

Testing Made Easy with Azure Container Instances (ACI)

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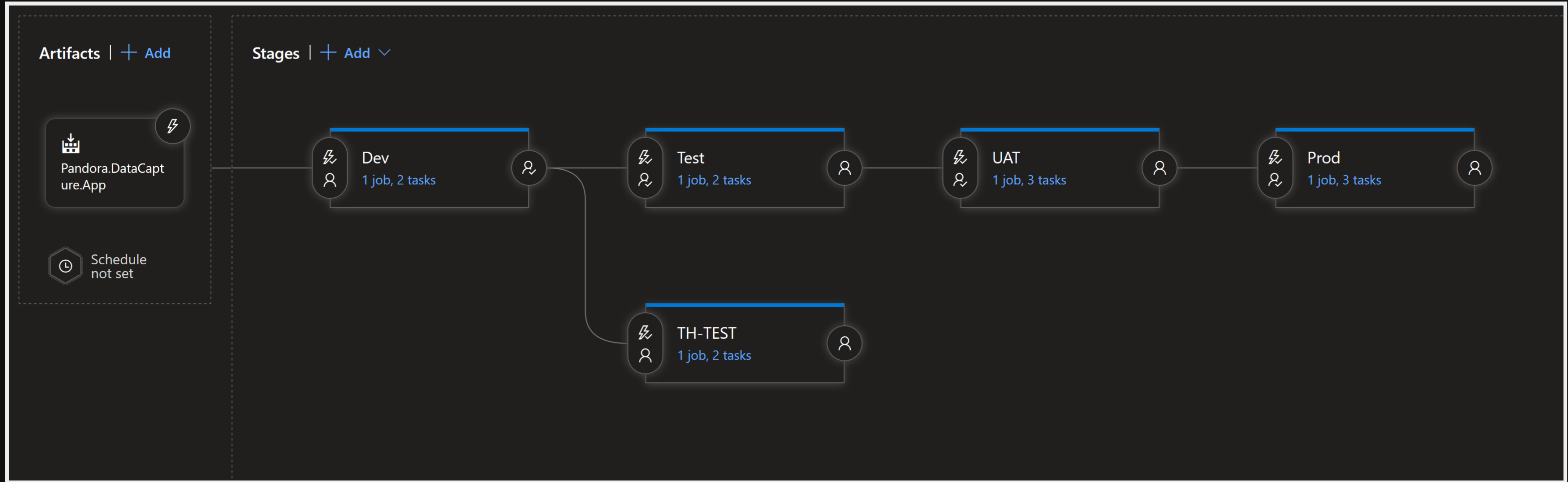
<https://github.com/mburleigh/BaltoMSDN-ContainerTesting>

What's the problem?

AzDO Release Pipelines & Git Branches

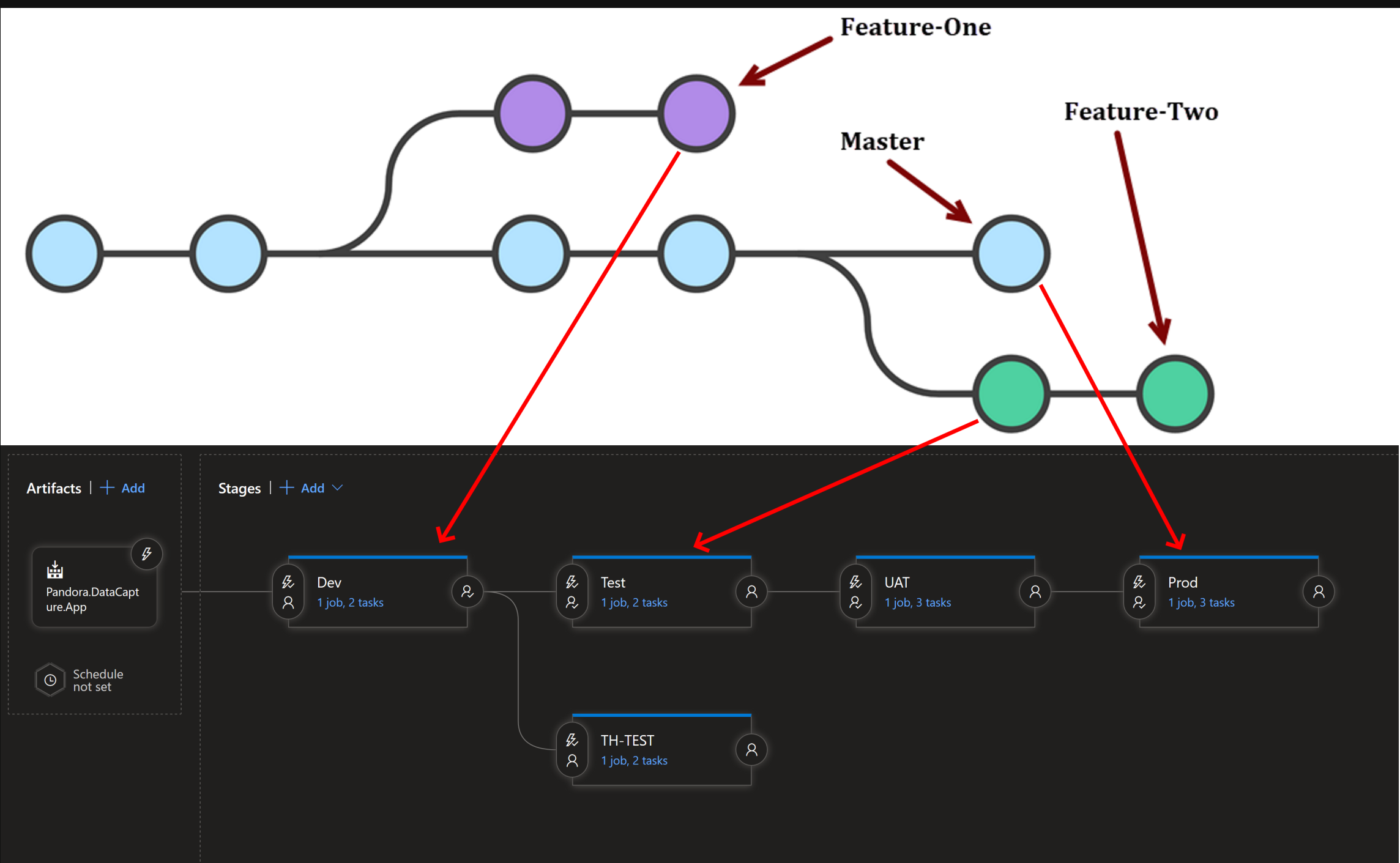
- A pipeline typically contains multiple stages
 - ex Dev -> QA/Test -> UAT -> Prod
- Only one source branch can be deployed to a stage at any given time
- Causes blocks because
 - branches are ephemeral
 - even trivial features get a branch
 - stages are concrete
 - expensive to create and maintain
 - only one branch can be tested at a time
 - requires manual coordination on deployments
 - dev <==> dev
 - dev <==> qa
- Potential for feature branch to be deployed to Prod
 - Um, oops - ***I accidentally released the dev code to prod...***

AzDO Release Pipeline



Branches map to release stages

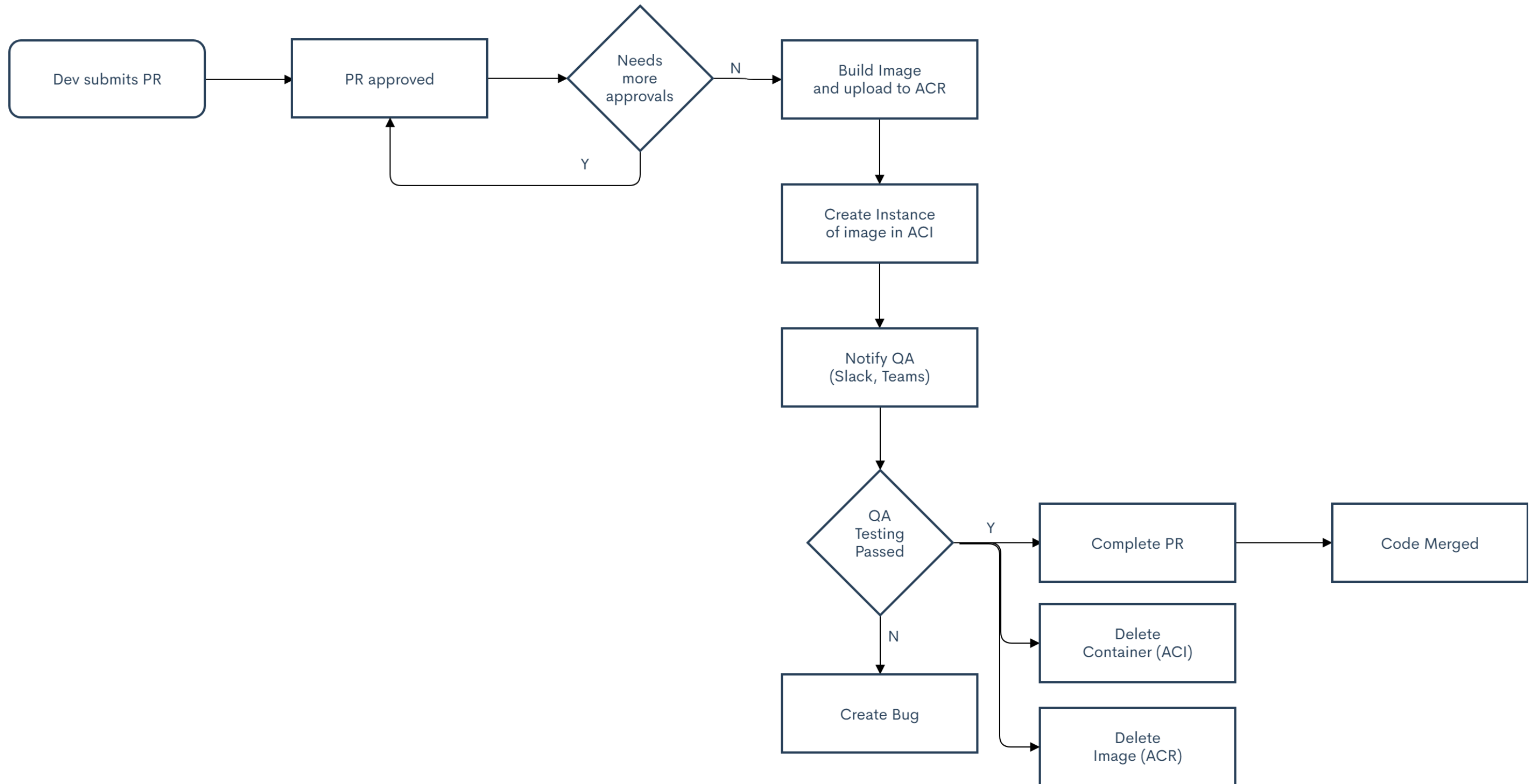
- Feature "*Feature-One*" deployed to the *Dev* stage
- Feature "*Feature-Two*" deployed to the *Test* stage
- Feature "*Master*" deployed to the *Prod* stage



What can we do?

Use containers instead of fixed stages for testing

- Developer creates Pull Request (PR) when feature development is complete
 - *remember to set autocomplete!*
- Docker image for branch automatically created when PR event occurs (created, approved, etc)
- Use ACI to "release" branch code in a **container**
- Notifications sent to QA when new container is available for testing
 - Via Slack or Teams messages
 - Notification contains links and information about the feature (branch)
 - QA testing passes ==> complete the PR, merge the PR, and clean up the images/containers
 - QA testing fails ==> create a bug (keep the container intact to show how to reproduce the problem)



Fiddly Bits

- Azure Container Registry
 - ACR basic auth (username:password ==> Base64)
- Azure Container Instance
 - ACI auth file (az ad sp create-for-rbac --sdk-auth > my.azureauth)
- Personal access token for AzDO
 - scopes for Build, Code, & Work Items
 - also Base64 encoded
- Azure Functions (used for orchestration)
 - Pull request changed
 - Show confirmation
 - Cleanup
 - Complete PR or create bug
- Add Policy to target branch to control merge
- Add web hook for PR event
- Docker file in solution
- Container build pipeline
 - Create image
 - Spin up container
 - Send notification

SHOW



ME!

Thank You!

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Shameless Plug

<https://techbash.com/>

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VS Code All the Things!!!