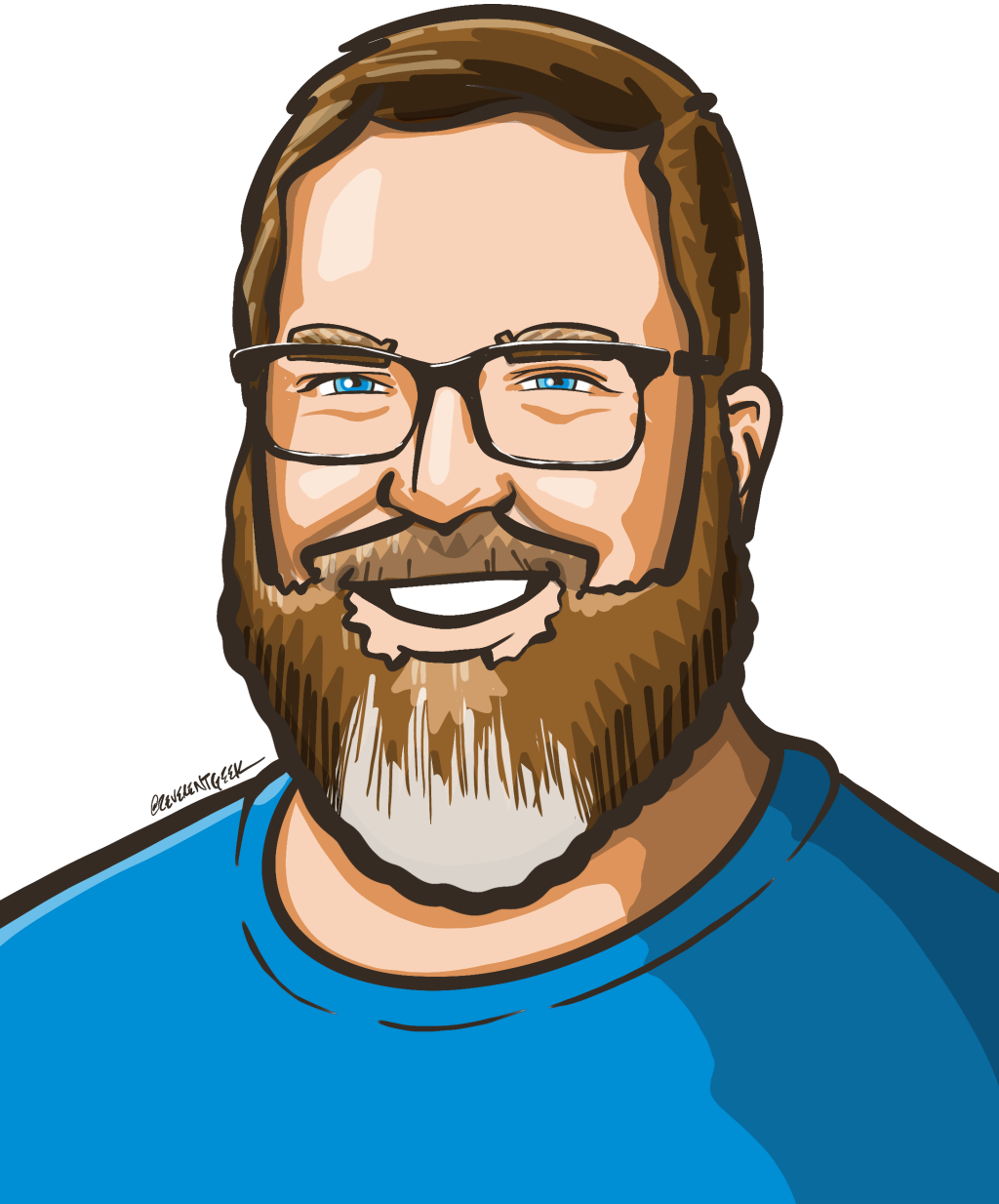




Building in the Cloud with Bicep

Chris Ayers 

<https://github.com/Codebytes/build-with-bicep>



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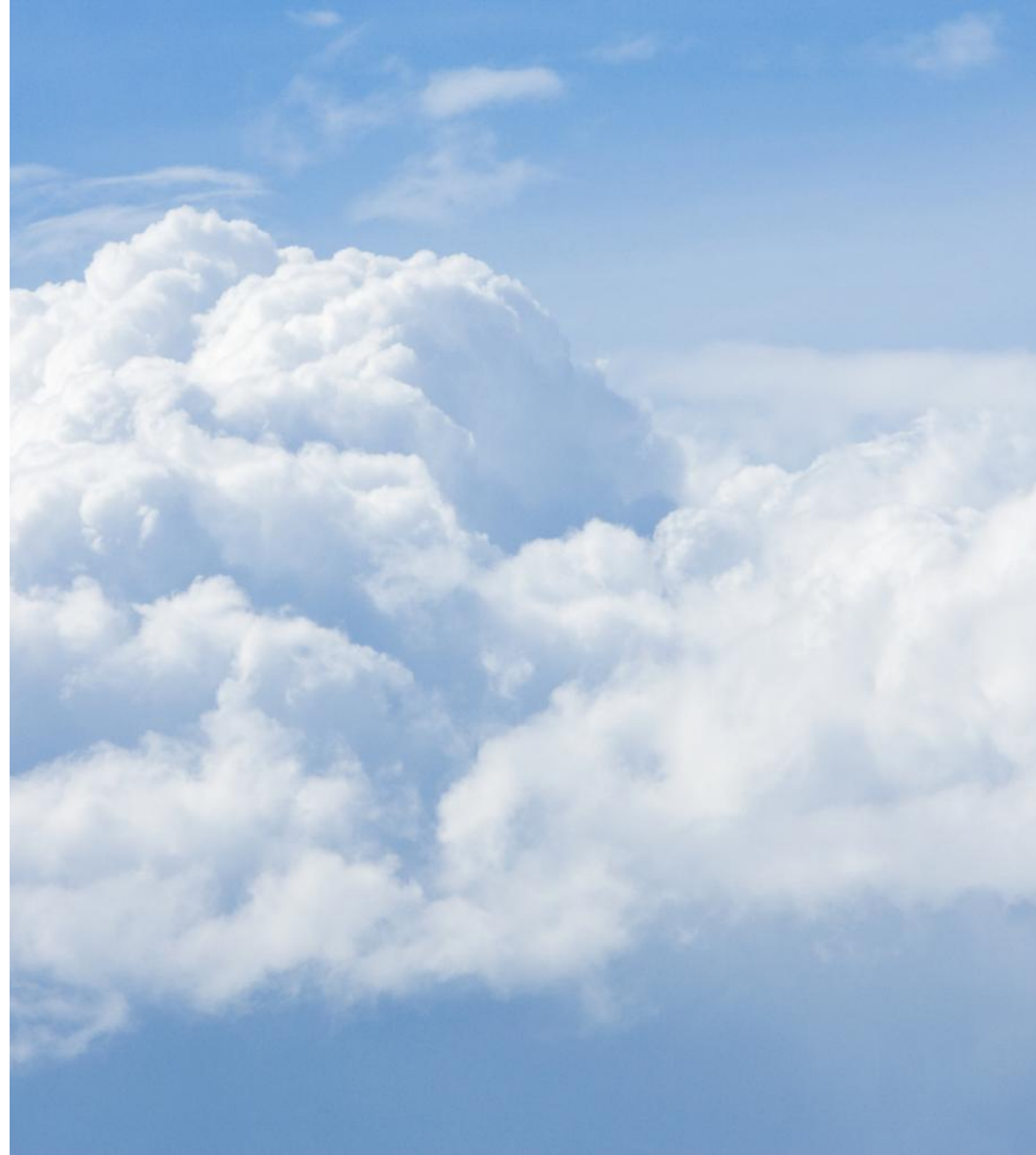
Agenda

- What is IaC?
- What is Bicep?
- What is Azure Resource Manager?
- Demos



What is IaC?

Infrastructure as Code (IaC) is the managing and provisioning of infrastructure through code instead of through manual processes.



