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SQLSATURDAY
EDINBURGH | 01 FEB 2020
Introduction to Terraform
Infrastructure as Code
John Q. Martin CITP, MVP
Principal Consultant
JQM Consulting

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..and special THANK YOU to our **Volunteers** (light blue #SQLSat927polo shirt)

Your Presenter

John Q. Martin CITP

Data Platform MVP

Over a decade of experience working with the Microsoft Data Platform on-premises and in the cloud. Currently working in the financial sector and doing all things database engineering.

@SQLDiplomat | /JohnQMartin | John@jqmconsulting.com

https://www.mssqltips.com/sqlserverauthor/291/john-martin/

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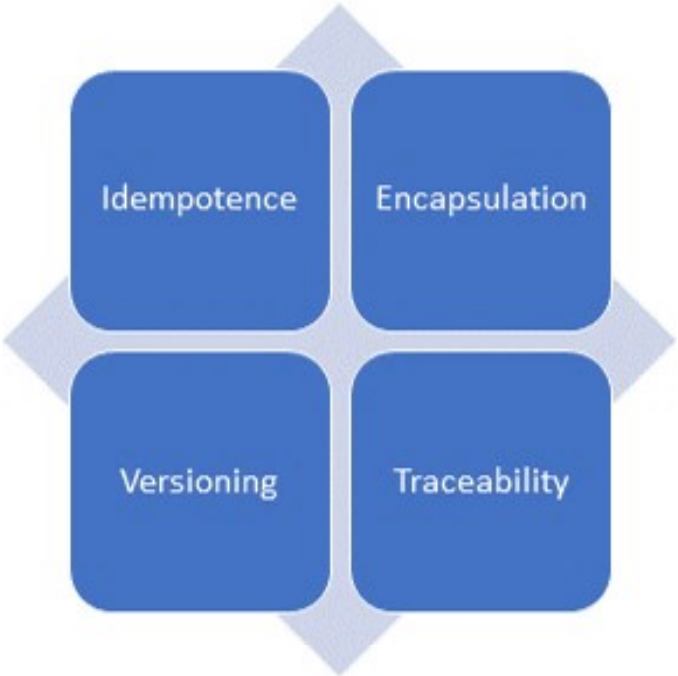
What is Infrastructure as Code?

A declarative representation of our infrastructure components that allows for automation deployment and management.



Why Infrastructure as Code

Removing humans from the process improves consistency of application.

- Consistency of deployments
- Automation

Infrastructure as Code




Infrastructure as Code

HashiCorp
Terraform

What is Terraform?

Command line tool that helps build infrastructure based on declared state.

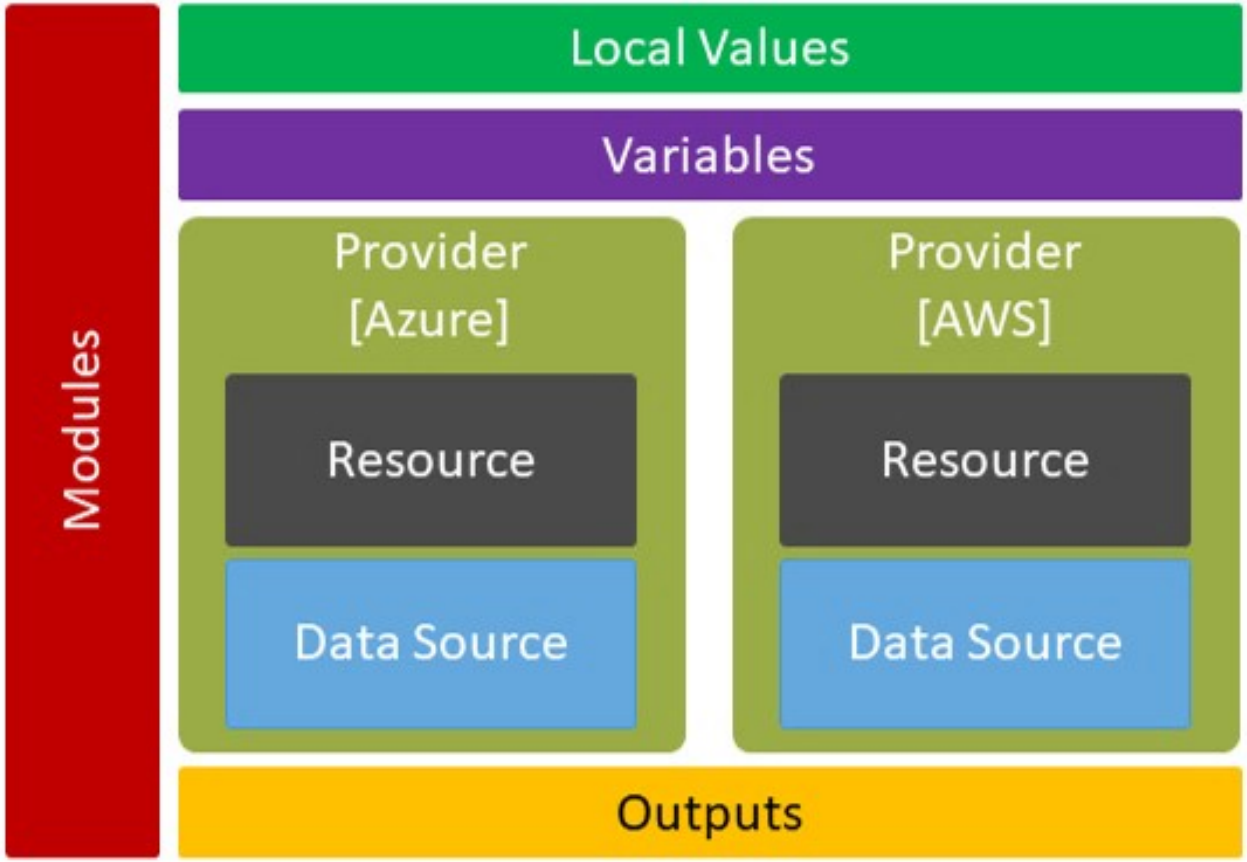
Uses HashiCorp Configuration Language (HCL) to define resources

Uses graphing concepts to identify relationships between resources prior to build

Basic Terraform Concepts

Building blocks allowing us to build infrastructure quickly and easily.

Reusable modules that abstract complexity from end users.



Providers

The interface to creating resources on different clouds and technologies

Handle connectivity and authentication for the target platform

Multiple providers can be used in a single Terraform solution

Azure

AWS

Azure Stack

Google Cloud

Docker

Kubernetes

VMware NSX-T

CloudStack

OpenStack

VMware vSphere

GitHub

Resources

These are what we want to create

Create implicit and explicit dependencies between resources

- Will be created in parallel as much as possible

Definition is specific to providers

State Management

Understand what the deployed environment looks like

- Used for plans when you make changes

State can be managed locally or in a remote store.

Stored in JSON format.

- Do not alter state files manually

Backend Management

Ability to store Terraform State in central locations.

- Terraform Enterprise
- Azure Blob Storage
- Amazon S3

Provides better management for team based management and automation.

- Locking state prevents multiple concurrent deployments

Demo

Quick look at Terraform in action.

Questions

Thanks for your time.

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Data Platform MVP

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