Microsoft

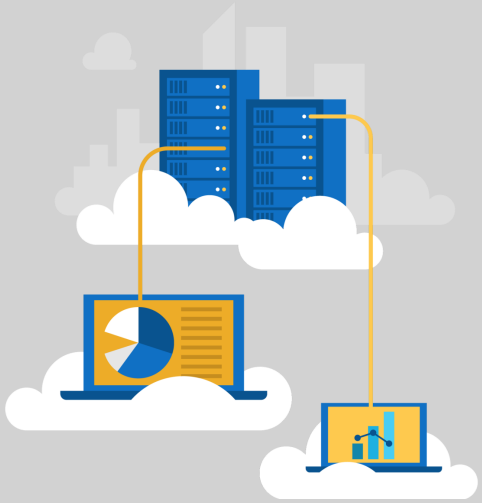
Module 09: Develop App Service Logic Apps

Microsoft

Topics

- Azure logic apps

Lesson 01: Azure logic apps



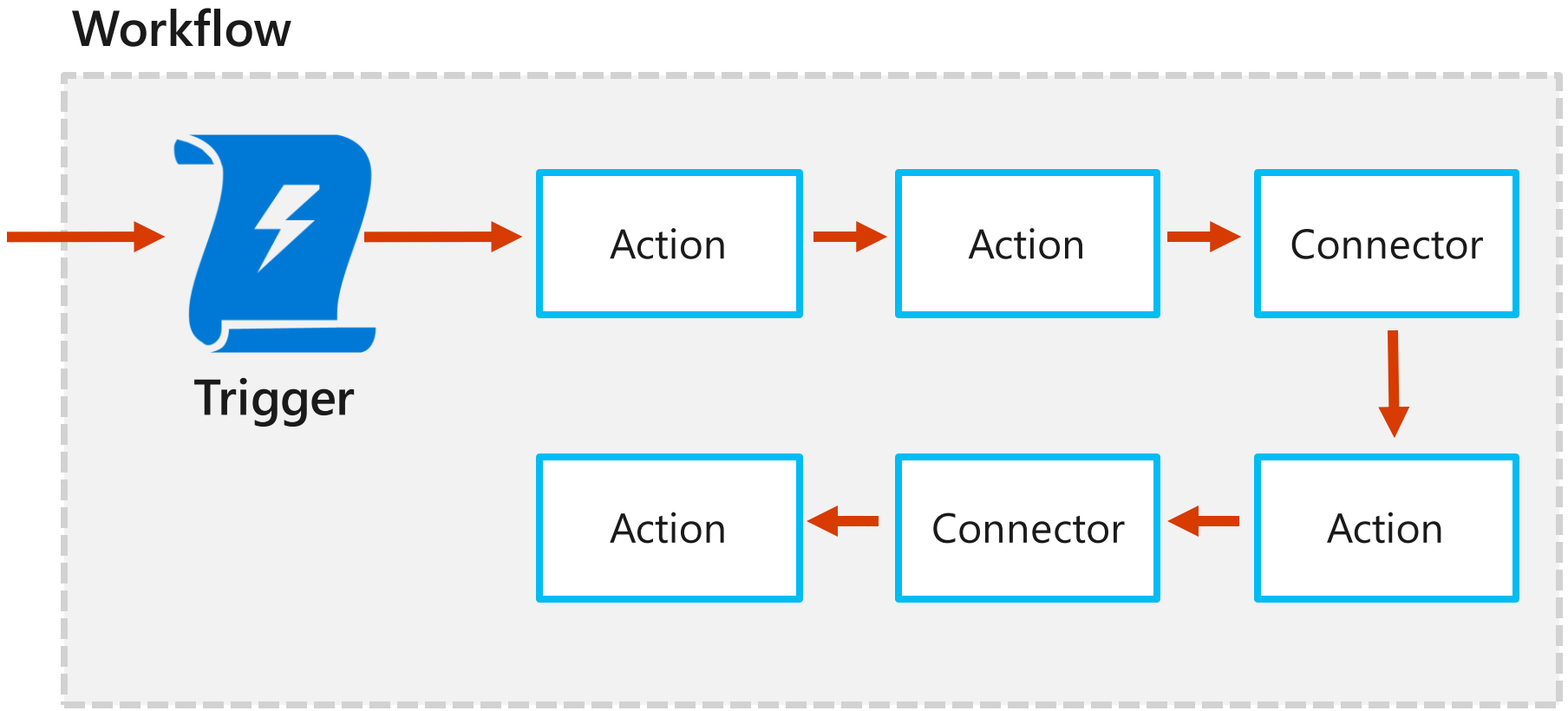
Azure logic apps

- Automation workflow solution:
  - No-code designer for rapid creation of integration solutions
  - Prebuilt templates to simplify getting started
  - Out-of-box support for popular software as a service (SaaS) and on-premises integrations
  - BizTalk APIs available to advanced integration solutions
- JSON-based workflow definition:
  - Can be deployed by using Azure Resource Manager templates

Components

- Workflow
  - The business process described as a series of steps
- Triggers
  - The step that invokes a new workflow instance
- Actions
  - A individual step in a workflow, typically a Connector or custom API app
- Connectors
  - A special case of an API app that is prebuilt and ready to integrate with a specific service or data source. For example:
    - Twitter and SQL Server Connectors