IaC Styles

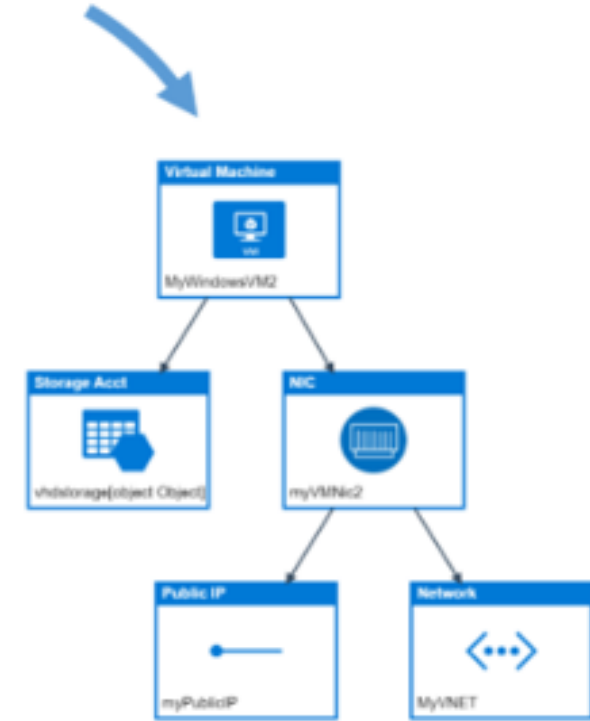
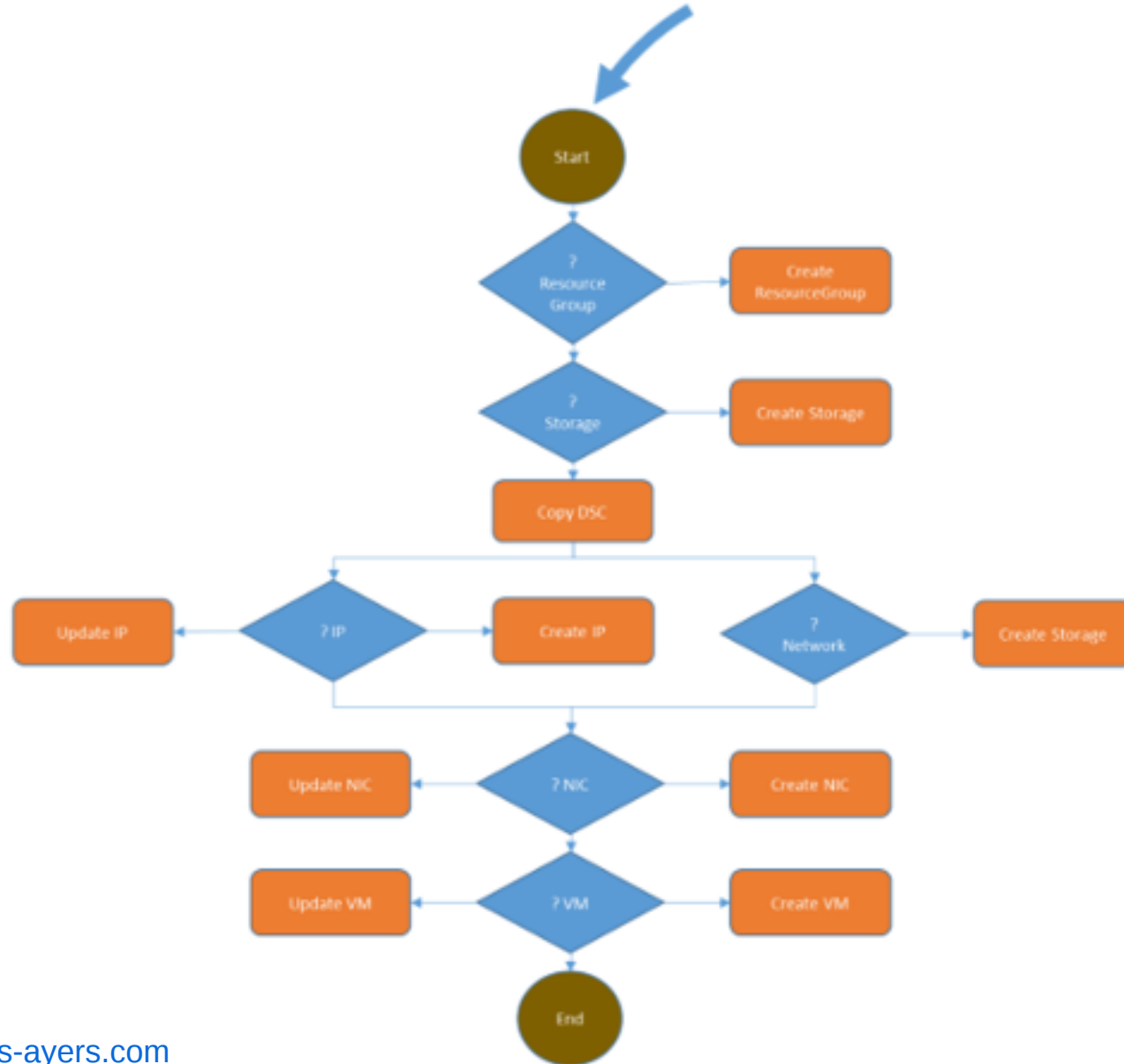
Imperative

