

CI/CD AUTOMATING THE MONOTONY



**Welcome to today's
peer-lead training
session!**



Why is CICD So Important?



Effective CICD

"Continuous integration (CI) makes software development easier, faster, and less risky for developers. By automating builds and tests, developers can make smaller changes and commit them with confidence. Developers get feedback on their code sooner, increasing the overall pace of innovation." - GitLab

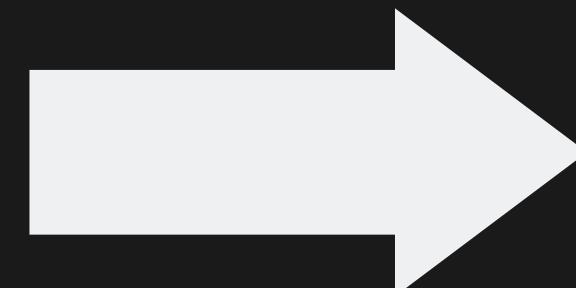
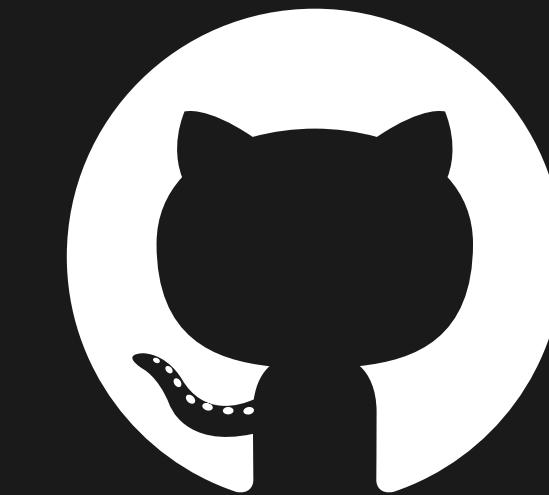
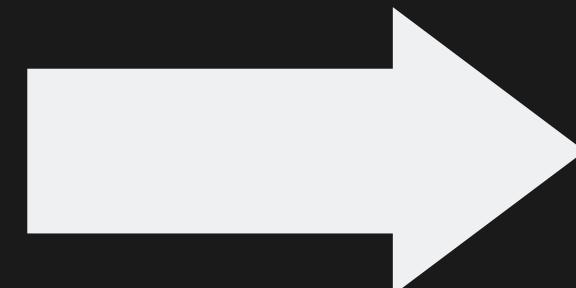
Why is CICD So Painful?

```
  d 047f52a wip: fastapi todo app
  s 36201c1 feat: consolidate database access and settings
  s df4332a feat: add OK on root url
  p 03e4b5d test: unittests w/ pytest+tox
  s 7cd30f2 test: update tox.ini and config.py
  s f83b0f2 chore: move test deps into dev-dependencies
  p a34a2fa build: dockerfile and compose using gunicorn
  s e3b918d build: dockerfile use default port
  s 1af0e5a build: dockerfile use correct port and bind
  p 1f0c63d ci: github test, build, release, actions
  s 2f3391a ci: update to use tox w/ pytest
  d 91e9e2e chore: force trigger of action
  s 6956c5f ci: remove release-please token
  d 088404f feat: trigger ci
  e c6e4643 feat: correct package name
  s 1647441 ci: update pr testing trigger
  s b90c516 ci: fix ci trigger
  s cdb7f45 ci: set env vars for tests
  s 64a41d3 ci: update test ci
  s 570c694 ci: update test triggers
  s fb6e05b ci: ensure use bash shell
  s d27166a ci: terraform deployment
  s c213c52 ci: update terraform deployment
  s c0edb68 ci: deploy code to azure
  s 300738a ci: correct build container name
  s 8bce1f7 ci: update build pipeline
  s 4fdc738 ci: add missing needs in script
  s 85787a1 ci: rename job reference
  s 8c12335 ci: use correct container name
  s b2dd8dc ci: fix incorrect container reference
  s 1bef2d0 ci: clean and update github actions
  p 760589a ci: azure infrastructure terraform
  s 5cd81c2 ci: set azure app service port
```



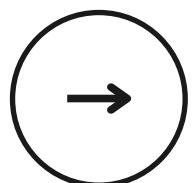
Demonstration: Todo App

[https://github.com/irate-walrus/cicd-
automate-the-monotony](https://github.com/irate-walrus/cicd-automate-the-monotony)



