Terraform on Azure:

IaC, in a simplier way!

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Customer Engineer at Microsoft

https://github.com/AshWilliams/
https://stackoverflow.com/users/1987838/hackerman?tab=profile

In this talk

- Infrastructure as Code (IaC)
- Terraform
- Known Providers
- Terraform in Azure
- Demo

Microsoft

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Infrastructure as Code

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What is Infrastructure as Code (IaC)

- Build the infrastructure for an App all at once through automation
- Not just for Cloud, Software Defined Data Center
- Embedded Documentation
- Source Control
- Flexible Build Process

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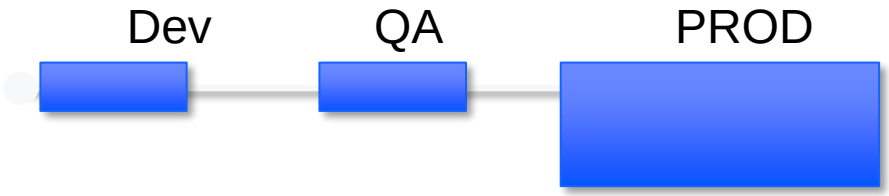
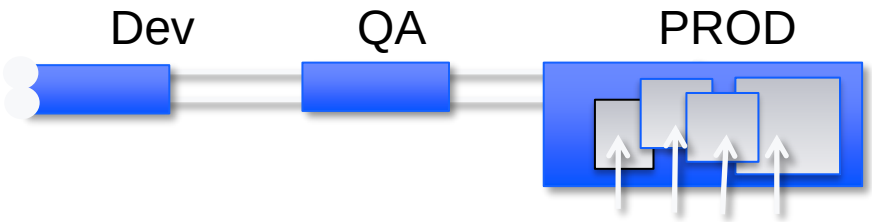
DevOps Confronts the Agile Challenge



Circa 2010

Select Single Applications	Virtual Machines	Infrastructure as Code	Continuous Integration



Circa 2014

Shared Private/Hybrid Cloud Environments	Multiple enterprise applications	Orchestration and co-ordination is needed

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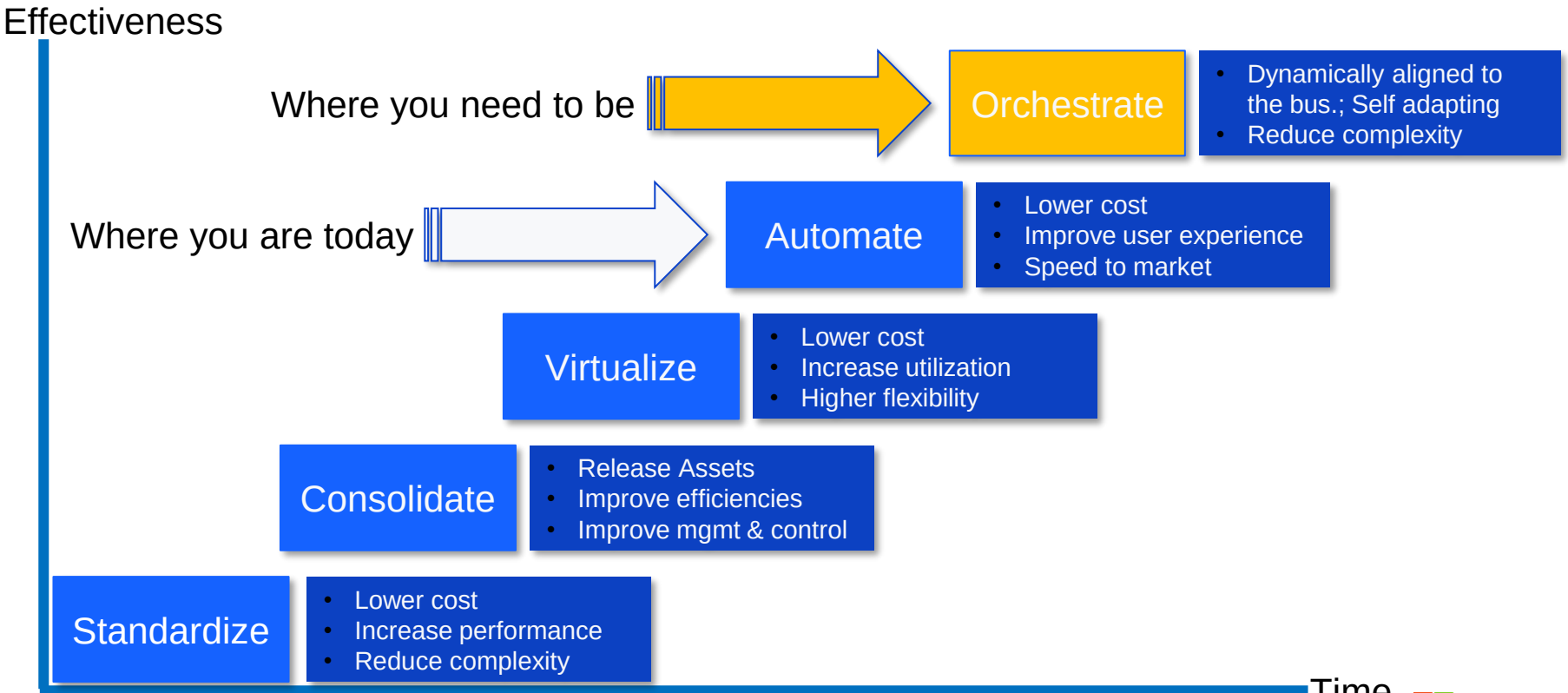
You Are on the Doorstep of Better Results