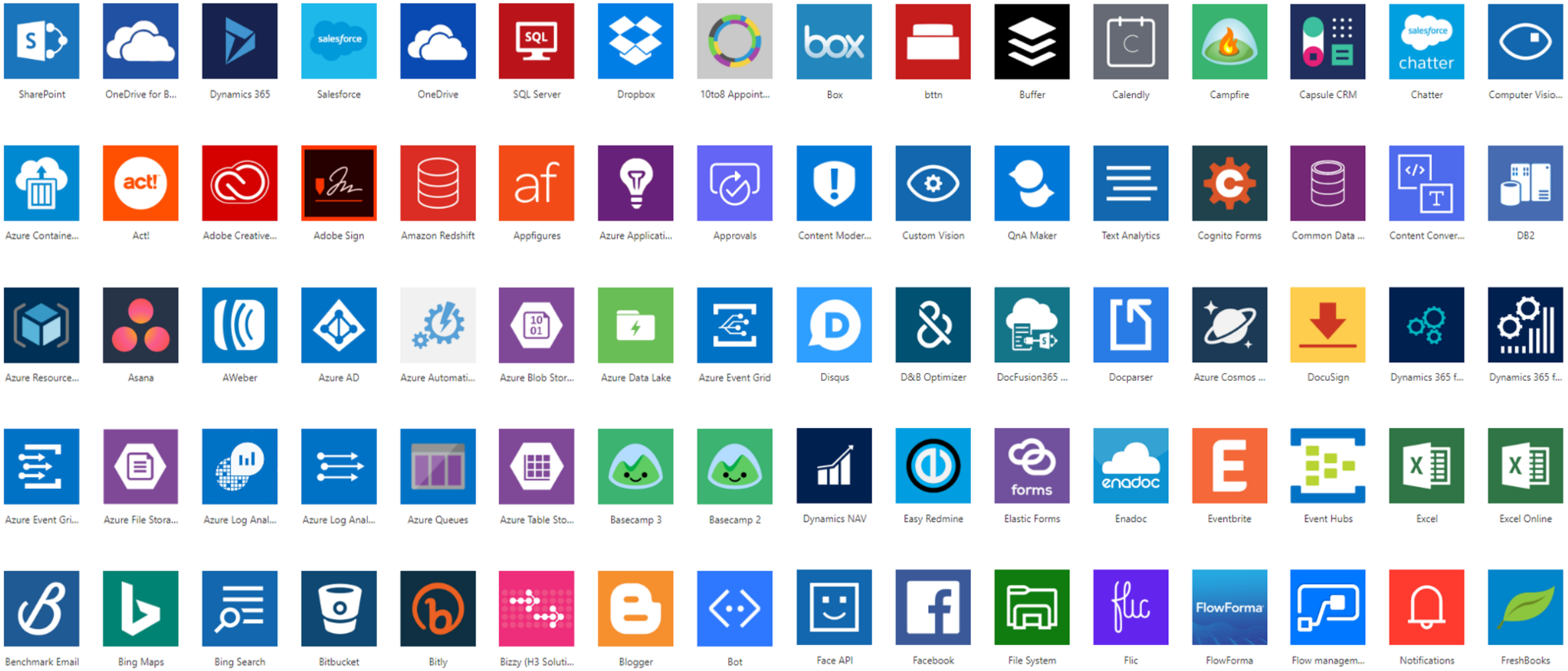
Workflow components



Connectors


Facebook Connector
Microsoft
Dropbox Connector
Microsoft
Office365 Connector
Microsoft
Salesforce Connector
Microsoft
SharePoint Server Connector
Microsoft
Twitter Connector
Microsoft
FTP Connector
Microsoft
HTTP Listener
Microsoft
Microsoft SQL Connector
Microsoft
MQ Connector
Microsoft
Informix Connector
Microsoft
Oracle Database Connector
Microsoft
BizTalk Flat File Encoder
Microsoft
BizTalk JSON Encoder
Microsoft
BizTalk XML Validator
Microsoft
BizTalk Transform Service
Microsoft
BizTalk X12
Microsoft
BizTalk XPath Extractor
Microsoft
Template deployment
Microsoft
AS2 Connector
Microsoft
Azure Service Bus Connector
Microsoft
Azure WebJobs
Microsoft
BizTalk EDIFACT
Microsoft
Azure Storage Blob Connector
Microsoft
SMTP Connector
Microsoft
Wait
Microsoft
Twilio Connector
Microsoft
SugarCRM Connector
Microsoft
Slack Connector
Microsoft
Yammer Connector
Microsoft
Box Connector
Microsoft
BizTalk Rules
Microsoft
Chatter Connector
Microsoft
DB2 Connector
Microsoft
File Connector
Microsoft
HDInsight Connector
Microsoft
OneDrive Connector
Microsoft
SFTP Connector
Microsoft
SAP Connector
Microsoft
SharePoint Online Connector
Microsoft
QuickBooks Connector
Microsoft

