

How to create

Power BI Deployment Pipelines

with

Power BI Embedded



Andy Cutler
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Independent Consultant & Contractor

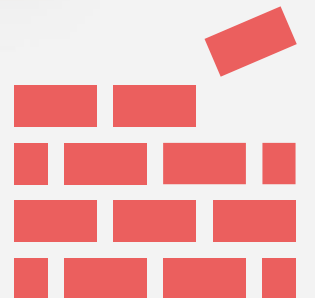
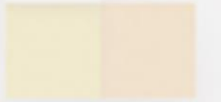
www.datahai.co.uk

<https://twitter.com/MrAndyCutler>

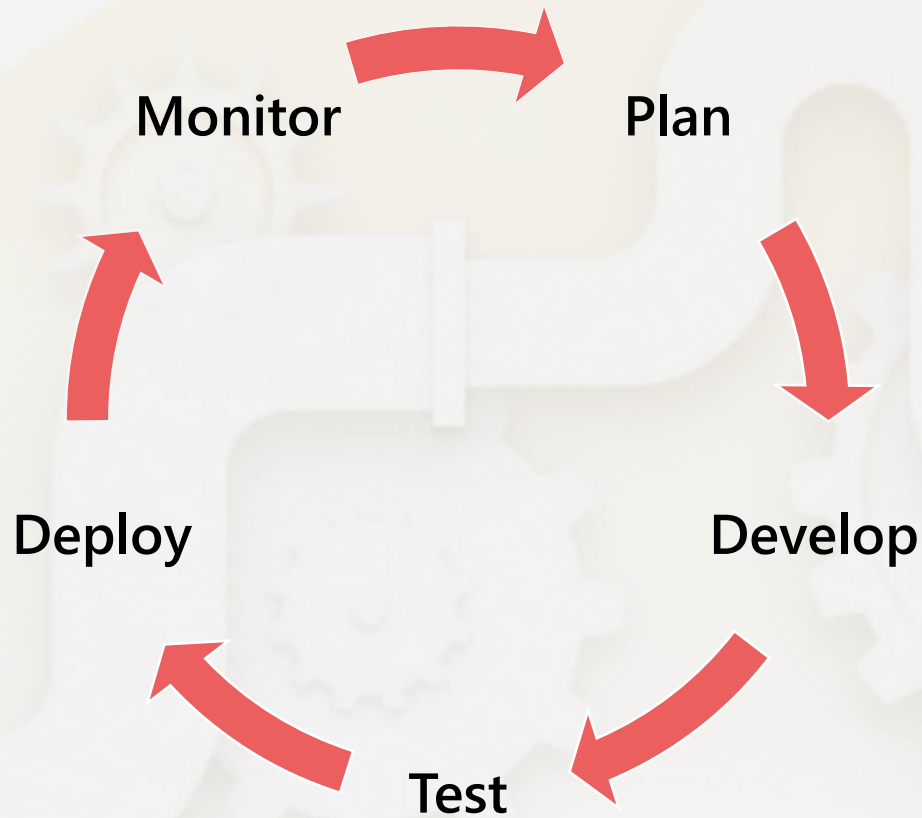
<https://www.linkedin.com/in/andycutler/>

Session

- What is Application Lifecycle Management (ALM)?
- Power BI Deployment Pipelines
- Licensing Requirements
- Power BI Embedded
- Considerations
- Permissions
- Demo Time!
- Parameter Rules
- Questions



Application Lifecycle Management (ALM)



- ALM is a term used to describe the product lifecycle of software development.
- It's a term that covers a range of categories:
 - Requirements Gathering
 - Systems Architecture
 - Development Practices
 - Testing
 - Release Management
 - Change Management

Power BI Deployment Pipelines

Enables ALM in Power BI by allowing:

- Report Creators to develop Power BI Models, Reports and Dashboards in a Development Workspace.
- Deploy **new** and **changed** artifacts to a Test Workspace for Testing/User Acceptance Testing (UAT).
- Deploy to a Production Workspace for Report Viewer consumption.

