

Proudly presents...

Integration Pipelines

Paul Andrew



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/mrpaulandrew



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

SQL Server 2000



How Many Monitors Do You Have?

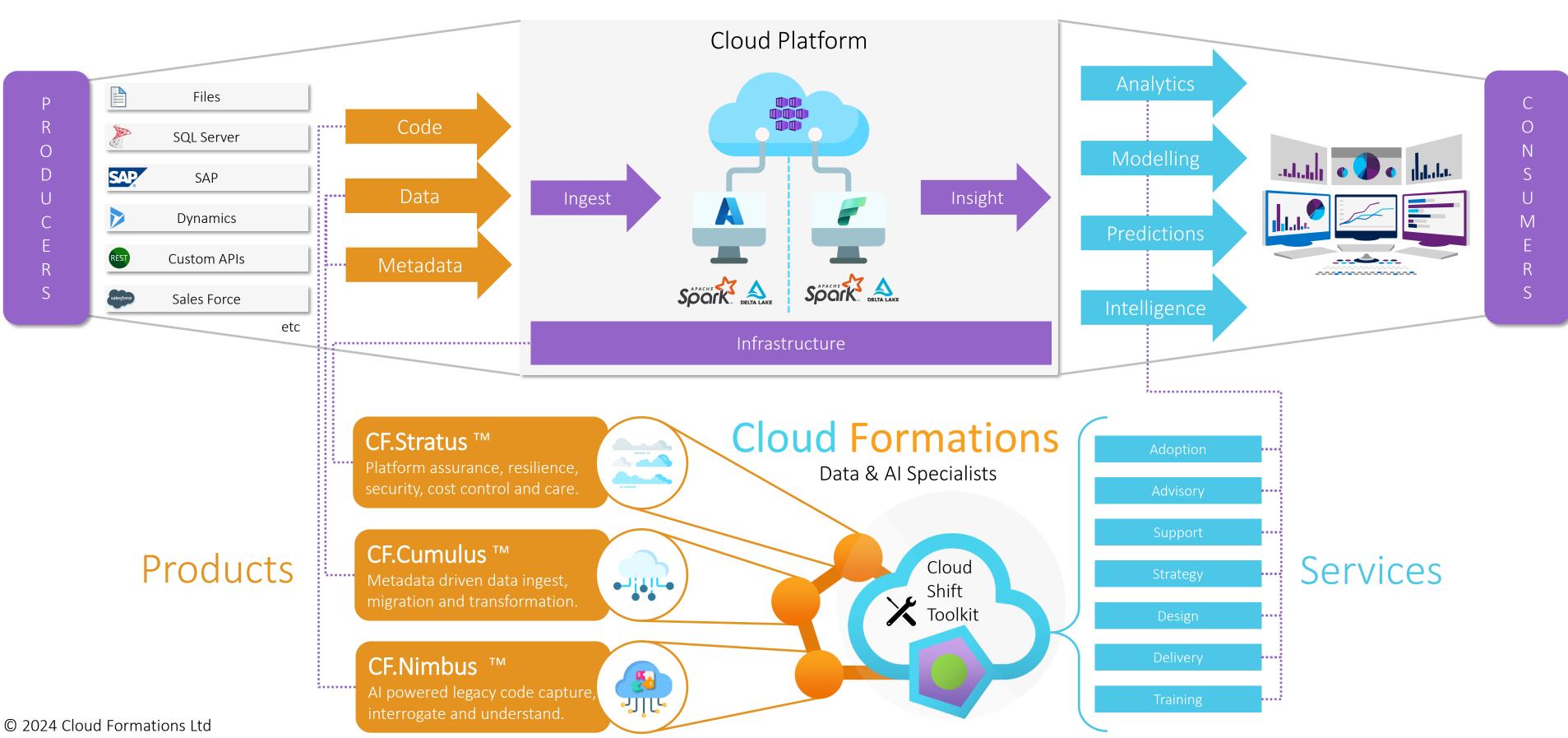




Our Cloud Shift Toolkit — A Typical Data Journey Cloud Formations



Couple our AI driven innovative **Products** with our industry leading **Services** to get your data moving, delivering use cases and unlocking business value as part of our **Toolkit**.



About You



With regards to data technologies:

- 000 Role
- © Strengths
- **Weaknesses**
- **M** Aspirations

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Fundamentals to Level 300

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Module 1: Pipeline Fundamentals								
		An Evolu	tion of Orchestration Services					
		Core Components						
		Common Activities						
		Execution Dependencies						
	Module 2: Integration Runtimes & Gateways							
		D Orchestration Compute						
			Azure					
			Hosted					

Using Gateways vs IRs

M Airflow

SSIS SSIS

- Module 3: Data Transformation
 - Data Flows
 - DD 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
 - DD Pipeline Custom Activities
 - DD Azure Management API
 - D Functions
- D Labs
 - DD Create Azure resources
- Monitor factory activity
- Build a copy pipeline
- Explore Synapse pipelines
- Create a reusable pipeline
- **Solution** Explore Fabric pipelines
- Author a data flow
- Mini-project
- Module 6: Execution Parallelism
 - Control Flow Scale Out

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- Concurrency Limits
- Internal vs External Activities
- Metadata Driven Frameworks
- Module 7: VNet Integration
 - DD Private Endpoints
 - Managed VNet's
 - 🕮 Firewall Bypass