Connector ecosystem

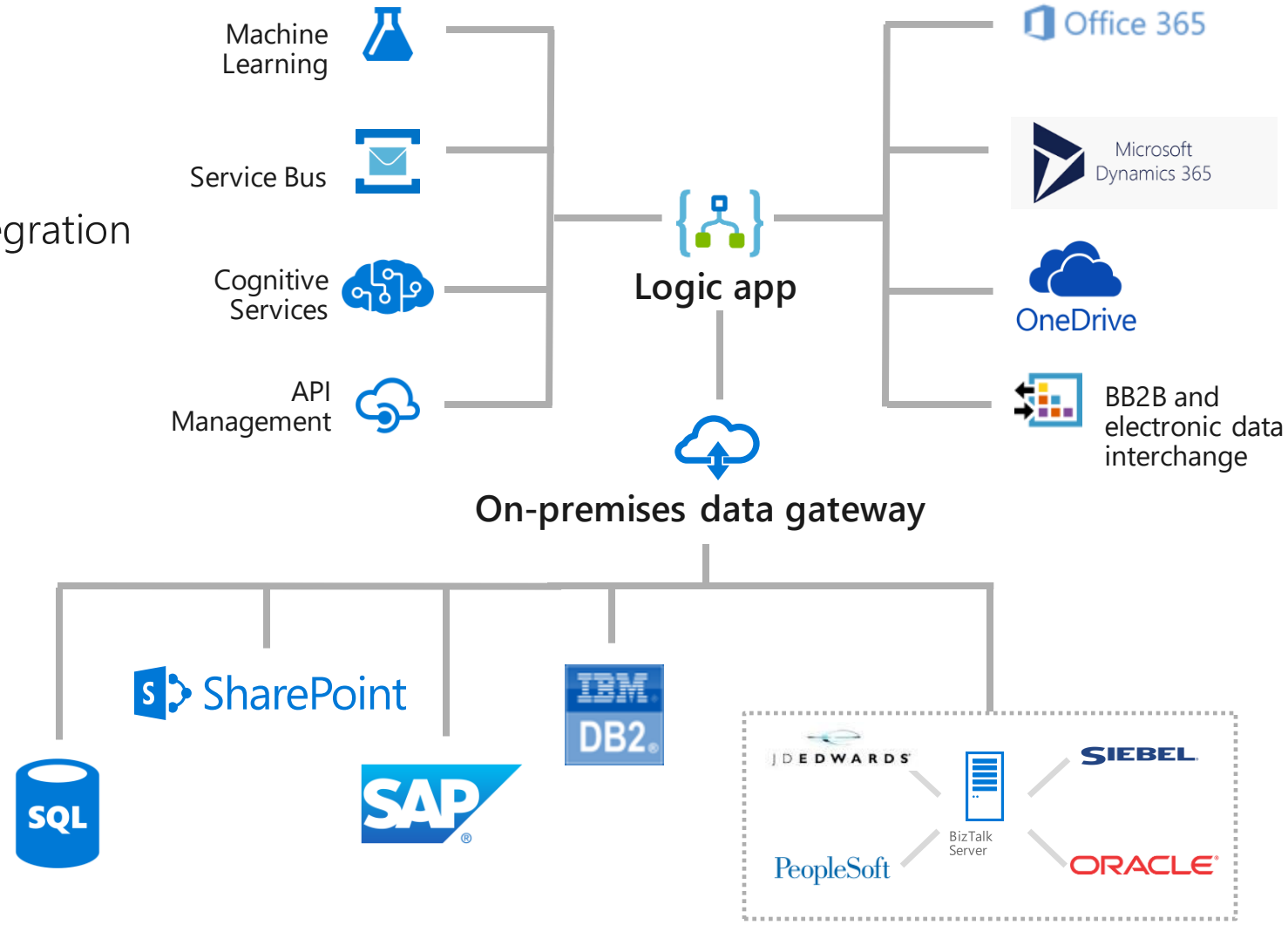


Connector components

- Connectors are composed of
  - Actions
    - Changes directed by a user
  - Triggers
    - Notify your app when events occur
- There are two types of Triggers
  - Polling triggers
  - Push triggers

Hybrid connectivity

- Connect on-premises, hybrid and cloud applications
- Run mission-critical, complex integration scenarios

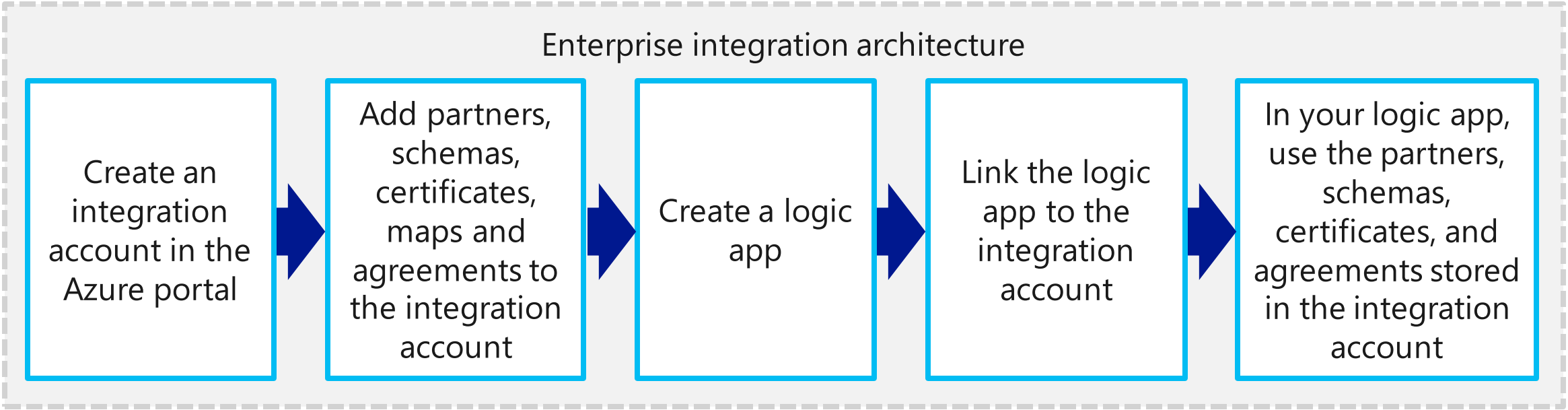


B2B scenarios and the Enterprise Integration Pack

- A special pack that transforms different formats
  - Communicate seamlessly between organizations
  - Secure messages with encryption and digital signatures
  - Based on familiar BizTalk concepts
- Why should you use Enterprise Integration?
  - With enterprise integration, you can store all your artifacts in one place—your integration account
  - You can build B2B workflows and integrate with third-party software as a service (SaaS) apps, on-premises apps, and custom apps by using the Azure logic apps engine and all its connectors
  - You can create custom code for your logic apps with Azure Functions

Enterprise integration steps

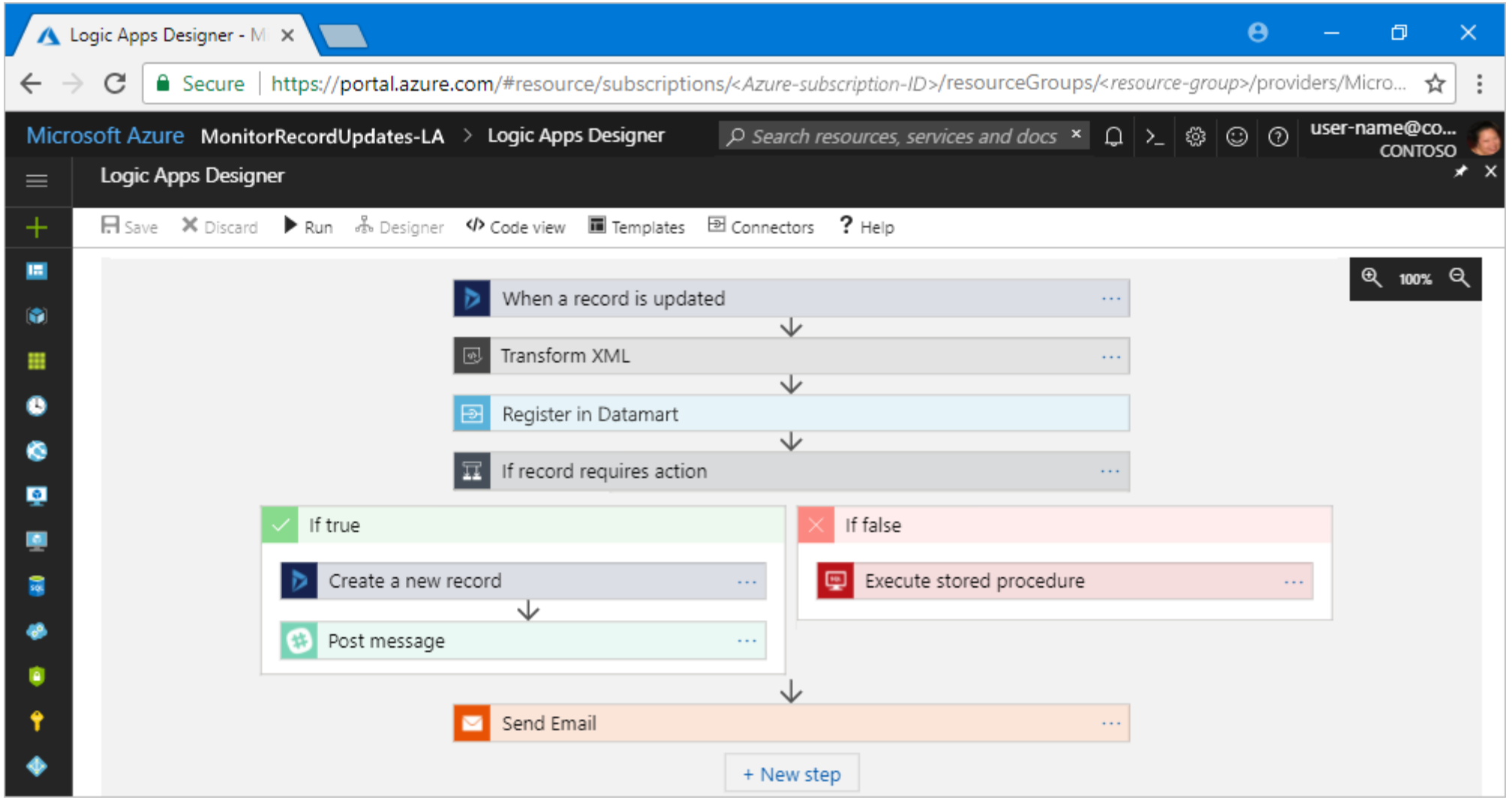
1. Create an integration account in the Azure portal
2. Add partners, schemas, certificates, maps, and agreements to the integration account
3. Create a logic app
4. Link the logic app to the integration account
5. In your logic app, use the components stored in the integration account