Develop -----> Test -----> Productionise

The screenshot displays the Power BI Deployment Pipeline interface for a workspace named 'Munich Demo'. It is divided into three stages: Development, Test, and Production. Each stage shows a summary of artifacts (Datasets, Reports, Dashboards) and their status. The Development stage has 1 Dataset, 1 Report, and 1 Dashboard. The Test stage has 1 Dataset, 1 Report, and 1 Dashboard, and is marked as 'Deployed: 12/14/2020, 10:35:53 PM'. The Production stage has 1 Dataset, 1 Report, and 1 Dashboard, and is marked as 'Deployed: 12/14/2020, 10:36:07 PM'. A 'Compare' button is visible between the Development and Test stages. The Production stage has a 'Deploy to production' button highlighted in yellow.

3 Stage Process

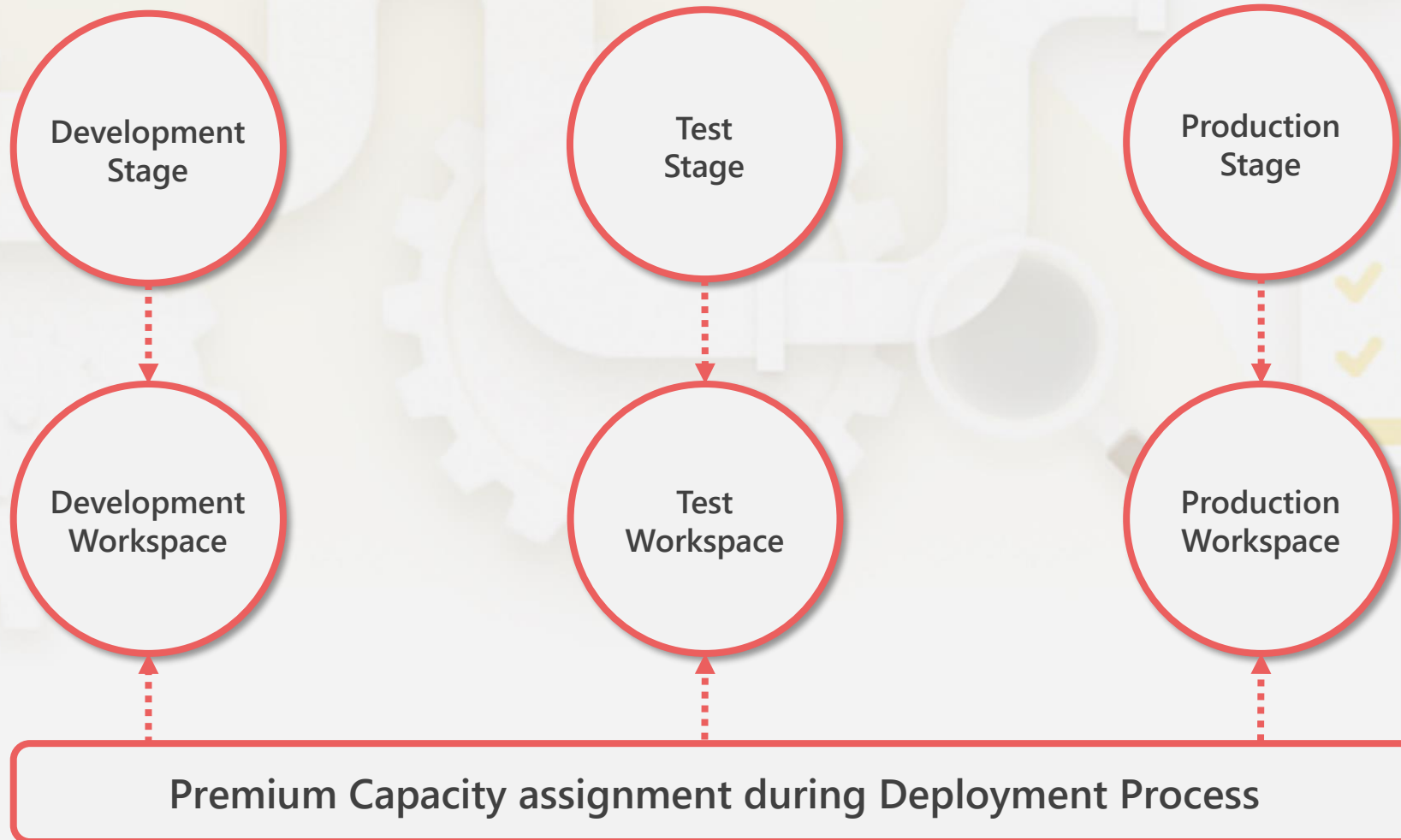
Supported Artifacts:

- Datasets
- Reports
- Dashboards

Deployment Pipelines Workspace Assignment

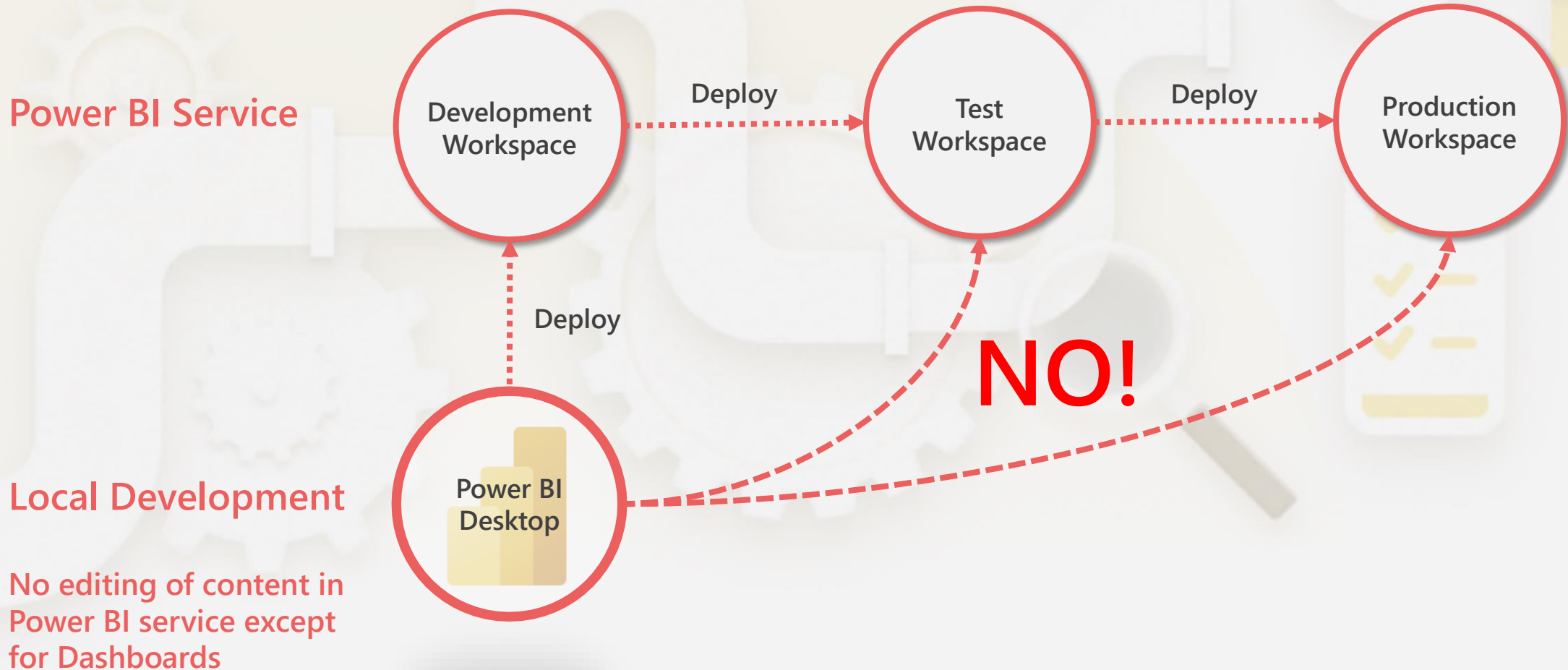
Each Stage of the Deployment Pipeline is assigned to a single Workspace.

