Container Service

Developer Tool

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ECS Driver overview

Docker Machine helps developers create Docker hosts on their computer or cloud providers. Alibaba Cloud ECS Driver is a plugin of Docker Machine, and is designed to simplify the creation and management of Docker hosts on Alibaba Cloud.

Docker Machine, in combination with Alibaba Cloud ECS Driver, provides the following features:

Quick creation of Docker hosts

You can quickly create a Docker host or cluster on Alibaba Cloud.

Unified experience

You can use Docker Machine to manage Docker hosts in local or on the cloud.

Seamless integration

You can seamlessly integrate Docker Machine with Alibaba Cloud Docker Image Service and Container Service.

If you want to customize and modify the ECS Driver, you can obtain the source code from GitHub and build your own ECS Driver.

Source code URL: https://github.com/denverdino/docker-machine-driver-aliyunecs

Installation

Install Docker Machine

The simple way is to install the Docker Toolbox, which consists of Docker Engine, Docker Machine, and other tools.

If you need to install Docker Machine separately, refer to Install Docker Machine.

Obtain ECS Driver

You can download the binary release of ECS Driver. The following versions are automatically compiled based on Docker Machine 0.6:

Windows 64 bit: docker-machine-driver-aliyunecs_windows-amd64.tgz

Linux 64 bit: docker-machine-driver-aliyunecs_linux-amd64.tgz

Mac OSX 64 bit: docker-machine-driver-aliyunecs_darwin-amd64.tgz

Install ECS Driver

Copy the binary file of ECS Driver to the system path (which is the path included in $PATH on Mac OSX), change the file name to docker-machine-driver-aliyunecs, and add execution permissions to the file. Then, Docker Machine can directly access ECS Driver.

The installation command on Mac OSX is used to copy the binary file of ECS Driver to the /usr/local/bin directory. The command is as shown below.

```
mkdir docker-machine
# Download and unzip Aliyun ECS driver
curl -L https://docker-machine-drivers.oss-cn-beijing.aliyuncs.com/docker-machine-driver-aliyunecs_darwin-amd64.tgz > driver-aliyunecs.tgz && tar xzvf driver-aliyunecs.tgz -C docker-machine && rm driver-aliyunecs.tgz
mv docker-machine/bin/* /usr/local/bin
mv /usr/local/bin/docker-machine-driver-aliyunecs.darwin-amd64 /usr/local/bin/docker-machine-driver-aliyunecs && chmod +x /usr/local/bin/docker-machine-driver-aliyunecs
```

Usage

Configure environment variables

To simplify the parameters that are used each time a Docker Machine command is executed, configure the environment variables as follows.

```
export DEBUG=true
export ECS_ACCESS_KEY_ID=<your_access_key_id>
export ECS_ACCESS_KEY_SECRET=<your_access_key_secret>
export ECS_REGION=<your_ecs_region>
export ECS_SSH_PASSWORD=<your_ssh_password>
export MACHINE_DOCKER_INSTALL_URL= http://acs-public-mirror.oss-cn-hangzhou.aliyuncs.com/docker-
```

```
engine/internet
# Optional for VPC only
export ECS_VPC_ID=<your_vpc_id>
export ECS_VSWITCH_ID=<your_vswitchid>
```

Explanation:

- ECS_REGION indicates the zone where your ECS instance is located, such as cn-beijing, cn-hangzhou, and cn-qingdao.
- ECS_SSH_PASSWORD indicates the password you set for logging on to your ECS instance over SSH. The password must consist of 8~30 characters and may contain uppercase letters, lowercase letters, numbers, and special characters, but the password does not support backward slash (\) and double quotation mark ("). For details, refer to the ESC instance documentation Create an instance.
- Because access to the Docker Engine repository from Chinese mainland is unstable, you must configure the MACHINE_DOCKER_INSTALL_URL environment variable for the preceding Alibaba Cloud image site; otherwise, the following errors are returned when you create an ECS instance: "Error Creating machine: Error running provisioning: error installing docker". You can use http://acs-public-mirror.oss-cn-hangzhou.aliyuncs.com/docker-engine/intranet as the Docker Engine's installation image on Alibaba Cloud's intranet.
- Do not configure the ECS_VPC_ID and ECS_VSWITCH_ID environment variables unless you have VPC configurations. If you have a VPC account, ensure that your current ECS_REGION supports VPC configurations.

Use ECS Driver to create and delete ECS instances

After environment variables are configured, many parameters can be replaced by those environment variables by default.

You can create an ECS instance that contains the Docker environment by running the following command.

```
docker-machine create -d aliyunecs dev1
```

An example output is as follow.

```
$ docker-machine create -d aliyunecs dev1
Running pre-create checks...
Creating machine...
Waiting for machine to be running, this may take a few minutes...
Machine is running, waiting for SSH to be available...
Detecting operating system of created instance...
Provisioning created instance...
Copying certs to the local machine directory...
Copying certs to the remote machine...
Setting Docker configuration on the remote daemon...
To see how to connect Docker to this machine, run: docker-machine env dev1
```

Run the docker-machine ls command to view the created ECS instance that contains the Docker environment.

```
$ docker-machine ls
NAME ACTIVE DRIVER STATE URL SWARM
dev1 - aliyunecs Running tcp://1.2.7.2:9376
```

Run the docker-machine kill command to stop the ECS instance and view the instance status.

```
$ docker-machine kill dev1
$ docker-machine ls
NAME ACTIVE DRIVER STATE URL SWARM
dev1 - aliyunecs Stopped tcp://1.2.7.2:9376
```

Run the docker-machine rm command to delete the ECS instance and view the instance status (you can directly run this command without running the docker-machine kill command first).

```
$ docker-machine rm dev1
Successfully removed dev1
$ docker-machine ls
NAME ACTIVE DRIVER STATE URL SWARM
```

For more Docker Machine commands, refer to Docker Machine command-line reference.

Supported command parameters

Run the following command to display all possible configuration parameters of ECS Driver.

```
docker-machine create -d aliyunecs
```

The following lists some of the command parameters ECS Driver supports (for details, refer to drivers/aliyun.md).

- --aliyunecs-access-key-id: **Required**. Your access key ID for Alibaba Cloud ECS API. The access key ID is assigned by Alibaba Cloud, and uses the ECS_ACCESS_KEY_ID environment variable by default.
- --aliyunecs-access-key-secret: **Required**. Your access key secret for Alibaba Cloud ECS API. The access key secret is assigned by Alibaba Cloud, and uses the ECS_ACCESS_KEY_SECRET environment variable by default.
- --aliyunecs-disk-size: The data disk size for /var/lib/docker (in GB).
- --aliyunecs-tag: Tag for the instance.
- --aliyunecs-vpc-id: **Required for VPC network only**. Your VPC ID to launch the instance with.
- --aliyunecs-vswitch-id: **Required for VPC network only**. Your VSwitch ID to launch the

instance with.
- --aliyunecs-zone: The zone to launch the instance.

For details, refer to ECS API Document.