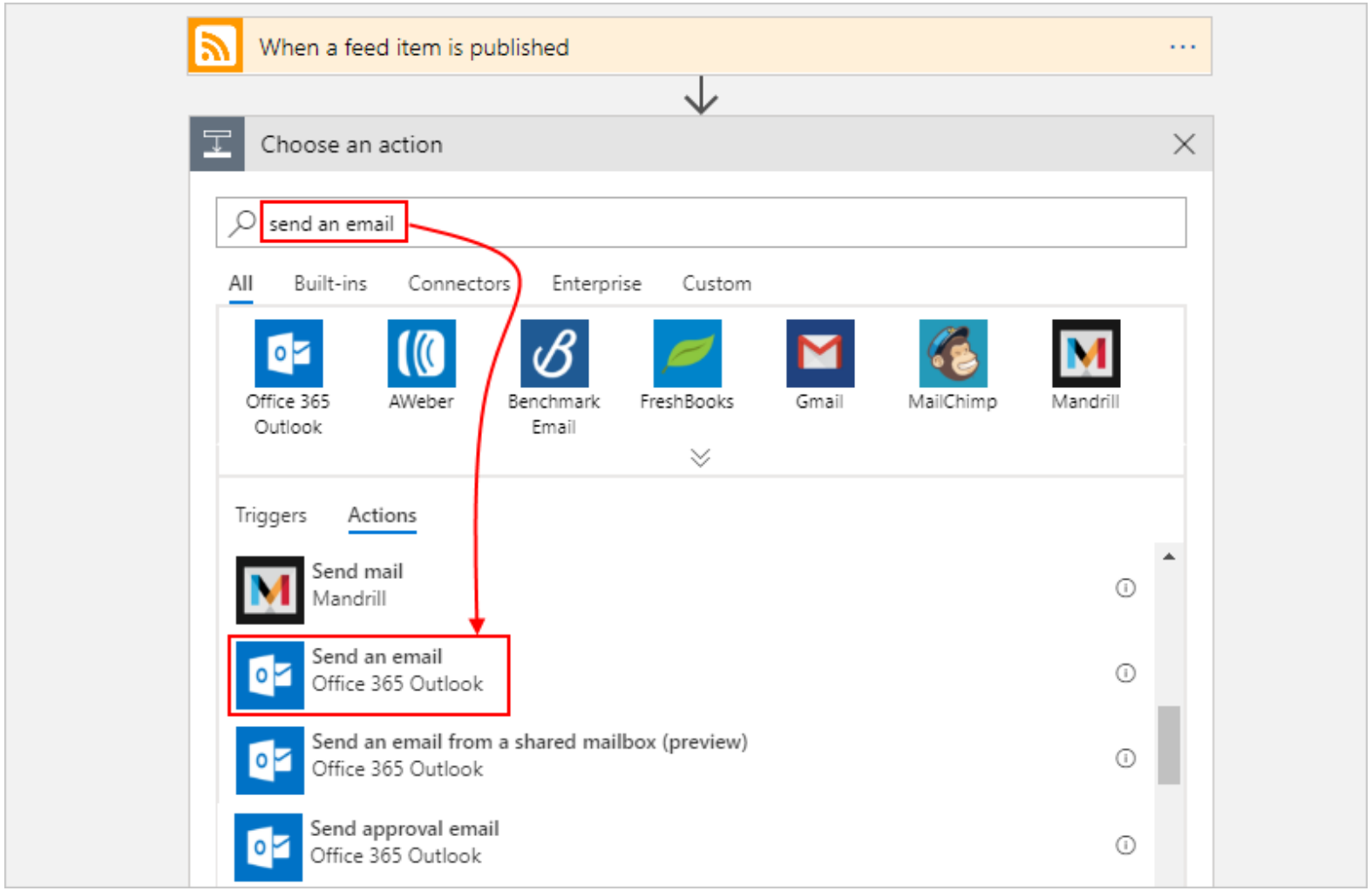
Create logic apps by using Visual Studio

- Save time and simplify complex processes with visual design tools
- Build logic apps from start to finish by using the logic apps Designer
  - Through your browser in the Azure portal
  - Through Visual Studio
- Start workflow with a trigger and actions directly in Visual Studio
- View, edit, and revise templates quickly by using existing code-based tools

