Docker image to AWS ECR:

[] we need create ECR and IAM users and iam police permission and iam we need create access key

To create access key and secret key

[] in iam

[] select users

[] select which user want

[] select security credentials

[] scroll down

[] select **create access key**

[] select **command line interface**

[] select confirm

[] next

[] type description

[] create access key

[] download the .csv there we get keys / we can copy and paste the keys

we need give ECR full access permission for docker push

[]Open the AWS Management Console and navigate(search) to the IAM service.

[] Locate and select the IAM user to which you want to attach the policy.

[] In the user scroll down to the **"Permissions"** section.

[] in **“add permissions”** Click on the **"Add inline policy"** button .

In the policy editor, choose the **"JSON"** tab to enter the policy code.

Replace the existing policy code with the JSON code provided earlier


```
{"Version": "2012-10-17",
"Statement": [
{
"Effect": "Allow",
"Action":
["ecr:*"],
"Resource": "*"}]}
```


[] next

[] Provide a name for the policy in the **"Name"** field.
[] Click on **"Review policy"** to verify the policy details.
[]Finally, click on **"Create policy"** or **"Attach policy"** to attach the policy to the IAM user or role

---

In server

[] sudo su -

[] apt-get update

[] apt-get install awscli

[] apt-get install awscli

[] apt install dnf

We need to install plugins

- CloudBees AWS Credentials
- Amazon ECR
- Docker Pipeline

we need set up access key and secret key

[] login to j**enkins dashboard** and select **manage jenkins**

[] select system and scroll down in **Global properties** select **Environment variables**
[] add

[] in **name** AWS_ACCESS_KEY_ID (we can give whatever,we use this name in pipeline)

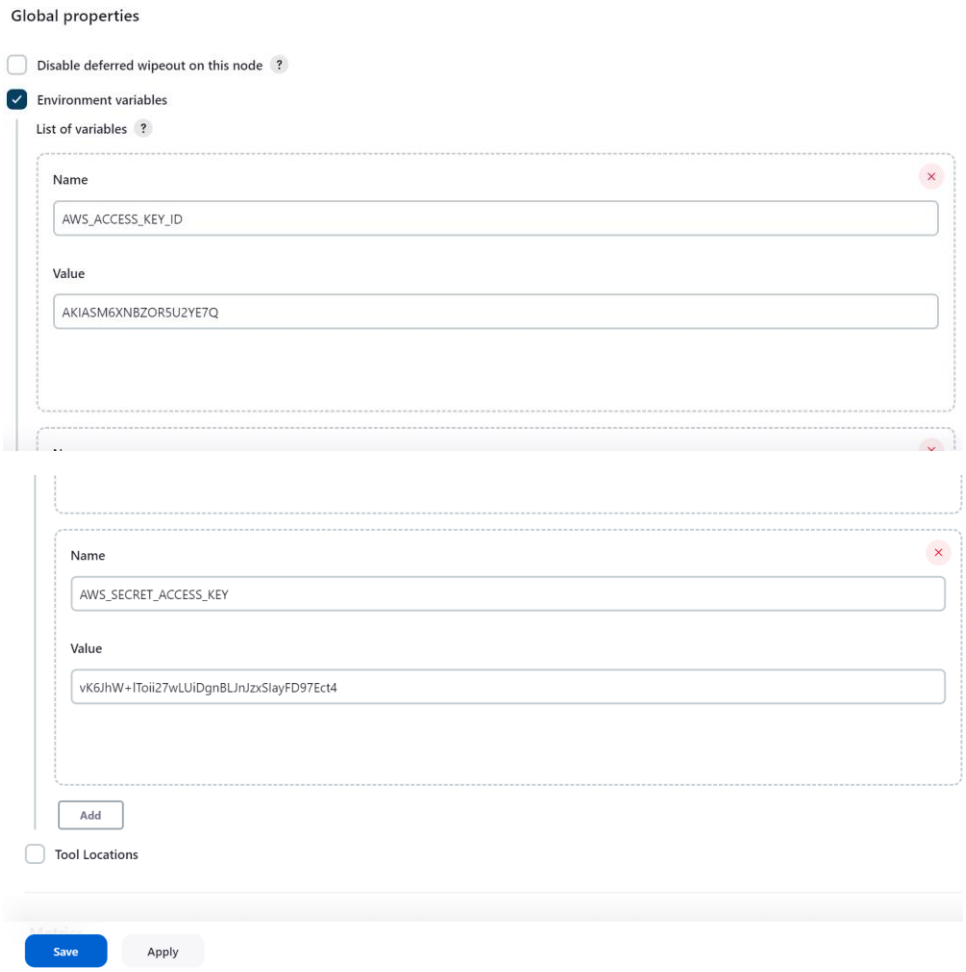
[] in **value** AKIASM6XNBZOR5U2YE7 (I gave access key id what I created in aws)