CI/CD Automating The Monotony

Testing With Python

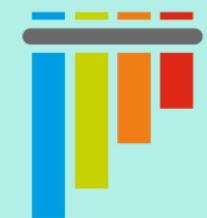




Poetry

tox

FastAPI

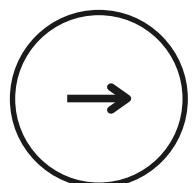


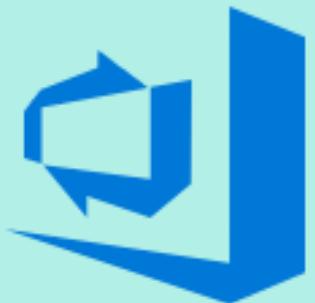
pytest

pyenv

CI/CD Automating The Monotony

Software Deployment To Azure





Azure DevOps



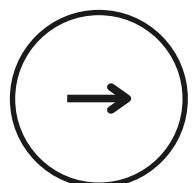
Jenkins

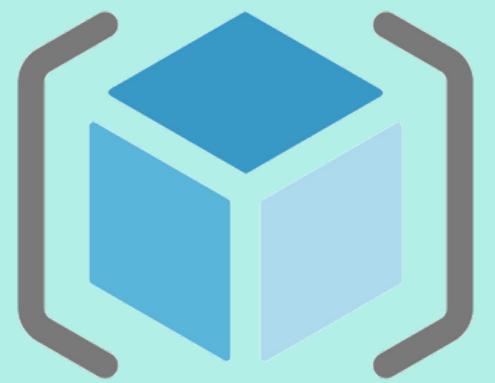


GitHub

CI/CD Automating The Monotony

Infrastructure Deployment To Azure





ARM
Template

```
{  
  "$schema": "https://schema.management.azure.co  
  "contentVersion": "1.0.0.0",  
  "parameters": {},  
  "functions": [],  
  "variables": {},  
  "resources": [],  
  "outputs": {}  
}
```

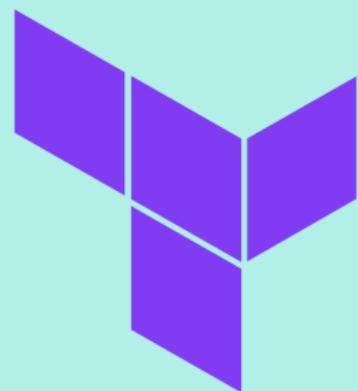


Bicep

```
param location string = resourceGroup().location  
param storageAccountName string = 'toylaunch${uniqueString  
  
resource storageAccount 'Microsoft.Storage/storageAcc  
  name: storageAccountName  
  location: location  
  sku: {  
    name: 'Standard_LRS'  
  }  
  kind: 'StorageV2'  
  properties: {  
    accessTier: 'Hot'  
  }  
}
```

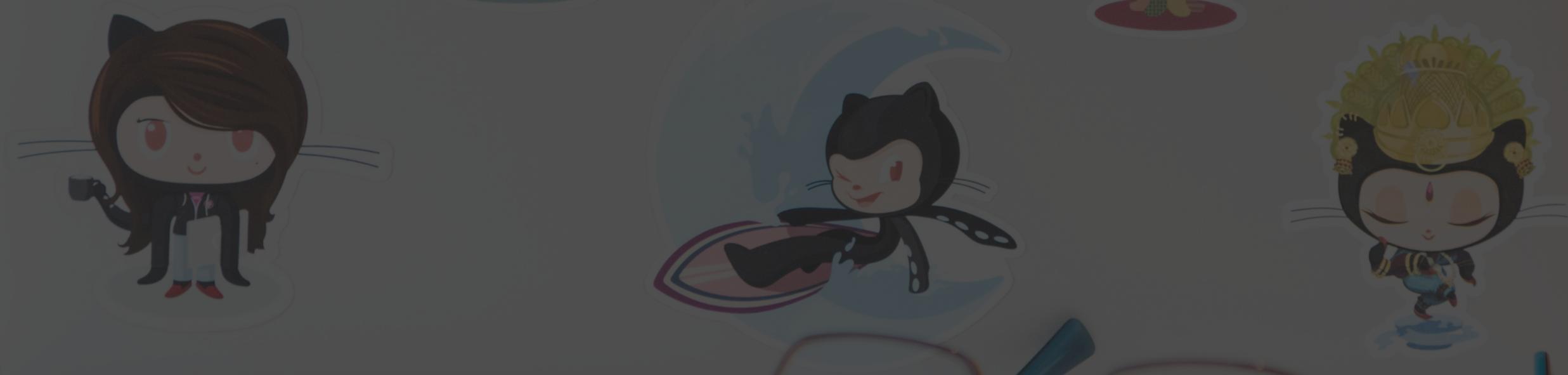
You, 2 hours ago | 1 author (You)

```
resource "azurerm_storage_account" "store" {  
  name          = module.naming.storage_name  
  resource_group_name = azurerm_resource_group.name  
  location      = azurerm_resource_group.location  
  account_tier   = "Standard"  
  account_replication_type = "LRS"  
  tags          = local.tags  
}
```



Terraform

Let's Get Started!



Thank you!

Do you have any questions?

