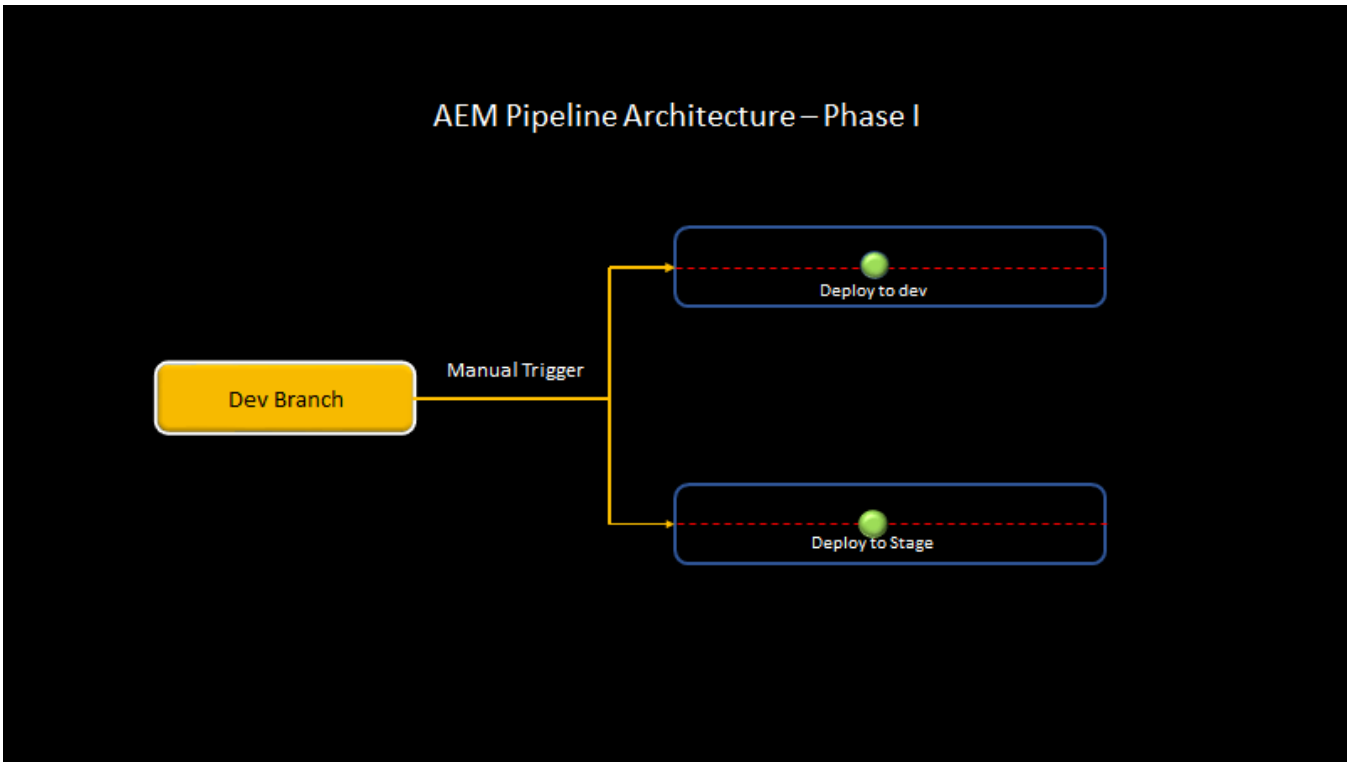
- Deploy to Dev

In this stage, AWCM Profiles for Dev deploys the code to Dev Environment (Once Approved)

- Deploy to Stage

In this stage, AWCM Profiles for Stage deploys the code to Stage Environment (Once Approved)

Workflow:



Specifications on the Pipeline:

1. The pipeline has been enhanced with a feature to select the profiles before running the pipeline. The parameters are set in such a way that multiple profiles can also be selected at once. Hence, CI (Continuous Integration) has been disabled.
2. Sonar Toggle has been enabled on the agreement to set the code by the current AEM team according to the Quality Gates set on SonarQube during the handover

Initial implementation of Phase I : RE_ Initial Azure Pipeline for AWCM completed.msg

The above mail has the information about the first build that was successful and the Architecture diagram that was designed for Phase I and the approval from the Stakeholder Narava, Hema Sandeep

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Implementation Design of APRO Phase II

OUS-DevOps team, in agreement with the OUS AEM team has designed the Phase II pipeline in congruence with the Jenkins setup. The Phase II pipeline is built specifically to create artifact without deployment stage in it.

