Module 8

Implementing PaaS cloud services

Module Overview

- Planning and deploying PaaS cloud services
- Managing and maintaining cloud services

Lesson 1: Planning and deploying PaaS cloud services

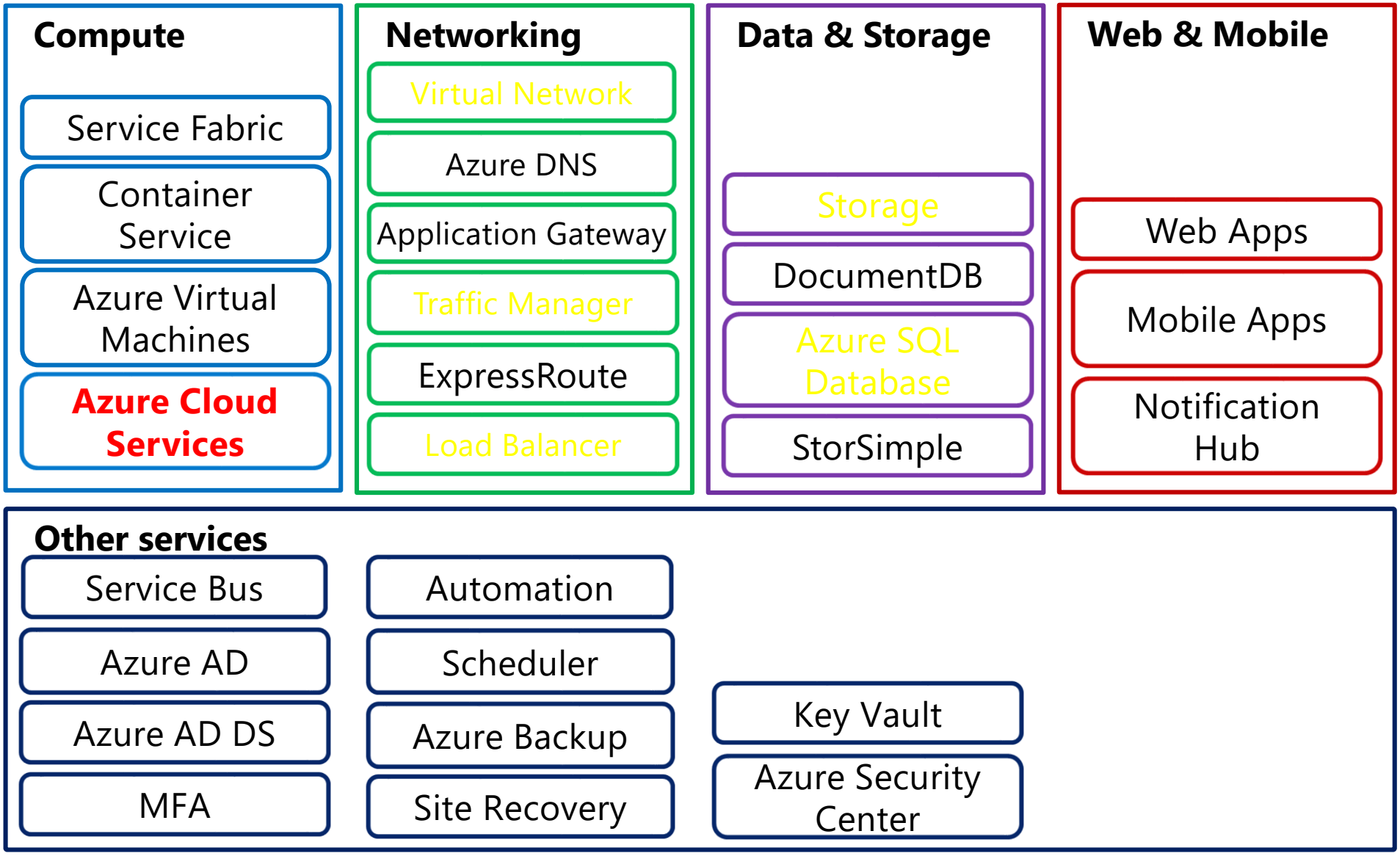
- Demonstration: Preparing the Microsoft Azure environment for the lab and demonstrations in this module
- PaaS cloud services as components of Azure
- PaaS cloud services overview
- Creating and deploying PaaS cloud services
- Managing deployment environments for PaaS cloud services
- Demonstration: Creating and deploying PaaS cloud services
- Updating PaaS cloud services