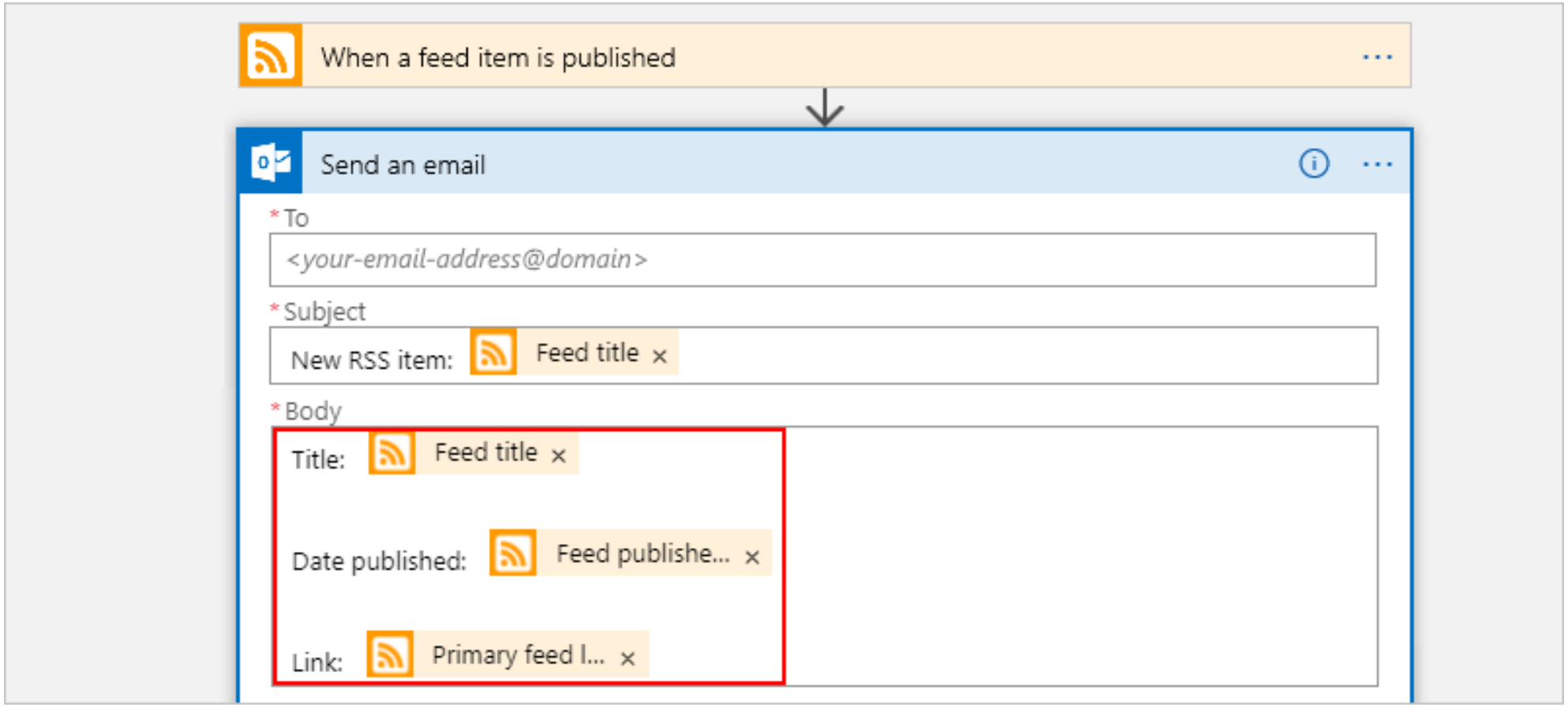
logic apps Designer



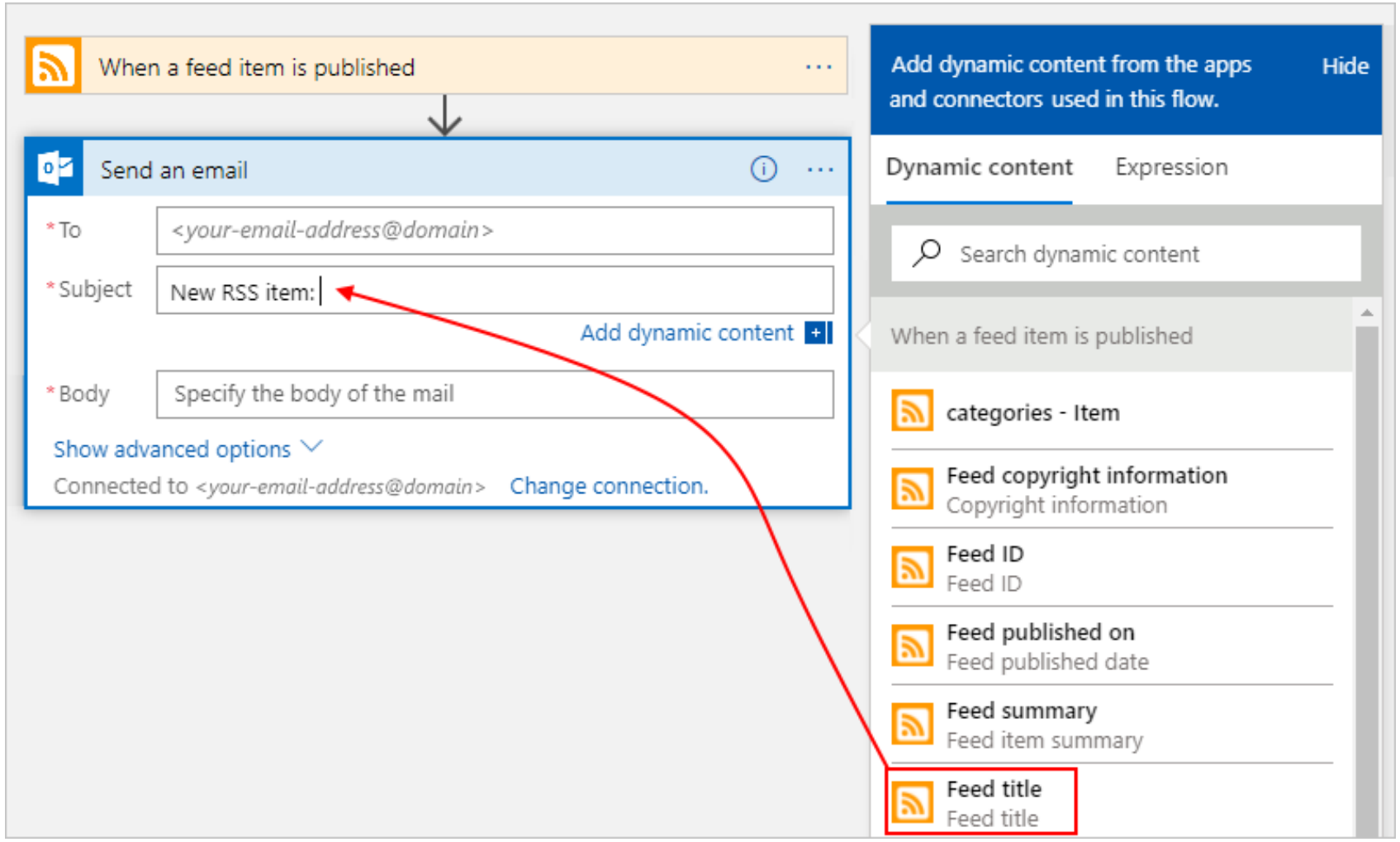
logic apps Designer – action search



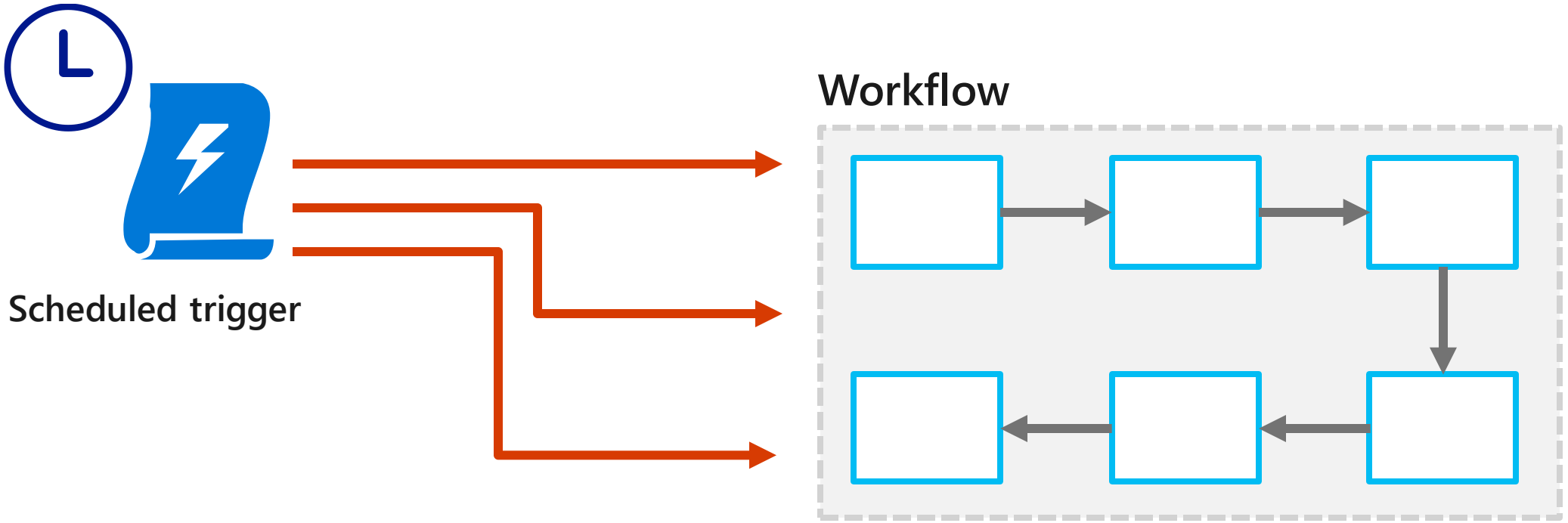
logic apps Designer – action configuration



logic apps Designer – dynamic content

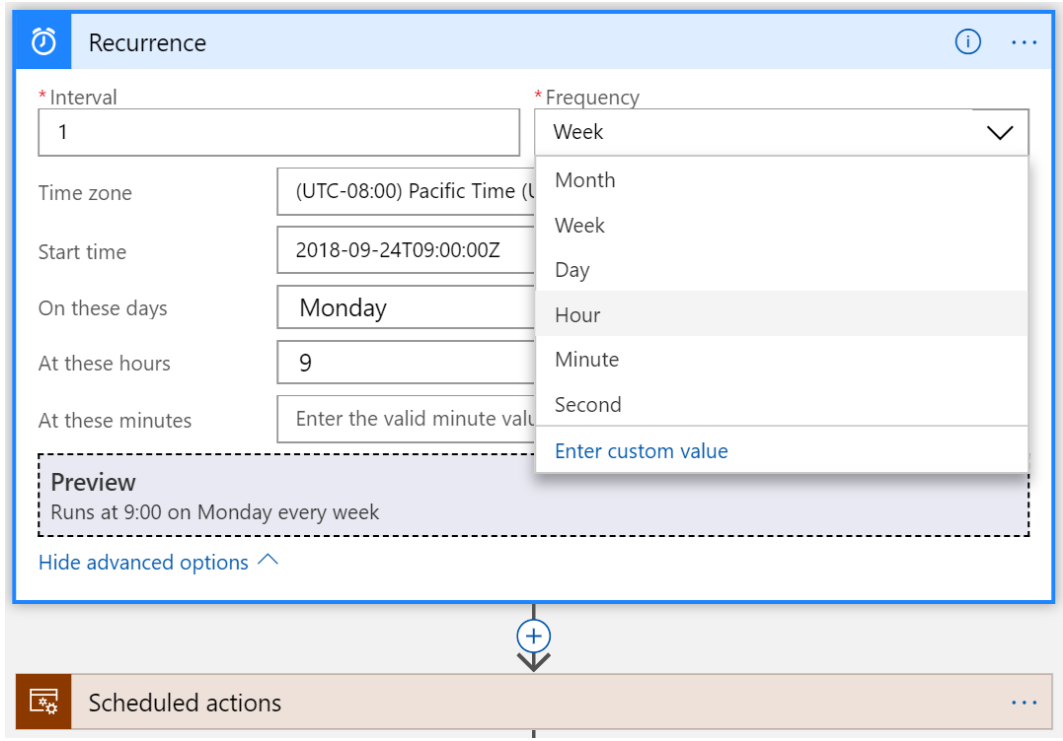


Schedule triggers



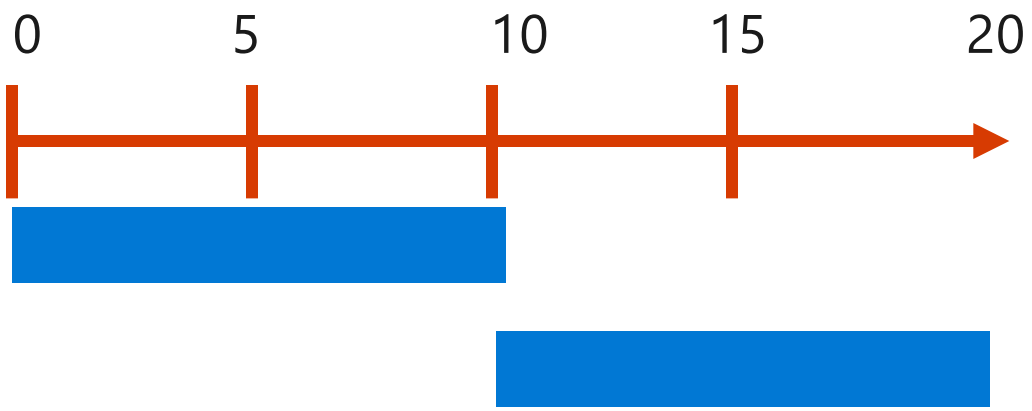
Scheduling recurrence

- Simple recurrence:
  - Interval and frequency
  - Examples: every 30 seconds, 5 minutes, or 1 month
- Start time:
  - Date and time for the first execution
  - Not earlier than the date and time for prescribed schedules
- Complex schedules:
  - Specify minutes, hours, weekdays, or days of the month of the recurrence
  - Examples: every Sunday at noon or every 15 minutes during work hours

