Amadla

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JN

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Amadla (/ah-mah-dlah/) is a set of IaC (Infrastructure as Code) tools to help deploy and manage various cloud environments, dedicated servers, and on-premise systems.

Amadla is a Zulu word meaning "power" or "strength".

Attention: This project is under active development.

CHAPTER

ONE

CONTENTS

1.1 How It Works

To begin lets explain what the problem Amadla is there to solve by reading the first section of the *root `README.md` <../README.md>`__*.

1.1.1 Flow

1. The secrets (username/password, API Keys, etc) are pulled from Vault. 2.

1.2 Setup

1.2.1 Instructions for local setup

Note: If you are using a container you can skip this section.

System Packages

- python (11 or higher)
- pip (you might need to upgrade it after it is installed with `pip install --upgrade pip` or `pip3 install --upgrade pip`)
- make - optional (needed for the Makefile for generating documentations that is in the `docs/` directory)
- **`Terraform<https://www.terraform.io/downloads.html>`__**
- **`Vault<https://www.vaultproject.io/downloads.html>`__**
- **`Packer<https://www.packer.io/downloads.html>`__**
- **`Ansible<https://docs.ansible.com/ansible/latest/installation_guide/intro_installation.html>`__**

Python Packages

- poetry (`pip install poetry` or `pip3 install poetry`)

1.2.2 Instructions for container setup

The container comes with the same packages as the local system setup except Vault you will need to use the Vault container or point via the configuration to wherever your Vault setup is.

Note: If you already have a container engine then you skip the System Packages setup.

System Packages

- **`Podman<https://podman.io/getting-started/installation>`__** (`sudo dnf install podman` or `sudo apt install podman`)
- Or **`Docker<https://docs.docker.com/get-docker/>`__** (`sudo dnf install docker-ce` or `sudo apt install docker-ce`)
- Or **`Kubernetes<https://kubernetes.io/docs/tasks/tools/install-kubectl/>`__** (`sudo dnf install kubectl` or `sudo apt install kubectl`)

Configurations

For Amadla you can use environment variables or a `.env` file. The `.env` file is loaded automatically if it exists in the root of the project. ... code:: bash

    touch .env

1.2.3 With The Container

1. You need to have a Vault instance running.
2. Add your secrets to your Vault instance (or configure your Vault to load the secrets from a storage backend).
    - Adding secrets to Vault

1.2.4 Start Vault

If you don't have a Vault instance already running you can run this command:

```
make start-vault
```

For more details about Vault with Amadla you can read secrets document.

1.2.5 Basic

Generates the basic image and sets up the infrastructure with Terraform:

```
make basic
```

1.2.6 Make Server Image

```
make image
```

1.2.7 Generate The Infrastructure

```
make infrastructure
```

The other commands: - `clean` - Remove `.terraform` folder, state and plan files - `down` - Plan and apply a tf destroy

1.3 CI/CD

CI/CD tools that Amadla supports: - GitHub Workflow - Jenkins

You can use any other CI/CD tools that you whish but for the moments those are the only ones that Amadla will maintain.

CI/CD helps to quickly put everything together and deploy the things that you want automatically.

With GitHub Workflow you will be able to just fork this repo and then whenever you make a change to the code, and you commit and push the GitHub Workflow will execute the IaC code and deploy everything without the need of any other actions on your part.

> More documentation to come.

1.4 Adding Secrets To Vault

1.5 Application Compatibility

1.5.1 Making Applications Compatible

Container

Full Server

X Application