

Migrate from Amazon EKS to GKE

Based on this documentation <https://cloud.google.com/architecture/migrate-amazon-eks-to-gke>
I will document a plan to migrate to GKE.

Diagram



Migrate in series

If you want to migrate from your source environment to Google Cloud in a series of iterations you should follow these steps :

1. Assess and discover your workloads and data.
2. Plan and build a foundation on Google Cloud.
3. Migrate your workloads and data to Google Cloud.
4. Optimize your Google Cloud environment.

In the following section I will explain how to apply each step.

Assess the source environment

In the assessment phase, you determine the requirements and dependencies to migrate your source environment to Google Cloud.

The assessment phase consists of the following tasks:

1. Build a comprehensive inventory of your workloads.
2. Catalog your workloads according to their properties and dependencies.
3. Train and educate your teams on Google Cloud.
4. Build experiments and proofs of concept on Google Cloud.
5. Calculate the total cost of ownership (TCO) of the target environment.
6. Choose the migration strategy for your workloads.
7. Choose your migration tools.

8. Define the migration plan and timeline.
9. Validate your migration plan.

In this document I will not go deep in each step, if you need more information go to the link I provided

Plan and build your foundation

In the plan and build phase, you provision and configure the infrastructure to do the following:

- Support your workloads in your Google Cloud environment.
- Connect your source environment and your Google Cloud environment to complete the migration.

The plan and build phase is composed of the following tasks:

1. Build a resource hierarchy.
2. Configure Google Cloud's Identity and Access Management (IAM).
3. Set up billing.
4. Set up network connectivity.
5. Harden your security.
6. Set up logging, monitoring, and alerting.

Migrate your data and deploy workloads

In the deployment phase, you do the following:

1. Provision and configure your GKE environment.
2. Configure your GKE clusters.
3. Refactor your workloads.
4. Refactor deployment and operational processes.
5. Migrate data from your source environment to Google Cloud.
6. Deploy your workloads in your GKE environment.
7. Validate your workloads and GKE environment.
8. Expose workloads running on GKE.
9. Shift traffic from the source environment to the GKE environment.
10. Decommission the source environment.

Optimize your Google Cloud environment

Optimization is the last phase of your migration. In this phase, you iterate on optimization tasks until your target environment meets your optimization requirements. The steps of each iteration are as follows:

1. Assess your current environment, teams, and optimization loop.
2. Establish your optimization requirements and goals.
3. Optimize your environment and your teams.
4. Tune the optimization loop.