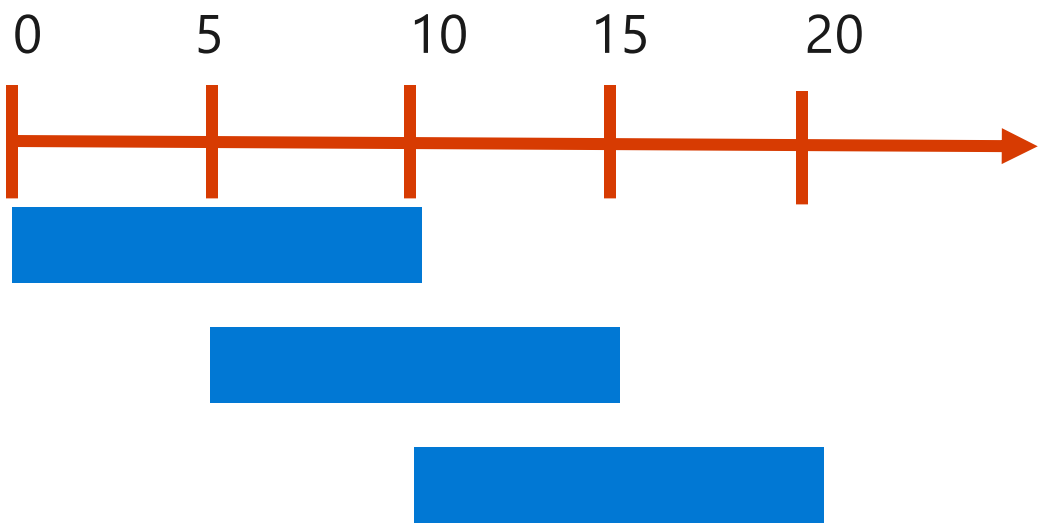


Schedule trigger types

Recurrence

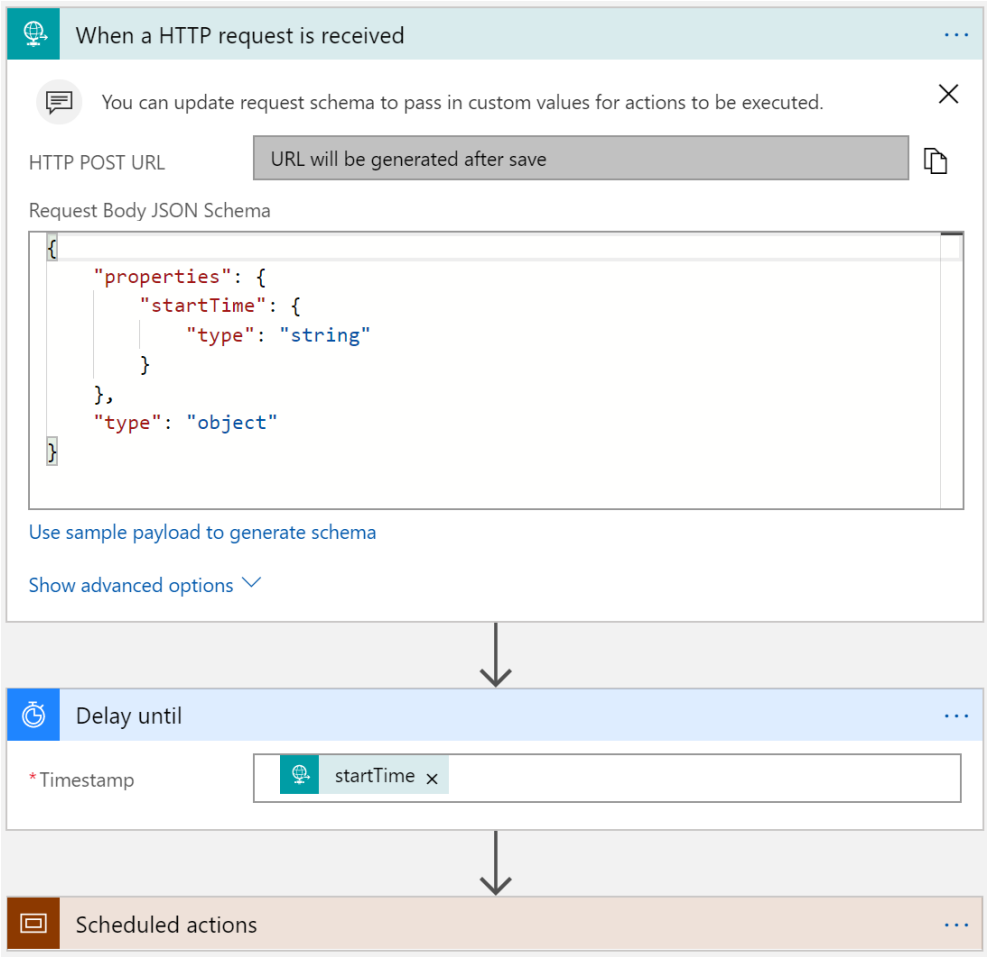


Sliding window

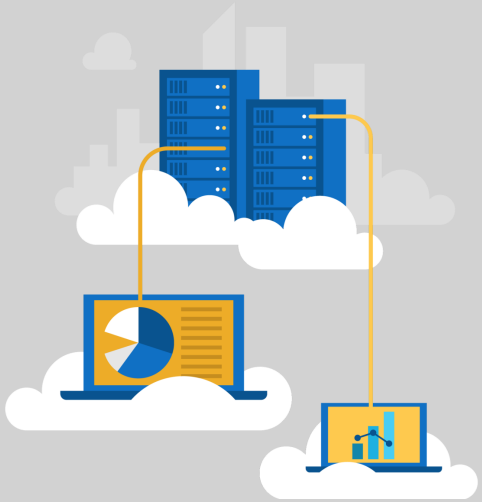


Single execution (run once)

- Delay
  - Specify the wait duration
- Delay until
  - Specify the startTime property
- Execute actions