[] add

[] in **name** AWS_SECRET_ACCESS_KEY (we can give whatever,we use this name in pipeline)

[] in **value** vK6JhW+lToii27wLUiDgnBLJnJzxSIayFD97Ect4 (I gave secret access key id what I created in aws)

[] save



EXAMPLE: (I use like this in code)

[] AWS_ACCESS_KEY_ID="${env.AWS_ACCESS_KEY_ID}"

[] AWS_SECRET_ACCESS_KEY="${env.AWS_SECRET_ACCESS_KEY}"

---

1) Code for to push docker image to ECR

```
pipeline {
   agent any
environment {
    AWS_ACCESS_KEY_ID="${env.AWS_ACCESS_KEY_ID}"
```

```
        AWS_SECRET_ACCESS_KEY="${env.AWS_SECRET_ACCESS_KEY}"
        AWS_REGION=('us-east-1')
}
stages {
   stage('Cloning Git') {
steps {
    git credentialsId: 'PAT', url:
'https://github.com/kanchana08/Dockerfile_python.git'


}
}
   stage('Build Docker Image') {
       steps {
         sh "docker build -t lamda_ply:latest ."
          }
       }
       stage('Publish to ECR') {
          steps {
             script {
                    sh "aws ecr get-login-password --region us-east-1 | docker login --
username AWS --password-stdin 165271113309.dkr.ecr.us-east-1.amazonaws.com"
                    sh "docker tag lamda_ply:latest 165271113309.dkr.ecr.us-east-
1.amazonaws.com/lamda_ply:latest"
                    sh "docker push 165271113309.dkr.ecr.us-east-
1.amazonaws.com/lamda_ply:latest"
                    }
                }
}
```

```
}
}
```

==========

2) <u>Code for to push docker image to ECR</u> (I put build function in stage('Publish to ECR'))

```
pipeline {
   agent any
environment {
    AWS_ACCESS_KEY_ID="${env.AWS_ACCESS_KEY_ID}"
      AWS_SECRET_ACCESS_KEY="${env.AWS_SECRET_ACCESS_KEY}"
      AWS_REGION=('us-east-1')
}
stages {
   stage('Cloning Git') {
steps {
    git credentialsId: 'PAT', url:
'https://github.com/kanchana08/Dockerfile_python.git'

}
}

      stage('Publish to ECR') {
         steps {
            script {
```

```
                sh "aws ecr get-login-password --region us-east-1 | docker login --
username AWS --password-stdin 165271113309.dkr.ecr.us-east-1.amazonaws.com"

                sh"docker build -t lamda_ply ."

                sh "docker tag lamda_ply:latest 165271113309.dkr.ecr.us-east-
1.amazonaws.com/lamda_ply:latest"

                sh "docker push 165271113309.dkr.ecr.us-east-
1.amazonaws.com/lamda_ply:latest"




            }


            }


        }
        }

}
```

