

Microsoft Data Integration Pipelines

The Fundamentals
to Level 300



Paul Andrew
Technical Architect | Director



Cloud Formations

Paul Andrew



Co-Founder & Director
Chief Technology Officer



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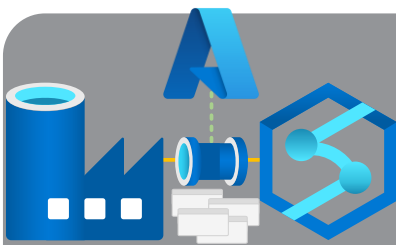


In/mrpaulandrew

- Mentor | Author
- Speaker | Podcast Host
- Event Organiser

SQL Server 2000





Data Integration Pipelines



Fundamentals to Level 300



Module 1: Pipeline Fundamentals

- The History of Azure Orchestration
- Synapse Analytics vs Data Factory vs Microsoft Fabric
- 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

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

- Create Azure resources
- Build a copy pipeline
- Create a reusable pipeline
- Author a data flow
- Monitor factory activity
- Explore Synapse pipelines
- Explore Fabric pipelines
- Mini-project

Module 6: Execution Parallelism

- Control Flow Scale Out
- Concurrency Limitations
- Internal vs External Activities
- Orchestration Frameworks

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

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

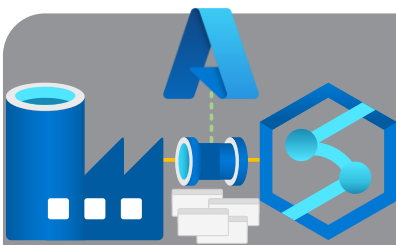
Module 12: Final Thoughts

- Costs & Conclusions
- Best Practices

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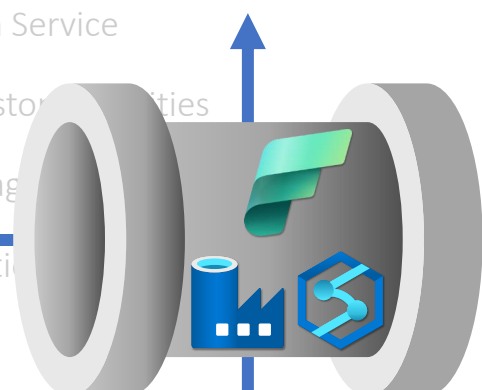
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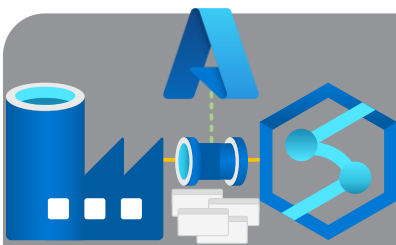
Breadth

Depth



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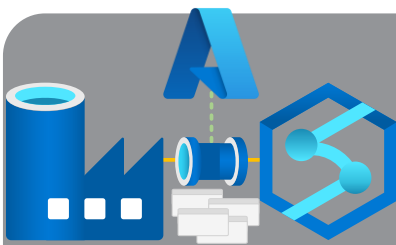
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Development

Production

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<https://github.com/mrpaulandrewltd>



Microsoft-Data-Integration-Pipeline-Training

Public

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

● TSQL

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