ARM Templates

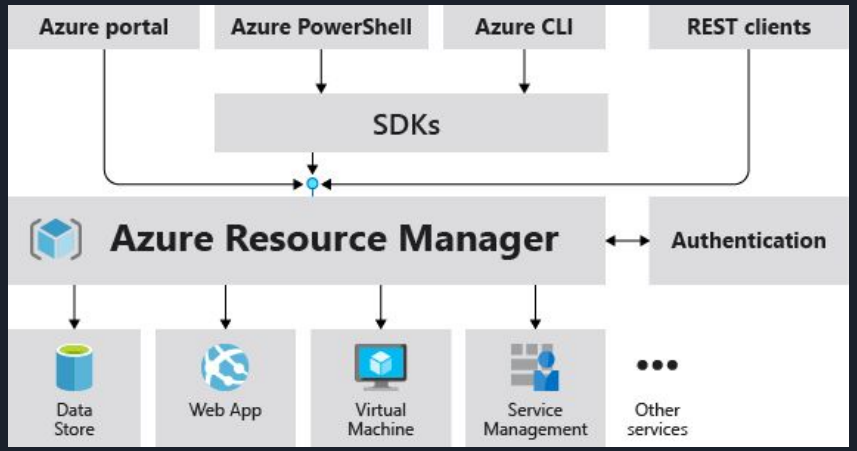
Dorian Vallecillo Calderon
App Service Senior Support Engineer Dev-OSS/Perf-Config

Have you ever wonder how deployments of services and infrastructure is made within Azure Cloud?

ARM

- ➔ Azure Resource Manager
- ➔ Deployment of Infrastructure
- ➔ Developing ARM's Templates

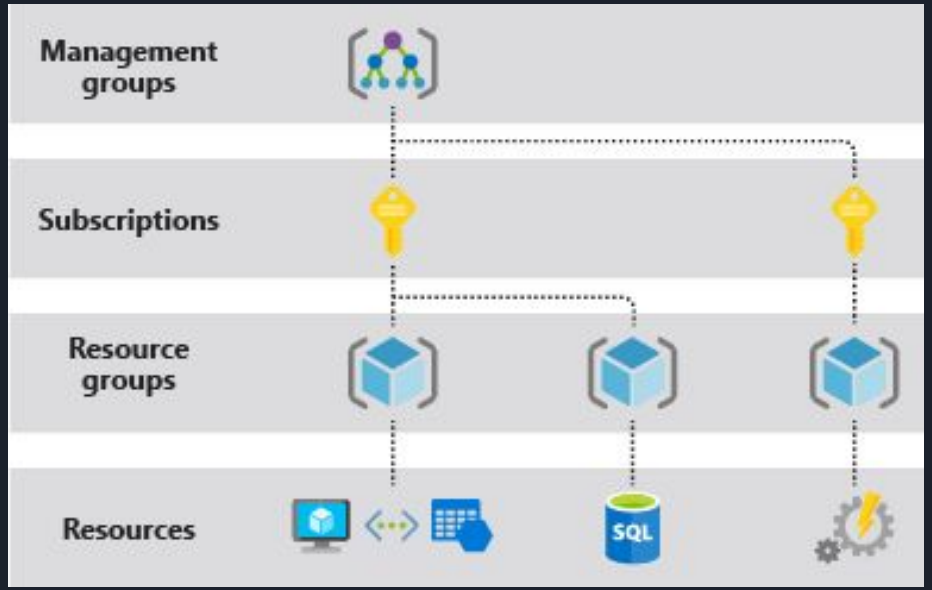
¿How does Azure Resource Manager works?

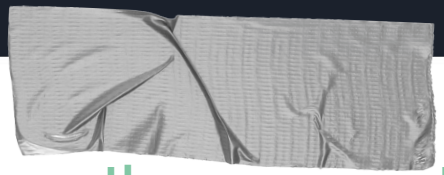


What benefits do I get of using ARM Templates?

- Manage your infrastructure through declarative templates rather than scripts.
- Deploy, manage, and monitor all the resources for your solution as a group, rather than handling these resources individually.
- Redeploy your solution throughout the development lifecycle and have confidence your resources are deployed in a consistent state.
- Define the dependencies between resources so they're deployed in the correct order.
- Apply access control to all services because Azure role-based access control (Azure RBAC) is natively integrated into the management platform.
- Apply tags to resources to logically organize all the resources in your subscription.
- Clarify your organization's billing by viewing costs for a group of resources sharing the same tag.

Scope of the ARM



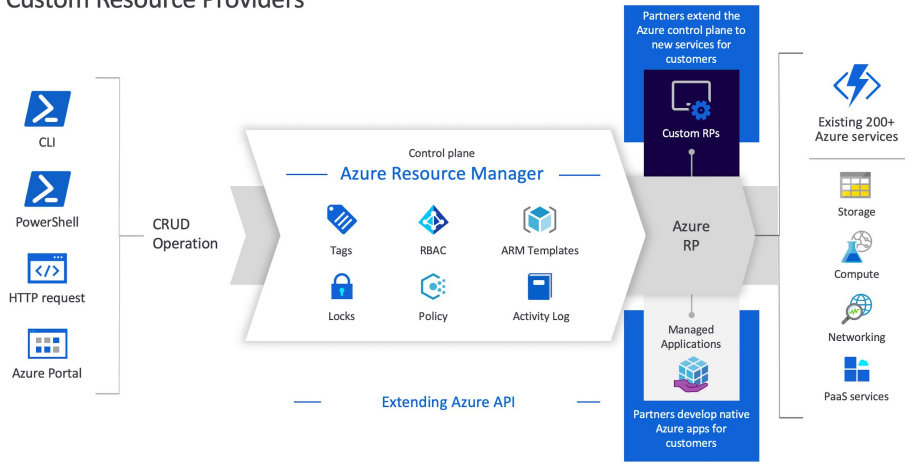


What are the components of an ARM Template

- ➔ $schema = API used to define resources
- ➔ contentVersion = Versioning control variable
- ➔ parameters = Input Parameters
- ➔ functions = customized functions
- ➔ variables = re-usage of parameters or values
- ➔ resources = Resource Provider
- ➔ outputs= customized outputs