==========

Code for s3 bucket :

```
pipeline{
   agent any
   environment {
      AWS_ACCESS_KEY_ID="${env.AWS_ACCESS_KEY_ID}"
      AWS_SECRET_ACCESS_KEY="${env.AWS_SECRET_ACCESS_KEY}"
      AWS_REGION=('us-east-1')
   }
   stages{
      stage('exm stage'){
         steps {
            script{

           sh"aws s3 ls"
            }
         }
      }
   }

}
```

==========

Deleted previous latest tag images first and then push new images

```
pipeline {
   agent any
environment {
    AWS_ACCESS_KEY_ID="${env.AWS_ACCESS_KEY_ID}"
      AWS_SECRET_ACCESS_KEY="${env.AWS_SECRET_ACCESS_KEY}"
     // AWS_REGION=('us-east-1')
      AWS_REGION="${env.AWS_DEFAULT_REGION}"
}
stages {
   stage('Cloning Git') {
steps {
    git credentialsId: 'PAT', url:
'https://github.com/kanchana08/Dockerfile_python.git'

}
}
   stage('Build Docker Image') {
      steps {
```

```
    //   script {
 // dockerImage = docker.build "lamda_ply:latest"


      //   }
         sh "docker build -t lamda_ply:latest ."
      }
      }
      stage('Publish to ECR') {
         steps {
            script {
                  sh "aws ecr get-login-password --region us-east-1 | docker login --
username AWS --password-stdin 165271113309.dkr.ecr.us-east-1.amazonaws.com"
                  sh" aws ecr batch-delete-image --repository-name lamda_ply --image-
ids imageTag=latest"
                  //sh" aws ecr batch-delete-image --repository-name lamda_ply --image-
ids imageTag=latest"
                   sh"docker tag lamda_ply:latest 165271113309.dkr.ecr.us-east-
1.amazonaws.com/lamda_ply:latest"
                  sh "docker push 165271113309.dkr.ecr.us-east-
1.amazonaws.com/lamda_ply:latest"
                  }


            }


         }
         }

}
```

==========

Update the ecr image to lambda function

[] select **create lambda** and **select container image** and **paste ecr uri**

[] `sh "aws lambda update-function-code --region ${AWS_DEFAULT_REGION} --function-name ${LAMBDA_FUNCTION_NAME} --image-uri ${AWS_ACCOUNT_ID}.dkr.ecr.${AWS_DEFAULT_REGION}.amazonaws.com/${IMAGE_REPO_NAME}:${IMAGE_TAG}"`

[] We need to install plugins

1) AWS lambda plugin

2) Amazon EC2

3) CloudBees AWS Credentials Plugin

```
pipeline {
  agent any
  environment {
    AWS_ACCESS_KEY_ID="${env.AWS_ACCESS_KEY_ID}"
    AWS_SECRET_ACCESS_KEY="${env.AWS_SECRET_ACCESS_KEY}"
    AWS_REGION=('us-east-1')
```

```
}
stages {
    stage('Cloning Git') {
        steps {
            git credentialsId: 'PATH', url:
'https://github.com/kanchana08/Dockerfile_python.git'

        }

    }
    stage('Build Docker Image') {
        steps {
            sh "docker build -t playwright_123:latest ."

        }

    }
    stage('Publish to ECR') {
        steps {
            script {

                sh "aws ecr get-login-password --region us-east-1 | docker login --
username AWS --password-stdin 909100690382.dkr.ecr.us-east-1.amazonaws.com"
                //sh" aws ecr batch-delete-image --repository-name playwright_123 --
image-ids imageTag=latest"

                sh" aws ecr batch-delete-image --repository-name playwright_123 --
image-ids imageTag=latest"
```

```
                sh "docker tag playwright_123:latest 909100690382.dkr.ecr.us-east-1.amazonaws.com/playwright_123:latest"
                sh "docker push 909100690382.dkr.ecr.us-east-1.amazonaws.com/playwright_123:latest"

                }

            }

    }

stage('lambda_function'){
  steps{
    script{
sh'aws lambda update-function-code --region us-east-1 --function-name lambdafunction --image-uri 909100690382.dkr.ecr.us-east-1.amazonaws.com/playwright_123:latest'

    }
  }
}
}

}
```