- Do what I want
- Do X in the system
- List of commands
- Manage your own dependencies
- Polling to handling timing

Declarative

- What I want
- Make the system look like X
- List of resources / configuration
- System knows the dependencies
- System knows how to handle timings

Imperative vs Declarative



Popular IaC Technologies

Native

- ARM / Bicep
- AWS Cloud Formation
- Google Cloud Deployment Manager

Non Native

- Terraform
- Pulumi
- Vagrant
- Chef
- Puppet
- Ansible
- SaltStack

ARM / Bicep / Terraform

Feature	ARM	Bicep	Terraform
Format	Json	DSL	DSL - HCL (HashiCorp Language)
Target	Azure	Azure	Multi-Cloud or On-Prem through providers
Support	Native Day-0	Native Day-0	Support can lag with AzureRM Day-0 with AzApi
State	Azure	Azure	State File via files, Blob, or Terraform Cloud

Bicep Features

</> Simpler Syntax. No JSON noise

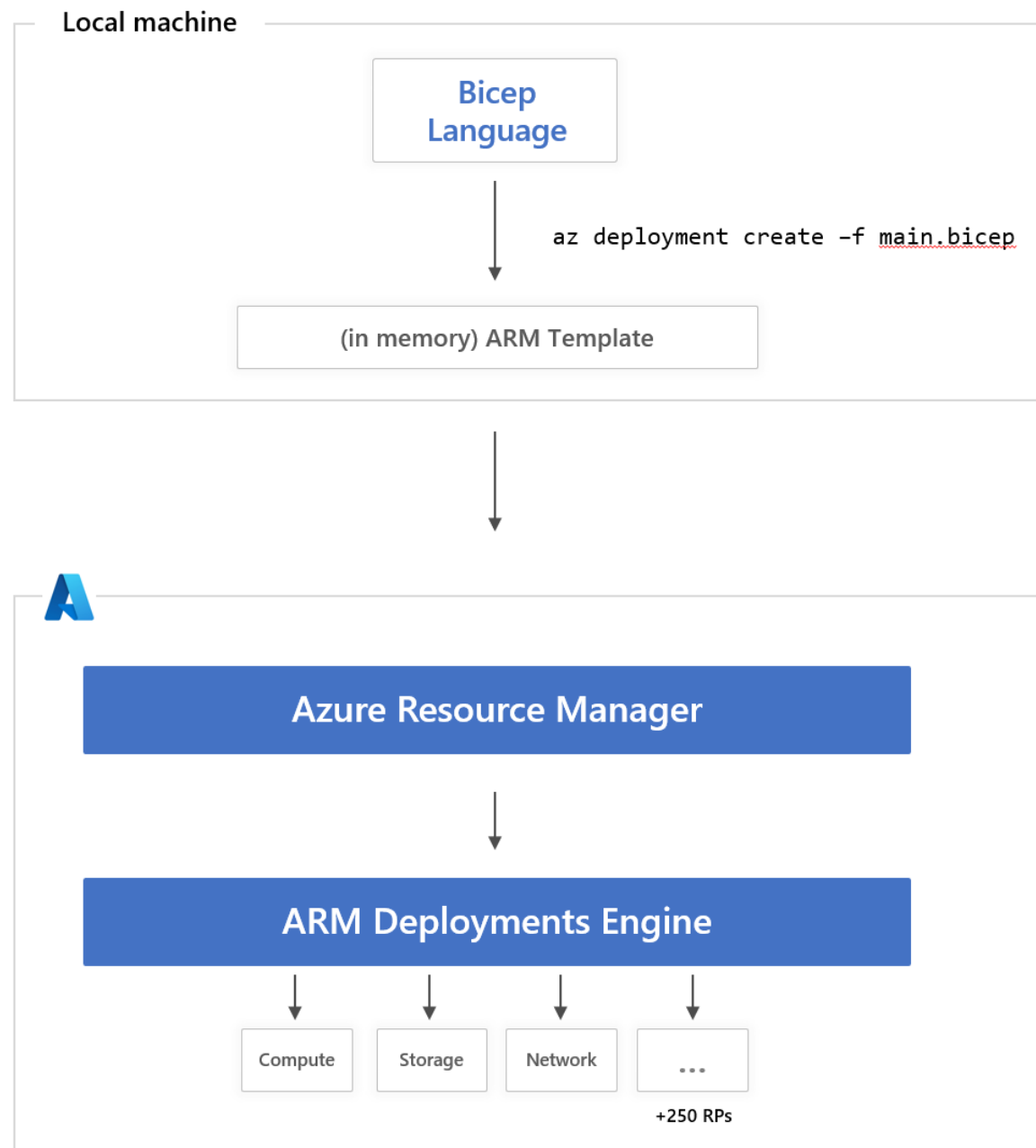
 Declarative Syntax

 Modularity

 Built for tool-ability

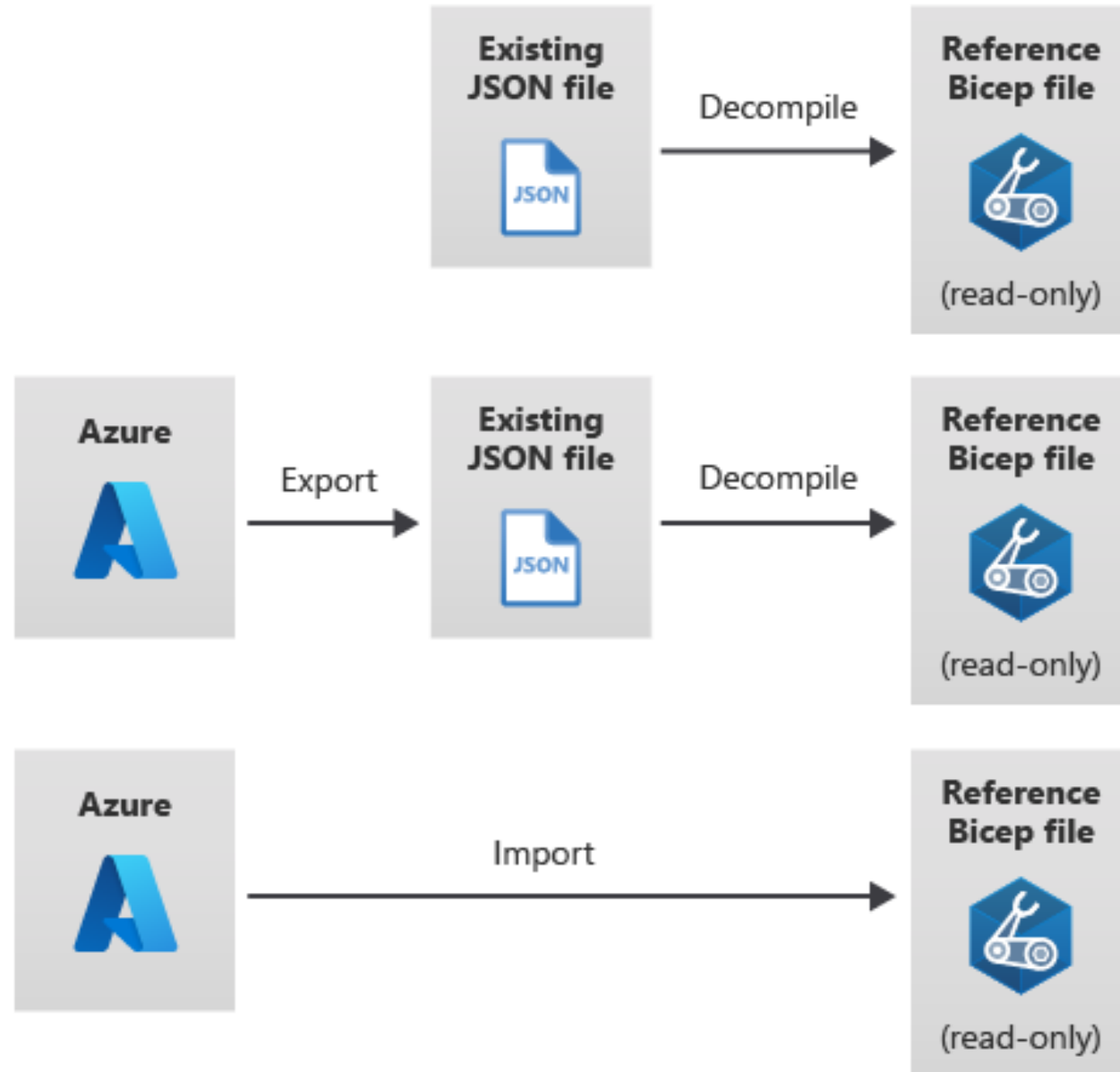
 Convert existing templates

Bicep and ARM

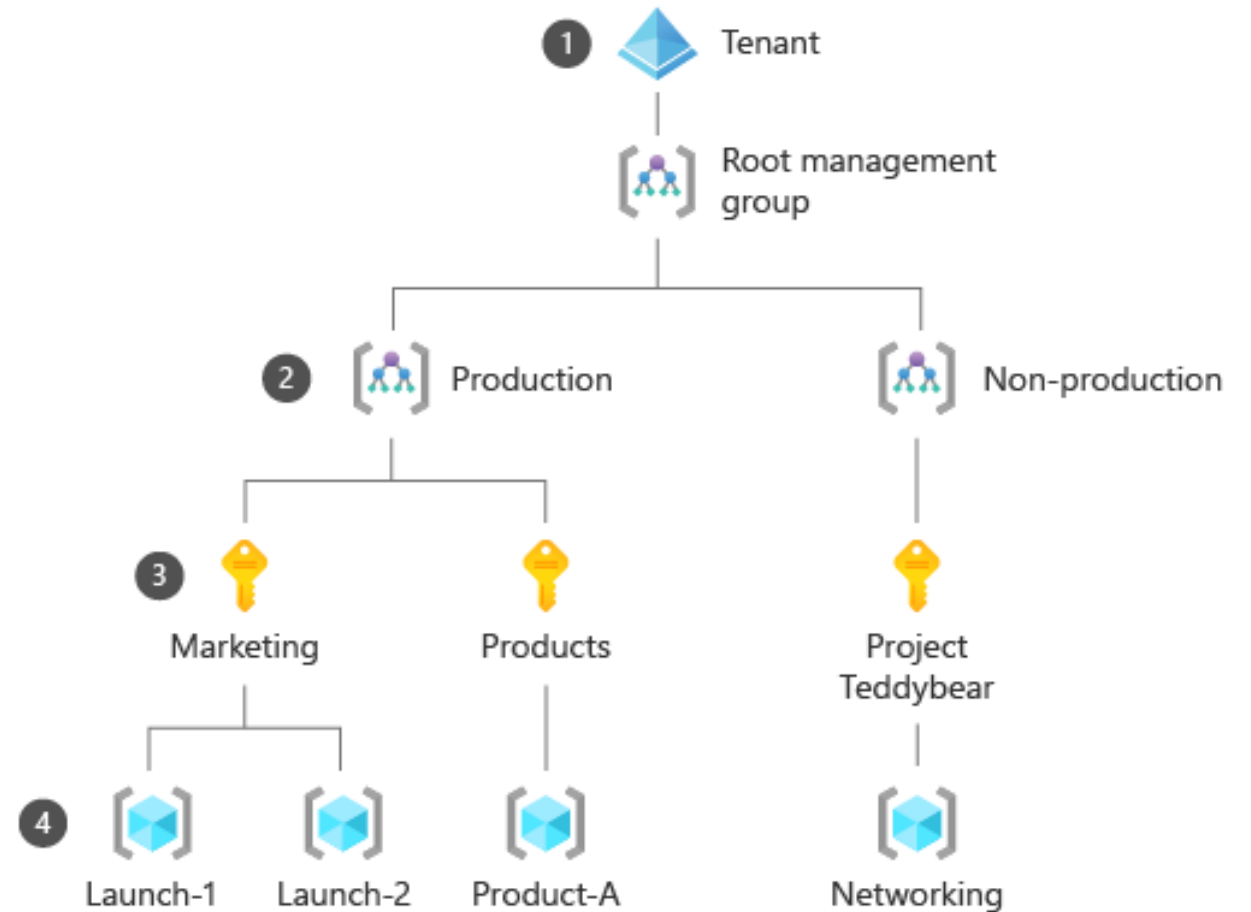


ARM Templates

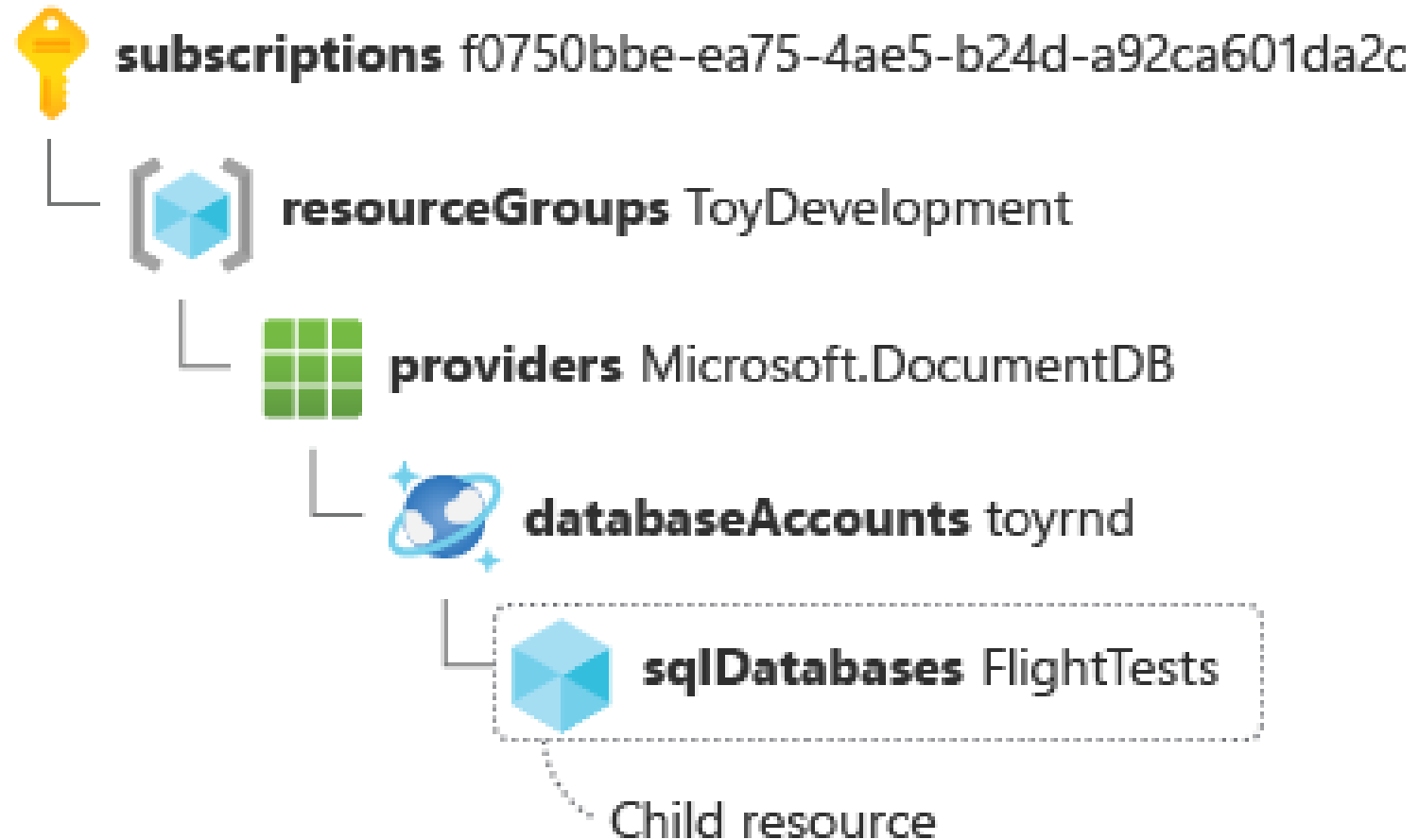
Json & Bicep



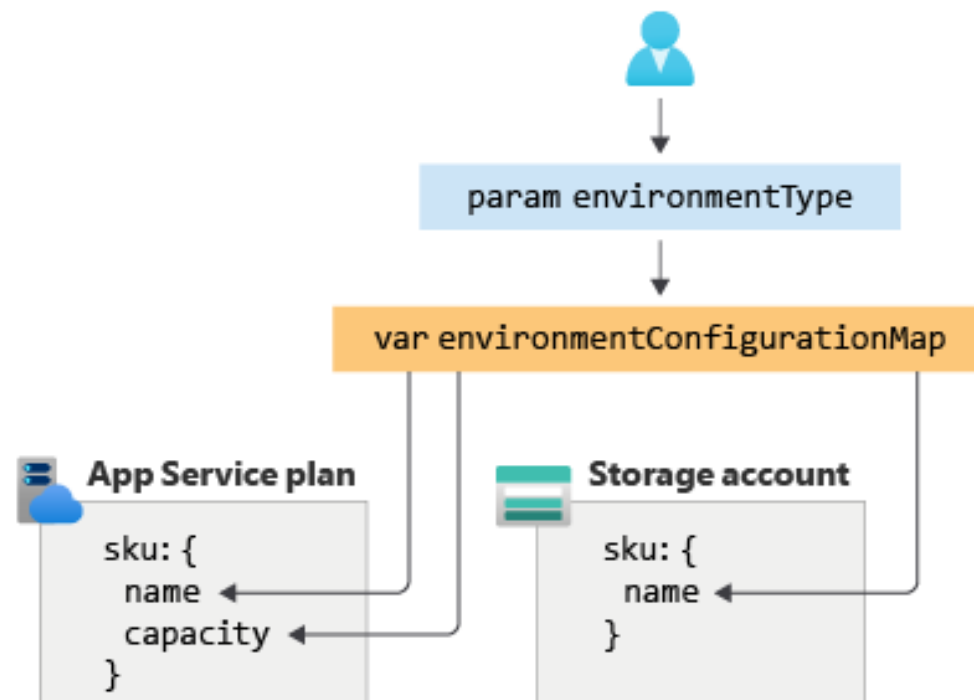
