This Terraform script automates the deployment of a Redis instance on a Minikube Kubernetes cluster using Helm. The script ensures Minikube is running, deploys a Redis Helm chart, and sets a key-value pair in the Redis instance. It also retrieves the value to verify the setup.

**Prerequisites**

\* Minikube installed and configured.

\* Kubernetes CLI (kubectl) installed.

\* Helm CLI installed.

\* Terraform installed.

**Script Components:**

**Provider Configuration:**

The provider configuration specifies the Helm provider and connects it to the Minikube Kubernetes cluster.

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Description automatically generated

**Minikube Start Resource:**

This resource ensures that Minikube is started.

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**Wait for Minikube:**

This resource waits for Minikube to be fully operational and verifies cluster reachability.

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**Delete Existing Redis Release:**

This resource deletes any existing Redis Helm release to ensure a fresh deployment.

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**Helm Chart Directory and Files:**

These resources create the necessary Helm chart files for deploying Redis.  
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**Initialize Helm Chart Directory:**

This resource initializes the Helm chart directory if it doesn't exist.

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**Deploy Redis with Helm:**

This resource deploys the Redis Helm chart.

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**Set Redis Key:**

This resource sets a key-value pair in the Redis instance.

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**Get Redis Value:**

This resource retrieves the value of the previously set key from Redis.

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**Usage:**

* Ensure all prerequisites are installed and configured.
* Save the above script in a .tf file.
* Run terraform init to initialize Terraform.  
    
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* Run terraform apply to execute the script and deploy Redis.  
  output for terraform apply command.  
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* This script will start Minikube, deploy a Redis instance using Helm, set a key-value pair in Redis, and retrieve the value to verify the setup.