Workspaces can only belong to a single Pipeline.



Power BI Deployment Pipelines Deployment

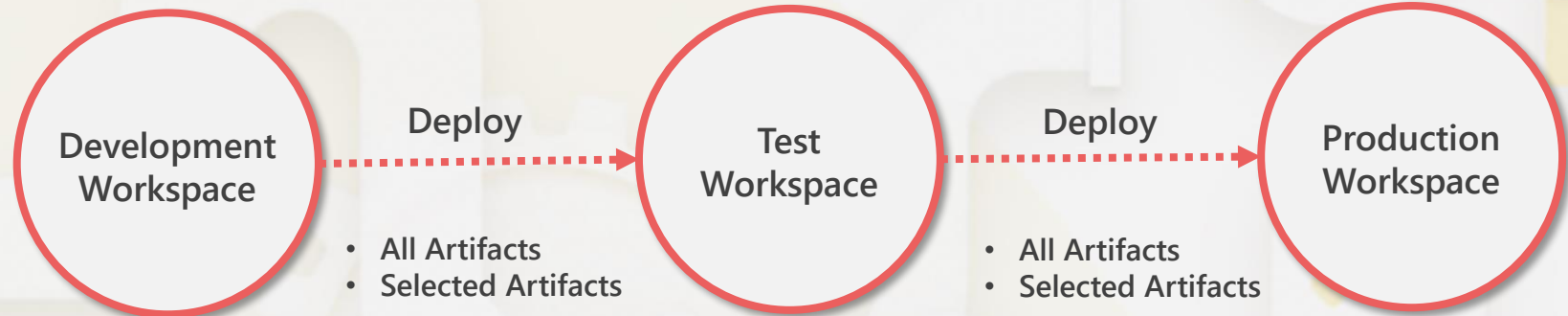
There are 2 deployment directions to consider:



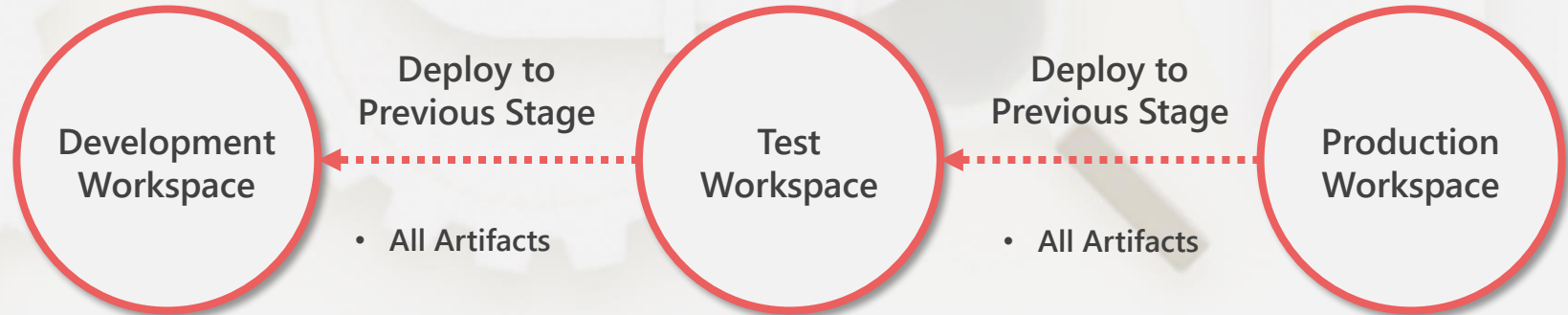
Power BI Deployment Pipelines Deployment

There are 2 deployment directions to consider:

Forward



Backward



Once Only, then reverts to Forward

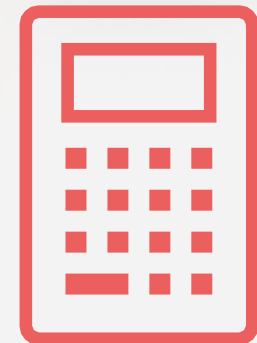
Licensing Requirements

Power BI Deployment Pipelines is a **Premium** feature.