- Module 8: Security
 - Service Principals
 - Managed Identities
 - **M** Key Vault Integration & Return Values
 - Customer Managed Keys
 - Pipeline Access & Permissions
- Module 9: Monitoring & Alerting
 - Studio Monitoring
 - Log Analytics & Kusto Queries
 - D Operational Dashboards
 - Alerting Options
- Module 10: Solution Testing
 - Development Time Validation
 - Test Coverage
 - NUnit Tests
- **Module 11**: <u>CI/CD</u>
 - Source Control vs Developer UI
 - Basic ARM Template Deployments
 - M Advanced Deployment Patterns
- Module 12: Final Thoughts
 - Costs & Conclusions
 - DD Best Practices

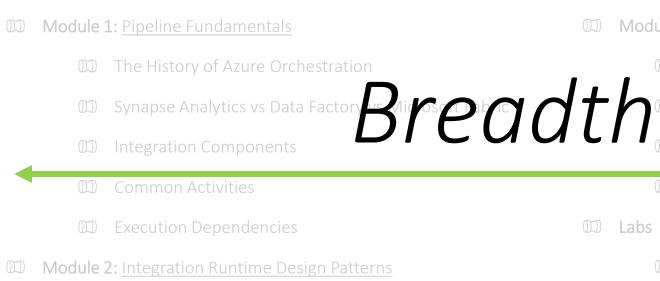
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Fundamentals to Level 300



- - - OD Azure
 - DD Patterns & Configuration
- Module 3: Data Transformation

 - DD Power Query Injection
 - Spark Configuration
- Module 4: Dynamic Pipelines

 - Simple Metadata Driven Execution
 - DD Dynamic Content Chains
 - (III) Reference Names

Module 5: Pipeline Extensibility Azure Batch Service

- Azure Functi
- DD Labs
 - Create Azure resources

 - DD Author a data flow
- Module 6: Execution Parallelism
 - Control Flow Scale Out

 - OD Orchestration Framework Procfwk.com
- Module 7: VNet Integration
 - DD Private Endpoints
 - Managed VNet's

Monitor factory activity

- Explore Synapse pipelines
- Explore Fabric pipelines

Depth

Mini-project

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- Development Time Validation
- Test Coverage
- Module 11: CI/CD
 - Source Control vs Developer UI
 - Basic ARM Template Deployments
 - Advanced Deployment Patterns
- Module 12: Final Thoughts

 - DD Best Practices

Module 8: Security

Managed Identities

Azure Key Vault Integration

Customer Managed Keys

Pipeline Access & Permissions

DD Studio Monitoring

Module 9: Monitoring & Alerting

- Log Analytics & Kusto Queries
- DD Advanced Alerting
- Module 10: Solution Testing

 - M NUnit Tests

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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
 - OD Azure
 - M Hosted
 - ULU SSIS
 - DD Patterns & Configuration
- Module 3: Data Transformation
 - M Data Flows
 - D Power Query Injection
 - Spark Configuration
 - Use Cases

- << BREAK
- Module 4: <u>Dynamic Pipelines</u>
 - Expressions & Interpolation
 - Simple Metadata Driven Execution
 - D Dynamic Content Change
 - Reference Names

- Module 5: Pipeline Extensibility
 - Azure Batch Service
 - Pipeline Custom Activities
 - Azure Management API
 - Azure Functions
- ① Labs
 - Create Azure resources
 - M Build a copy pipeline
 - Create a reusable pi eline
 - DD Author a data flow
- Module 6: Execution Paral elism
 - Control Flow Lale Out
 - (III) Concurrence Limitations
 - Internal S External Activities
 - OD Orchestration Framework
- Module 7: Net Integration
- Development

Monitor factory activity

Explore Synapse pipelines

Explore Fabric pipelines

Mini-project

- Private Endpoints
- Managed VNet's
- DD Firewall Bypass

- Module 8: Security
 - Service Principals
 - Managed Identitie
 - Azuk Key Vault Integration
 - Custom Managed Keys
 - DD Pipeline Access & Permissions
- << BRFAK
- Module 9: Monitoring & Lerting
 - DD Studio Monitoring
 - DD Log Analytics & Kusto Queries
 - OD Operational Dashboards
 - DD Advanced Alerting
- Module 10: Solution Testing
 - Development Time Validation
 - Test Coverage
 - NUnit Tests
- Module 11: CI/CD Production
 - - Source Control vs Developer UI
 - Basic ARM Template Deployments
 - Advanced Deployment Patterns
- Module 12: Final Thoughts
 - Costs & Conclusion:
 - DD Best Practices

11:15 to 11:40



Fundamentals to Level 300

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			Hosted				
			SSIS				
			Airflow				

Using Gateways vs IRs Module 3: Data Transformation Data Flows Power Query Injection Spark Configuration Use Cases << BREAK Module 4: <u>Dynamic Pipelines</u>

Expressions & Interpolation

Dynamic Content Chains

Reference Names

Simple Metadata Driven Execution

011	Module 5: Pipeline Extensibility							
		Azure Batch Service						
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		Create a reusable pipeline		Explore Fabric pipelines				
		Author a data flow		Mini-project				
	Module	6: Execution Parallelism		<< LUNCH				
		Control Flow Scale Out		13:30 to 14				
		Concurrency Limits						
		Internal vs External Activities						
		Metadata Driven Frameworks						
	Module	7: <u>VNet Integration</u>						
		Private Endpoints						
		Managed VNet's						
		Firewall Bypass						

13:30 to 14:15

Module 8: Security Service Principals Managed Identities Key Vault Integration & Return Values Customer Managed Keys Pipeline Access & Permissions << BREAK Module 9: Monitoring & Alerting 15:35 to 16:00 DD Studio Monitoring D Log Analytics & Kusto Queries Operational Dashboards Alerting Options Module 10: Solution Testing Development Time Validation Test Coverage M 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