CLOUD DAY 2021

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PROJECT BICEP, L'EVOLUZIONE DELL'IAC IN AZURE

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.NET on aws

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ellycode
WHAT DO YOU NEED?

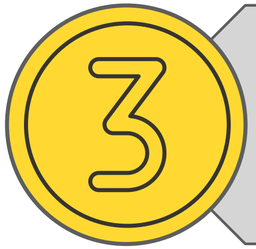
managed/designs

AWS User Group - Italy

Modern solutions….

Your solution is composed by code and infrastructure!

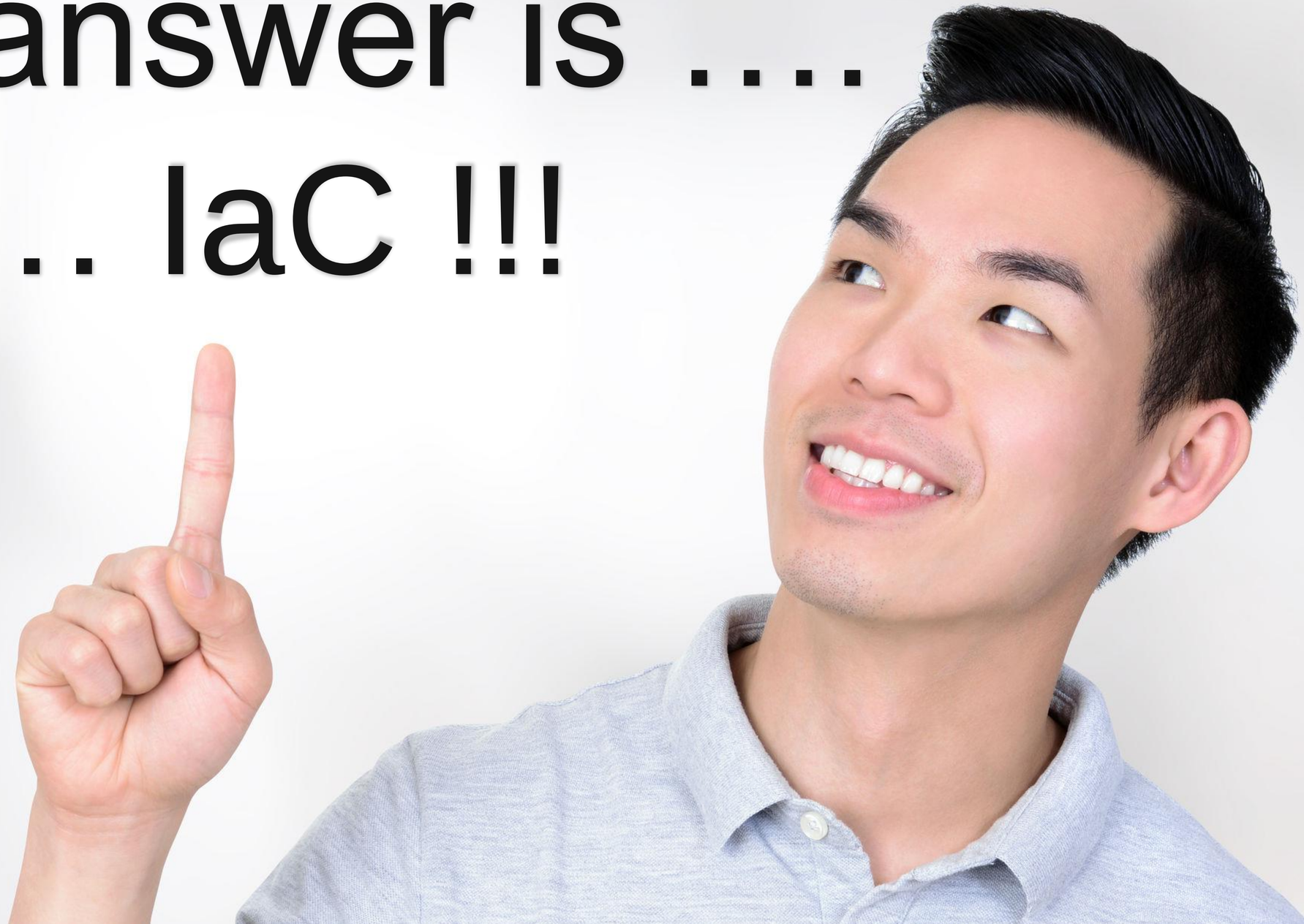
You use versioning for your code!



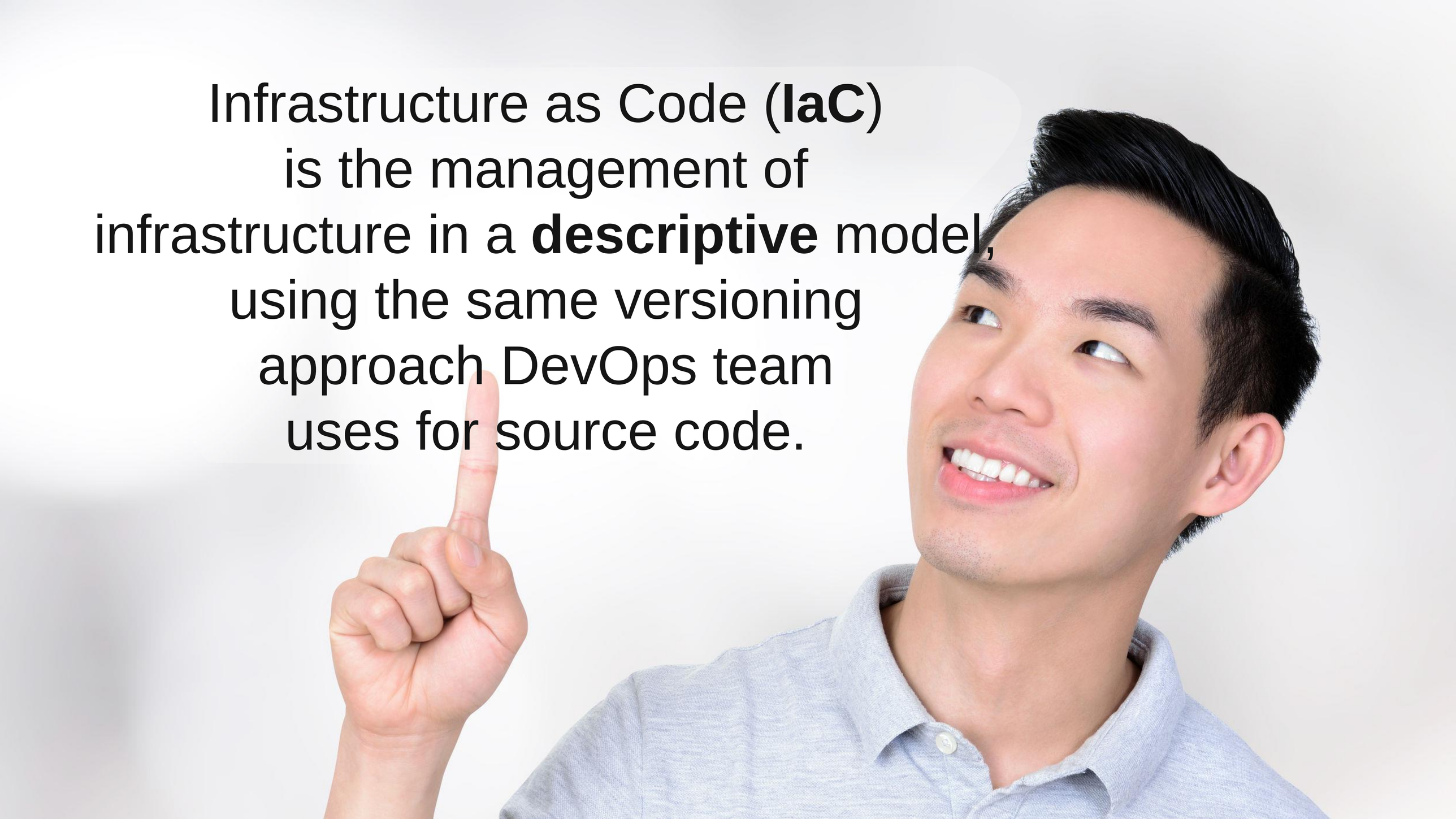
Why don’t you use the same approach for infrastructure?

The answer is ….

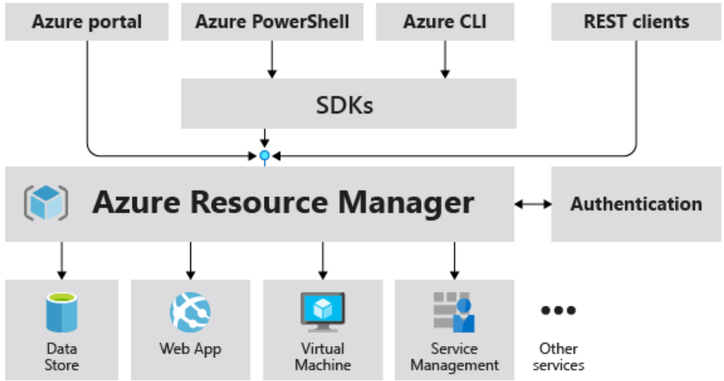
… IaC !!!



Infrastructure as Code (**IaC**)
is the management of
infrastructure in a **descriptive** model,
using the same versioning
approach DevOps team
uses for source code.



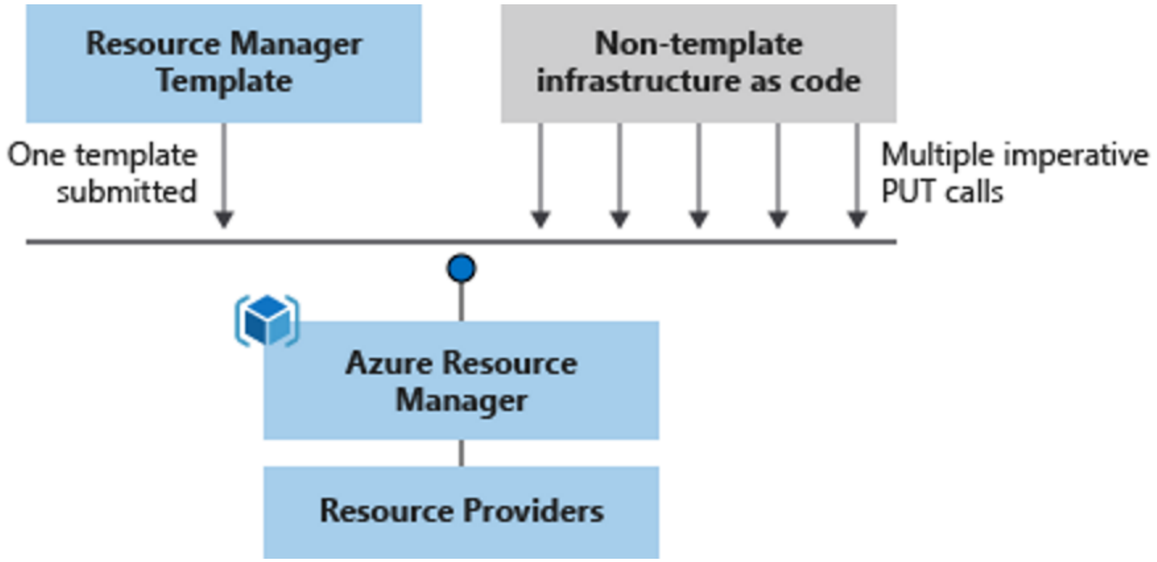
Azure Resource Manager



- It is the deployment and management service for Azure
- It provides a management layer that enables you to create, update, and delete resources in your Azure account
- You can use management features, like access control, locks, and tags, to secure and organize your resources after deployment

ARM Template

Declarative syntax	Repeatable results	Orchestration
Modular files	Extensibility	Preview changes



What is BICEP

Bicep is a domain-specific language (DSL) that uses declarative syntax to deploy Azure resources.

You can use **Bicep** instead of JSON to develop your Azure Resource Manager templates (ARM templates)

Bicep syntax reduces that complexity and improves the development experience.

During deployment, **Bicep CLI** transpiles a Bicep file into ARM template JSON.

Bicep Vs ARM Template

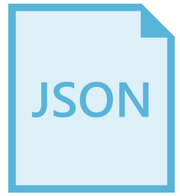
```
resource frontEndAppService 'Microsoft.Web/sites@2021-01-01' = {
  name: 'demo-fe-dev-app'
  location: 'northeurope'
  kind: 'app'
  properties: {
    enabled: true
    serverFarmId: frontEndAppServicePlan.id
  }
}

resource frontEndAppServicePlan 'Microsoft.Web/serverfarms@2021-01-01'={
  name:'demo-fe-dev-plan'
  location:'northeurope'
  sku:{
    name:'F1'
    tier:'Free'
  }
}
```

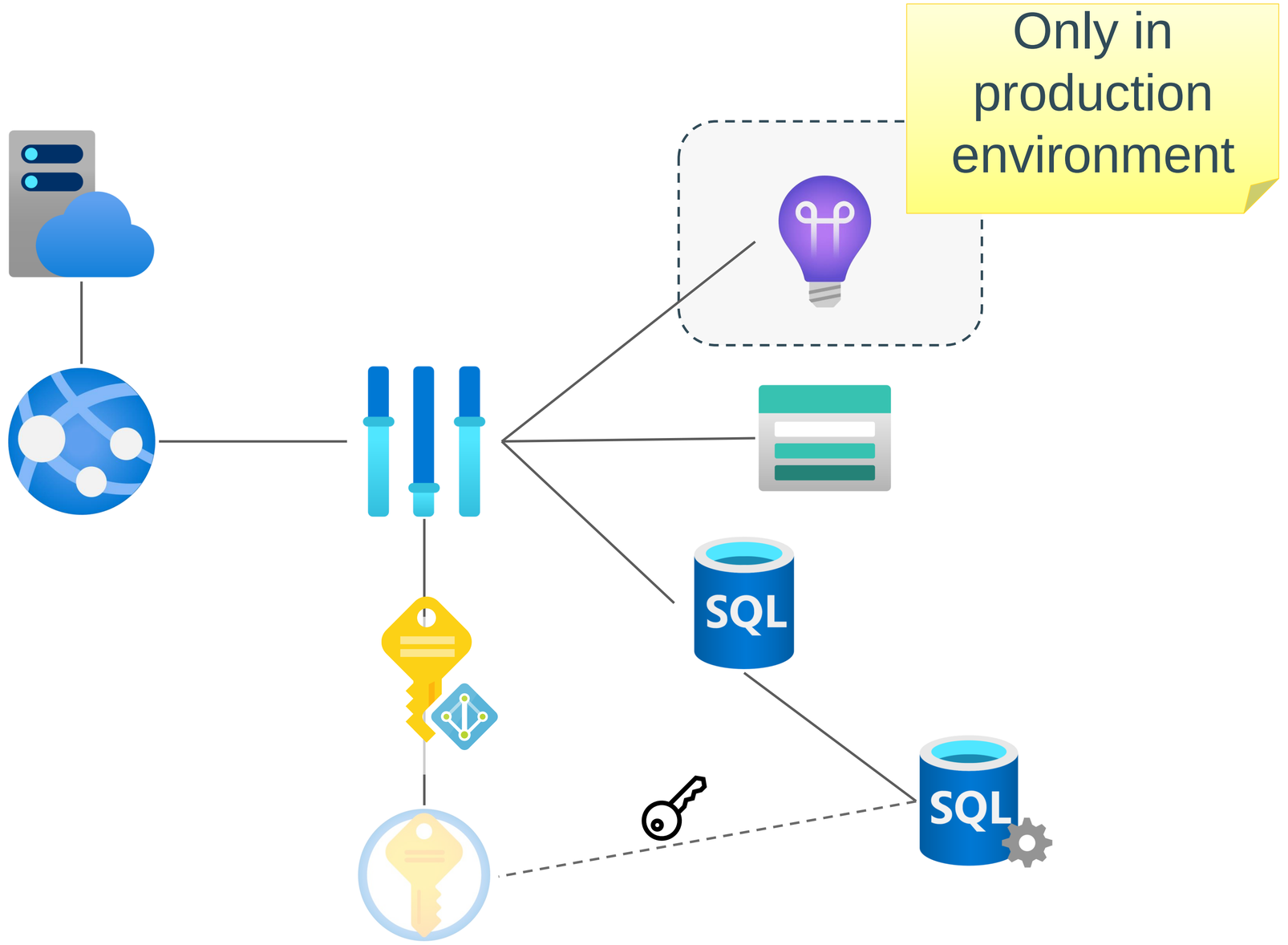
App Service

App Service Plan

```
{
    "$schema": "https://schema.management.azure.com/schemas/2019-04-01/deploymentTemplate.json#",
    "contentVersion": "1.0.0.0",
    "functions": [],
    "resources": [
      {
        "type": "Microsoft.Web/sites",
        "apiVersion": "2021-01-01",
        "name": "demo-fe-dev-app",
        "location": "northeurope",
        "kind": "app",
        "properties": {
          "enabled": true,
          "serverFarmId": "[resourceId('Microsoft.Web/serverfarms', 'demo-fe-dev-plan')]"
        },
        "dependsOn": [
          "[resourceId('Microsoft.Web/serverfarms', 'demo-fe-dev-plan')]"
        ]
      },
      {
        "type": "Microsoft.Web/serverfarms",
        "apiVersion": "2021-01-01",
        "name": "demo-fe-dev-plan",
        "location": "northeurope",
        "sku": {
          "name": "F1",
          "tier": "Free"
        }
      }
    ]
  }
```



Scenario



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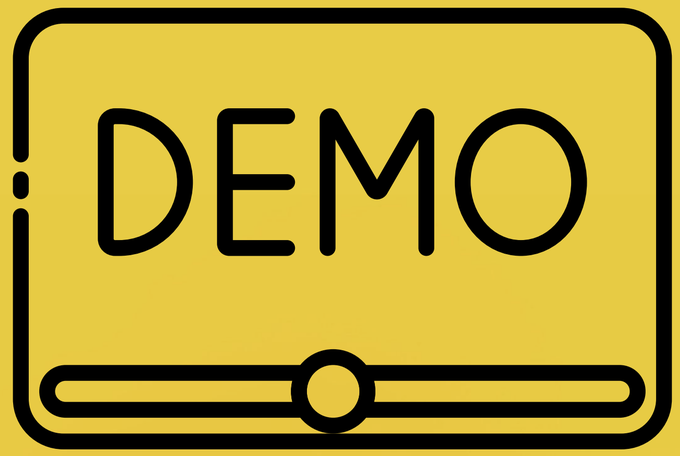
From zero to complex environment with Bicep!



When is Bicep the right tool?

Azure-native	You're using a language that is native to Azure. New resources will support on day one.
Azure integration	Fully integrated within the Azure platform.
Azure support	Bicep is a fully supported product with Microsoft Support.
No state management	You don't need to keep your resource state information somewhere else, like in a storage account. Azure automatically keeps track of this state for you.
Easy transition from JSON	You can use the Bicep CLI to decompile any ARM template into a Bicep template by using the bicep decompile command.

When is Bicep not the right tool?

Existing tool set

"Does my organization already have a tool set in use?"

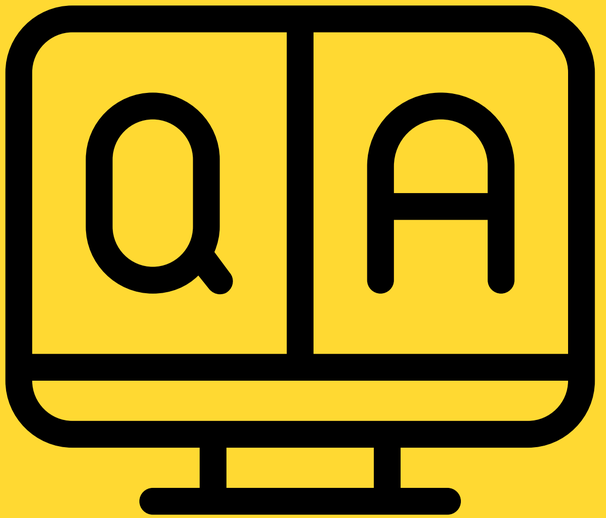
Sometimes, it makes sense to use existing financial and knowledge investments when you consider adopting a new process.

Multi-cloud

If your organization uses multiple cloud providers to host its infrastructure, Bicep might not be the right tool.

Open-source tools like Terraform can be used for multi-cloud deployments, including deployments to Azure.

Thanks for your attention!!!!



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References

Bicep documentation

https://docs.microsoft.com/en-us/azure/azure-resource-manager/bicep/

Bicep Learning Paths

https://docs.microsoft.com/en-us/azure/azure-resource-manager/bicep/learn-bicep

Bicep Playground

https://bicepdemo.z22.web.core.windows.net/

Azure DevOps YouTube Channels – Project Bicep

https://www.youtube.com/watch?v=wkQIyenVfxc

Azure Deployments & Governance YouTube channel

https://www.youtube.com/watch?v=l85qv_1N2_A

Bicep GitHub repo

https://github.com/Azure/bicep

Demo GitHub repo

https://github.com/massimobonanni/BicepDemo