==========

With testing lambda functions stage

```
pipeline {
```

```
    agent any
    environment {
        AWS_ACCESS_KEY_ID="${env.AWS_ACCESS_KEY_ID}"
        AWS_SECRET_ACCESS_KEY="${env.AWS_SECRET_ACCESS_KEY}"
        AWS_REGION=('us-east-1')

    }
    stages {
        stage('Cloning Git') {
            steps {
                git credentialsId: 'PATH', url:
'https://github.com/kanchana08/Dockerfile_python.git'

            }

        }
        stage('Build Docker Image') {
            steps {
                sh "docker build -t playwright_123:latest ."

            }

        }
        stage('Publish to ECR') {
            steps {
                script {
```

```
                sh "aws ecr get-login-password --region us-east-1 | docker login --
username AWS --password-stdin 909100690382.dkr.ecr.us-east-1.amazonaws.com"

                //sh" aws ecr batch-delete-image --repository-name playwright_123 --
image-ids imageTag=latest"


                sh" aws ecr batch-delete-image --repository-name playwright_123 --
image-ids imageTag=latest"

                sh "docker tag playwright_123:latest 909100690382.dkr.ecr.us-east-
1.amazonaws.com/playwright_123:latest"

                sh "docker push 909100690382.dkr.ecr.us-east-
1.amazonaws.com/playwright_123:latest"


                }


            }


    }


stage('lambda_function'){

  steps{

    script{

sh'aws lambda update-function-code --region us-east-1 --function-name
lambdafunction --image-uri 909100690382.dkr.ecr.us-east-
1.amazonaws.com/playwright_123:latest'


    }

  }

}
```

```
stage('lambda_test_function'){
   steps{
      sh' aws lambda invoke --function-name lambdafunction out --log-type Tail'

   }
}
    }

}
```