Stories that are qualified by the Dev team in Phase I after their Testing and Analyzing, the feature branch of each qualified stories is merged to their respective 'master' branches one after another. After the merge is complete with approval, Dev Lead will manually trigger the master pipeline which stores the Artifact in Azure Feed; which means the Dev Lead has the permission to approve the Pull Request raised by any developer

.

> ***Link** to the AWCM Pipeline Phase II*
>
> *Pipeline on master to generate artifacts for future deployments on Phase III*

Tools/Utilities:

- Maven (Version - 3.6.3)
- SonarQube
- Azure Artifacts
- Azure Pipelines

Pool used:

- vmss-ubu-1804-agentpool

Pipeline Stages (Master Branch):

This pipeline runs on the **Master** Branch has a single Build stage with different tasks to publish the artifact.

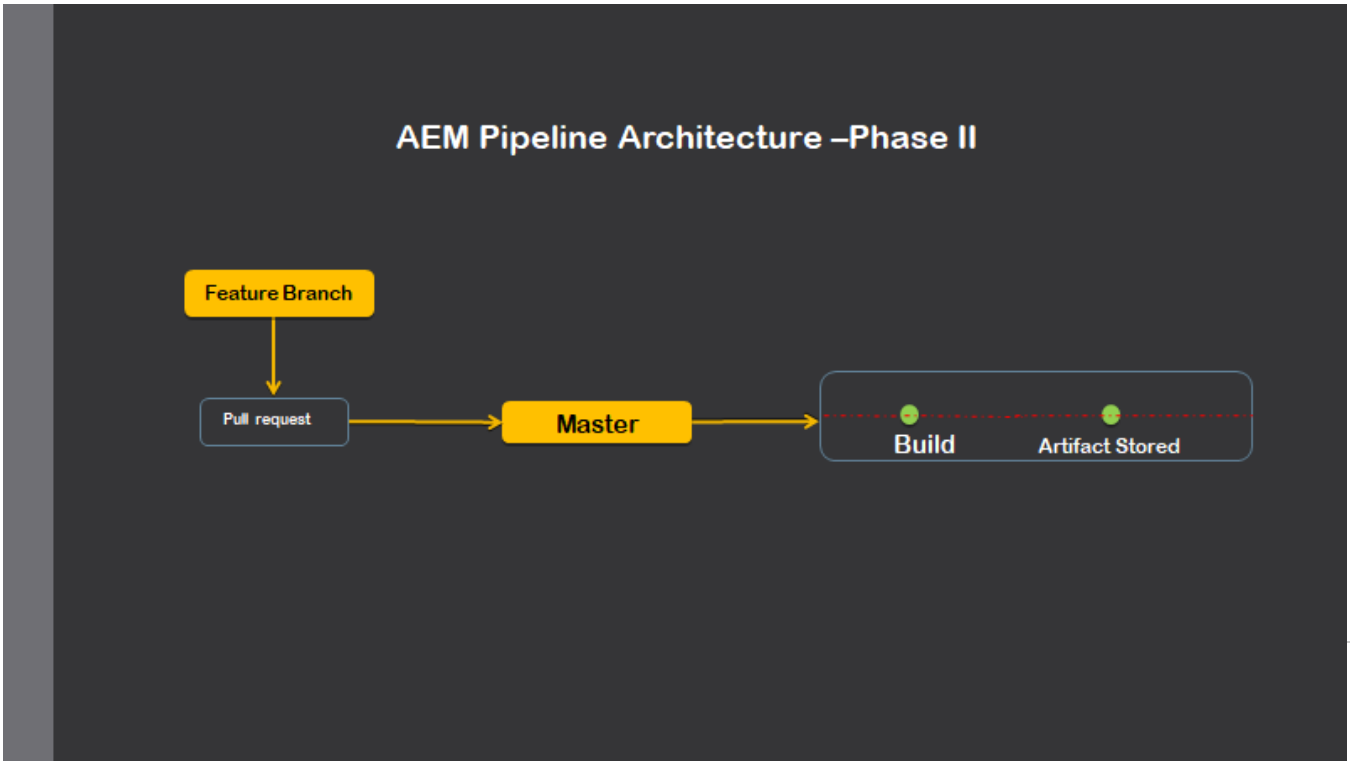
- Build

In this stage, the code gets compiled using Maven task. Sonar Prepare and Build breaker tasks are added to break the build in case of any errors. Copy tasks to copy the files - ZIP & JAR and to publish them on Azure Artifacts (awcm-ous-prod-artifactory) using Maven tasks

> ***Link to Azure Artifacts***
>
> *The artifacts published are in jar and zip formats*

Dev team may download these Artifacts created in Azure Artifacts and manually merge to Adobe which does Production deployment on the Adobe Cloud Manager.

