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Microsoft Azure Developer Associate (AZ-204)

COURSE OUTLINE
MODULE 11

- Introduction to Azure IaaS Compute Solutions
- Implementing Azure Batch Service and Disk Encryption
- Designing and Developing Applications That Use Containers
- Implementing Azure App Service Web Apps and Mobile Apps
- Implementing Azure App Service API Apps and Azure Functions
- Developing Solutions That Use Azure Table Storage and Cosmos DB

- Developing Solutions That Use Relational Database and Azure Blob Storage
- Implementing Authentication and Access Control in Azure
- Implementing Secure Data Solutions and Integrate Caching & CDN
- Instrument Monitoring, Logging and Scalability of Apps & Services
- **Connecting to and Consuming Azure and Third-party Services**
- Developing Event-based and Message-based Solutions in Azure

Module 11 – Connecting to and Consuming Azure and Third-party Services

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Topics

- Azure Logic Apps
- Logic App Workflow
- Differences between Azure Functions and Logic Apps
- Azure Search Service
- Querying Azure Search Index
- Advantages of Azure Search
- API Management
- APIM System Components
- Securing an API App

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Objectives

After completing this module, you should be able to:

- Create Logic Apps by using Visual Studio
- Create custom connectors and templates for Logic Apps
- Create and query an Azure Search Index
- Full text search in Azure Search
- Provision the APIM service
- Secure APIs with subscriptions and client certificates
- Use API policies to modify the behaviour of an API

Azure Logic Apps Overview

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Azure Logic Apps

Logic Apps provide a way to simplify and implement scalable integrations and workflows in the cloud

It provides a visual designer to model and automate your process as a series of steps known as a workflow

Logic Apps

A logic app begins with a trigger (like 'When an account is added to Dynamics CRM') and after firing it can begin many combinations of actions, conversions, and condition logic

How Logic Apps Work?

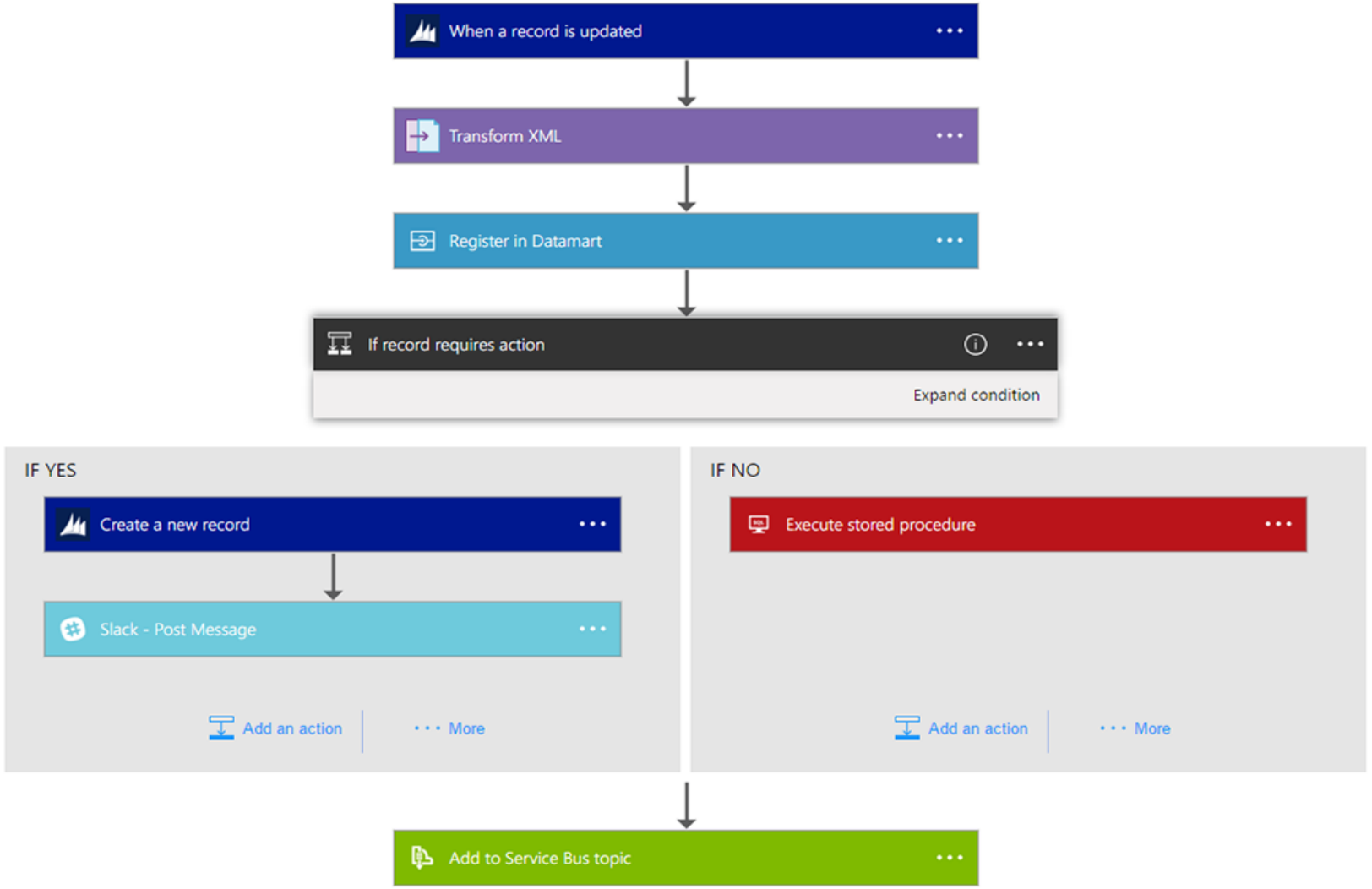
- Workflows are used to visualize, design, build, automate, and deploy business processes as series of steps