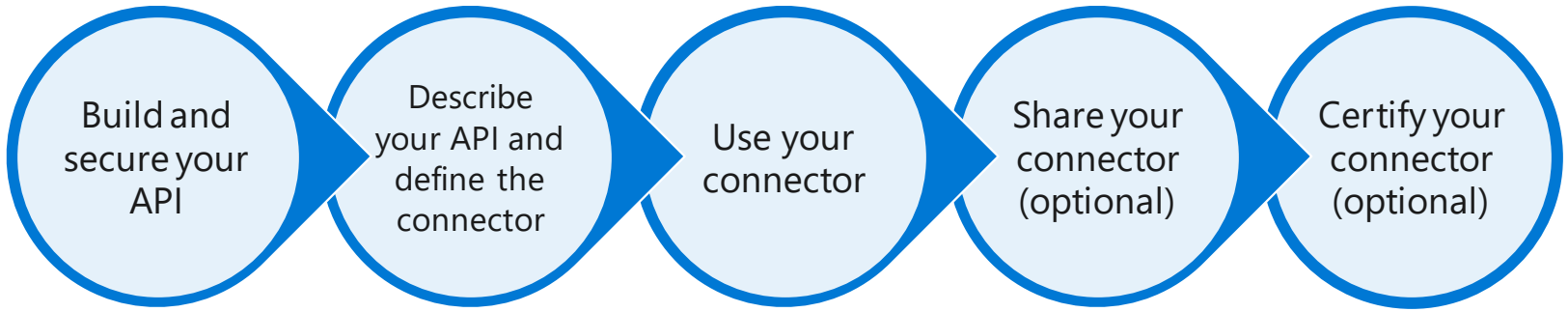


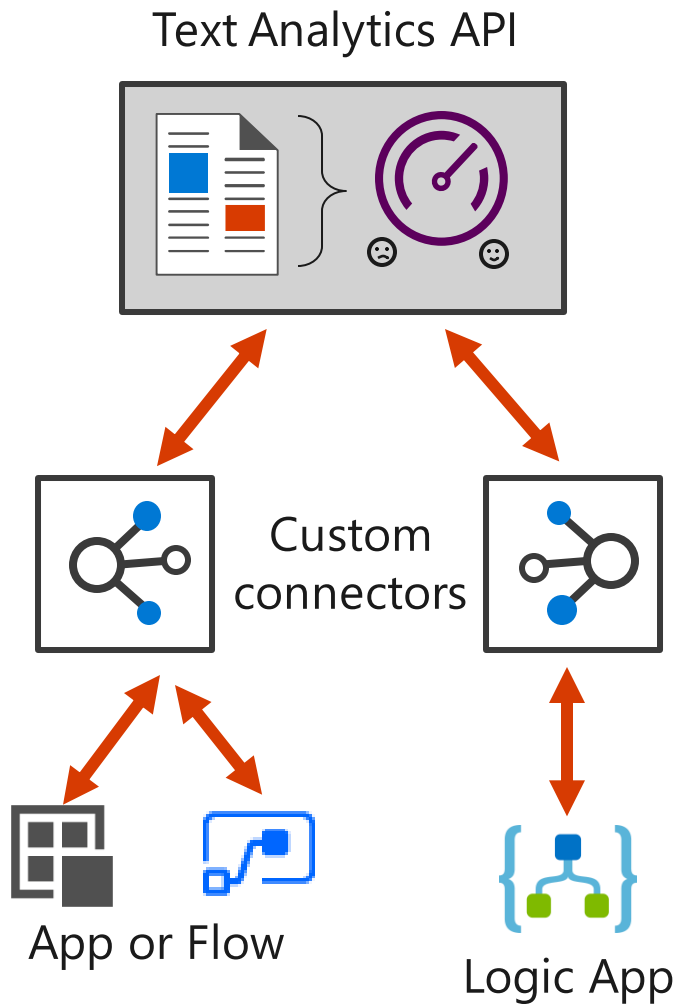
Demonstration: Creating a logic app by using the Azure portal



Custom connectors

- Some APIs, services, and systems are available by using prebuilt connectors
- Build custom connectors:
  - Function-based
  - Custom defined triggers and actions



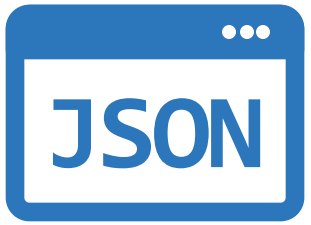


Deployment templates

- JSON template to build a logic app workflow
  - Three basic components of a logic app represented as JSON objects
    - Logic app resource
    - Workflow definition
    - Connections
- Can be extracted from existing workflows
- Templates can be deployed by using Azure Resource Manager templates

Template code

```
{
    "$schema": "http://schema.management.azure.com/providers/Microsoft.Logic/schemas/2016-06-01/workflowdefinition.json#",
    "contentVersion": "1.0.0.0",
    "parameters": {
        "testUri": {
            "type": "string",
            "defaultValue": "[parameters('testUri')]"
        }
    },
    "triggers": {
        "recurrence": {
            "type": "recurrence",
            "recurrence": {
                "frequency": "Hour",
                "interval": 1
            }
        }
    },
```



Template code (continued)

```
    "actions": {
        "http": {
            "type": "Http",
            "inputs": {
                "method": "GET",
                "uri": "@parameters('testUri')"
            },
            "runAfter": {}
        }
    },
    "outputs": {}
}
```

Create a deployment template

- Visual Studio tools for logic apps
  - Either generate from a visual workflow or author JSON directly
- Using the **Code** tab in the Azure portal
  - Generate from existing visual workflow
- Use a logic app template creator PowerShell module

Create a deployment template – Azure PowerShell

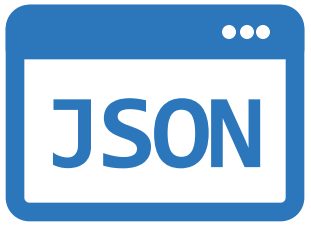
```
Install-Module -Name LogicAppTemplate

armclient token $SubscriptionId | Get-LogicAppTemplate -LogicApp MyApp -ResourceGroup
MyRG -SubscriptionId $SubscriptionId -Verbose | Out-File C:\template.json
```

Template parameters – Function App example

```
"parameters": {
    "functionName": { "type":"string", "minLength":1, "defaultValue":"<FunctionName>" }
},
...
"MyFunction": {
    "type": "Function",
    "inputs": {
        "body":{},
        "function":{
            "id":"[resourceid('Microsoft.Web/sites/functions','functionApp',
 parameters('functionName'))]"
        }
    },
    "runAfter":{}
}
```

Template parameters – Service Bus example

```
"Send_message": {
    "type": "ApiConnection",
        "inputs": {
            "host": {
                "connection": {
                    "name": "@parameters('$connections')['servicebus']['connectionId']"
                }
            },
            "method": "post",
            "path": "[concat('/@{encodeURIComponent(''', parameters('queueuname'),
''')}/messages')]",
            "body": { "ContentData": "@{base64(triggerBody())}" },
            "queries": { "systemProperties": "None" }
        },
        "runAfter": {}
}
```



Lab: Automating business processes by using logic apps

Duration

Lab sign-in information