

5.8. Logic Apps

What?

- Business process/workflow
 - sequence of tasks that produce a specific outcome
 - can create approval based workflows
- Automate business process execution
 - join disparate services to implement a workflow

When?

- Decision criteria
 - Integration
 - multiple applications and systems to working together
 - Performance
 - Not best for low subsecond response time requirements
 - Conditionals
 - Complex logic might be easier when written in code
 - Connectors
 - Availability of REST/SOAP API interfaces to the applications

Connector

- connect to external services
 - pre built
 - REST
 - SOAP
 - custom
 - Description
 - Open API
 - URL
 - Postman
 - JSON file
 - Categories
 - Built-in
 - Managed API
 - On premise
 - Integration account
 - Enterprise
- Sharing
 - Available to everyone in the organization by default
 - same AAD
 - same subscription
 - Publish to the Marketplace
 - Certification Criteria
 - Ownership
 - Authentication
 - OAuth2, an API key, or basic authentication
 - Client certificate authentication is not supported
 - Support
 - Availability
 - Recommended
 - Nomination
 - Certification Process
 - Review
 - Publish
 - first with "Preview"
 - Support and Updates

How?

- Triggers
 - event that occurs when a specific set of conditions is satisfied
 - Types
 - Polling
 - Frequency
 - Interval
 - Push
 - Webhooks
 - Recurrence
 - schedule
 - Manual
 - invoke logic apps from other apps
 - Parameters
 - Used to configure the operation
 - Required
 - Optional
 - Return values
 - results of the operation
- Control
 - Condition
 - Groups
 - Combine conditions
 - if (p AND q) OR c
 - Boolean
 - Switch
 - Loops
 - For each
 - Condition
 - Until
 - Count
 - Timeout
 - Unconditional Branch instructions
 - Scope
 - Group of actions
 - To run actions only after another group of actions succeed or fail
- Action
 - operation that executes a task in your business process
 - Types
 - Access external services
 - Data manipulation
 - Static
 - Parameters
 - Dynamic

Workflow Definition Language

- JSON document
 - Logic Apps Designer enables you to create and debug the workflow for a Logic App graphically
- Sections
 - Triggers
 - Name
 - Type
 - Recurrence
 - HttpWebhook
 - responding to events triggered by other Azure services
 - Inputs
 - data that defined the behaviour of the trigger
 - Conditions
 - optional
 - trigger will only fire if these conditions are met
 - Actions
 - series of action items
 - Action item
 - take inputs and produce outputs, which are passed to the next action item in the workflow
 - runAfter
 - where the action runs in the actions sequence
 - Types
 - Azure Function
 - API connection
 - HTTP Response
 - Condition
 - Workflow
 - to run another logic app
 - Outputs
 - Logic Apps expressions
 - in place of any fixed value, variable, or constant
 - String/Collection/Conversion/Maths/Data & Time/Logical comparison functions
 - Types
 - Workflow functions
 - retrieving information about the data passed to a workflow action
 - JSON and XML manipulation functions, for parsing and processing JSON and XML documents
 - parameters
 - provide values for parameters at runtime
 - Can reference parameters anywhere in the workflow

Integration Service Environment (ISE)

- Isolated & dedicated environment
 - No noisy neighbours
- private and isolated instance of the Logic Apps service
 - into your Azure virtual network
- allows to deploy Logic Apps as a service on the VNET
- On premise access
 - Direct access to private resources
- How?
 - four empty subnets in the VNet that aren't delegated to any service
 - Microsoft-managed connectors that become available after you create your ISE don't automatically appear in the connector picker on the Logic App Designer. Before you can use these ISE connectors, you have to manually add and display these connectors to your ISE so that they appear in the Logic App Designer
- ISE vs ASE

Exception Handling

- Retry policies
- Customize "run after" behavior

Diagnose Errors

- Check trigger history
- Check run history
- Runtime debugging

- ARM Templates
 - add the JSON workflow definition of the workflow to the resources section
- Pre-Built Templates
 - Can start from a template
 - Update existing app with the template
- Power Automate
 - Can Export flows from Power Automate and deploy to Azure Logic Apps
 - Not all Power Automate connectors are available in Azure Logic Apps

- Enterprise Integration Pack
 - transforms different formats into a format that your organizations' systems can process
 - Electronic Data Interchange (EDI)
 - Enterprise Application Integration (EAI)
 - Store artifacts in the integration account
 - Why?
 - build B2B workflows and integrate with third-party software-as-a-service (SaaS) apps, on-premises apps, and custom apps
 - custom code for your logic apps with Azure functions

- Long running apps
 - Using Service Bus for async messaging
 - HTTP polling
 - Callbacks using webhooks
- On Premise Data Gateway
 - On-Premise Data Gateway must be installed in the local machine for Logic Apps to access them without a VPN
 - Create a On-premises Data Gateway in the portal and add connector details

- BitTalk Server 2014
- File System
- IBM DB2
- IBM Informatica
- IBM MQ
- MySQL
- Oracle Database
- PostgreSQL
- SAP
- SharePoint Server
- SOL Server
- Teradata

- Create integration account
- Add partners, agreements, and other artifacts
- Create logic app
- Link logic app to integration account
- Build logic app with artifacts