- **Power BI Premium P SKU** - ~£3,500 / \$5000 for a P1 (8 V-Cores, 25GB RAM). P1-P5.
- **Power BI EM SKU** - \$625 for an EM1 (1 V-Core, 3GB RAM) capacity. EM1 – EM3.
- **Premium Per User** – Premium features licenced on a per user basis. Costs unknown.
- **Power BI Embedded** – Pay As You Go Hourly pricing. Pay for what you use. A1 – A6.

User Licencing:

- **Power BI Pro Licence** for each user
- **Premium Per User Licence** for each user



Power BI Embedded

- Power BI Embedded is an Azure (A) SKU product that enables an organisation to embed analytics into custom solutions. It also includes Premium features.
- Organisations that do not have Power BI Premium can leveraging Power BI Embedded capacity in Azure to use Deployment Pipelines feature.
- An organisation can create an Embedded SKU, assign a Workspace, create a pipeline to deploy to development, test and production workspaces, then remove/pause the Embedded service once the deployment has succeeded.
- The Embedded SKU offers pay-as-you-go hourly pricing:

SKU	Virtual Cores	Memory	Price Per Hour
A1	1	3 GB RAM	€0.8502 - €1.3814
A2	2	5 GB RAM	€1.6935 - €2.7517
A3	4	10 GB RAM	€3.3937 - €5.5144
A4	8	25 GB RAM	€6.7941 - €11.0405
A5	16	50 GB RAM	€13.5949 - €22.0920
A6	32	100 GB RAM	€27.1970 - €44.1949

* Basics Tags Review + Create

PROJECT DETAILS
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ Microsoft Partner Network

Resource group * ⓘ dhrdataint
[Create new](#)

RESOURCE DETAILS

Resource name * ⓘ dhpember ✓

Location * ⓘ UK South

Size * ⓘ **A1**
1 v-core, Up to 3 GB Cache
[Change size](#)

Power BI capacity administrator * ⓘ andycutler@datahai.co.uk
[Select](#)

Home >

Power BI Embedded ✎

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+ Add ⚙️ Manage view Refresh ↓ Export to CSV 🔗 Open query 🏷️ Assign tags ❤️ Feedback ↺ Leave preview

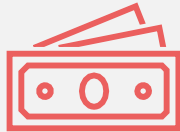
Filter by name... Subscription == all Resource group == all × Location == all × Add filter

Showing 1 to 1 of 1 records. No grouping List view

<input type="checkbox"/>	Name ↑↓	Status ↑↓	SKU ↑↓	Location ↑↓	Subscription ↑↓	Resource group ↑↓
<input type="checkbox"/>	dhpbumnichdemo2	Active	A1	UK South	Microsoft Partner Net...	dhrgan

Considerations

Power BI Embedded costs money to run



Power BI Embedded is a separate service within Azure



No Native Rollback Process due to no Version Control



Pay As You Go Pricing so you can manage costs



Power BI Embedded is a flexible method of enabling Deployment Pipelines



Good entry point into Premium capabilities without an upfront Premium purchase



Permissions

There are 2 Permissions requirements that are managed separately:

Pipeline Permissions

A Power BI Pro user or Premium Per User can access and create a Deployment Pipeline if they are an **Admin** of an existing workspace.

User can add other users to the Deployment Pipeline permissions to enable access.