Demonstration: Preparing the Microsoft Azure environment for the lab and demonstrations in this module

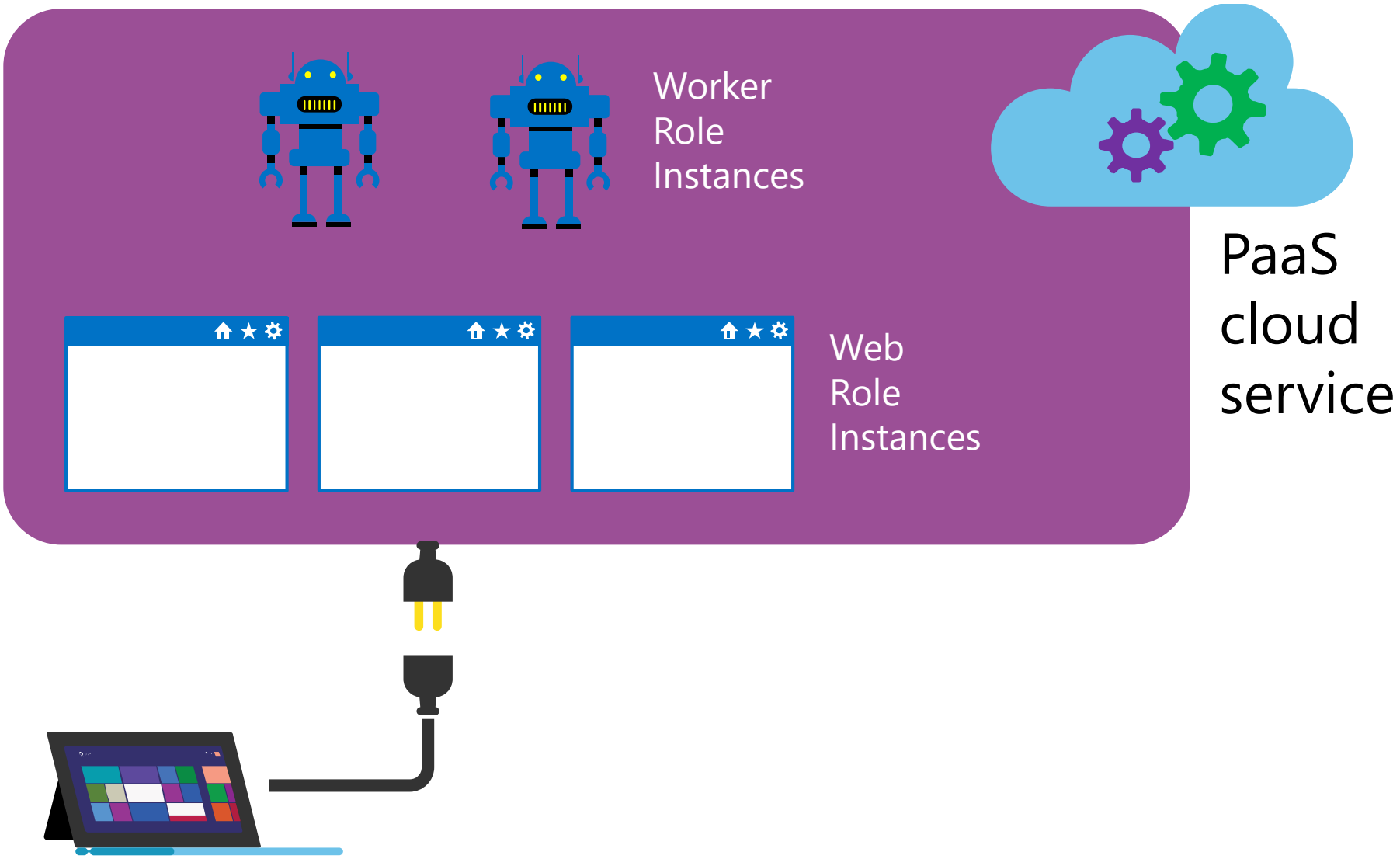
In this demonstration, you will see how to:

- Prepare the Azure environment for the lab and demos in this module

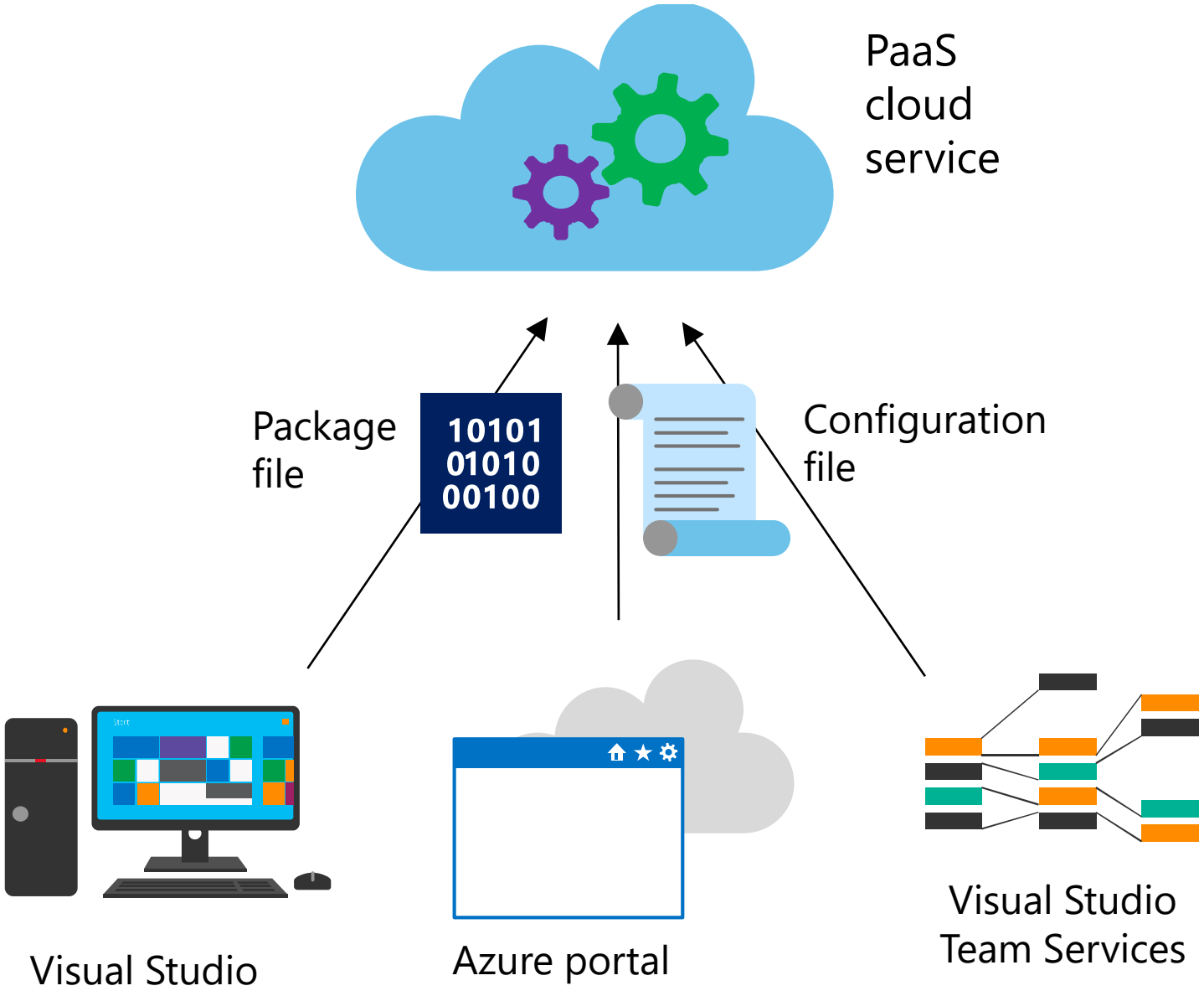
PaaS cloud services as components of Azure



