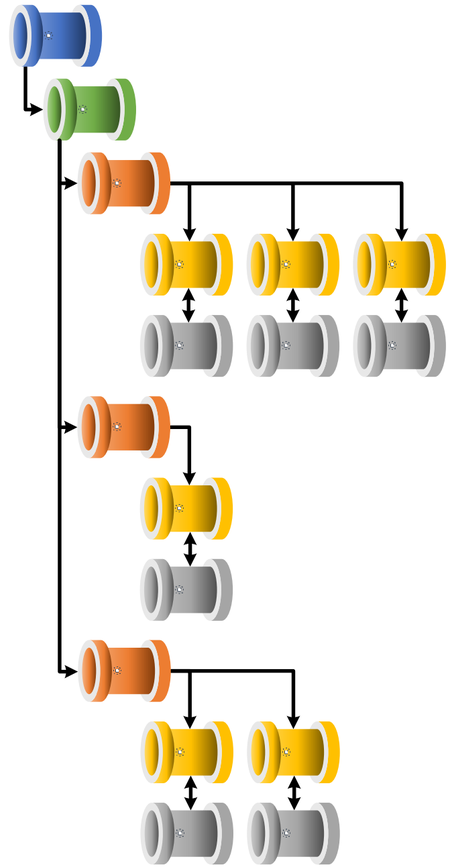
# Azure Data Integration Pipelines

## Fundamentals to Level 300




Paul Andrew | Technical Architect in Azure CoE

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Mr Paul Andrew
Consulting Ltd

@MrPaulAndrew In/MrPaulAndrew MrPaulAndrew.com c/MrPaulAndrew

# About Me

Paul Andrew is a Microsoft Data Platform MVP and Technical Architect within the Avanade Centre of Excellence team, with over 15 years' experience in the industry, working as an engineer and solution architect. Day-to-day Paul is accountable for delivering enterprise grade data insights to international organisations where he wields the complete stack of Azure Data Platform resources. Paul leads delivery teams around the globe implementing the latest design patterns, creating architectural innovations, and defining best practice to ensure technical excellence for customers across a wide variety of industry verticals. Paul is passionate about technology, which is demonstrated in the community, he speaks at events and shares his knowledge gained from real world experience through his blog. Paul maintains the view that his job is also his hobby and doesn't ever want to take his fingers off the developer's keyboard while maintaining a growth mindset.

Husband, father of three, Star Wars and Lego fan. Run's, swims, plays darts. Enjoys doing geeky things to support home automation and electricity generation.

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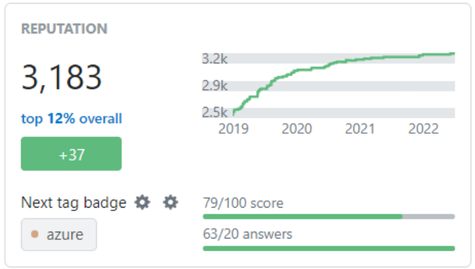
DATA RELAY

mrpaulandrew.com/about

Summary

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- Retail
- Gaming
- Manufacturing
- Software Development
- Healthcare

Technical Leadership
Data Platform Architecture
Solution Delivery Lead
Data & Test Engineer
Data Strategy
Release Management

RODE

# About You

## What do you want to get out of this session?

menti.com

**2289 2123**

# Azure Data Integration Pipelines

## Full Day Workshop – Fundamentals to Level 300

- **Module 1:** Pipeline Fundamentals
  - The History of Azure Orchestration
  - Synapse Analytics vs Data Factory
  - Integration Components
  - Common Activities
  - Execution Dependencies
- **Module 2:** Integration Runtime Design Patterns
  - Compute Types
    - Azure
    - Hosted
    - SSIS
  - Patterns & Configuration
- **Module 3:** Data Transformation
  - Data Flows
  - Power Query Injection
  - Spark Configuration
  - Use Cases

<< BREAK

10:30 – 10:45

- **Module 4:** Dynamic Pipelines
  - Expressions & Interpolation
  - Simple Metadata Driven Execution
  - Dynamic Content Chains
  - Reference Names
- **Module 5:** Pipeline Extensibility
  - Azure Batch Service
  - Pipeline Custom Activities
  - Azure Management API
  - Azure Functions
- **Labs**
  - Creating Resources
  - Building A Copy Pipeline
  - Reusable Code
  - Creating a Data Flow
  - Publish & Monitoring
  - Exploring Pipelines with Synapse

<< LUNCH

13:00 – 13:45

- **Module 6:** Execution Parallelism
  - Control Flow Scale Out
  - Concurrency Limitations
  - Internal vs External Activities
  - Orchestration Framework - procfwk.com
- **Module 7:** VNet Integration
  - Private Endpoints
  - Managed VNet's
  - Firewall Bypass
- **Module 8:** Security
  - Service Principals
  - Managed Identities
  - Azure Key Vault Integration
  - Customer Managed Keys
  - Pipeline Access & Permissions

<< BREAK

15:00 – 15:15

- **Module 9:** Monitoring & Alerting
  - Studio Monitoring
  - Log Analytics & Kusto Queries
  - Operational Dashboards
  - Advanced Alerting
- **Module 10:** Solution Testing
  - Development Time Validation
  - Test Coverage
  - NUnit Tests
- **Module 11:** CI/CD
  - Source Control vs Developer UI
  - Basic ARM Template Deployments
  - Advanced Deployment Patterns
- **Module 12:** Final Thoughts
  - Costs & Conclusions
  - Best Practices
- **Module 13:** Bonus
  - An Architects Recap

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*Breadth*

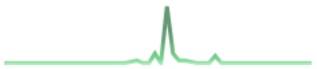
*Depth*

# https://github.com/mrpaulandrewltd

**Azure-Data-Integration-Pipeline-Training**

Public

Training workshop content on Azure Data Factory and Azure Synapse Analytics Data Integration Pipelines



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