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How to Get Started

People → Process → Products

- Simplicity
- Modular
- Flexible
- Versioning

- Powershell/Bash
- VS Code
- GitHub
- Azure Automation, Ansible, Terraform

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Steps to Implement IaC

- Find something easy to automate – low effort, low risk
- Set the right expectations – experimentation is necessary
- Prove that it works – show the time savings and effort needed
- Don’t be shy about it – advocate
- Do it again

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Terraform 

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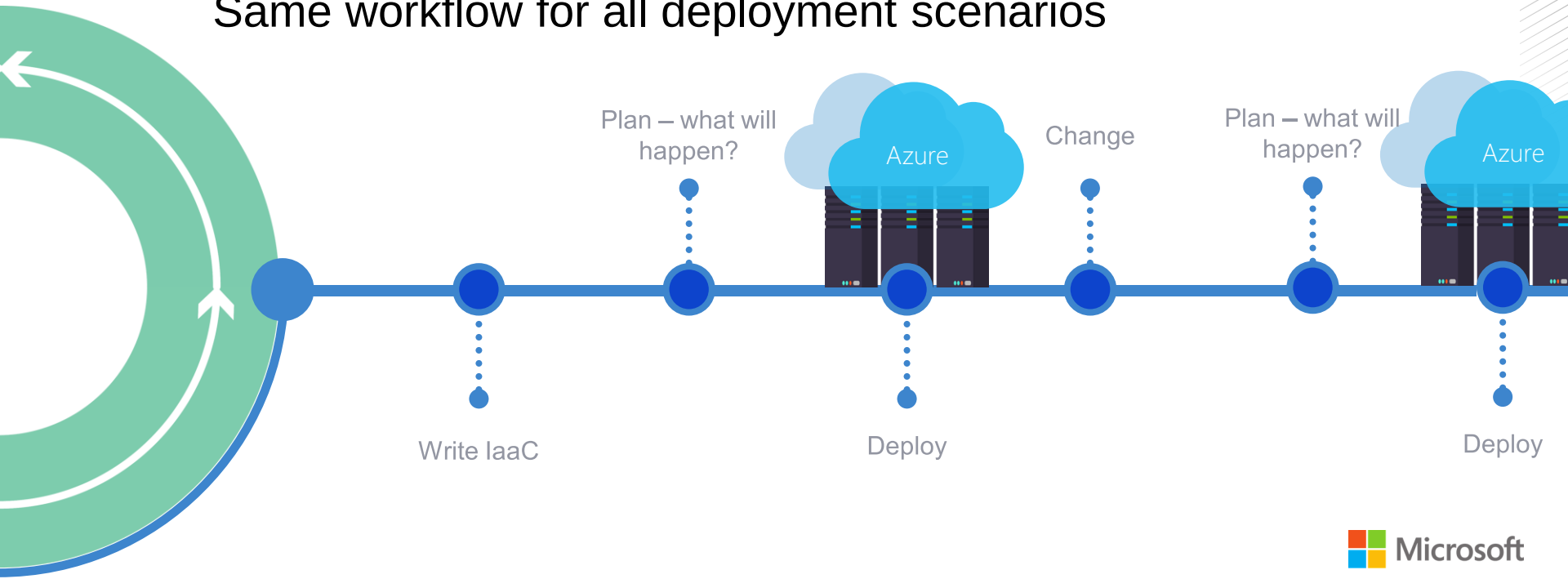
Terraform

Write, *plan* and create infrastructure as code
Same workflow for all deployment scenarios



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Creating Terraform Templates

```
provider "azurerm" {
    # We recommend pinning to the specific version of the Azure Provider you're using
    # since new versions are released frequently
    version = "=2.20.0"
    features {}
}

# Resource Group
resource "azurerm_resource_group" "azurerg" {
  name     = var.resource_group_name
  location = var.location
}
# Storage Account
resource "azurerm_storage_account" "azurestor" {
  name                     = var.sa_name
  resource_group_name      = azurerm_resource_group.azurerg.name
  location                 = azurerm_resource_group.azurerg.location
  account_tier             = "Standard"
  account_replication_type = "GRS"

  tags = {
    environment = "Development"
  }
}
```

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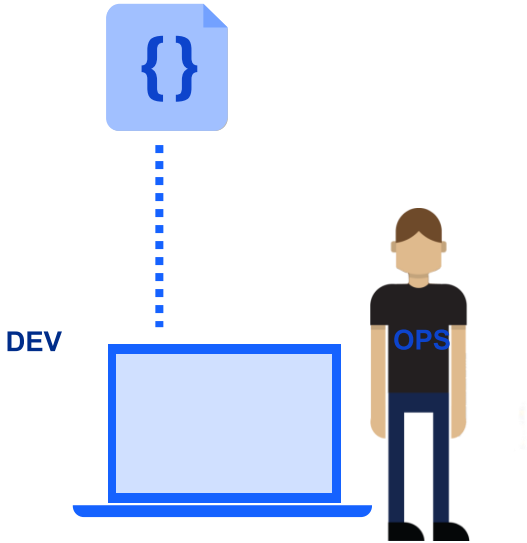
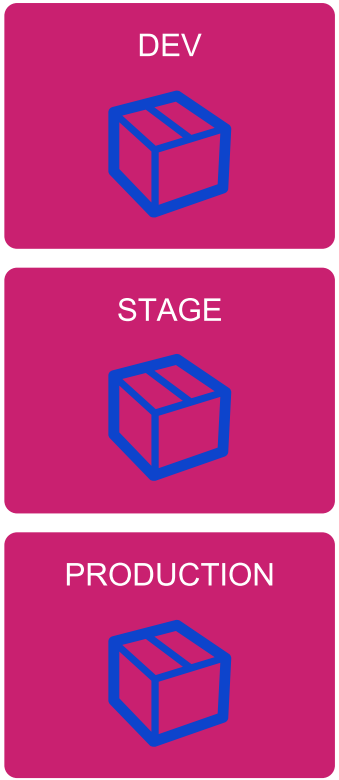
Environment Parity - Idempotency





Same Terraform Code

Replace Dedicated Staging

Speed Up Infra provisioning

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Known Providers

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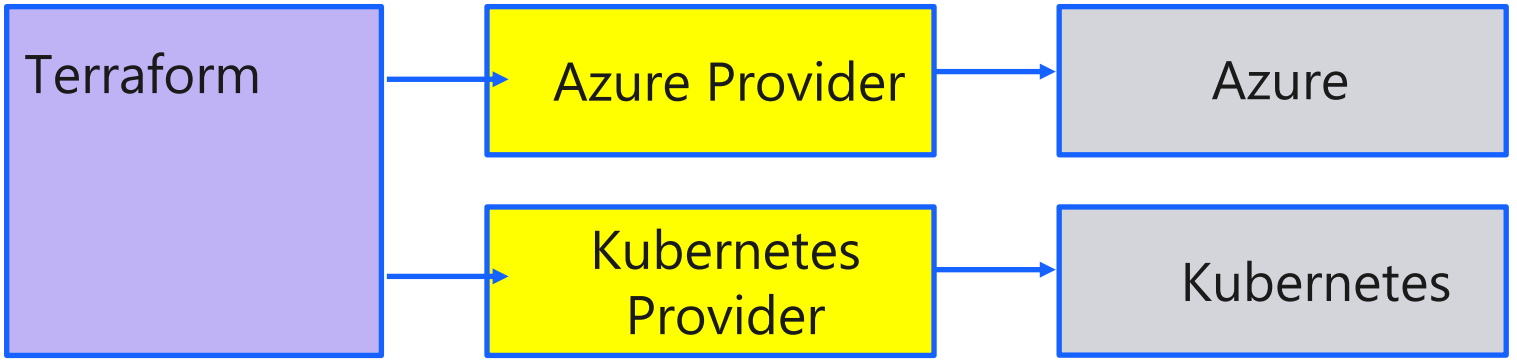
Providers

What is a Terraform provider?

- Terraform ‘extensions’ for deploying resources
- Manages cloud / endpoint specific API interactions
- Available for major clouds and other platforms
- Hand authored (azurerm)



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Terraform in Azure

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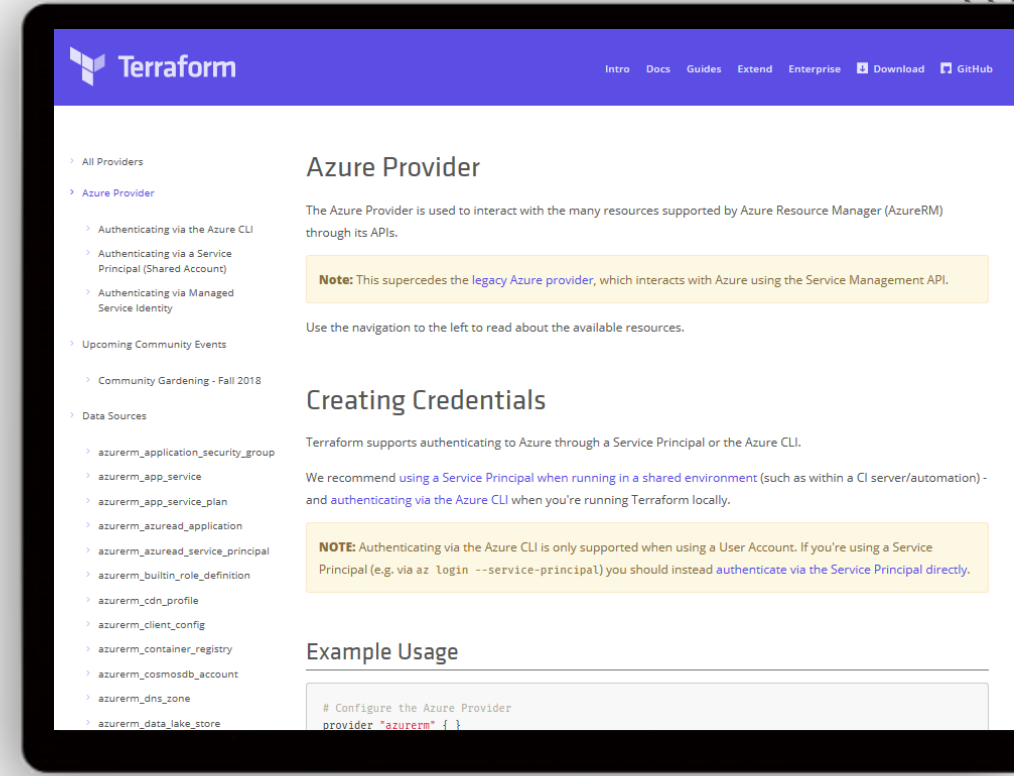
Azure DevOps Tool Integrations

Bringing native Azure support for customers using Terraform

- Documentation Hub for Terraform
- Terraform in Azure Cloud Shell
- Azure Resource Provider
- Azure Module Registry
- Azure Cloud Shell Integration