- Trigger includes scheduling capabilities
- For custom scheduling, equip your workflow with Schedule trigger

- When a trigger is fired, logic app engine creates a logic app instance
- It runs the workflow's actions

You can build your logic apps visually with the Logic Apps Designer, available in the Azure portal through your browser and in Visual Studio

Logic App Work Flow



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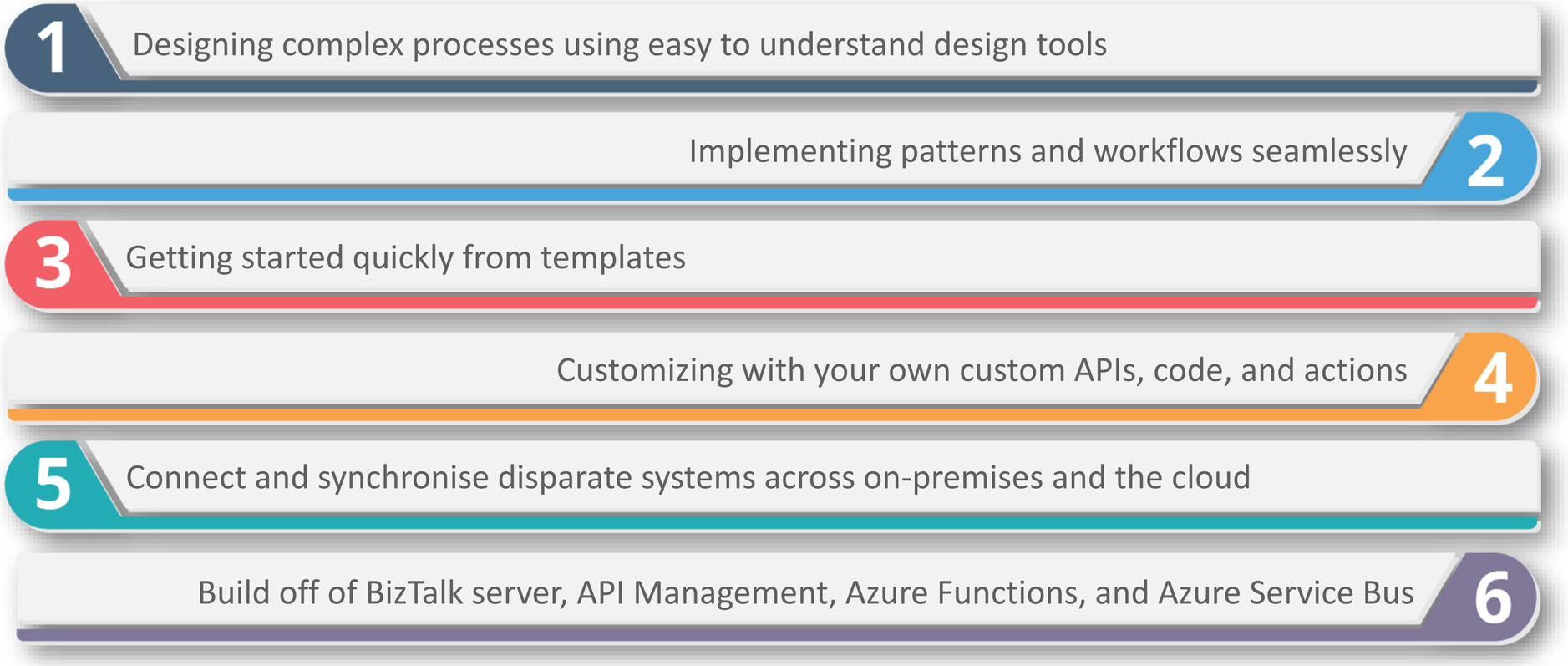
The Advantages of Using Logic Apps



Key Differences Between Functions and Logic Apps

	Durable Functions	Logic Apps
Development	Code-first (imperative)	Designer-first (declarative)
Connectivity	About a dozen built-in binding types, write code for custom bindings	Large collection of connectors, Enterprise Integration Pack for B2B scenarios, build custom connectors
Actions	Each activity is an Azure function; write code for activity functions	Large collection of ready-made actions
Monitoring	Azure Application Insights	Azure portal, Operations Management Suite, Log Analytics
Management	REST API, Visual Studio	Azure portal, REST API, PowerShell, Visual Studio
Execution context	Can run locally or in the cloud.	Runs only in the cloud.

