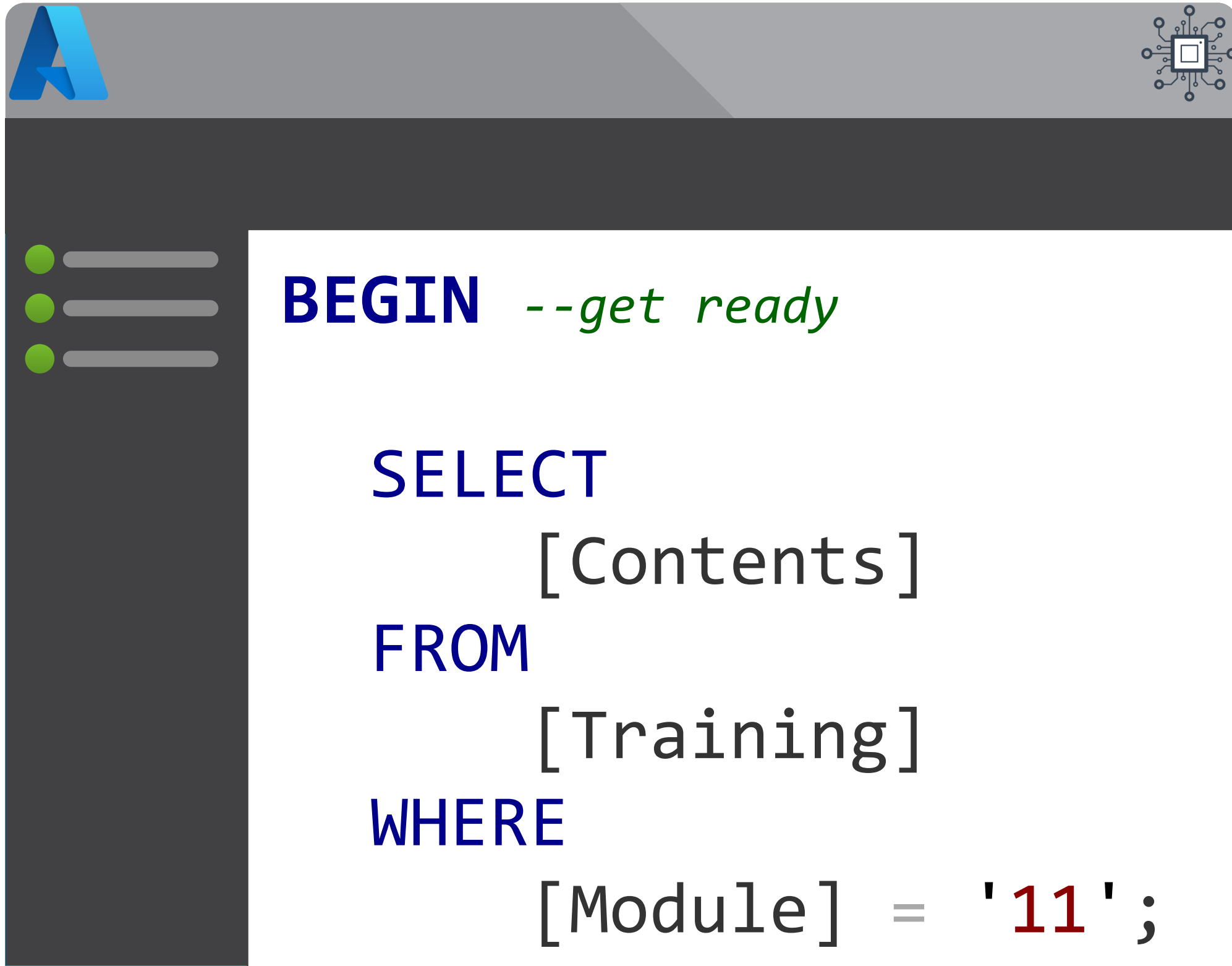


Module 11

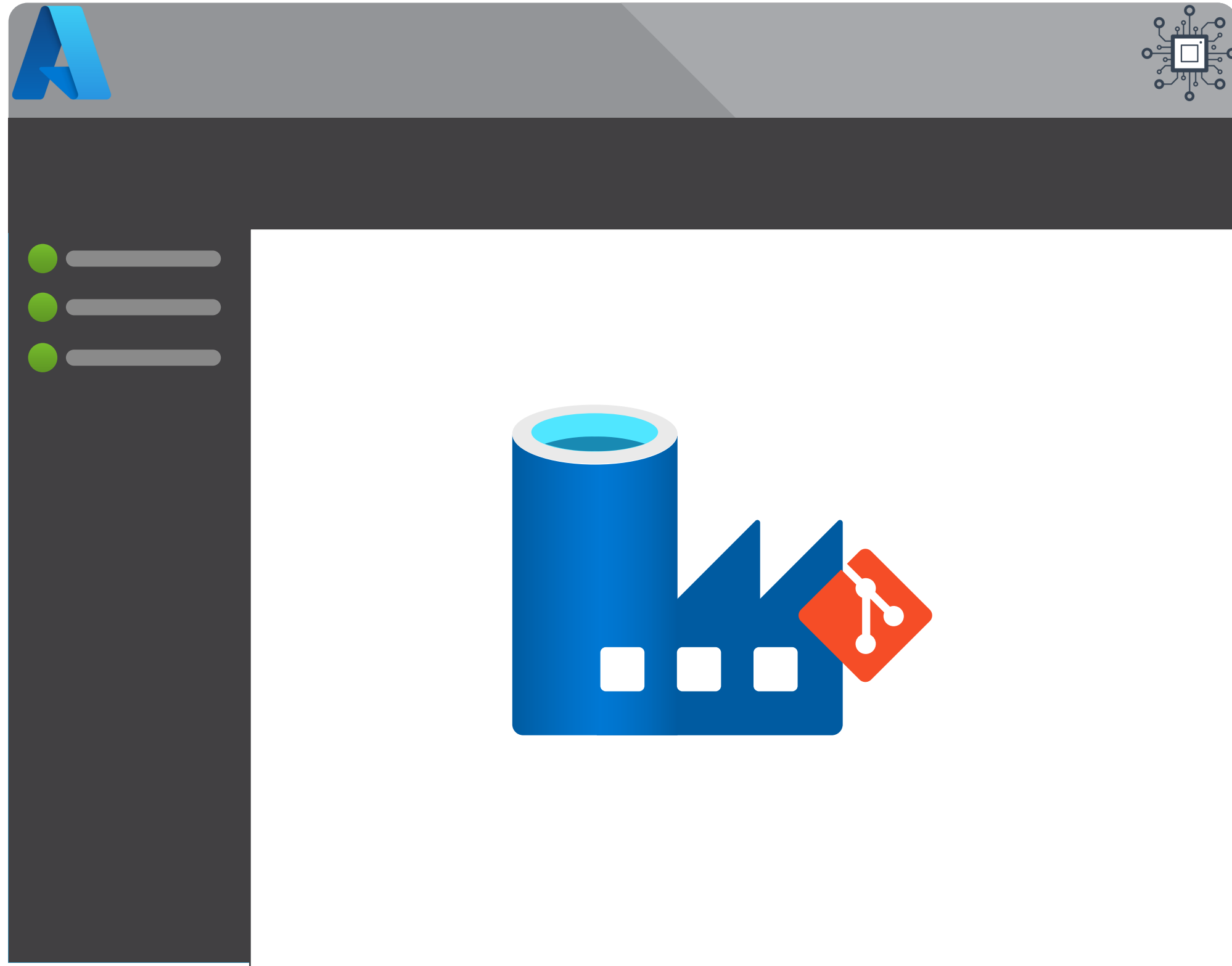
CI/CD



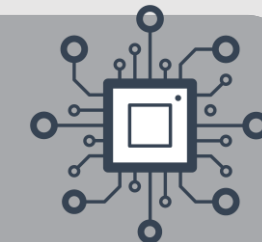
- Source Control vs Developer UI
- Basic ARM Template Deployments
- Advanced Deployment Patterns

Module 11

CI/CD



- Source Control vs Developer UI
- Basic ARM Template Deployments
- Advanced Deployment Patterns




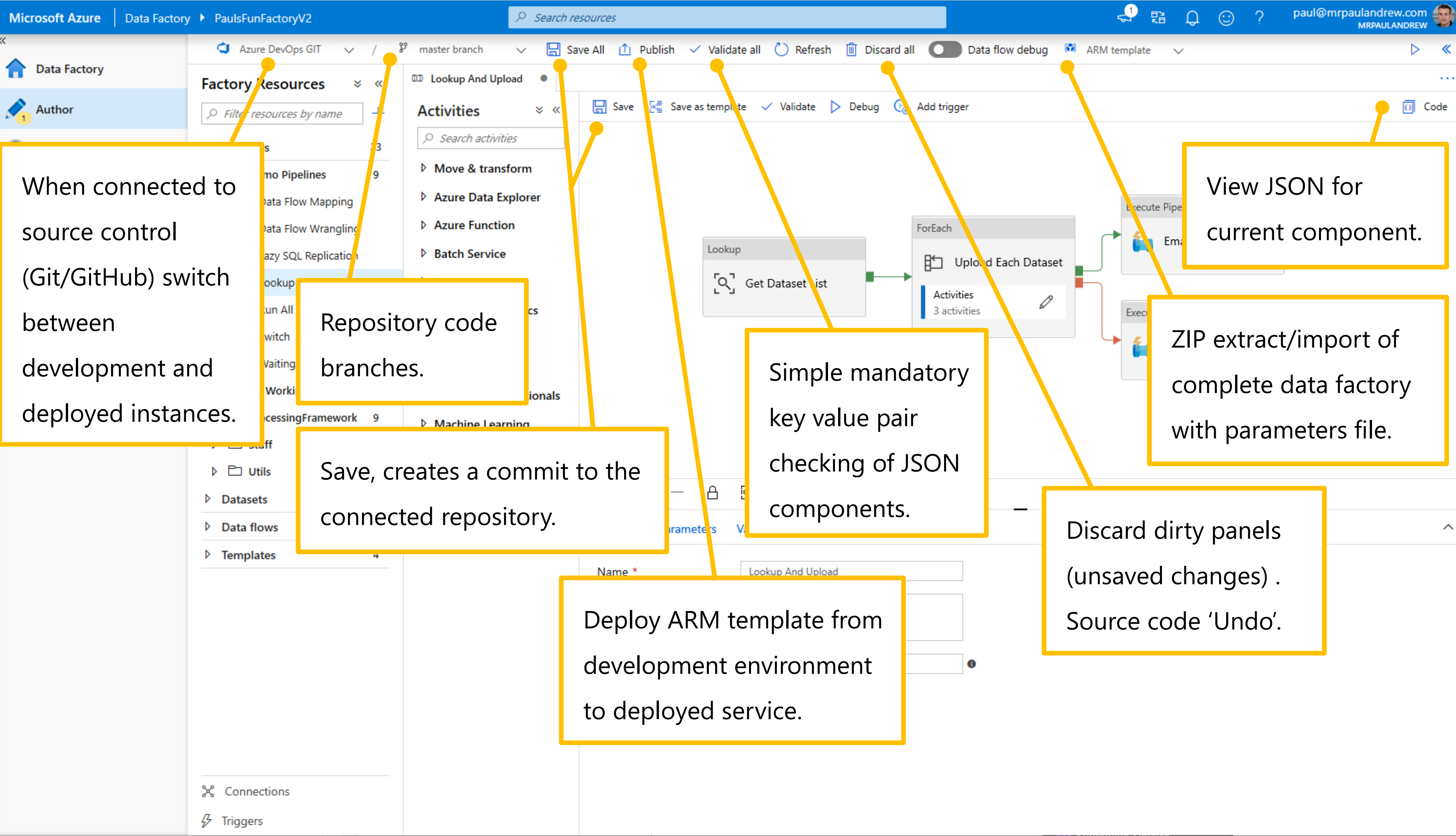
Open Azure Data Factory Studio
Start authoring and monitoring your data pipelines and data flows.