What is a resource provider?

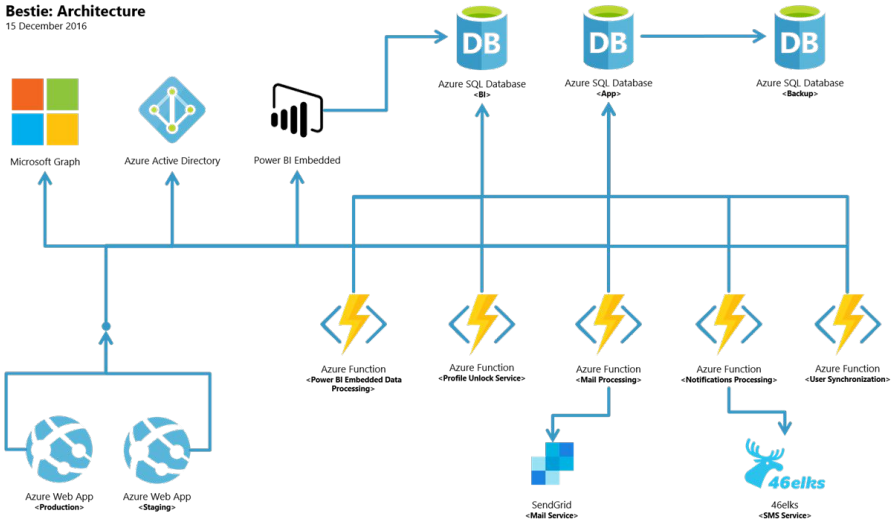
Custom Resource Providers

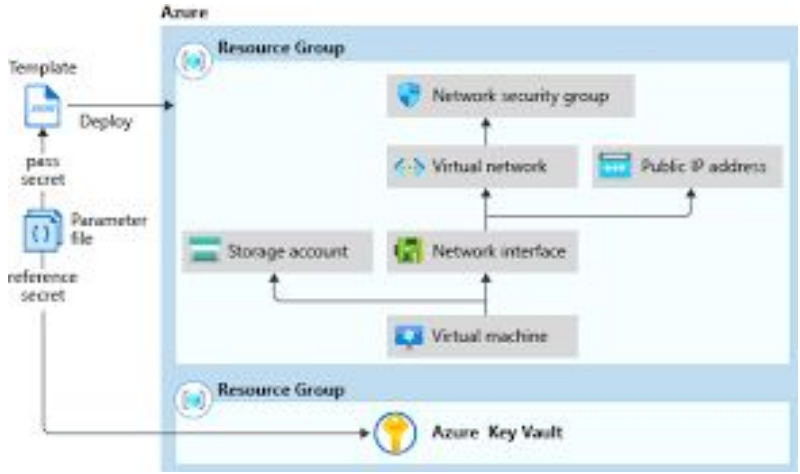


Clean ARM Template

```
{
    "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
    "contentVersion": "1.0.0.0",
    "parameters": {},
    "functions": [],
    "variables": {},
    "resources": [],
    "outputs": {}
}
```

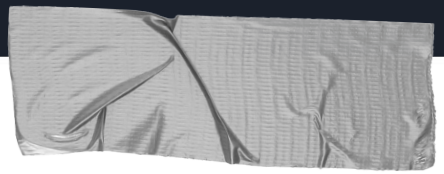
IaC


Bestie: Architecture
15 December 2016
Microsoft Graph
Azure Active Directory
Power BI Embedded
Azure SQL Database
<BI>
Azure SQL Database
<App>
Azure SQL Database
<Backup>
Azure Function
<Power BI Embedded Data Processing>
Azure Function
<Profile Unlock Service>
Azure Function
<Mail Processing>
Azure Function
<Notifications Processing>
Azure Function
<User Synchronization>
Azure Web App
<Production>
Azure Web App
<Staging>
SendGrid
<Mail Service>
46elks
<SMS Service>


Azure
Resource Group
Template
Deploy
pass secret
Parameter file
reference secret
Network security group
Virtual network
Public IP address
Storage account
Network interface
Virtual machine
Resource Group
Azure Key Vault

Let’s go to VS Code and let’s get started with Coding Infrastructure.

Repository:
https://github.com/dorianivc/ARM-templates-training-for-WebApps



VS Code

- ARM Introductions:
  - App Service Plan
  - App Service
- ARM Paramatrization
  - App Service Plan
  - App Service
  - Allowed & Default Values
- ARM Variables & Output
  - ARM variables
  - ARM outputs
- ARM parameters file
  - Let's create it on VSCode

Robots don’t make mistakes -- but data DOES!

Have a nice day