==========

With testing lambda functions stage

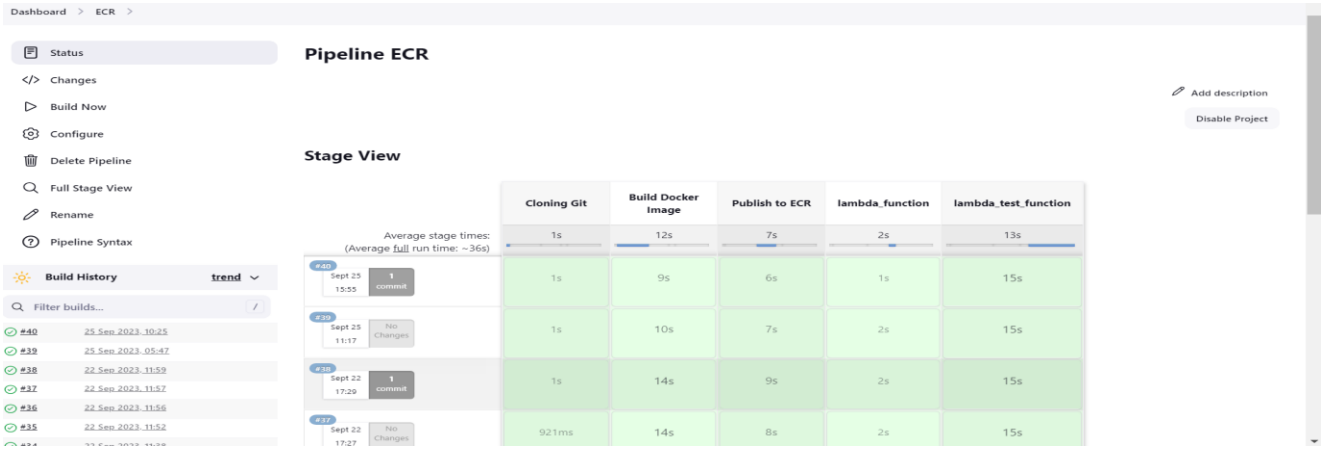
```
pipeline {
   agent any
   environment {
      AWS_ACCESS_KEY_ID="${env.AWS_ACCESS_KEY_ID}"
      AWS_SECRET_ACCESS_KEY="${env.AWS_SECRET_ACCESS_KEY}"
      AWS_REGION=('us-east-1')

   }
   stages {
      stage('Cloning Git') {
```

```
        steps {
            git credentialsId: 'PATH', url:
'https://github.com/kanchana08/Dockerfile_python.git'

        }

    }
    stage('Build Docker Image') {
        steps {
            sh "docker build -t playwright_123:latest ."

        }

    }
    stage('Publish to ECR') {
        steps {
            script {

                sh "aws ecr get-login-password --region us-east-1 | docker login --
username AWS --password-stdin 909100690382.dkr.ecr.us-east-1.amazonaws.com"
                //sh" aws ecr batch-delete-image --repository-name playwright_123 --
image-ids imageTag=latest"

                sh" aws ecr batch-delete-image --repository-name playwright_123 --
image-ids imageTag=latest"
                sh "docker tag playwright_123:latest 909100690382.dkr.ecr.us-east-
1.amazonaws.com/playwright_123:latest"
                sh "docker push 909100690382.dkr.ecr.us-east-
1.amazonaws.com/playwright_123:latest"
```

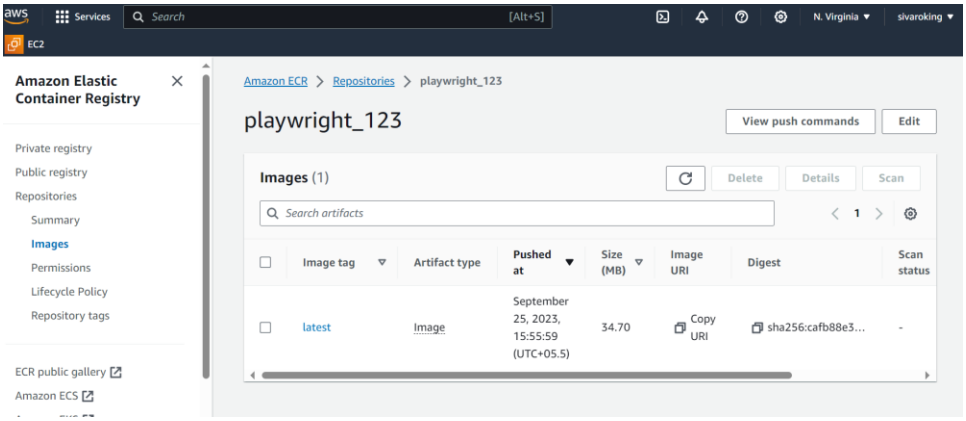
```
                }

            }

    }

stage('lambda_function'){
  steps{
    script{
sh'aws lambda update-function-code --region us-east-1 --function-name
lambdafunction --image-uri 909100690382.dkr.ecr.us-east-
1.amazonaws.com/playwright_123:latest'

    }
  }
}

stage('lambda_test_function'){
  steps{
    sh' aws lambda invoke --function-name lambdafunction out --log-type Tail'

  }
}
   }

}
```

After testing the lambda functions, AWS CloudWatch log groups created automatically.