[Open](#) 



Read documentation
Learn how to be productive quickly.
Explore concepts, tutorials, and samples.

[Learn more](#) 



Factory Resources

Filter resources by name

Lookup And Upload

Search activities

- Move & transform
- Azure Data Explorer
- Azure Function
- Batch Service

Save | Save as template | Validate | Debug | Add trigger

Code

When connected to source control (Git/GitHub) switch between development and deployed instances.

Repository code branches.

Save, creates a commit to the connected repository.

Simple mandatory key value pair checking of JSON components.

Deploy ARM template from development environment to deployed service.

Discard dirty panels (unsaved changes) . Source code 'Undo'.

ZIP extract/import of complete data factory with parameters file.

View JSON for current component.

Data Factory

Author

Monitor

Factory Resources

Filter resources by name

Pipelines 23

- Demo Pipelines 9
 - Data Flow Mapping
 - Data Flow Wrangling
 - Lazy SQL Replication
 - Lookup And Upload
- Run All SSIS Packages
- Switch
- WaitingPipeline
- Working Progress 2
- ProcessingFramework 9
- Stuff 4
- Utils 1
- Datasets 27
- Data flows 6
- Templates 4

Lookup And Upload

Activities

Search activities

- Databricks
- Data Lake Analytics
- General
- HDInsight
- Iteration & conditionals
- Machine Learning

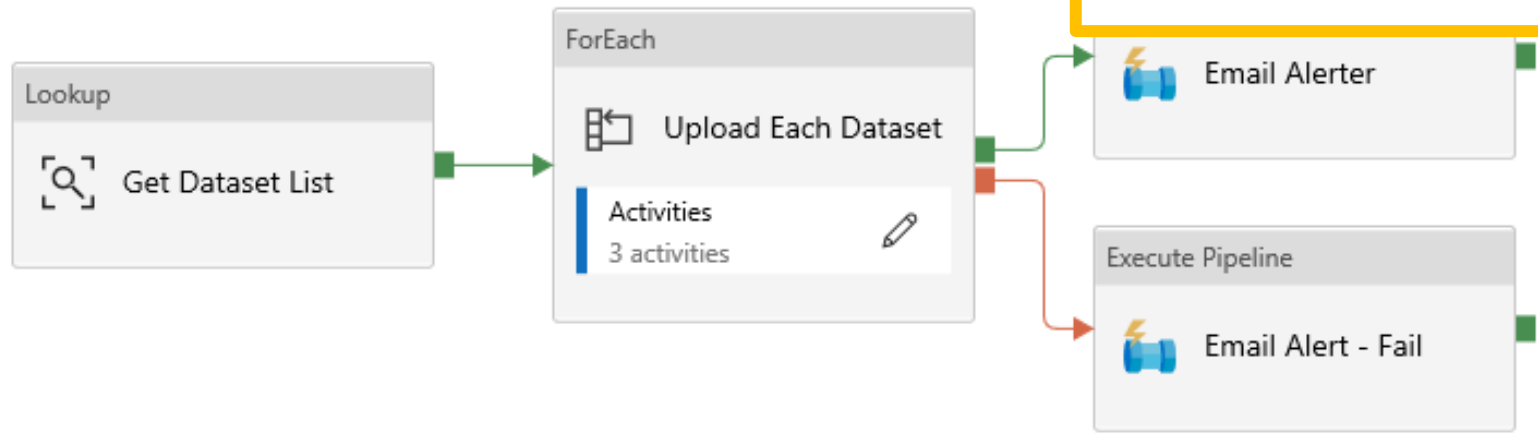
Debug the Control Flow.
Run the pipeline.

Azure DevOps GIT / master branch

Save All Publish Validate all Refresh Discard all Data flow debug ARM template

Save Save as template Validate Debug Add trigger

Debug the Data Flow.
Get a cluster ready.



Zoom and view controls: search, zoom in, zoom out, lock, 100%, fit, pan, scroll, and a grid icon.

General Parameters Variables Output

Name * Lookup And Upload

Description Simple dynamic demo pipeline

Concurrency

Annotations + New

Home

Author

Monitor

Factory Resources

Filter resources by name

Pipelines23

Demo Pipelines9

Data Flow Mapping

Data Flow Wrangling

Lazy SQL Replication

Lookup And Upload

Run All SSIS Packages

Switch

WaitingPipeline

Working Progress2

ProcessingFramework9

Stuff4

Utils1

Datasets27

Data flows6

Templates4

Databricks

Data Lake Analytics

General

HDInsight

Iteration & conditionals

Machine Learning

Lookup And Upload

Activities

Search activities

Save

Save as template

Validate

Debug

Add trigger

Lookup

Get Dataset List

ForEach

Upload Each Dataset

Activities3 activities

Execute Pipeline

Email Alerter

Execute Pipeline

Email Alert - Fail

General

Settings

Activities (3)

User properties

Name *

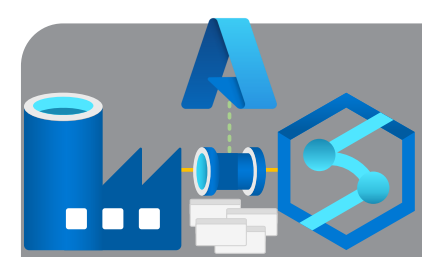
Upload Each Dataset

Description

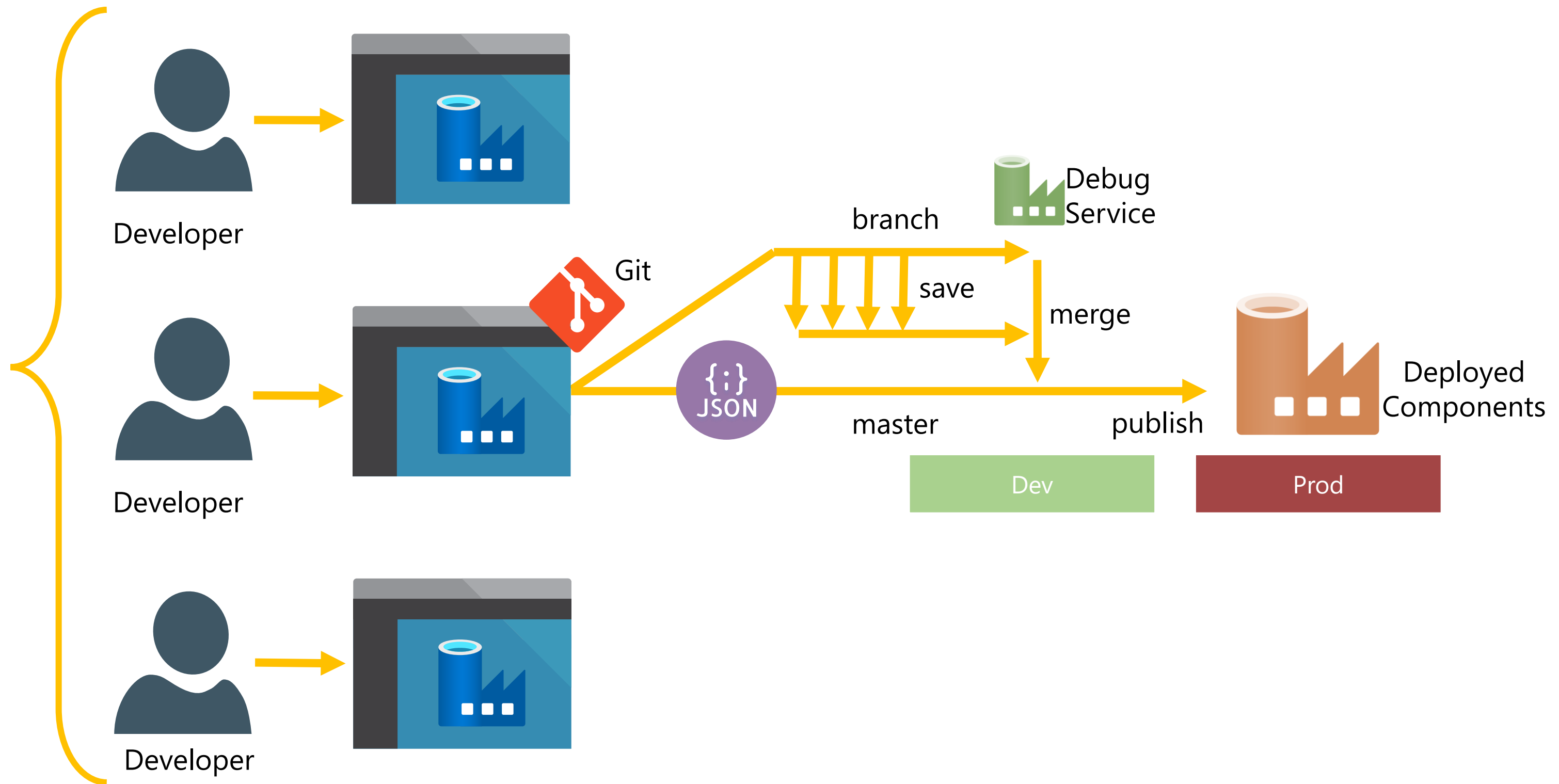
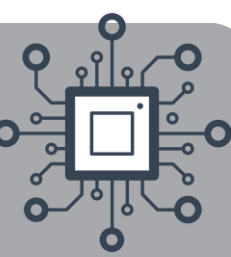
Learn more