Workflow:



Validation of the these pipelines are completed and approved by the Stakeholders Narava, Hema Sandeep & Suresh Madham

A dry run of these pipelines are done and handed over these pipelines in the mid of the May' 2021

Ad hoc Requests from AWCM Dev Lead:

- [x] To provide a Restricted Environment for a developer on a PR (Pull Request) from Dev to Master Branch - To assign the task to a reviewer (Unknown User (madhasx2)) before the merge happens to Master Branch
- [x] To rename the Artifacts and the Azure Repos
- [x] To rename Environments

- [ ]

FAQs:

1. How many repositories are there under OUS-AWCM Project? What are they?

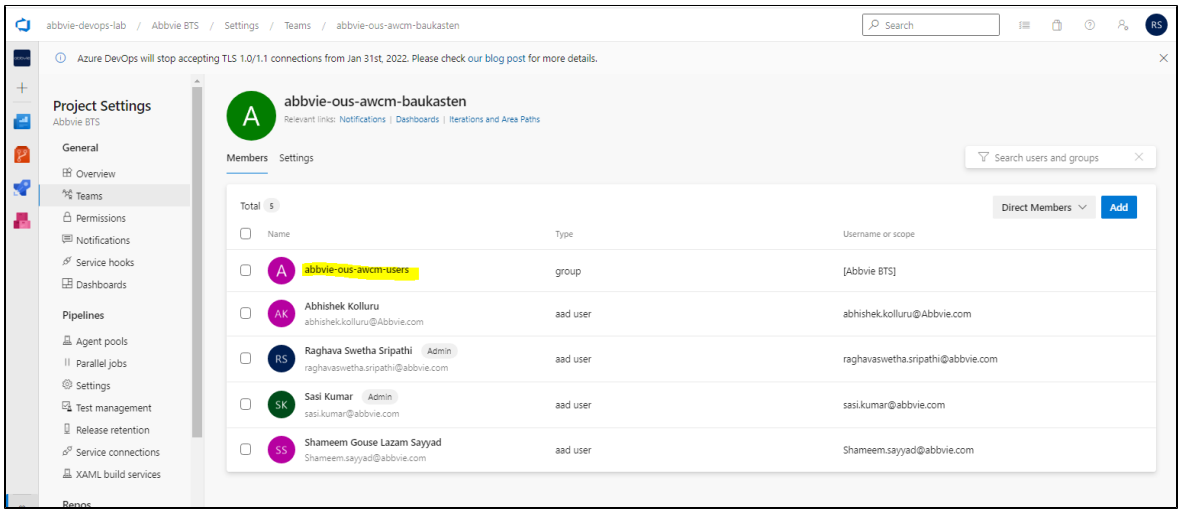
- Currently, there are 15 Repositories. List and its details are in the below link:

  OUS-AWCM Repositories

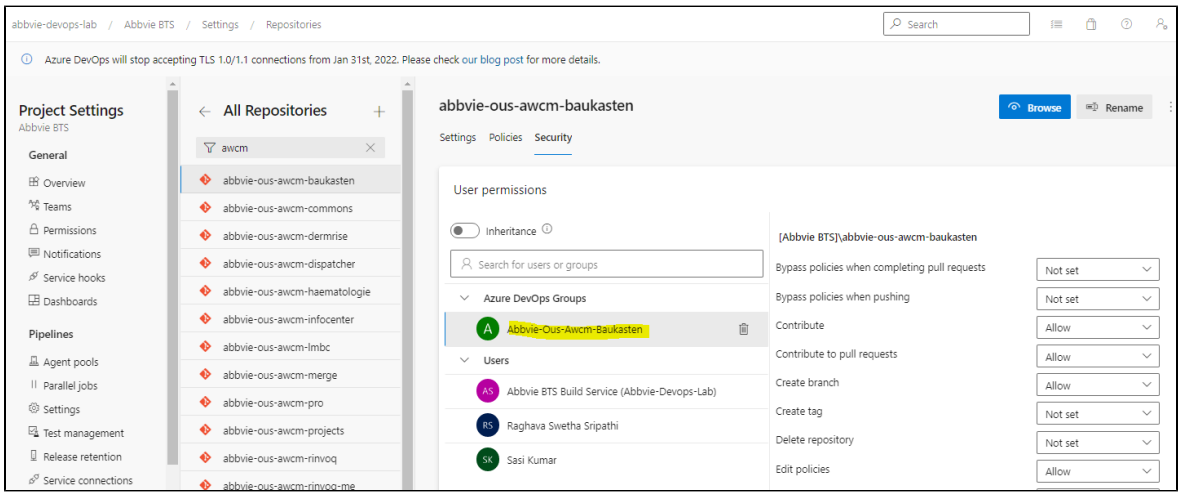
Note: The access to create Repositories has been shared with AWCM Team. The count may vary when the admins create/delete the Repos.