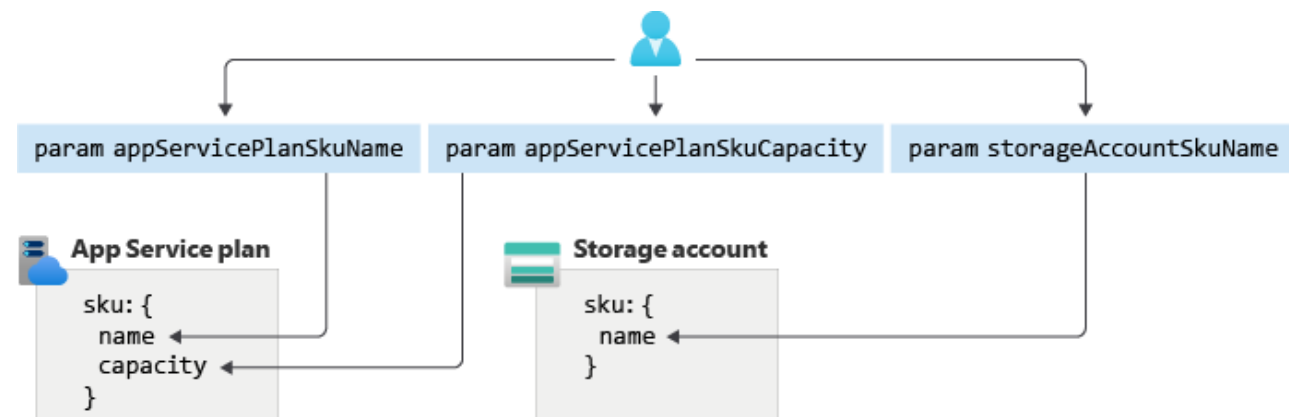
Azure Resource Manager (ARM)



Azure Resource IDs



Parameter Design



File Layout

 param environmentType	 param environmentType
 param resourceNameSuffix	 param resourceNameSuffix
 param storageAccountSkuName	 param storageAccountSkuName
 param sqlDatabaseSkuName	 var storageAccountName
 var storageAccountName	 resource storageAccount
 var sqlDatabaseName	 output storageAccountBlobEndpoint
 resource storageAccount	 param sqlDatabaseSkuName
 resource sqlDatabase	 var sqlDatabaseName
 output storageAccountBlobEndpoint	 resource sqlDatabase

Demos

Questions



Resources

Links

- <https://docs.microsoft.com/en-us/events/learntv/learnlive-iac-and-bicep/>
- <https://github.com/codebytes>

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