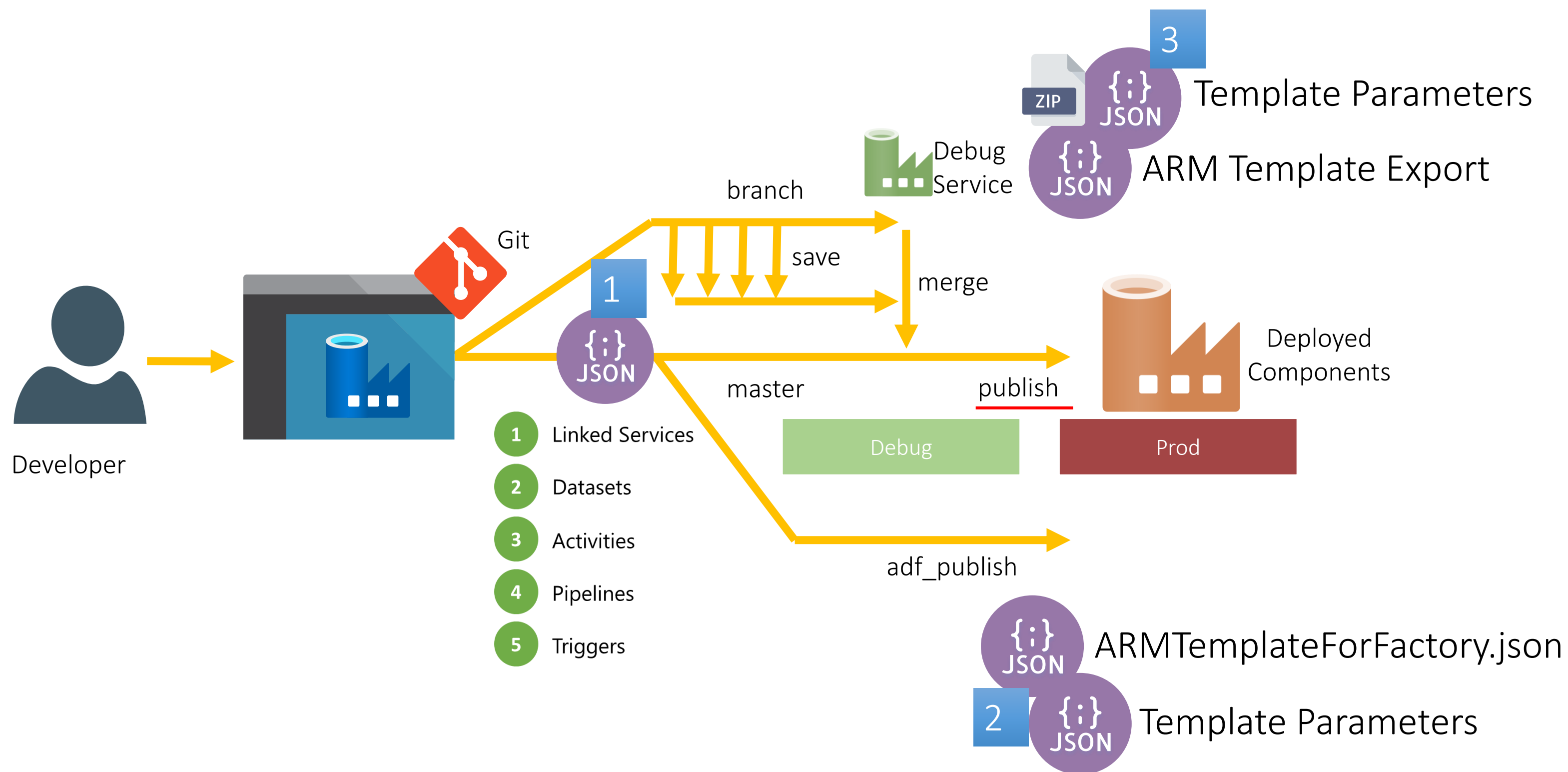
Debug the Control Flow.

Run the pipeline.



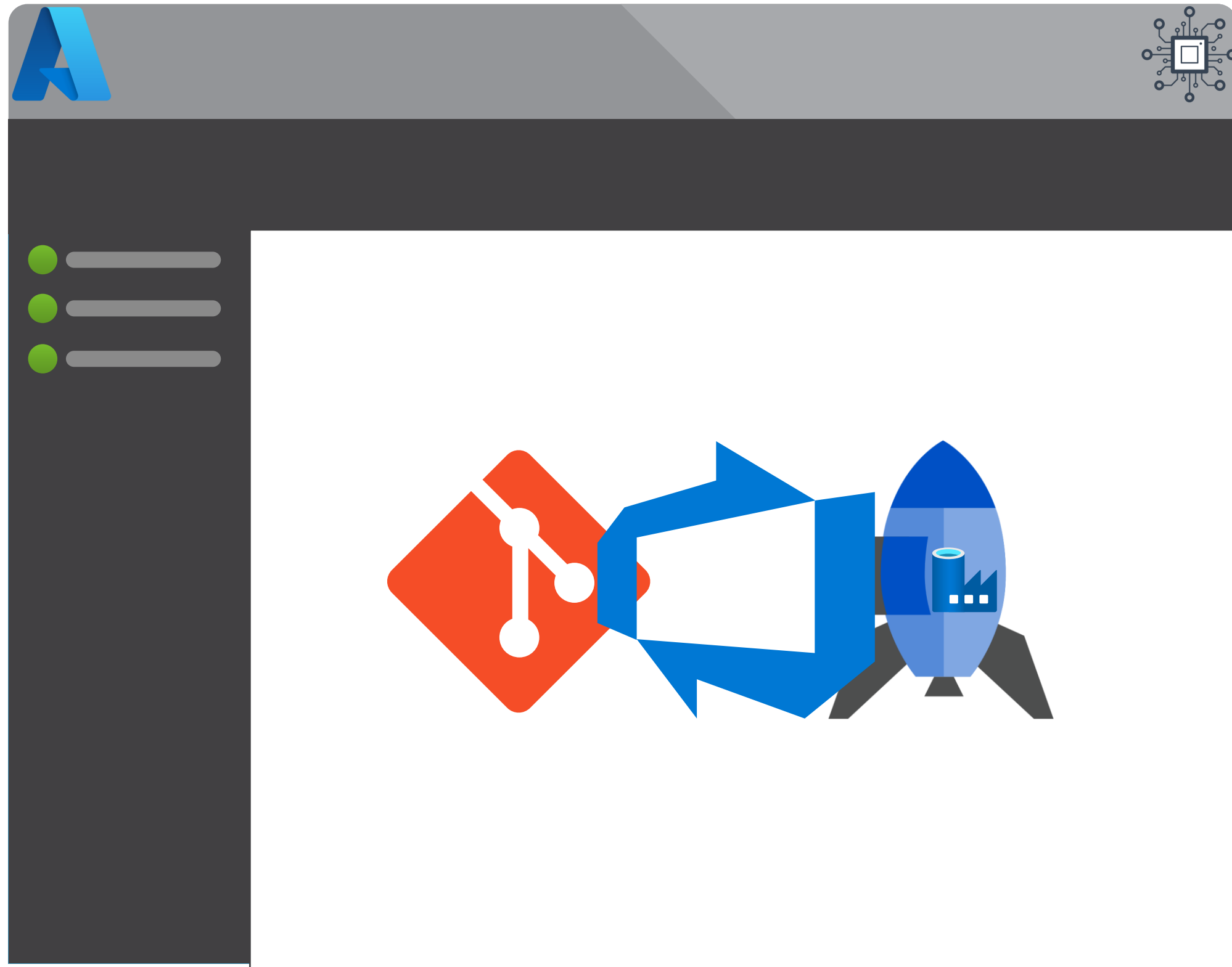
Data Factory Continuous Integration



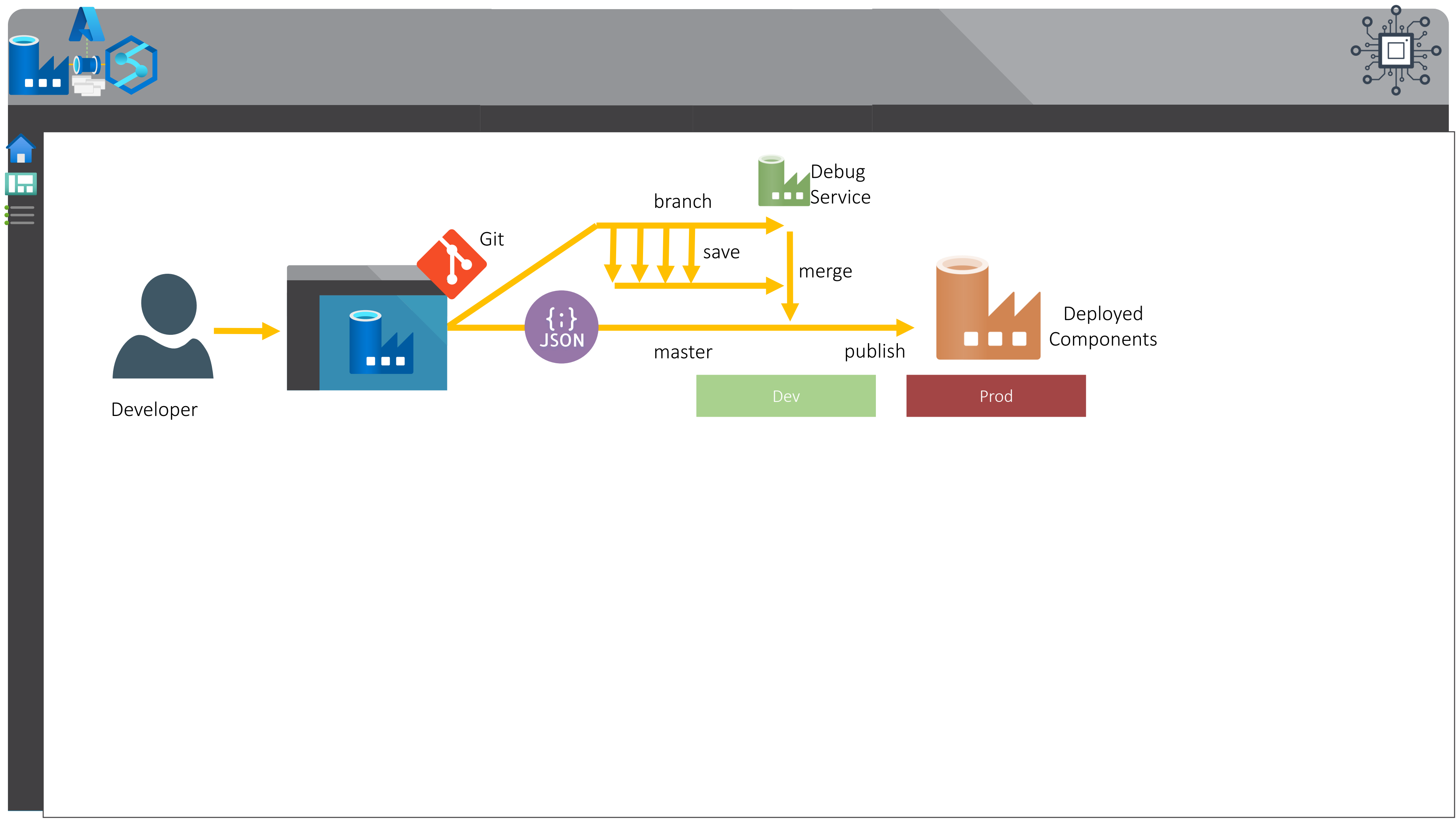


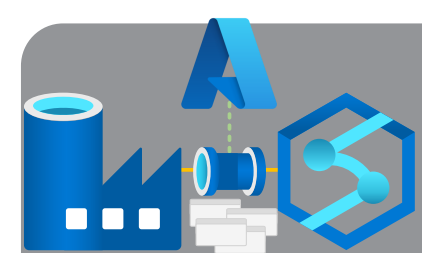
Module 11

CI/CD



- Source Control vs Developer UI
- Basic ARM Template Deployments
- Advanced Deployment Patterns