Workspace Permissions

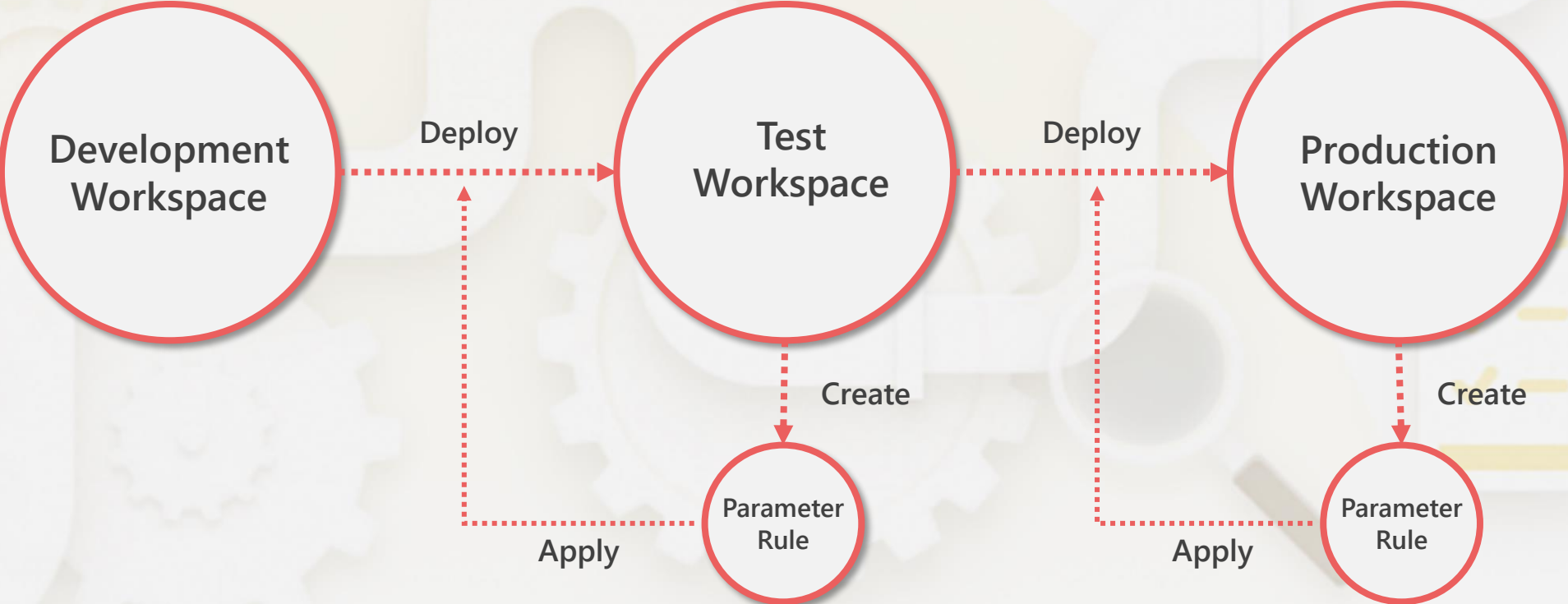
Add Workspace to Premium Capacity

- **Capacity Admin** to add Workspace to a Premium capacity

To deploy:

- **Member** or **Admin** of source workspace if deploying to a new workspace
- **Member** or **Admin** of source and destination workspace if deploying to an existing workspace.

Using Parameter Rules



References

- <https://docs.microsoft.com/en-us/power-bi/create-reports/deployment-pipelines-overview>
- <https://docs.microsoft.com/en-us/power-bi/create-reports/deployment-pipelines-process>
- <https://docs.microsoft.com/en-us/power-bi/create-reports/deployment-pipelines-best-practices>
- <https://docs.microsoft.com/en-us/power-bi/create-reports/deployment-pipelines-get-started>
- <https://docs.microsoft.com/en-us/power-bi/create-reports/deployment-pipelines-troubleshooting>
- <https://docs.microsoft.com/en-us/power-bi/developer/embedded/azure-pbie-what-is-power-bi-embedded>
- <https://datahai.co.uk/power-bi/how-to-create-power-bi-deployment-pipelines-with-power-bi-embedded/>