docs.microsoft.com/azure/terraform

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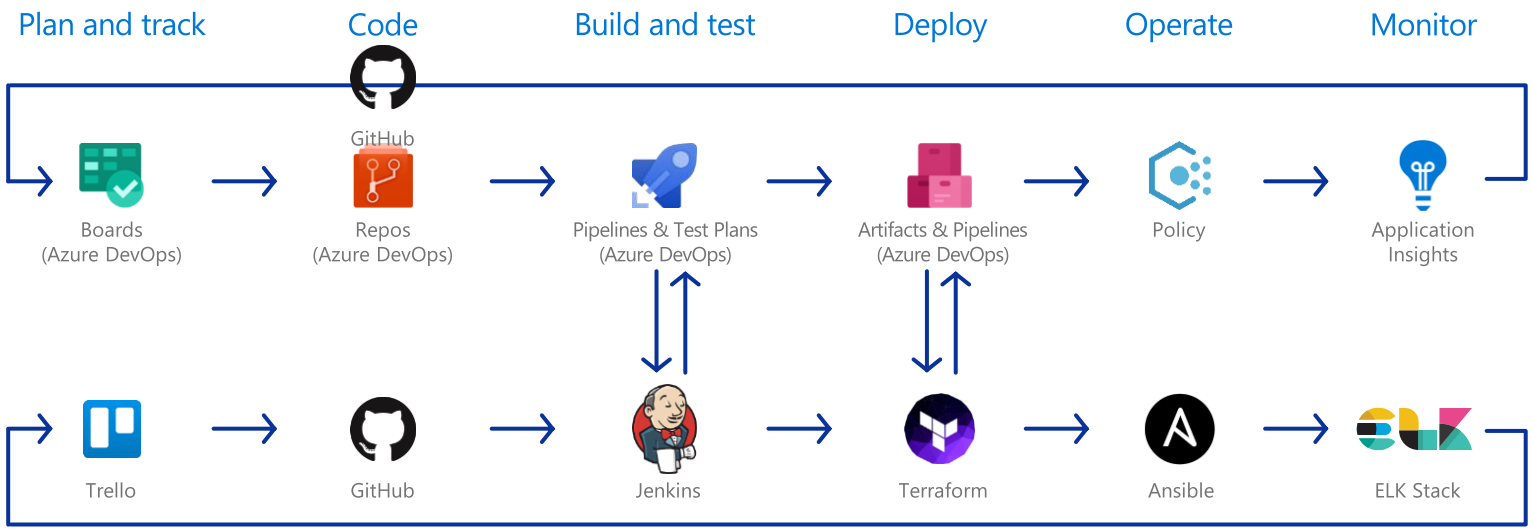
DevOps on Azure framework



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DevOps Tool Integrations

Your favorite toolchain, seamlessly integrated with Azure

The Best Development Experience

Whether your developing on Azure, on-premise, or another cloud, Visual Studio Code extensions from Microsoft and the community help accelerate development across Linux, macOS and Windows

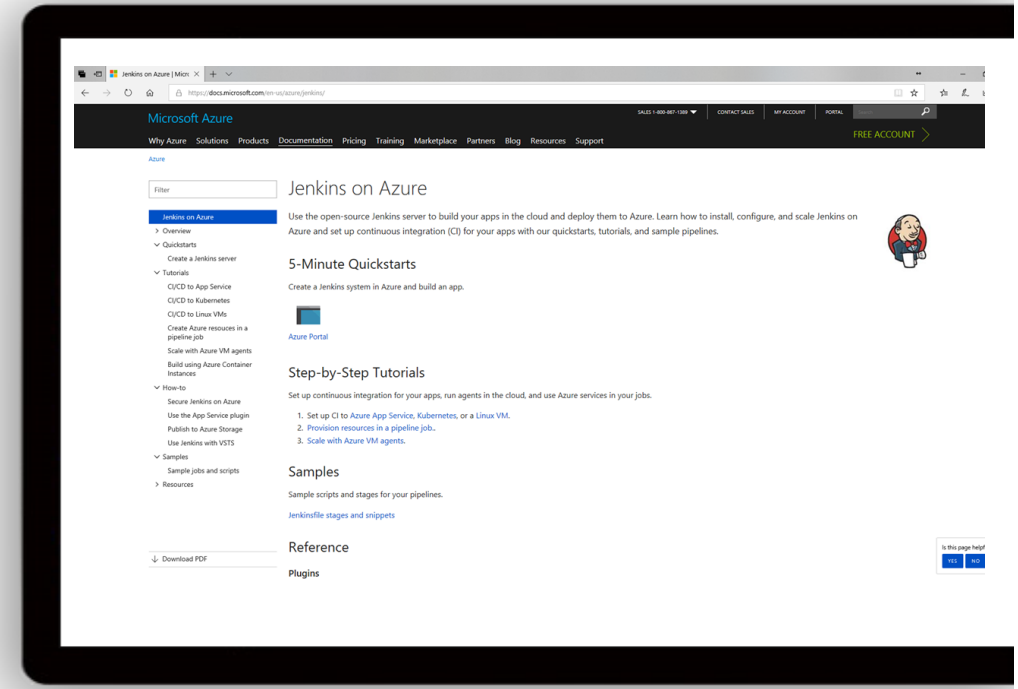
First-class Integration

Microsoft collaborates directly in open source projects with our partners, and the community, to bring native Azure integration. Many of these tools are also directly available in Azure Cloud Shell – try them out!

Accelerated Customer Success

You can get clear guidance for integrating your favorite tools with Azure, with dedicated documentation hubs and example solution architecture. Get started, fast.

http://azure.microsoft.com/solutions/devops



ANSIBLE CHEF Packer Terraform

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Demo

https://github.com/AshWilliams/HashiTalks

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Thank You!