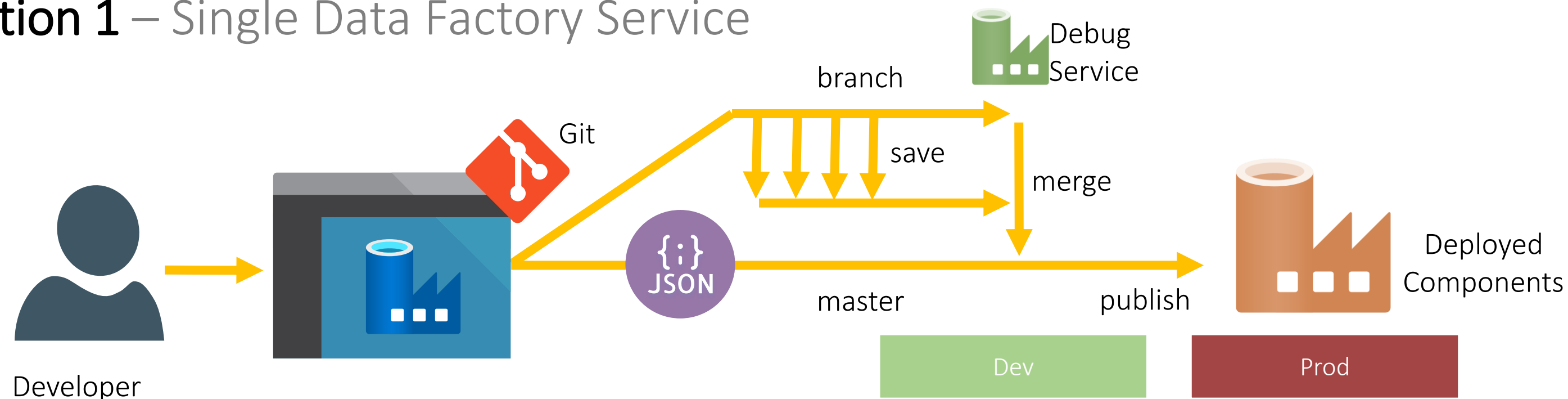




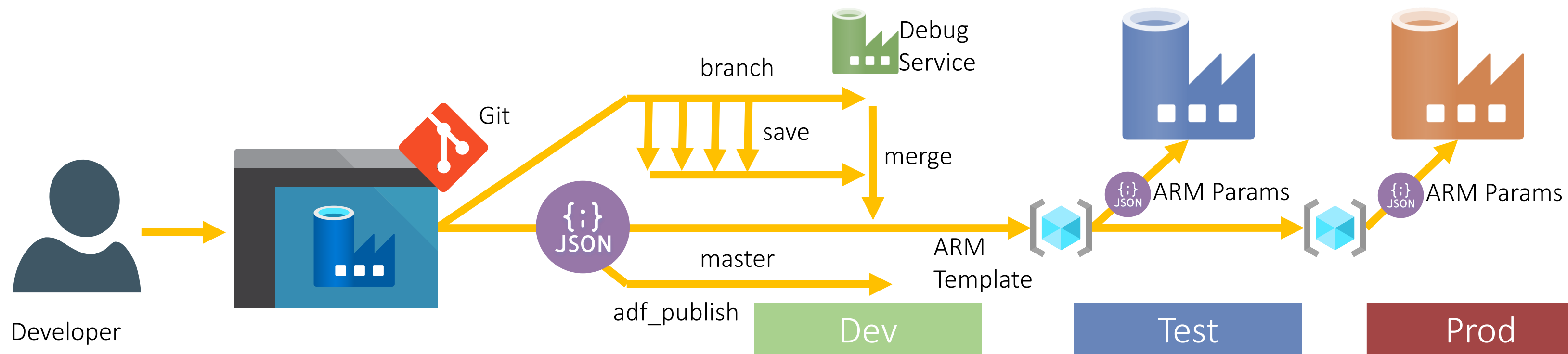
Data Factory Continuous Delivery



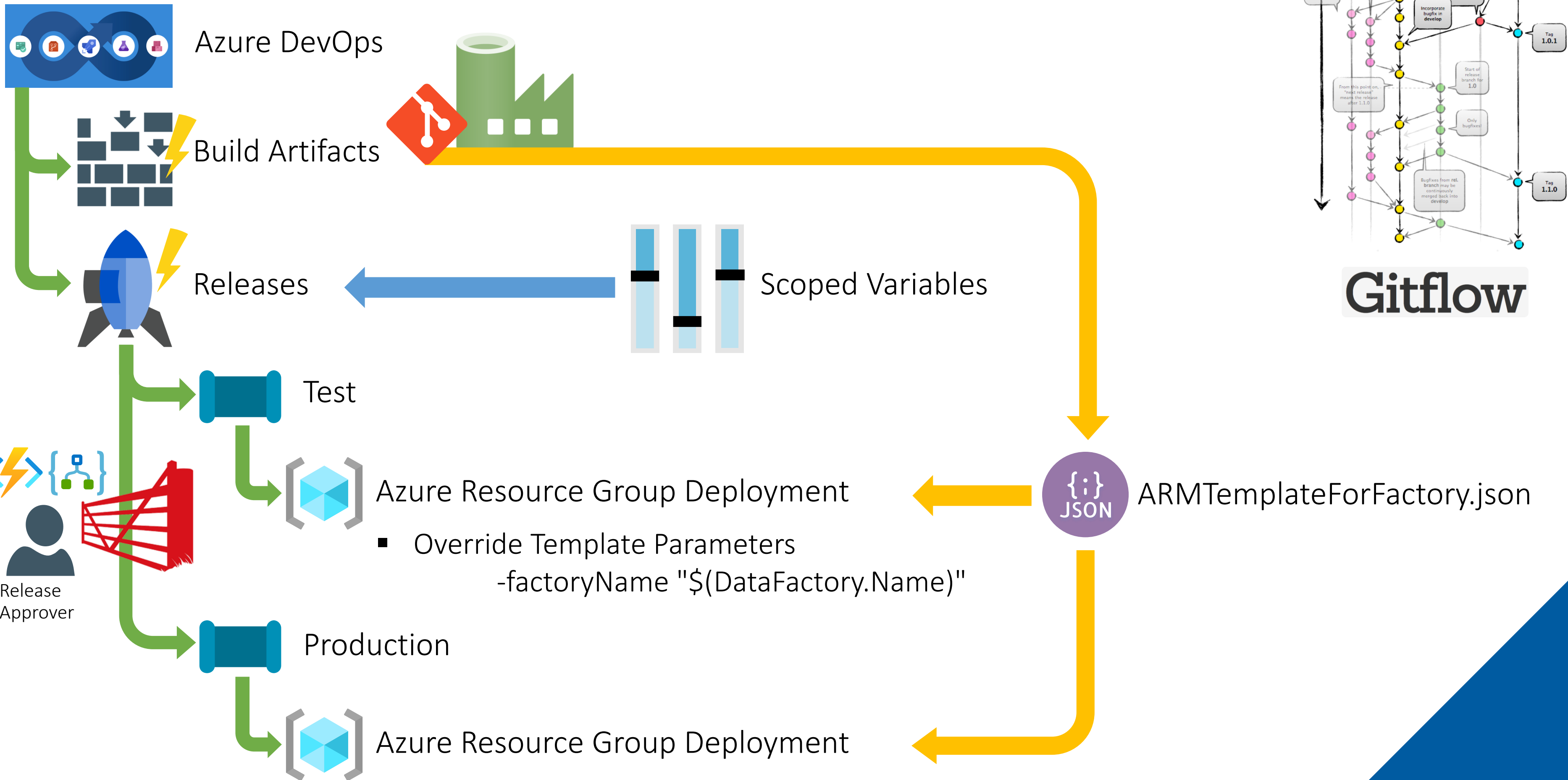
Option 1 – Single Data Factory Service



Option 2 – ARM Templates for Multiple Data Factory Services

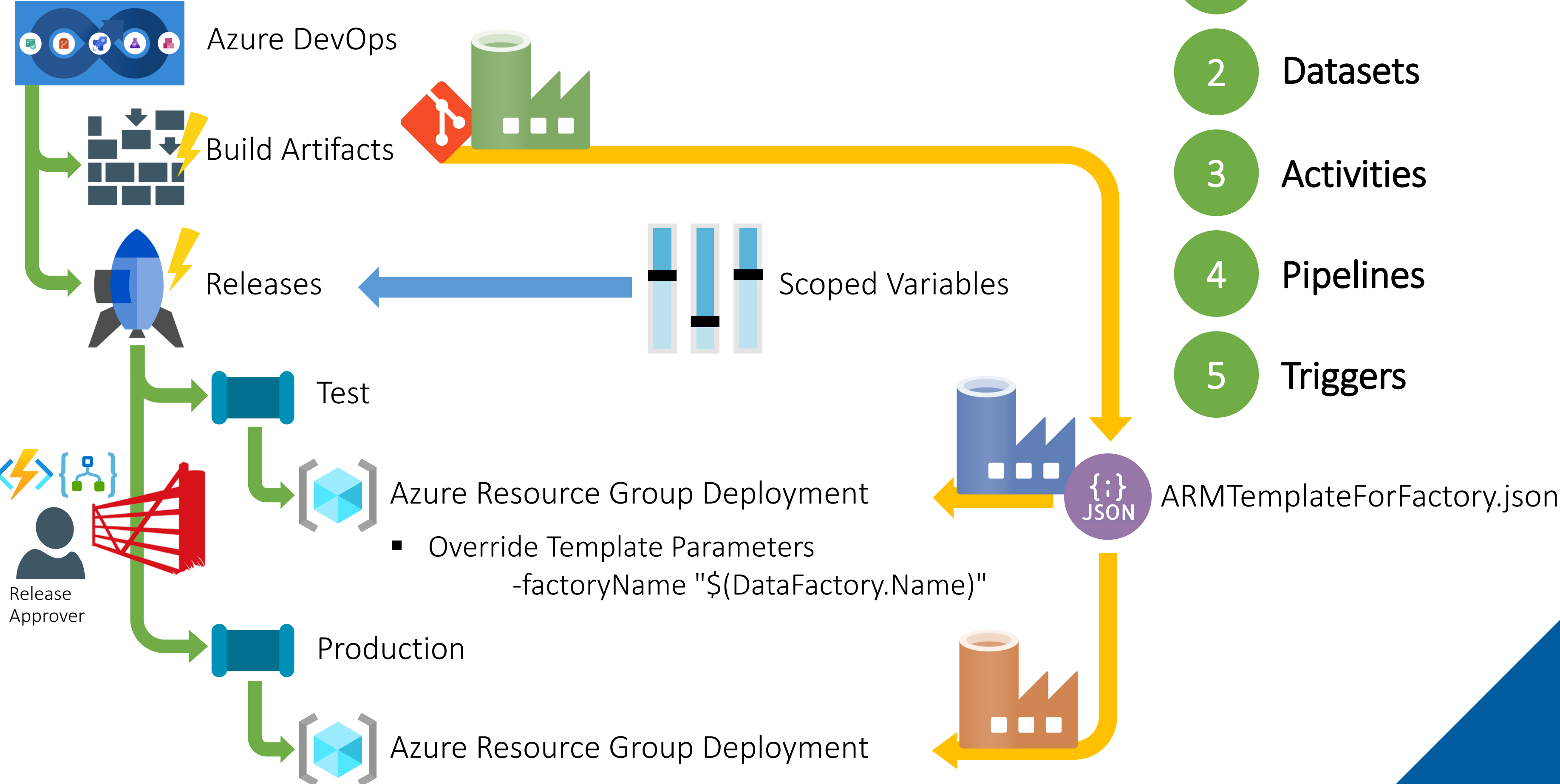


Data Factory Continuous Delivery



Data Factory Continuous Delivery

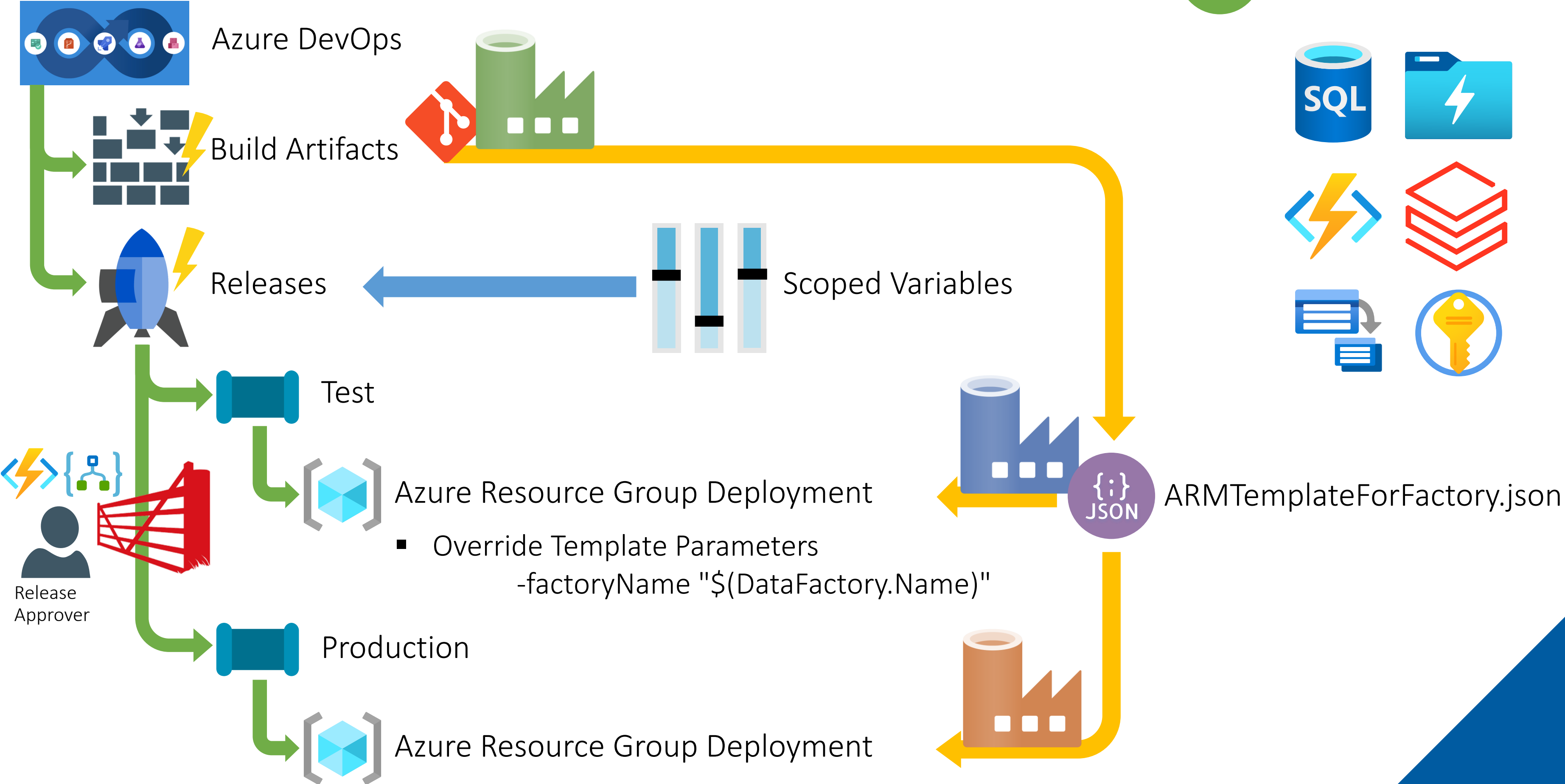
- 1 Linked Services
- 2 Datasets
- 3 Activities
- 4 Pipelines
- 5 Triggers

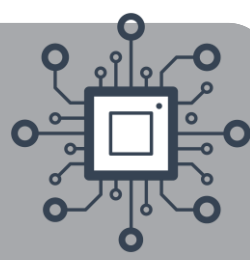


Data Factory Continuous Delivery

1

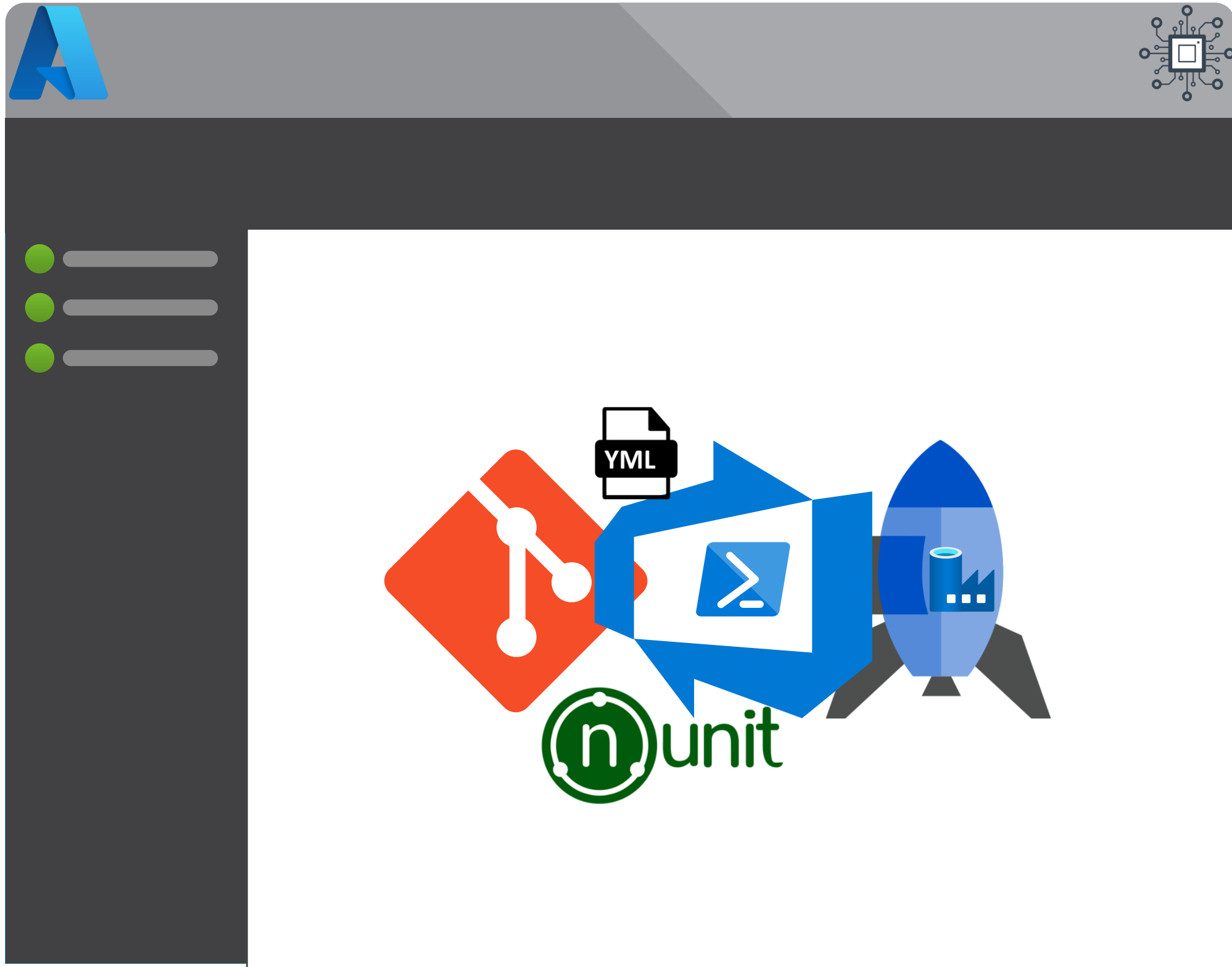
Linked Services





Module 11

CI/CD

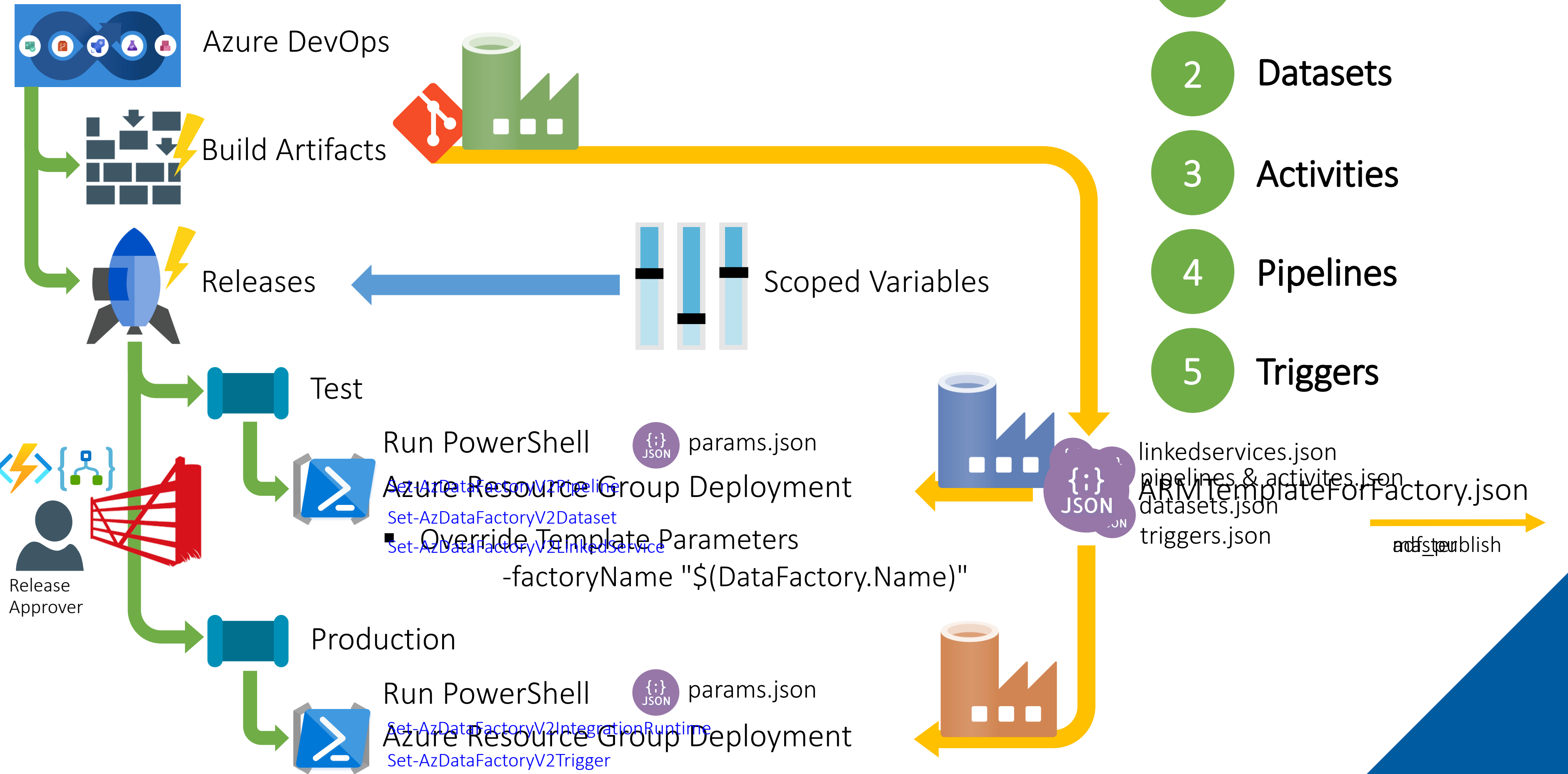


- Source Control vs Developer UI
- Basic ARM Template Deployments
- Advanced Deployment Patterns

Data Factory Continuous Delivery

- Option 3

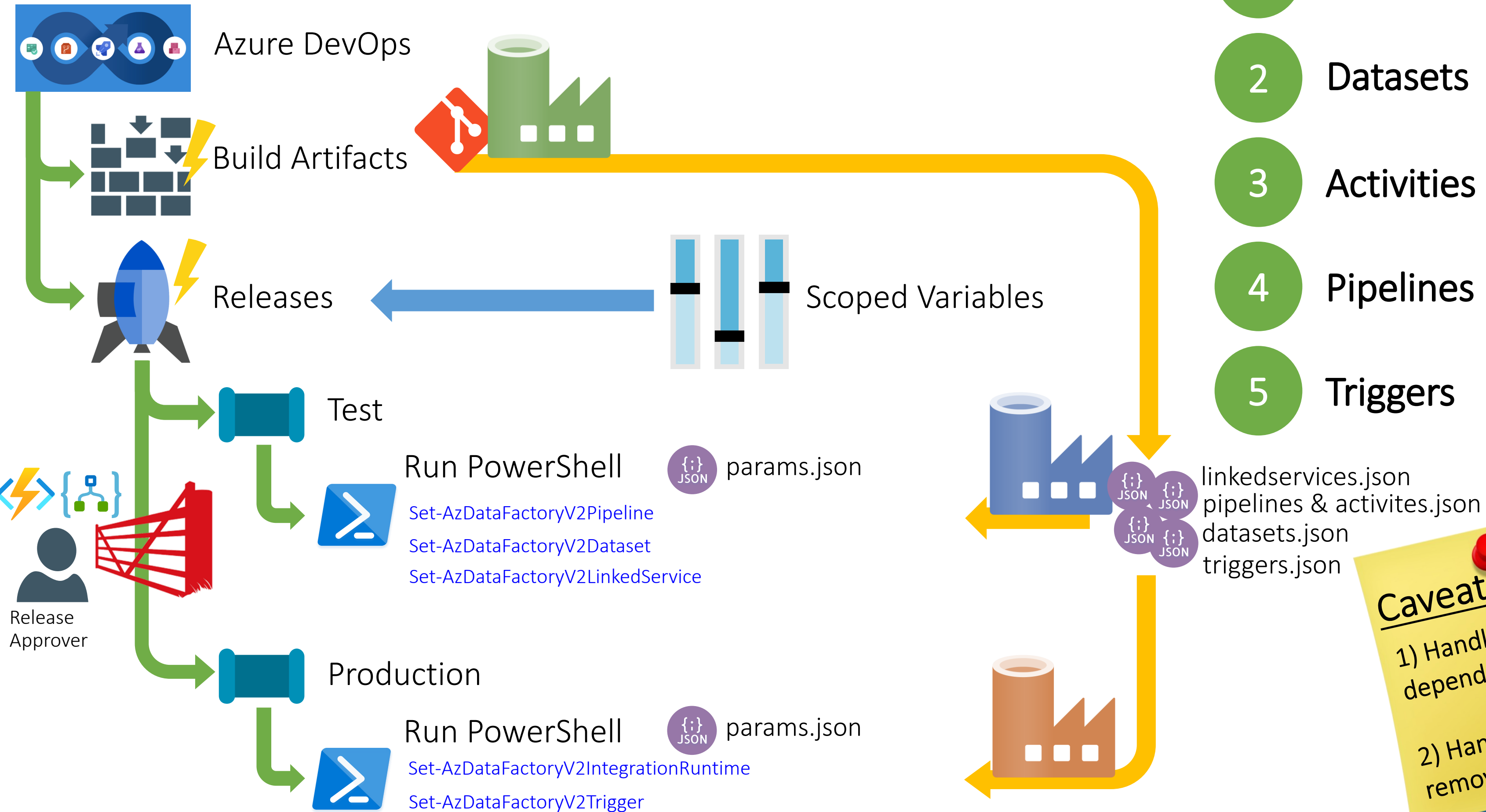
- 1 Linked Services
- 2 Datasets
- 3 Activities
- 4 Pipelines
- 5 Triggers



Data Factory Continuous Delivery

- Option 3

- 1 Linked Services
- 2 Datasets
- 3 Activities
- 4 Pipelines
- 5 Triggers



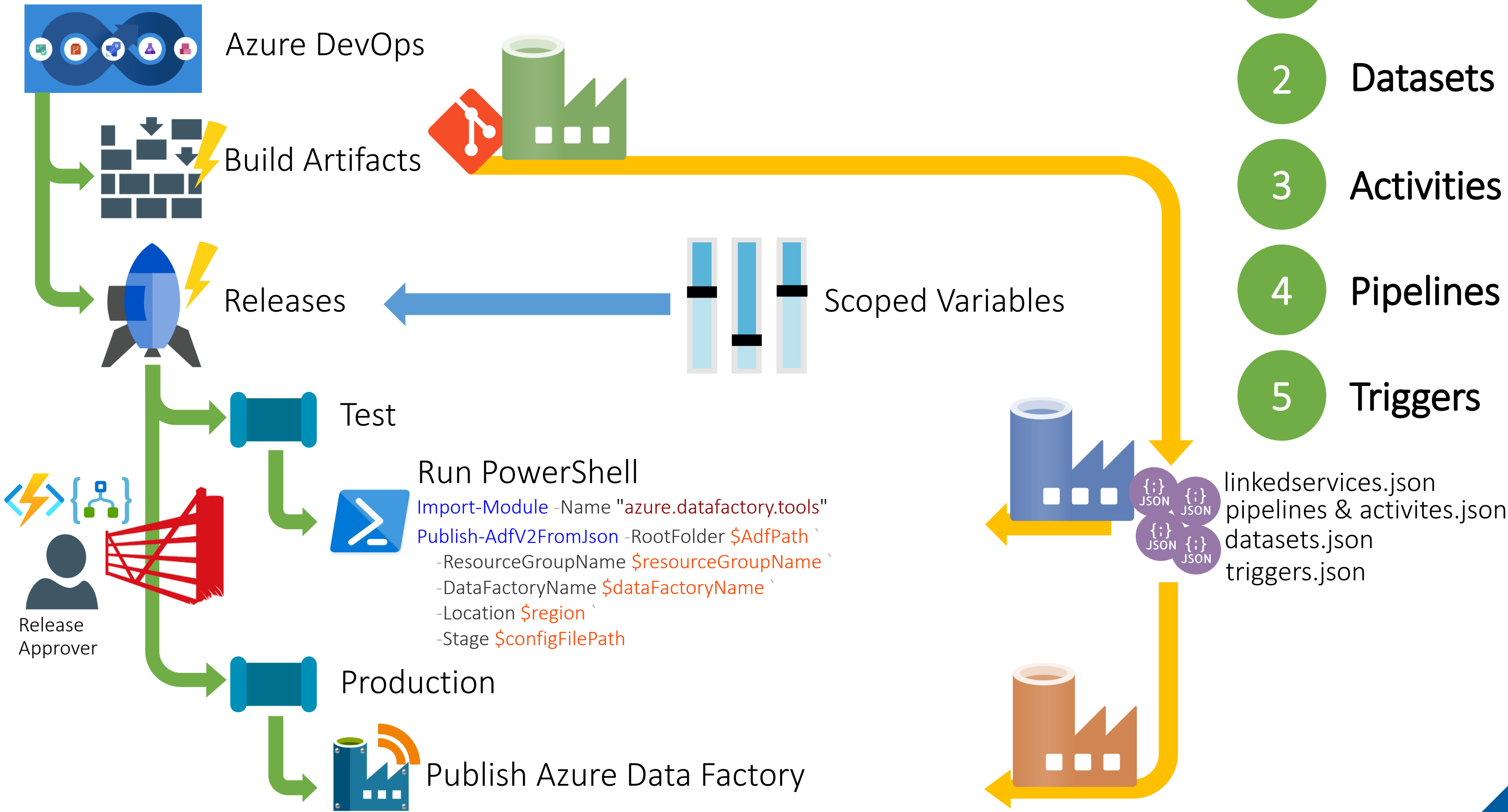
Caveats

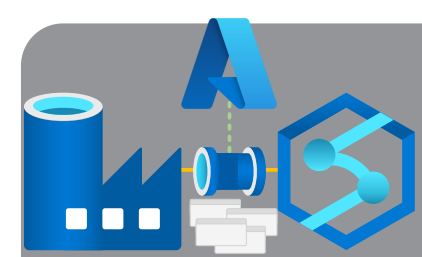
- 1) Handle own dependencies.
- 2) Handle own removals.

Data Factory Continuous Delivery

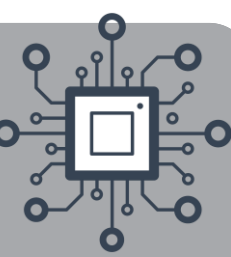
- Option 4

- 1 Linked Services
- 2 Datasets
- 3 Activities
- 4 Pipelines
- 5 Triggers





Deployment Options Summary

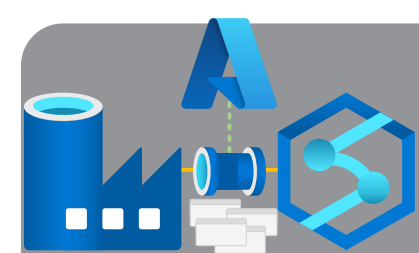


Option 1 – Use a single Data Factory service.

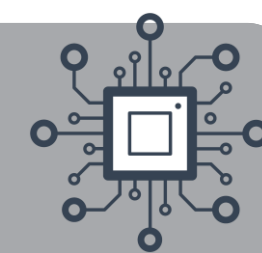
Option 2 – ARM Templates for multiple Data Factory services (environments).

Option 3 – Use PowerShell cmdlets for each ADF artifact.

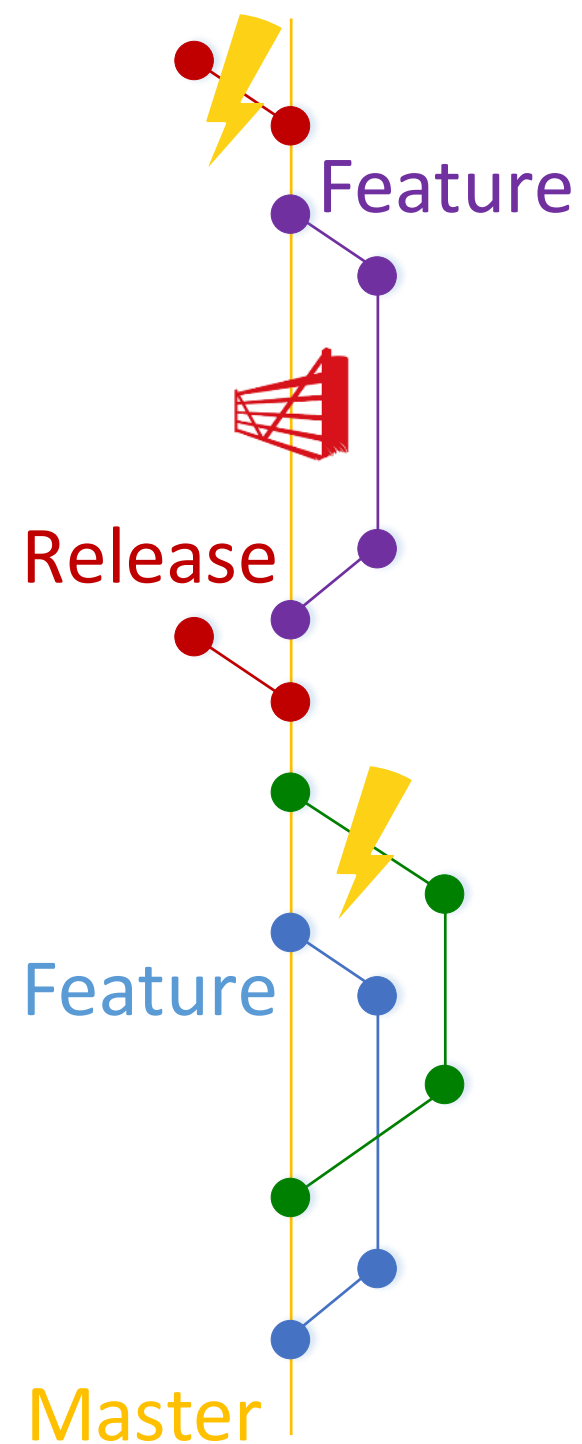
Option 4 – Use a PowerShell module or custom Azure DevOps task.



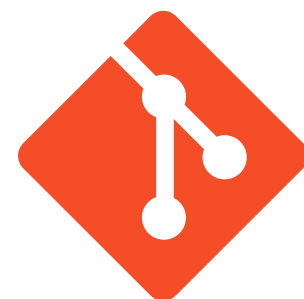
Data Factory DevOps Story Summary



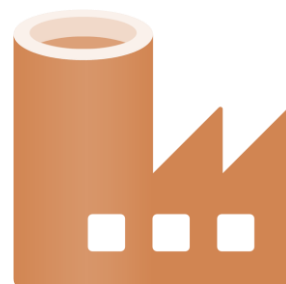
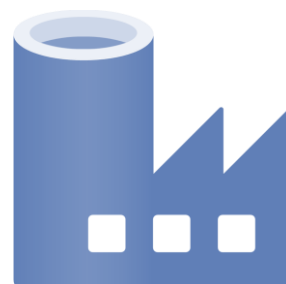
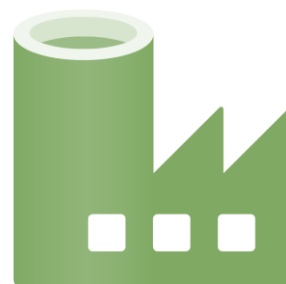
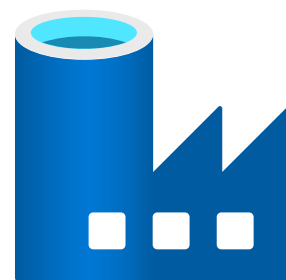
What is your code branching strategy?



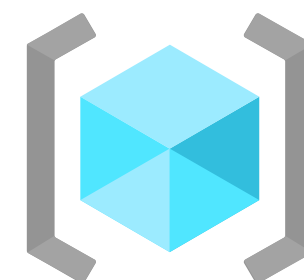
Which source control tool to use?



How many environments do we want?



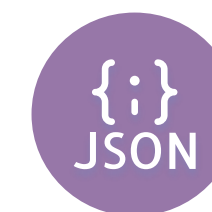
What deployment method do we want to use?



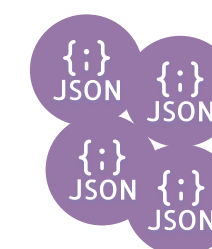
What artifacts are we going to use?...

OR

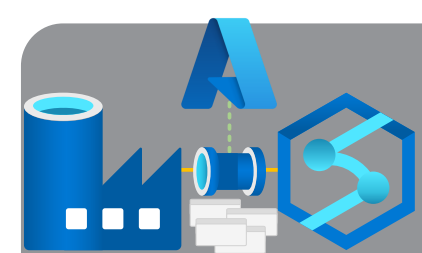
How much control do you want?



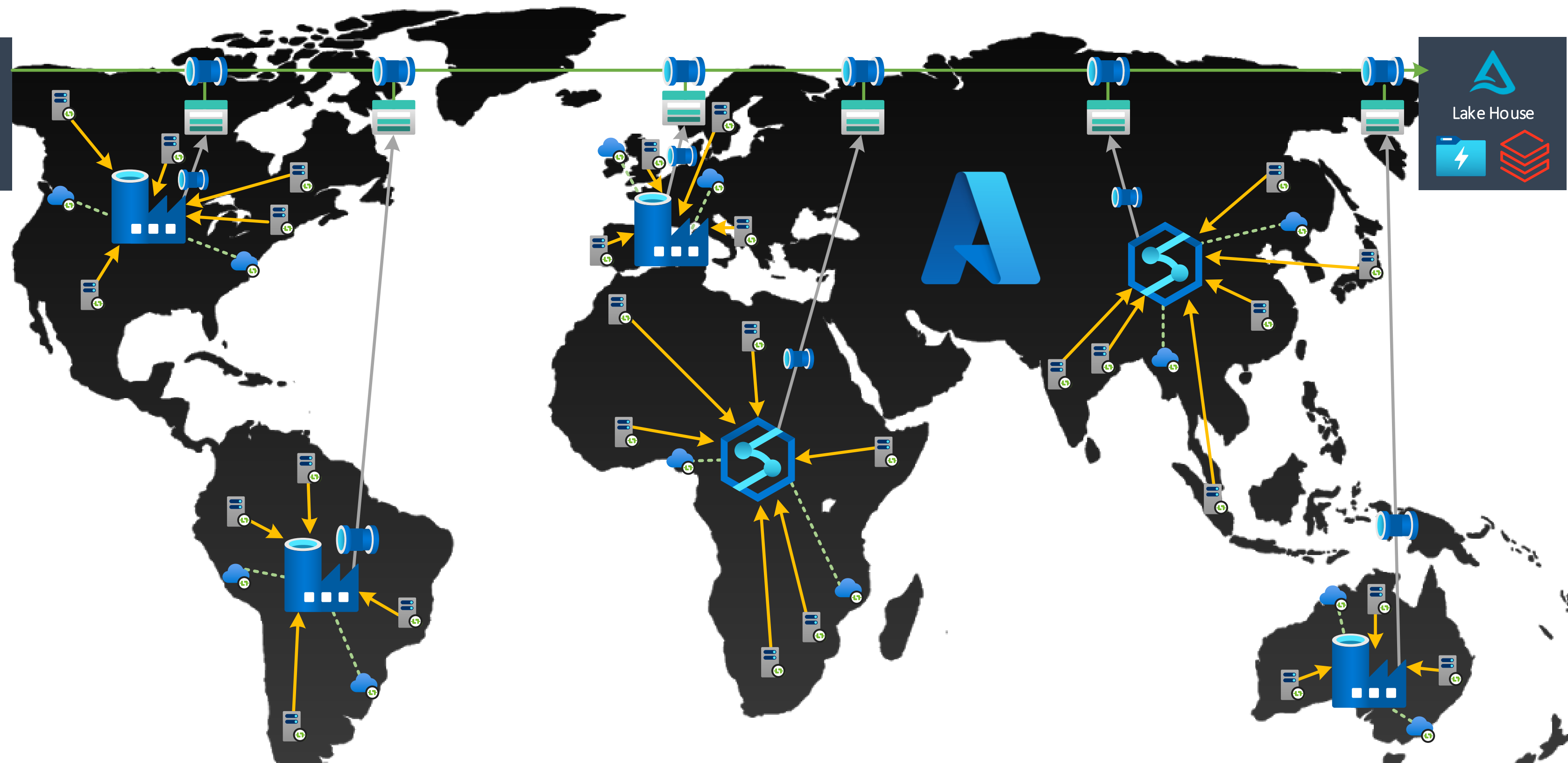
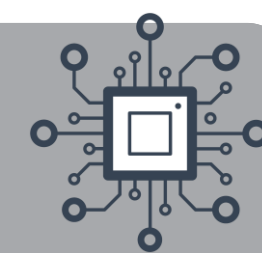
ARMTemplate
ForFactory.json

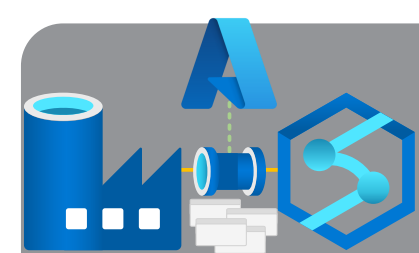


linkedservices.json
pipelines &
activites.json
datasets.json
triggers.json

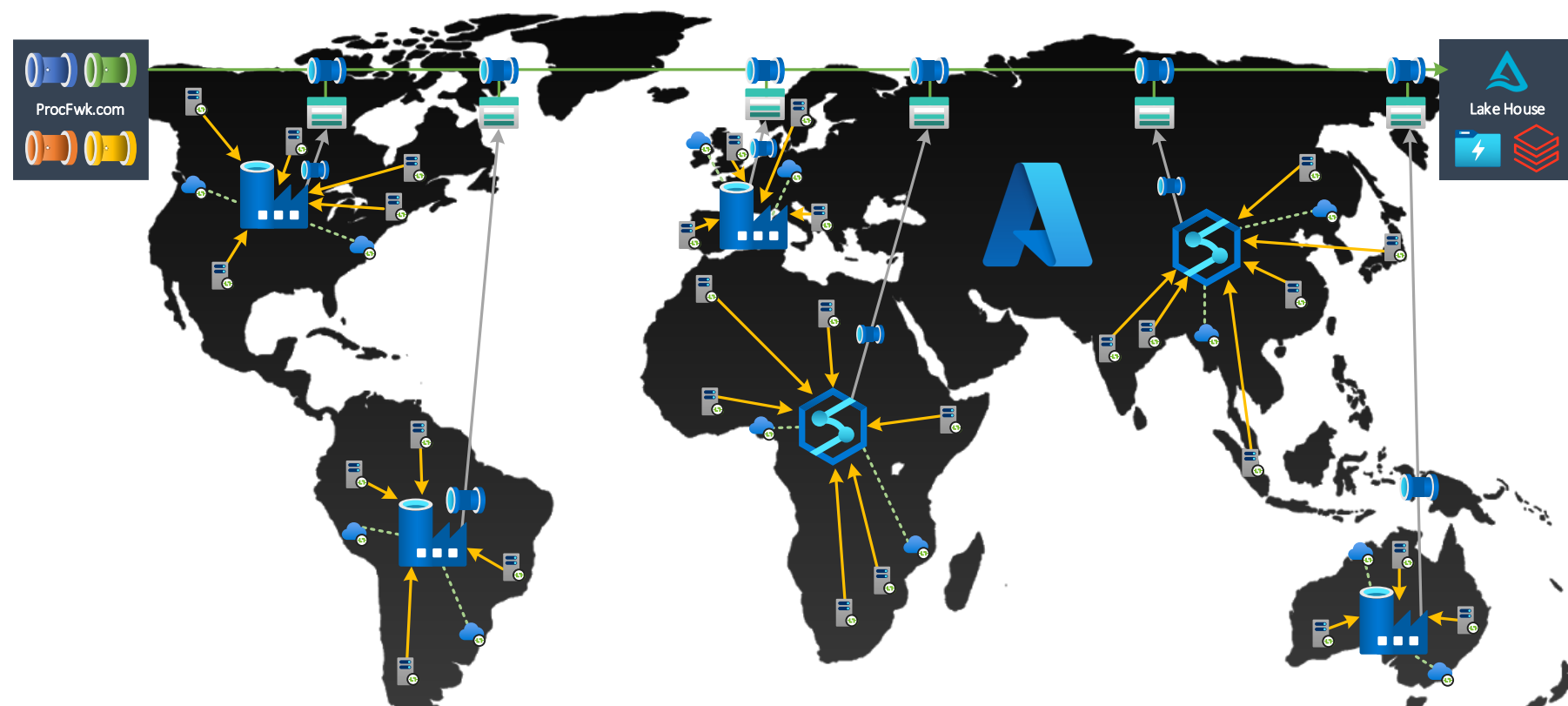
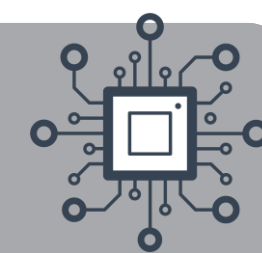


Hub & Spoke Integration Architecture

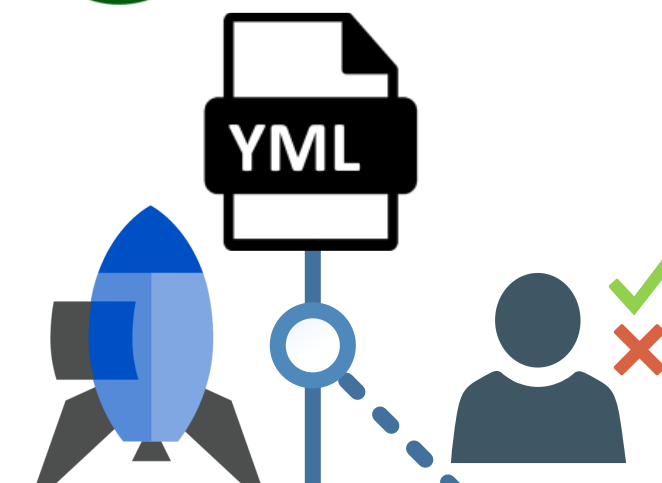




How Small Can Deployments Be?



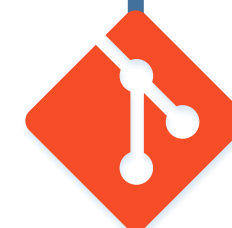
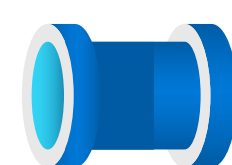
```
UPDATE [procfwk].[Pipelines] SET [Enabled] = 1  
WHERE [PipelineId] = SCOPE_IDENTITY();
```

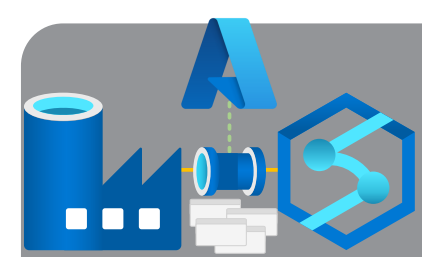


```
MERGE INTO [procfwk].[Pipelines] AS tgt  
USING
```

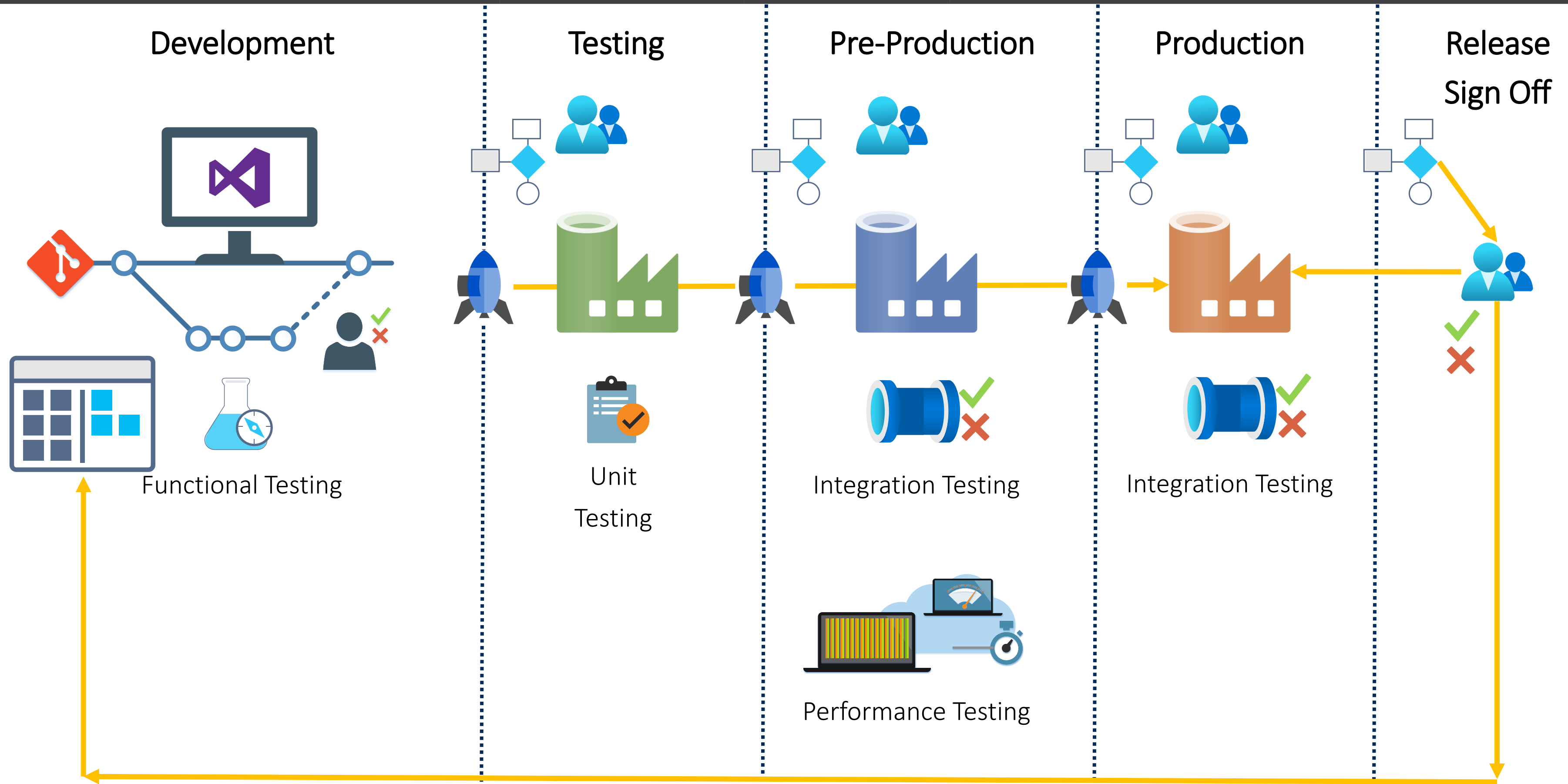
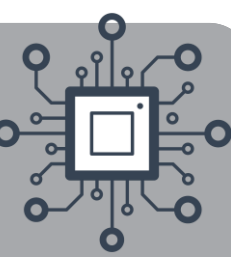
```
@Pipelines AS src  
ON tgt.[OrchestratorId] = src.[OrchestratorId]  
AND tgt.[PipelineName] = src.[PipelineName]  
AND tgt.[StageId] = src.[StageId]  
/* ----- */
```

```
UPDATE [procfwk].[Pipelines] SET [Enabled] = 0  
WHERE [PipelineId] = SCOPE_IDENTITY();
```



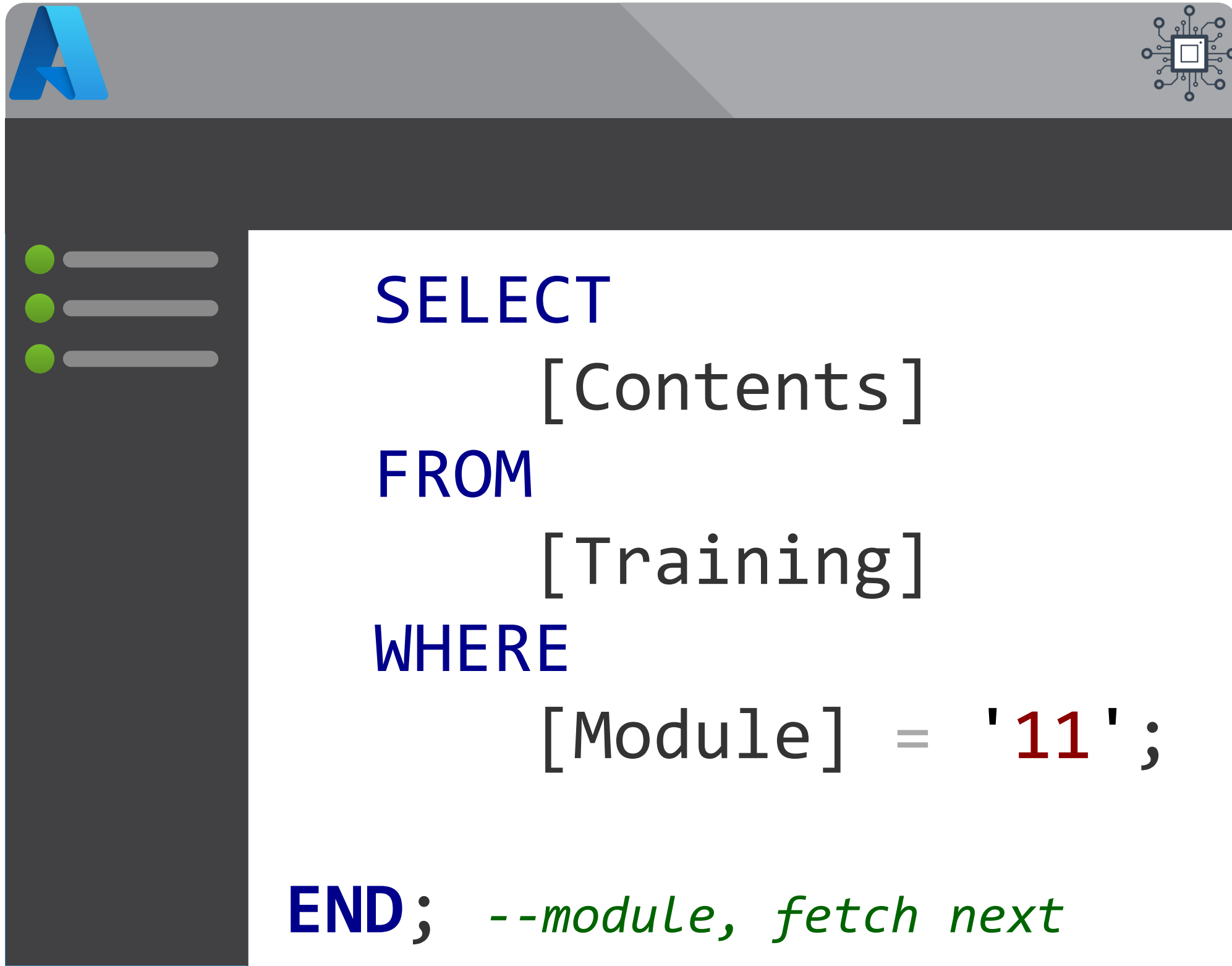


Deployment Life Cycle & Gateway



Module 11

CI/CD



- Source Control vs Developer UI
- Basic ARM Template Deployments
- Advanced Deployment Patterns