Demo 1 – Create a Logic App From Visual Studio

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Azure Search Service

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What is Azure Search?

- Azure Search is a **Search-as-a-Service** cloud solution that gives developers APIs and tools for adding a rich search experience over
  - Private and
  - Heterogenous content in
    - Web
    - Mobile
    - Enterprise applications
- Query execution is over a **user-defined index**

Use Cases of Azure Search Service

Build a search index containing only your data, sourced from multiple content types and platforms

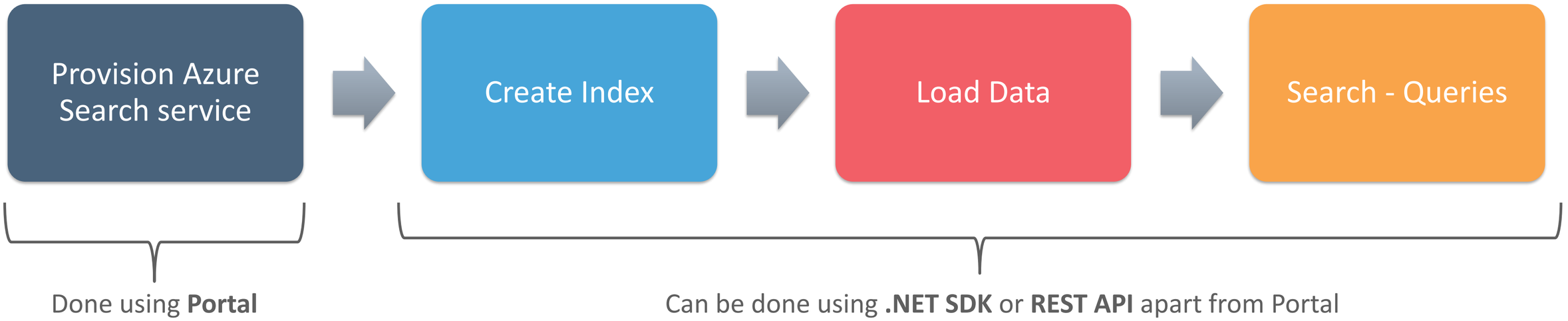
Leverage AI enrichments (Cognitive Search) to extract text and features from image files, or entities and key phrases from raw text

Create intuitive search experiences with facet navigation and filters, synonyms, autocomplete, and text analysis for "did you mean" autocorrected search terms – Get relevance tuning through functions and boosting logic

Create search apps for specific use-cases – Geo-search supports a "find near me" experience

Multi-lingual search is supported through language analyzers for non-English full text search

How to Use Azure Search?



Advantages of Azure Search Service

01 Azure data integration (crawlers) at the indexing layer

02 Azure portal for **Central** management

03 Azure scale, reliability, and world-class availability

04 **Linguistic** and **Custom** analysis, with analyzers for solid full text search in 56 languages

05 Core features common to search-centric apps: scoring, faceting, suggestions, synonyms, geo-search, etc

Demo 2 – Create Azure Search and Configure SQL

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Demo 3 – Query Azure Search Index

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Introduction to API Management Service

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What is API Management?

API Management (APIM) helps organizations *publish APIs* to external, partner, and internal developers to unlock the potential of their data and services

Businesses everywhere are looking to **extend** their **operations** as a digital platform, creating new channels, finding new customers and driving deeper engagement with existing ones

API Management provides the **core competencies** to ensure a successful API program through **developer engagement**, **business insights**, **analytics**, **security**, and **protection**

You can use Azure API Management to take any **backend** and launch a **full-fledged API** program based on it

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API Management – Working

To use API Management, **Administrators** *create* APIs

Each API consists of *one or more* **operations**, and each API can be added to *one or more* **products**

To use an API, **Developers** *subscribe* to a **product** that contains that API

And then they can **call** the API's *operation*, subject to any usage policies that may be in effect

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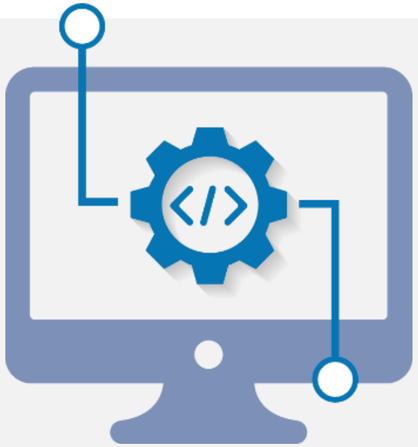
API Management – Common Scenarios

Securing mobile infrastructure:

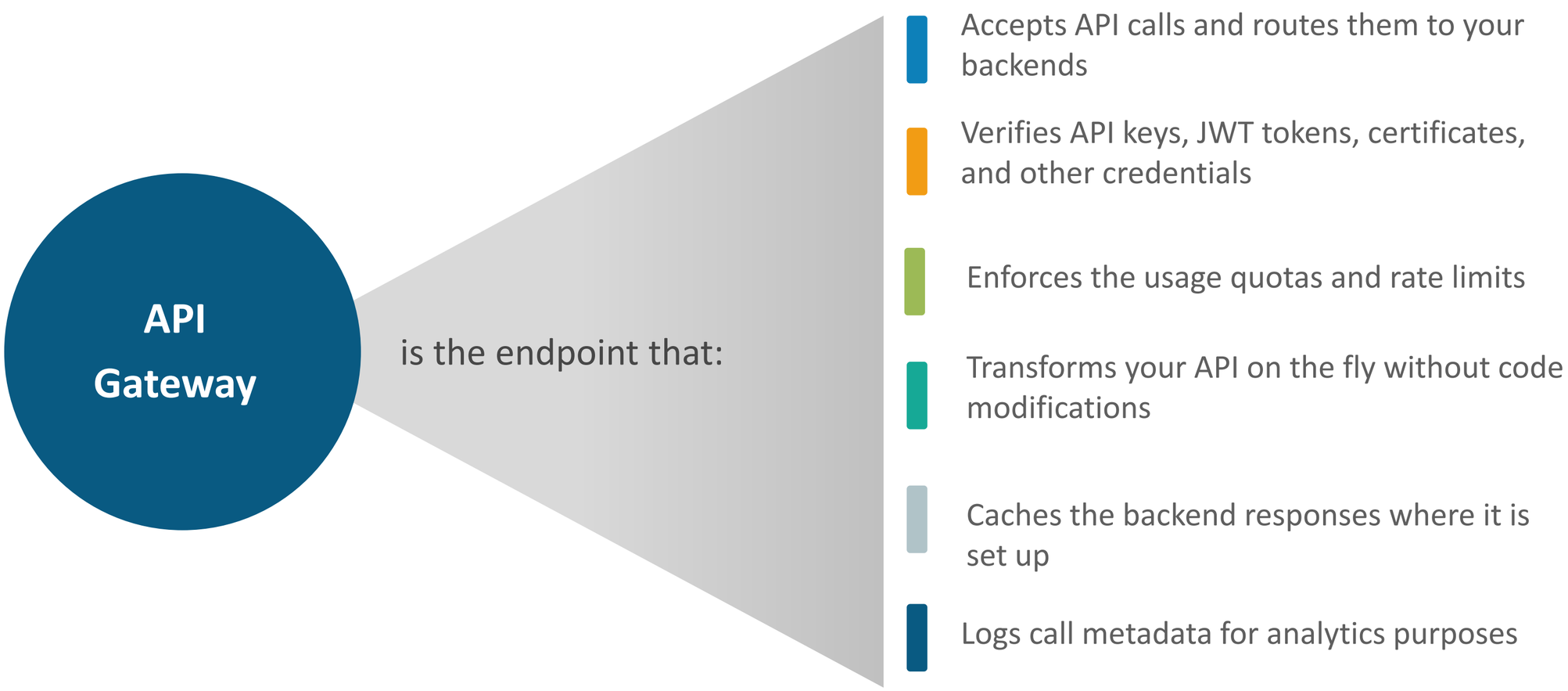
It can be done by *gating access* with API **keys**, preventing DOS attacks by using **throttling**, or using advanced security policies like JWT **token validation**



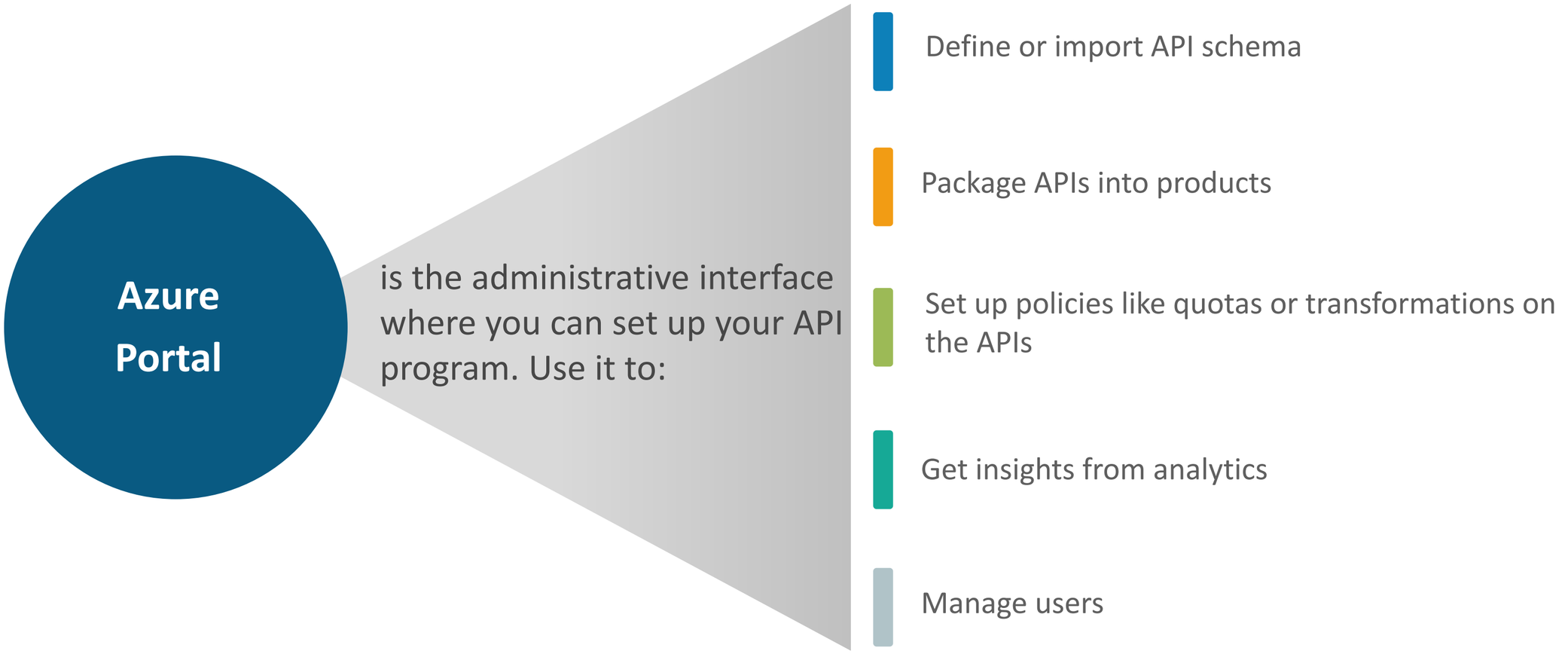
Enabling ISV partner ecosystems:
It can be done by offering fast partner onboarding through the **developer portal** and building an API facade to *decouple* from internal implementations that are not ripe for partner consumption

Running an internal API program:
It can be done by offering a *centralized location* for the organization to communicate about the availability and latest changes to APIs, gating access based on organizational accounts, all based on a **secured channel** between the *API gateway* and the *backend*

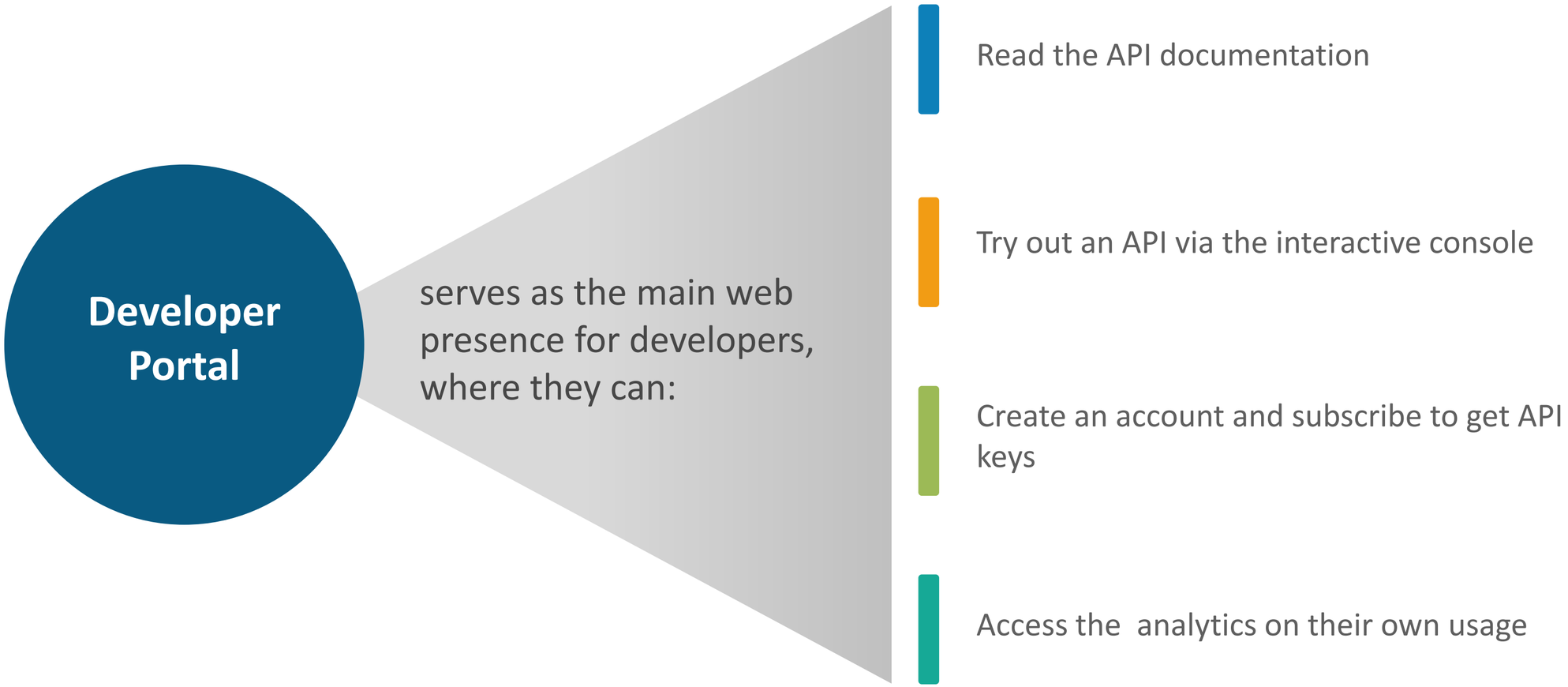
APIM System Components – API Gateway



APIM System Components – Azure Portal



APIM System Components – Developer Portal



Create an APIM Instance

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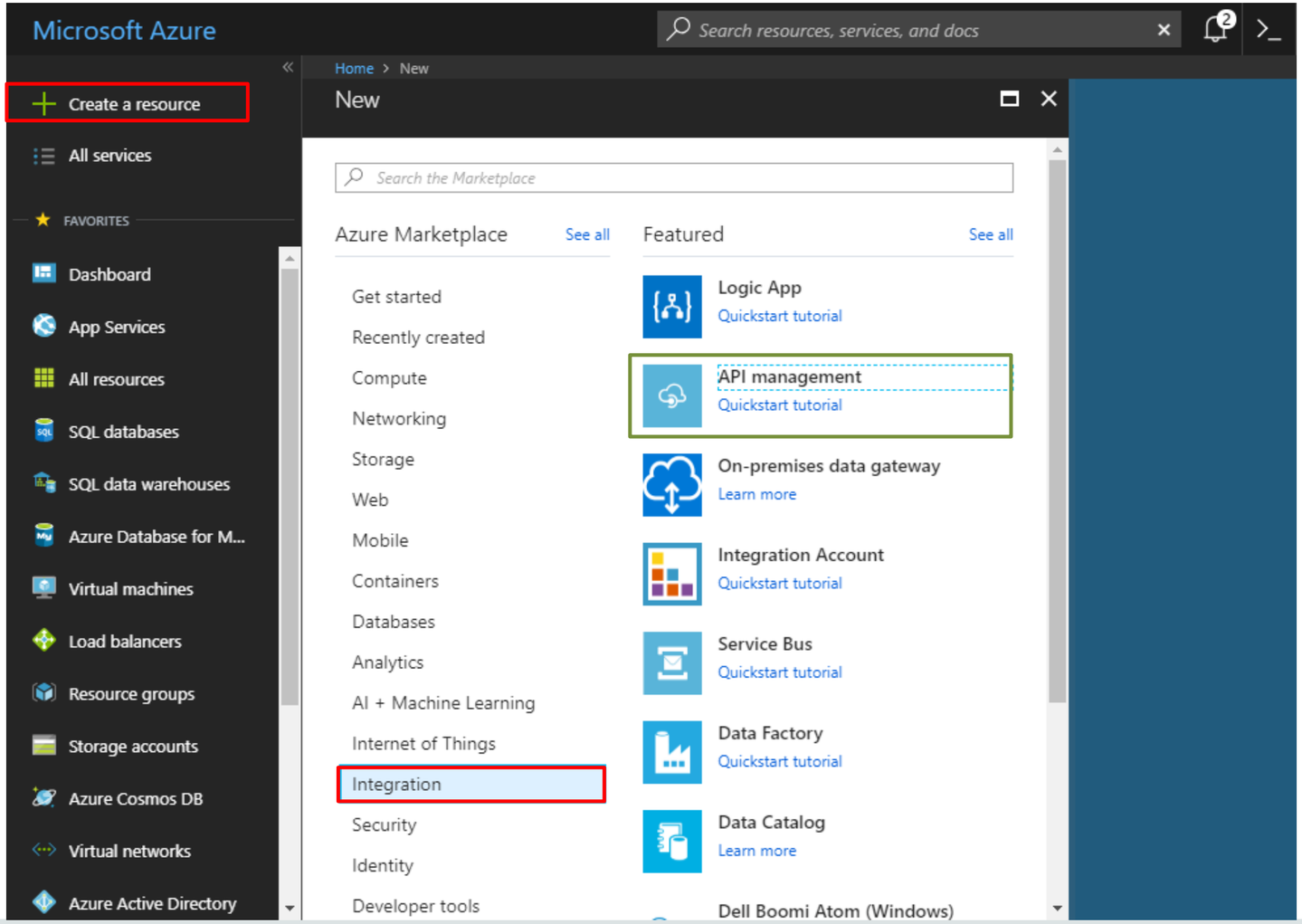
Create a New Service – Portal

- In the Azure portal, select **Create a resource** > **Enterprise Integration** > **API management**:

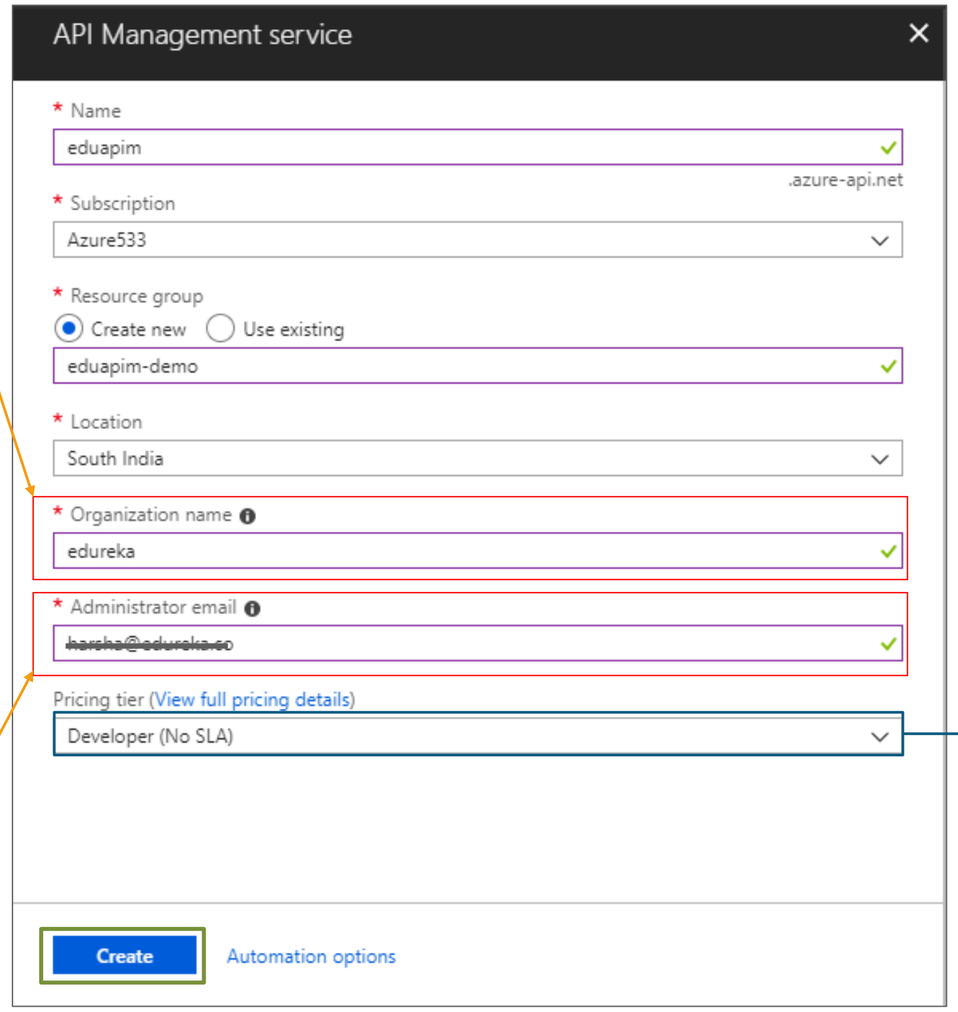


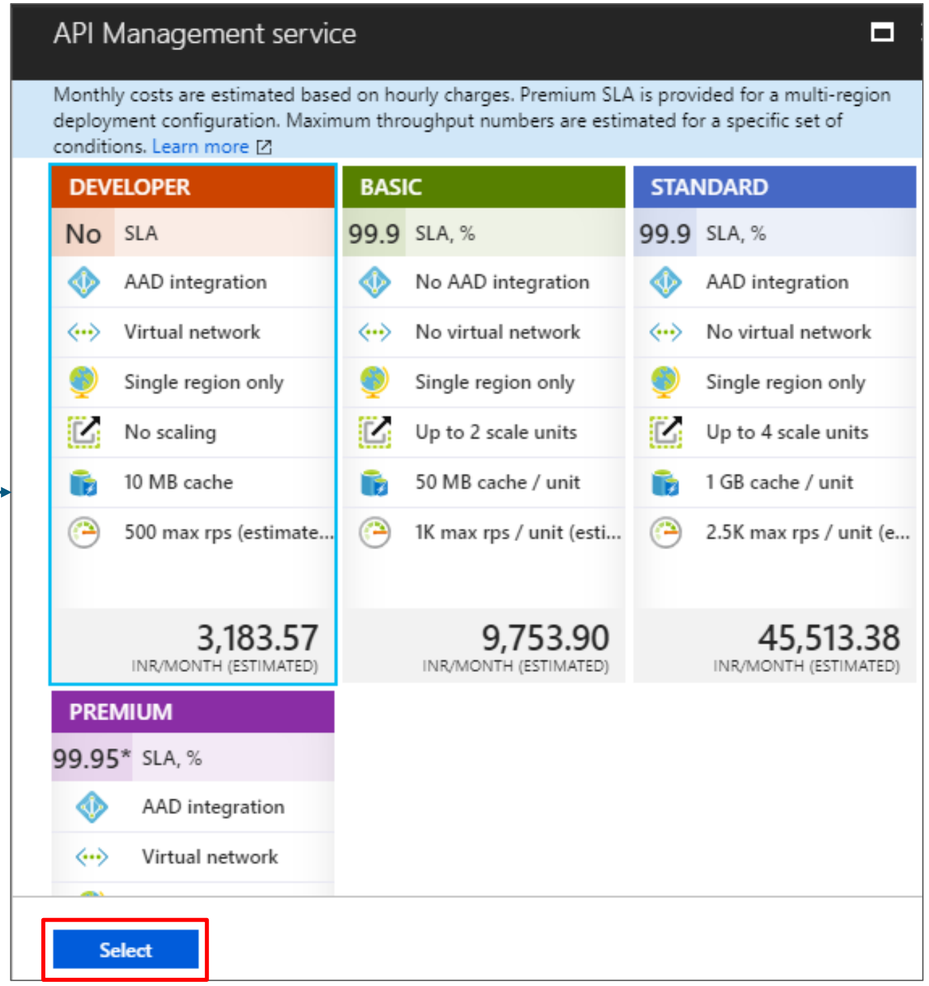
Create a New Service – Enter Settings

- In the **API Management service** window, enter settings > **Create**:

Name of your organization for use in the **Developer portal** and **e-mail notifications**

Set the e-mail address to receive all **system notifications** sent from API Management





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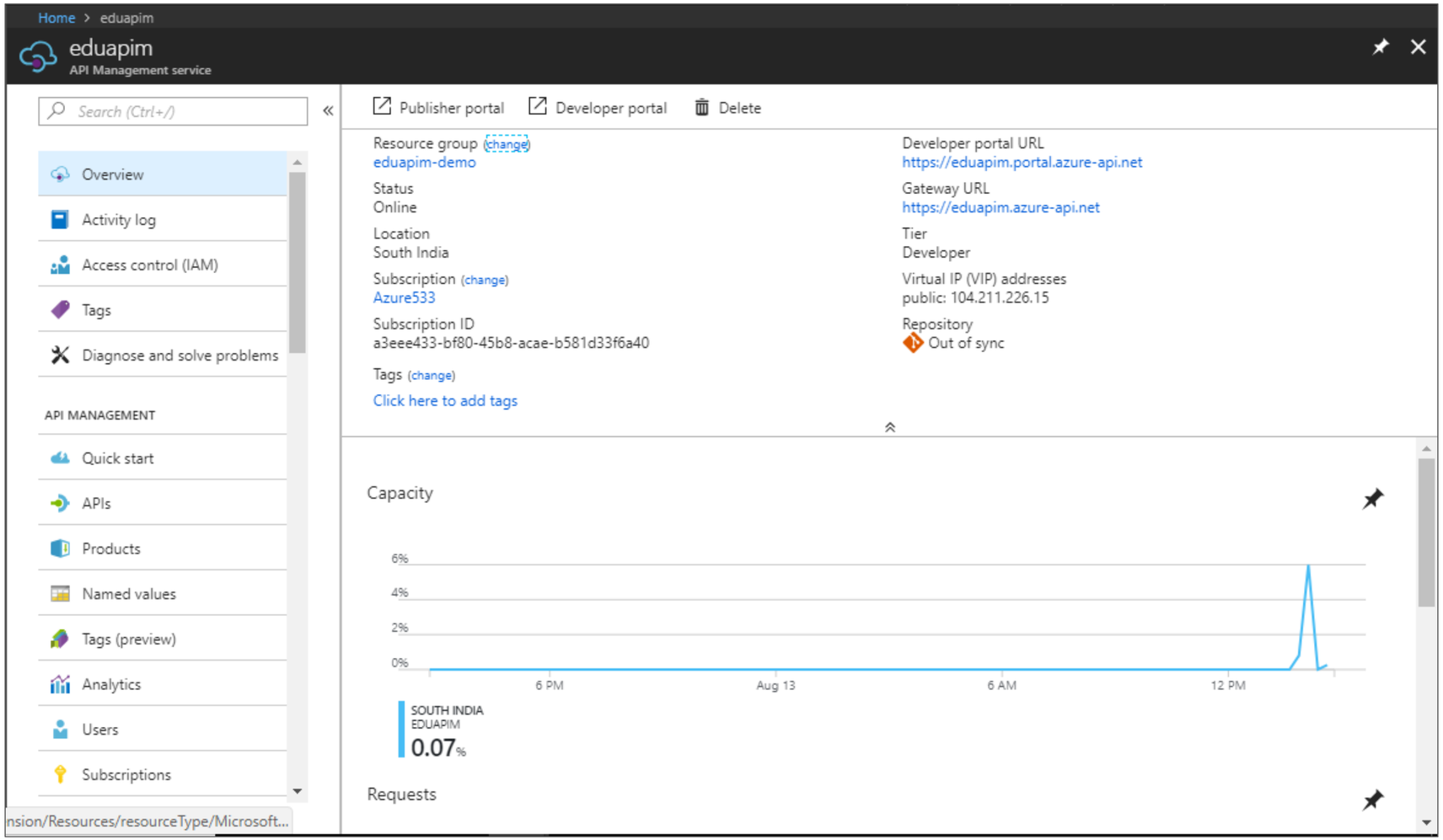
Create a New Service – Confirmation Mail

Once the service is deployed, a confirmation mail is received on the Admin e-mail submitted before:



Demo 4 – Secure an API App

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Summary

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APIM System Components – Developer Portal

Developer Portal serves as the main web presence for developers, where they can:

- Read the API documentation
- Try out an API via the interactive console
- Create an account and subscribe to get API keys
- Access the analytics on their own usage

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Thank You

For more information please visit our website
www.edureka.co