Jenkins output:

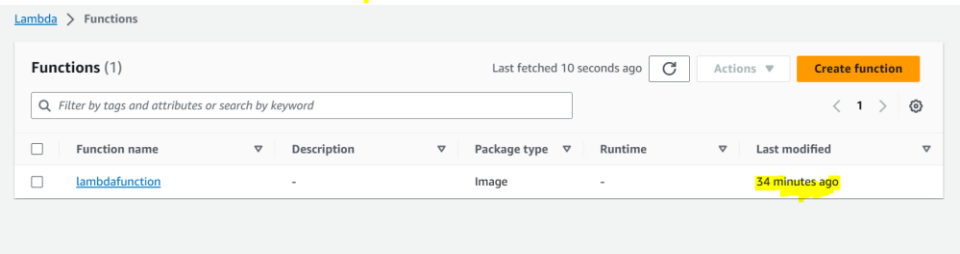


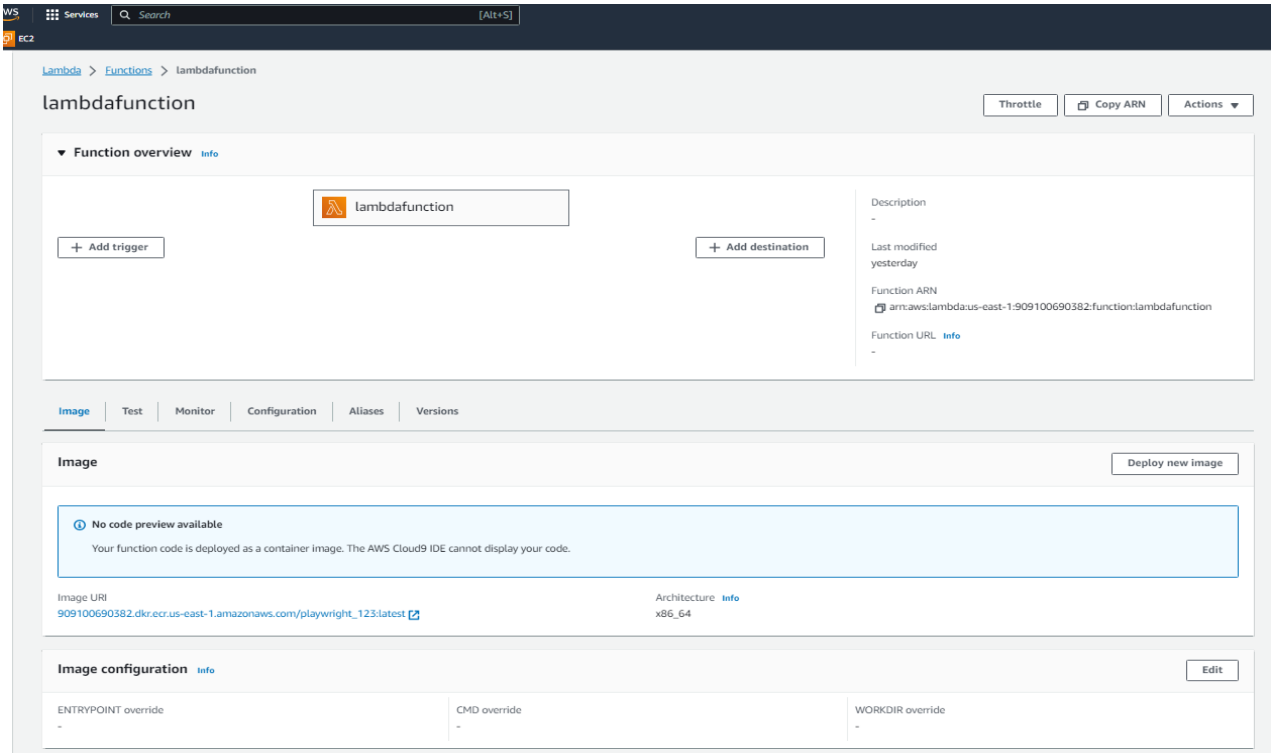
ECR image



Lambda functions

Latest image will update in lambda function





Cloud watch log: