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Azure Spring Cloud on Learn TV

Rapidly dev and deploy Spring apps to Azure Spring Cloud

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Agenda

- Provisioning
- Building
- Deploying
- Best practices

Three pipelines

Production

Includes rigorous unit tests

Includes rigorous integration tests

Nightly

Provision

- Terraform
- Azure Resource Manager

Terraform

main.tf

```
resource "azurerm_spring_cloud_service" "example" {
  name                = var.spring_cloud_service
  resource_group_name = azurerm_resource_group.example.name
  location            = azurerm_resource_group.example.location

  config_server_git_setting {
    uri          = https://github.com/selvasingh/spring-petclinic-microservices-config
    label        = "master"
    search_paths= ["."]
  }

  tags = {
    Env = "staging"
  }
}

resource "azurerm_spring_cloud_app" "appname" {
  name                = appname
  resource_group_name = azurerm_resource_group.example.name
  service_name        = azurerm_spring_cloud_service.example.name
}
```

Microsoft DevLabs | 15,784 installs | ★★★★☆ (6) | Free

Install terraform and run terraform commands to manage resources on Azure, AWS and GCP.

Get it free

Overview Q & A Rating & Review

About Terraform

Terraform is an open-source tool created by HashiCorp for developing, changing and versioning infrastructure safely and efficiently. It provides a service known as "Infrastructure as Code" which enables users to define and provision infrastructure using a high-level configuration language.

About the Terraform extension

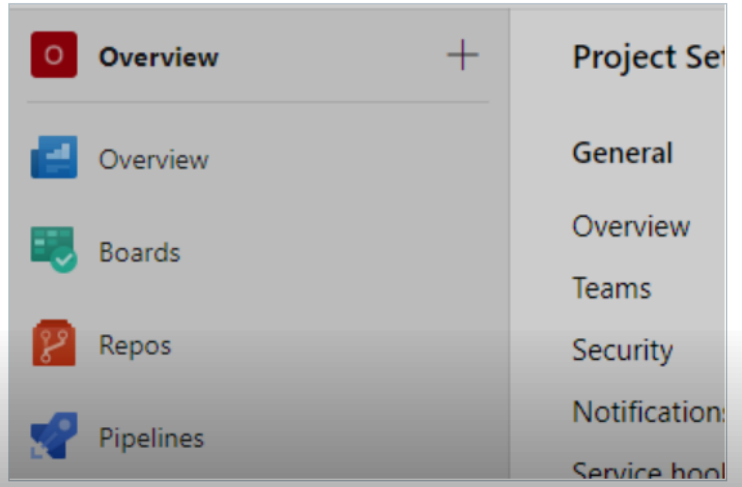
This extension provides the following components:

- A service connection for connecting to an Amazon Web Services(AWS) account
- A service connection for connecting to a Google Cloud Platform(GCP) account
- A task for installing a specific version of Terraform, if not already installed, on the agent
- A task for executing the core Terraform commands

The Terraform tool installer task acquires a specified version of Terraform from the Internet or the tools cache and prepends it to the PATH of the Azure Pipelines Agent (hosted or private). This task can be used to change the version of Terraform used in subsequent tasks. Adding this task before the Teraform task in a build definition ensures that the right Terraform version is

The Terraform task enables running Terraform commands as part of Azure Build and Release Pipelines providing commands

- init



Categories

Azure Pipelines

Tags

AWS | Azure | Deploy task | DevOps | GCP | Release | Terraform | Tool task

Works with

Azure DevOps Services

Azure Pipelines Terraform task

aka.ms/terraform-task

Azure Resource Manager (ARM) Templates

azuredeploy.json

```
{
    "type": "Microsoft.AppPlatform/Spring",
    "apiVersion": "2019-05-01-preview",
    "name": "[parameters('springCloudName')]",
    "location": "westus2",
    "sku": {
        "name": "S0",
        "tier": "Standard"
    },
    "properties": {
        "configServerProperties": {
            "configServer": {
                "gitProperty": {
                    "repositories": [],
                    "uri": "[parameters('configRepositoryUri')]",
                    "searchPaths": []
                }
            }
        },
        "trace": {
            "enabled": false
        }
    }
},
```

```
{
    "type": "Microsoft.AppPlatform/Spring/apps",
    "apiVersion": "2019-05-01-preview",
    "name": "[concat(parameters('springCloudName'),'/api-gateway')]",
    "dependsOn": [
        "[resourceId('Microsoft.AppPlatform/Spring',parameters('springCloudName'))]"
    ],
    "properties": {
        "public": true,
        "activeDeploymentName": "default"
    }
}
```


Provision
Build
Deploy

Build

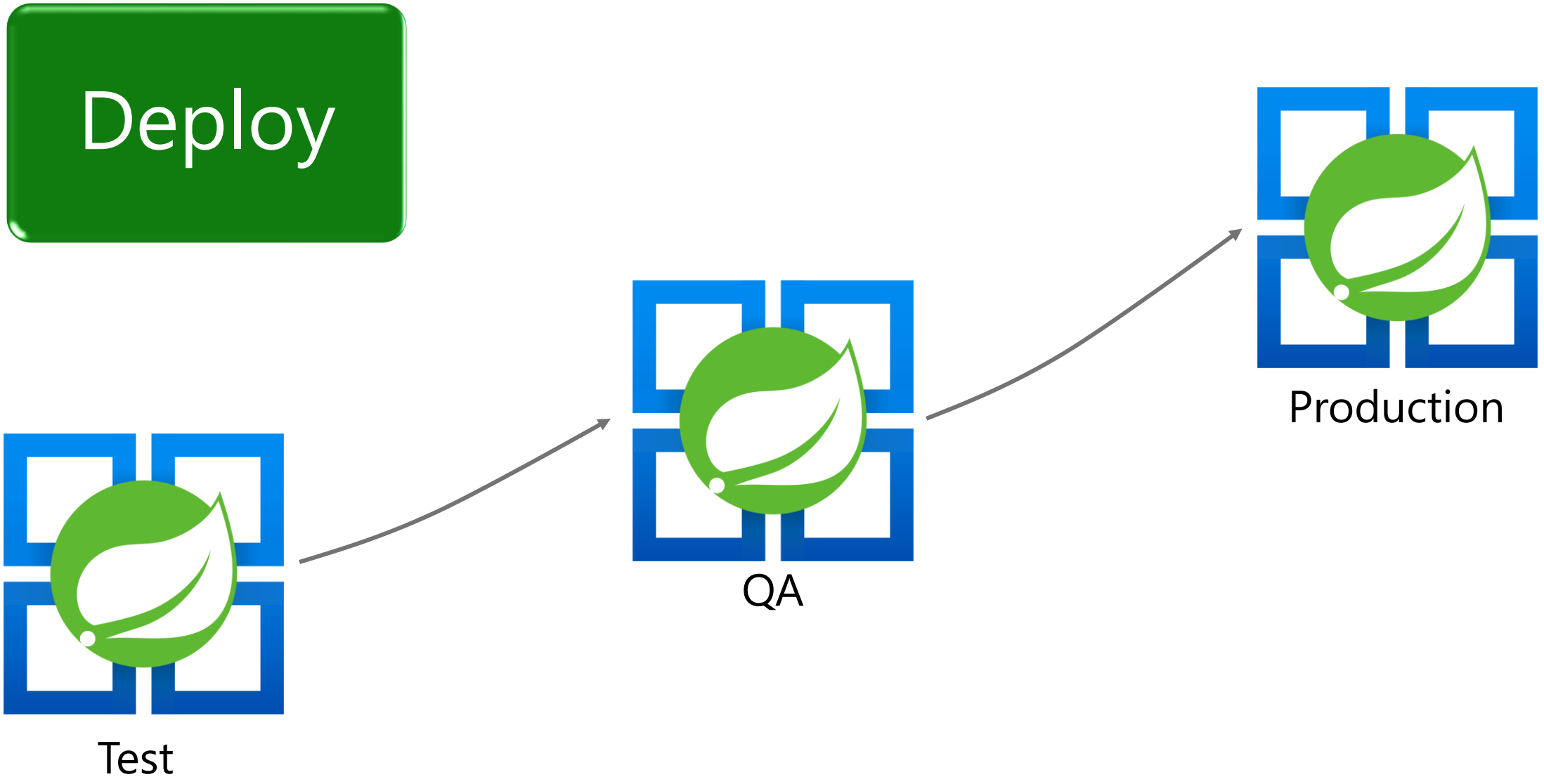
1. Run the Maven/Gradle build

2. Copy the artifacts to a staging directory

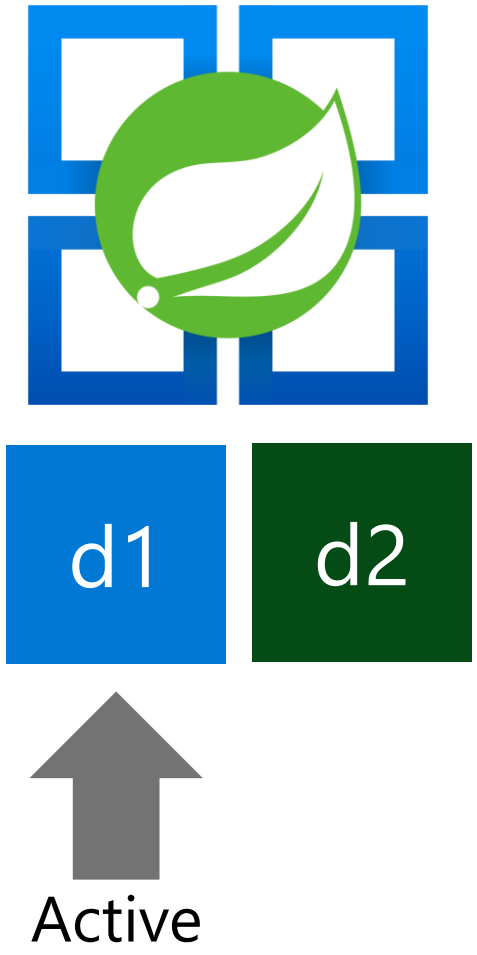
3. Publish the build artifacts

(Sample)

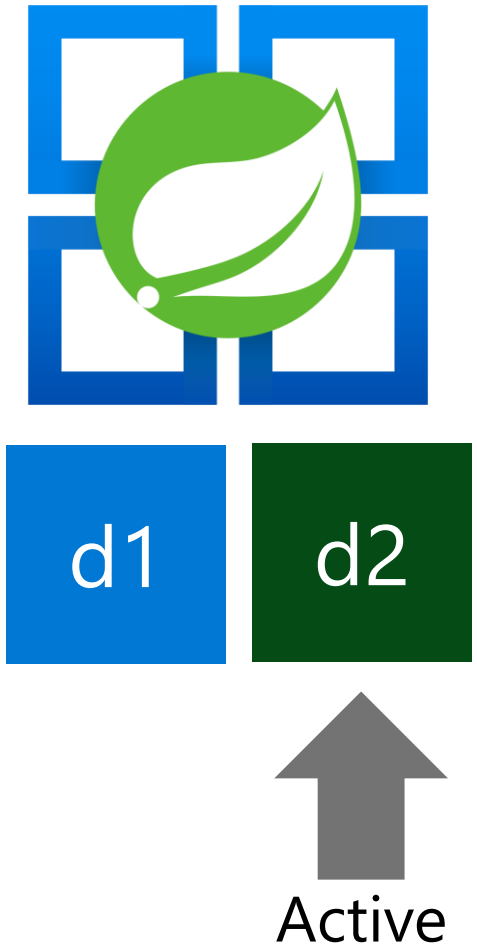

Provision
Build
Deploy

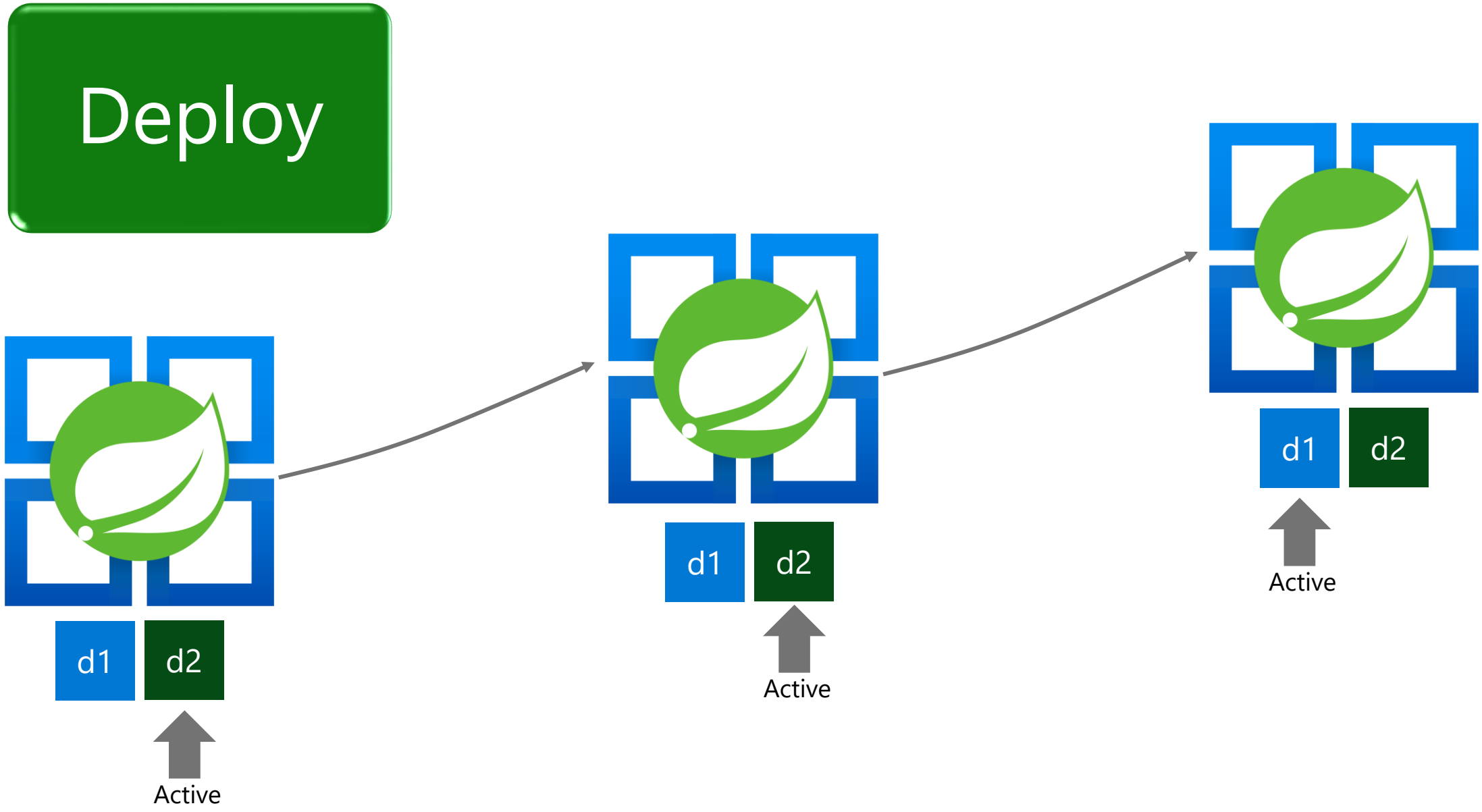

Deploy
Test
QA
Production

Deploy



Deploy




Deploy
d1
d2
Active
d1
d2
Active
d1
d2
Active

Azure CLI – Single Deployment

bash

```
az spring-cloud app deploy \
    -s "$AZ_SPRING_CLOUD_NAME" \
    -g "$AZ_RESOURCE_GROUP" \
    --app "$APP_NAME" \
    --jar-path $jarPath
```

Azure CLI – Blue-Green Deployment

bash

```
az spring-cloud app deployment create \
    -s "$AZ_SPRING_CLOUD_NAME" \
    -g "$AZ_RESOURCE_GROUP " \
    -n "$DEPLOYMENT_NAME" \
    --app "$APP_NAME" \
    --jar-path $jarPath

az spring-cloud app set-deployment \
    -d "$DEPLOYMENT_NAME" \
    -g "$AZ_RESOURCE_GROUP" \
    -s "$AZ_SPRING_CLOUD_NAME"
```

Best Practices


Provision
Build
Deploy

Best Practices

- Loosely-coupled pipelines
  - From environments
  - From each other
- Minimize duplication
  - Variables
  - Parameters
  - Task Groups
  - Templates
- Multiple pipelines, same YAML

Best Practices

- Protect Secrets
  - Secret variable
  - Secure files
  - Azure Key Vault
- Cache the Maven repository

Sample materials

- Terraform code
- Terraform provisioning pipeline
- ARM template
- Maven build pipeline

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Get started – build your cloud-native solutions today!

- Get started with Azure Spring Cloud using quickstart: aka.ms/azure-spring-cloud-start
- Learn using a self-paced workshop on GitHub: aka.ms/azure-spring-cloud-github
- Learn about implementing solutions on Azure Spring Cloud: aka.ms/azure-spring-cloud-docs
- Migrate your apps Azure Spring Cloud
  - Spring Boot: aka.ms/azure-spring-cloud-migrate-springboot
  - Spring Cloud: aka.ms/azure-spring-cloud-migrate-springcloud
  - Tomcat: aka.ms/azure-spring-cloud-migrate-tomcat
- Wire Spring apps to interact with Azure services: aka.ms/spring-integrations

- For feedback and questions, please reach out to spring-team@microsoft.com

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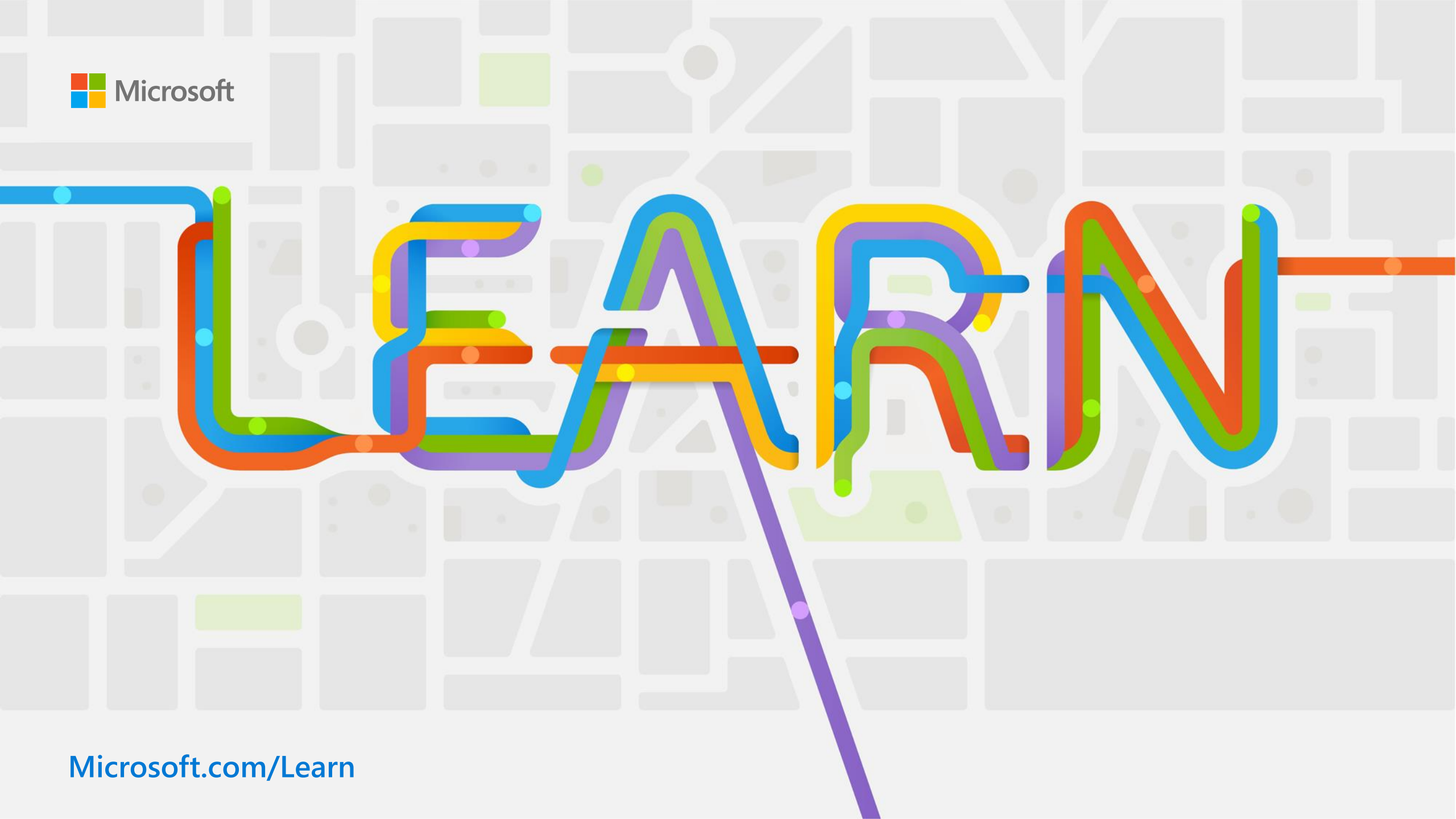
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