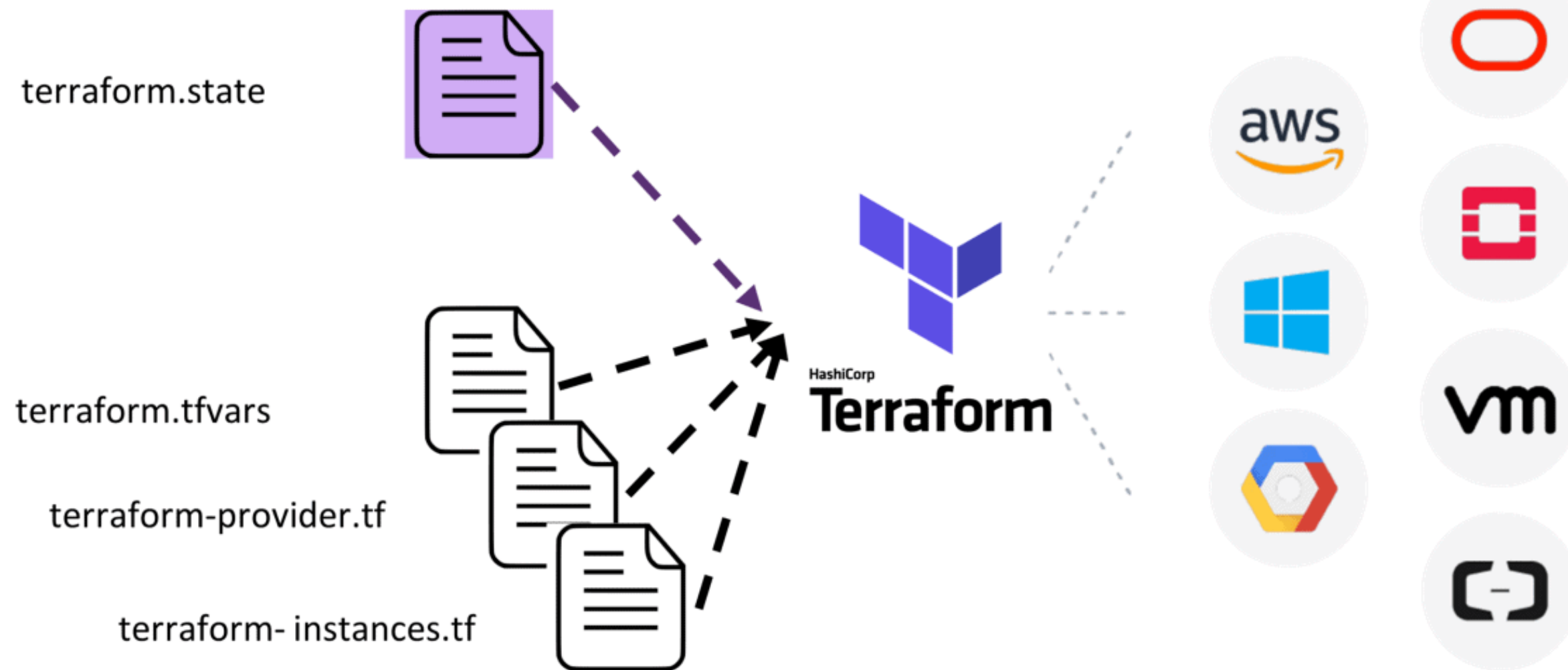


Terraform Provider Introduction



Terraform Providers

- **Terraform Providers** are plugins, exposing a set of resources and objects for you to create and manage
 - When you create infrastructure, Terraform communicates with the Provider
 - A Provider is a collection of API endpoints - Terraform calls the necessary endpoints to create and manage our infrastructure and collect information
 - We have been using the official AWS Provider, to create and manage AWS resources
- Providers are managed and maintained by individuals or groups of individuals
 - They have their own versions, which are independent of your Terraform version
 - Be mindful of which Provider version you are using
- Providers are similar to Lego blocks
 - Gives Terraform access to set of resources, for you to use in your infrastructure
 - Resources can be from any cloud provider or platform, like MongoDB, Kubernetes, etc.
- HashiCorp provides a large list of officially supported Providers
 - 90-100% of the time, you'll use your cloud provider Providers, like AWS, GCP, etc.

Terraform Providers

- Terraform Providers are great, and powerful
 - Enables Terraform to easily be cloud and platform agnostic
 - Enabling multi cloud environments, becomes easy and straight forward
 - Deeper automation opportunities, by leveraging platform Providers
- Example: You create a Kubernetes cluster with AWS EKS, and need to run some Kubernetes automation
 - Your config consists of AWS Provider, Kubernetes Provider, and Helm Provider
 - Seamless integration, and easy dependency ordering



Terraform Providers

- There are three different sources of Providers
 - **Public** - Accessible to the public, without requiring any authentication
 - **Private** - An internal Provider, requiring some sort of authentication or network access
 - **Vendor Managed** - Generally available to the public, managed by third party trusted vendors
- Public Providers are the most common
 - Can be from a public repository, generally maintained by individual or groups of individuals
 - From the official HashiCorp registry, fully vetted and supported, like the AWS Provider
- Private Providers are generally from internal organizations, from different teams
- Vendor Managed Providers are from trusted third party vendors, like MongoDB
- **Terraform Providers** are written in Golang
 - Develop your own Providers, if one is not available for your usecase
- Under the hood, Providers are middlemen, between the API layer and Terraform Core