2. What are the additional steps to be taken care when AWCM team creates a Repo?

- A Teams group has to be created with the Repo name by sending a mail request to BTS team (btsdevops@abbvie.com)
- The AWCM Users group (**abbvie-ous-awcm-users**) has to be added to newly created teams group.



- The newly created Teams group has to be added under Teams - Search Newly Created Group for the Repo - Security

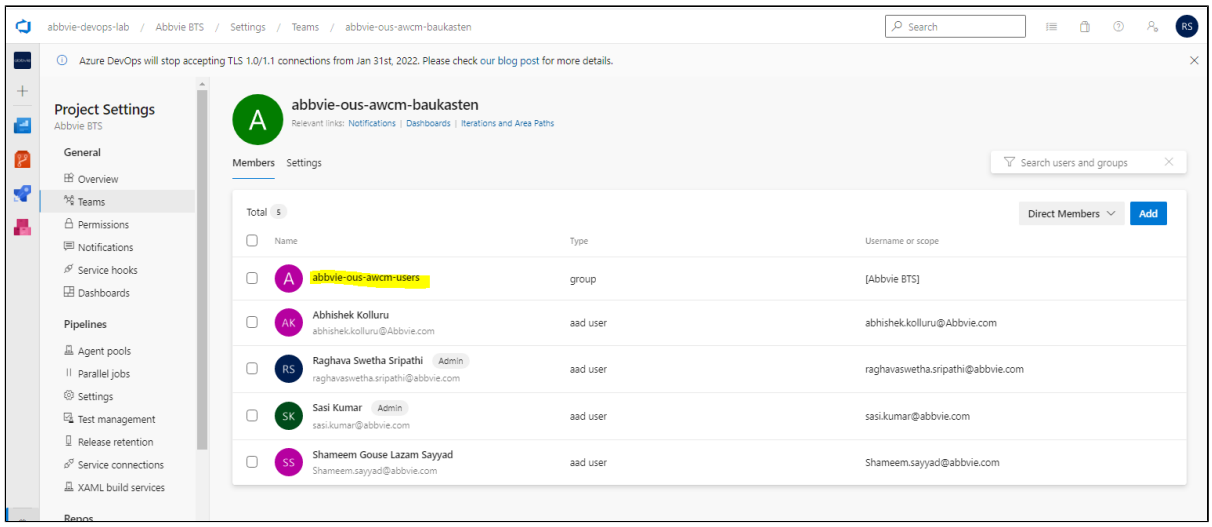


3. Who are maintaining the AWCM Repos? Who can provide accesses on these Repos?

- Usually those who creates the Repo will become the owner of Repo. OUS-DevOps Team is the owner of these Repos and the admin access has been shared on Users group with Sayyad, Shameem Gouze Lazam Shameem.sayyad@abbvie.com and Kolluru, Abhishek (abhishek.kolluru@abbvie.com) from US-AWCM Team
- The above team or people can provide necessary accesses to users and permissions to the Repos.

