**Amazon GameLift FleetIQ Integration with Amazon EKS and Agones: Quick Install Guide**

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This guide provides a quick walkthrough on how to prepare for and run an automated installment script for the FleetIQ-EKS-Agones solution. Alternatively, follow the Modular Install Guide to do the automated deployment in four separate steps or use the Full Install Guide to complete each step manually. You can also use the Full Install Guide after completing this automated installment to do additional customizations as needed.

CAUTION: These instructions should only be used in an AWS account that has no prior GameLift FleetIQ resources. The install script does not currently check for duplicate resources and will fail if resources with the same names already exist (such as existing IAM roles and policies, which are global in scope).

This guide covers the following tasks:

* Create a Cloud9 workspace for controlling your cluster.
* Set up account credentials and permissions to allow different AWS services to interact with each other.
* Run the installation script to install cluster management tools, create the EKS cluster, configure it, and install Agones with a sample fleet deployment.
* Test your new solution installment with the sample fleet deployment.

# Create a workspace

From the AWS Console, launch Cloud9 in the region you want to run the cluster in one of the following regions:

* + US East (Ohio)
  + US East (N. Virginia)
  + US West (Oregon)
  + Asia Pacific (Hong Kong)
  + Asia Pacific (Mumbai)
  + Asia Pacific (Seoul)
  + Asia Pacific (Singapore)
  + Asia Pacific (Sydney)
  + Asia Pacific (Tokyo)
  + Canada (Central)
  + Europe (Frankfurt)
  + Europe (Ireland)
  + Europe (London)
  + Europe (Paris)
  + Europe (Stockholm)
  + Middle East (Bahrain)
  + South America (São Paulo)
* Select Create environment
* Name it (e.g. EKS-FleetIQ-workspace), optionally provide a description and click Next step
* Select the following options:
  + Environment type: Create a new no-ingress EC2 instance for environment (access via Systems Manager)
  + Instance type: t3.small
  + Platform: Amazon Linux 2
  + Cost-saving setting: After one hour
  + Network settings: Keep default VPC/No preference or create/select a VPC and subnet based on your network environment
* Click Next step then Create environment
* Once the IDE is ready, customize the environment by closing the Welcome tab and lower work area, and opening a new terminal window in the main work area by clicking the green plus (+) sign.

**NOTE:** Please use the same terminal window throughout this guide to ensure environment variables are preserved between steps.

## Add an IAM role to your workspace

Create an administrator IAM role to manage permissions for all of the AWS components that are used in the FleetIQ-EKS-Agones solution. These permissions are required before you can complete the FleetIQ-EKS-Agones install process.

### Create a new IAM role

1. In the AWS Console, go to the IAM service. IAM is a global service, so you don’t need to specify a region.
2. In the sidebar, select **Roles** and click the **Create Role** button.
3. Select the following options:
   * **Select type of trusted entity**: AWS service.
   * **Choose a use case**: EC2.
4. Click **Next:Permissions**.
5. Select the permission policy **AdministratorAccess**.
6. Click **Next:Tags** to move forward, take the defaults, and click **Next:Review** to finalize the new role.
7. Enter the role name: “agonesfleetiq-admin” and add an optional role description.
8. Click **Create role**.

### Attach the IAM role to your Cloud9 EC2 instance

1. In the AWS Console, go to the EC2 service and select the region where you created your Cloud9 environment. (An EC2 instance was automatically created to run your Cloud9 environment).
2. In the **Resources** box, click **Running instances**. When you created your Cloud9 environment, an EC2 instance was automatically created for it. You should see this instance listed with a name that starts with “aws-cloud9…”.
3. Select your active Cloud9 instance (click the checkbox) and choose **Actions / Instance Settings / Modify IAM Role** (you may need to scroll the dropdown list).
4. From the **IAM Role** drop down list, choose the role “agonesfleetiq-admin” and select **Save**.

### Update IAM settings for your workspace

1. In the AWS Console, return to the Cloud9 service and open your IDE workspace. Be sure you’re working in the region where you created your workspace.
2. Click the gear icon (in top right corner), or open a new tab and choose **Open Preferences**.
3. Open **Project Settings: AWS Settings** and turn off AWS managed temporary credentials.
4. Open a terminal window and enter the following commands to finish updating your IAM settings. Keep this terminal window open throughout the installation.
   * Remove any existing credentials file:  
     rm -vf ${HOME}/.aws/credentials
   * Install jq:  
     sudo yum -y install jq
   * Configure the AWS CLI with your workspace region as default:  
     export ACCOUNT\_ID=$(aws sts get-caller-identity --output text --query Account)  
       
     export AWS\_REGION=$(curl -s 169.254.169.254/latest/dynamic/instance-identity/document | jq -r '.region')
   * Verify that AWS\_REGION is correctly set to your desired region:  
     test -n "$AWS\_REGION" && echo AWS\_REGION is "$AWS\_REGION" || echo AWS\_REGION is not set
   * Save these settings into bash\_profile:  
     echo "export ACCOUNT\_ID=${ACCOUNT\_ID}" | tee -a ~/.bash\_profile  
       
     echo "export AWS\_REGION=${AWS\_REGION}" | tee -a ~/.bash\_profile  
       
     aws configure set default.region ${AWS\_REGION}  
       
     aws configure get default.region
   * Use the [GetCallerIdentity](https://docs.aws.amazon.com/cli/latest/reference/sts/get-caller-identity.html) CLI command to validate that the Cloud9 IDE is using the correct IAM role:  
     aws sts get-caller-identity --query Arn | grep agonesfleetiq-admin -q && echo "IAM role valid" || echo "IAM role NOT valid"  
       
     If the IAM role is not valid, DO NOT PROCEED with cluster creation. Some possible reasons that your IAM role isn’t valid:
     + You named your IAM role differently. Modify the get-caller-identity command (between | grep and -q) with the correct name.
     + You had to reconnect to the instance. This may have re-applied the Managed Temporary Credentials. Restart the “Update IAM settings for your workspace“ at Step 1.

# Run the installation

1. In your Cloud9 workspace main window, click on the green plus (+) sign and create a **New File**.
2. Open the attached script containing the rest of the installation procedure and copy the contents into the new file in your workspace.
3. Review the variables as needed, with particular attention to the following:
   * AVAILABILITYZONES: Verify that AZs listed are available in the region you’re working in (some regions such as Canada and Tokyo do not have AZs A,B,C available (Canada is A,B,D and Tokyo is A,C,D).) and
4. Save the file as install.sh.
5. In the open Console tab, start the script:

. install.sh

The installation process takes approximately 35 minutes.

# Testing your FleetIQ-EKS-Agones installation

Please refer to <https://agones.dev/site/docs/> for details on Agones.

Some commands you might want to run:

Check Agones Status:

kubectl describe --namespace agones-system pods

Check Agones Pod Status:

kubectl get pods --namespace agones-system

Get Fleets:

kubectl get fleets

Get Gameservers:

kubectl get gameservers

Get Gameserver details:

watch kubectl describe gameserver

Scale up Fleet:

kubectl scale fleet stk-fleet --replicas=100

watch kubectl get fleets

kubectl get nodes

Scale down Fleet:

kubectl scale fleet stk-fleet --replicas=1

watch kubectl get fleets

kubectl get nodes

# Document Revisions

|  |  |
| --- | --- |
| Date | Description |
| April 2021 | Updated Cloud9 instructions to use Amazon Linux 2 |