4. What is the grouping strategy of the Repos' Teams group?

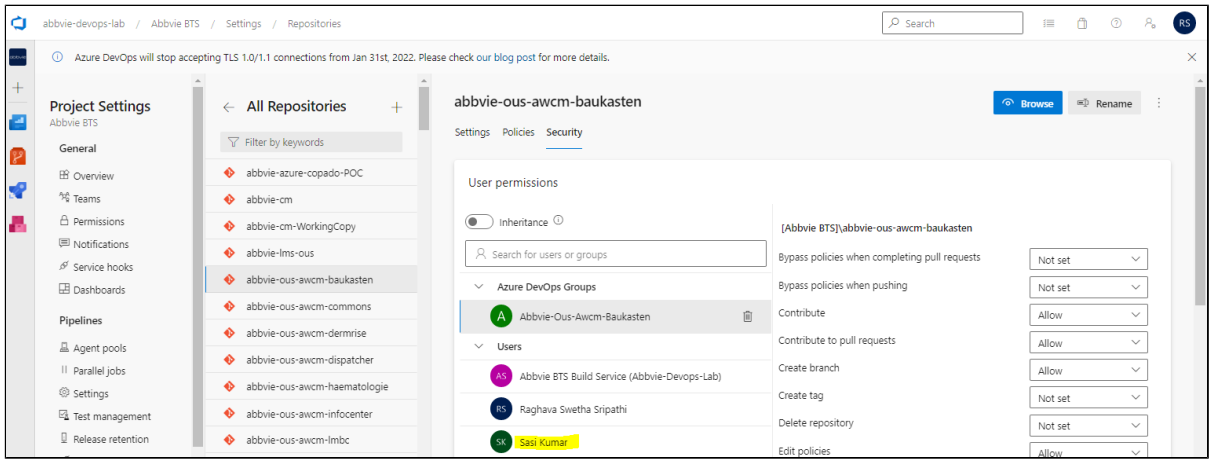
- A users group called **abbvie-ous-awcm-users** has been created and added all the AWCM users to the group



- Added the above users group to all the 15 Repos' Teams groups
- So, once the user is added to the users group, he will get access to all the 15 Repos automatically

5. How to provide access to all the AWCM Repos at once? Can we provide access to a single repo individually? How?

- As mentioned in the previous FAQ, the user can be added to **abbvie-ous-awcm-users** group. As it is already attached to all other Repo groups, the user can get access to all the AWCM Repos at once
- Yes. the user can be provided access to a single Repo by adding the user directly under Teams - Repo name - Security



6. The AWCM pipelines have two build tasks in two different stages. Why is it so?

- There were 2 stages for the pipeline. One is build and another one is deployment + clean dispatcher. In build Stage, mvn compiles the code and it posts the results to Sonarqube dashboard once analysis gets completed. If it doesn't meet the Quality gate it breaks the build. Otherwise it proceeds for the approval for Deployment Stage. Standard practice is to have Build + Deployment in the pipeline.
- After the compilation completes in the build task, there is Gated Approval for Deployment to happen
- The pipelines are linked to the Ubuntu pool on which the Auto-Scaling feature is enabled, which means the agent on which the pipeline ran can disappear once the run completes in the build stage if the deployment job is not given approval immediately. And hence, another build task is required in the Deployment job as well.

7. Is the pipeline run taking longer time as we have two builds?

- The average time taken by the build task in the pipeline is between 3 - 4mins. As there is a compulsion to have the two build tasks in the pipeline (refer to FAQ 6), it shouldn't be an issue.
- When debug is enabled in the pipeline or in a specific task, the pipeline takes more than expected time
- Debug can be enabled in two different location in the pipeline
    1. By setting system.debug = true variable in the pipeline
    2. By setting maven Option to -X in the Maven Task

```yaml
strategy:
  runOnce:
    deploy:
      steps:
      - task: Maven@3
        displayName: 'Clean Install'
        inputs:
          mavenPomFile: pom.xml
          goals: 'clean install'
          options: '-X'
          publishJUnitResults: true
          jdkVersionOption: 'default' #Java 8 is the default in the BTS agent
          javaHomeOption: 'JDKVersion'
          mavenVersionOption: 'Path'
          mavenSetM2Home: false
          mavenDirectory: '/usr/share/maven'
```

8. Why do we have two pipelines in different branches? What is the purpose?

- The requirement was to have the Dev & Stage deployments from Dev branch based on the parameter chosen and the Master Branch to have the Artifacts created

9. Whom to contact in case of pipeline tasks fails? What are pipeline failures?

- OUS-DevOps Team is maintaining the pipeline. Drop a mail to ous-devops@abbvie.com incase of pipeline breakages.
- Pool/Agent, Certificate, SonarQube, User Access related issues can be fixed by OUS-DevOps Team.
- For the code related issues, AWCM developers can be contacted.