PaaS cloud services overview



Creating and deploying PaaS cloud services



Managing deployment environments for PaaS cloud services

- During development:
  - The cloud service runs on developers' local computers
  - The compute emulator runs cloud service code
  - The storage emulator stores blobs and other data
- During staging:
  - The cloud service is deployed to a staging slot
  - Azure runs the code
  - Azure hosts the storage
- For production:
  - The cloud service is deployed to a production slot
  - Azure runs the code
  - Azure hosts the storage

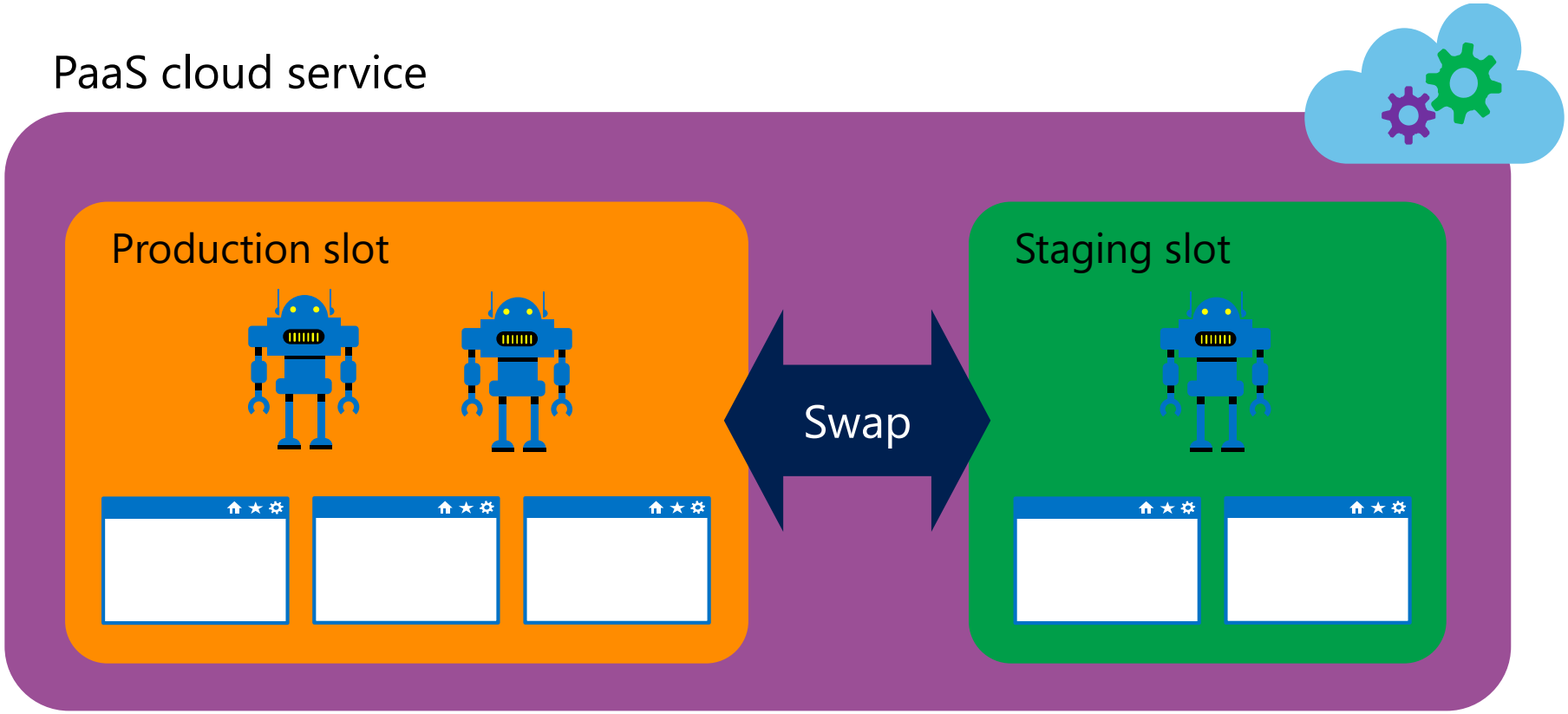
Demonstration: Creating and deploying PaaS cloud services

In this demonstration, you will see how to:

- Create a new PaaS cloud service by using Azure PowerShell
- Configure and package a cloud service project in Visual Studio 2015
- Deploy a packaged cloud service project by using the Azure Portal

Updating PaaS cloud services

- Uploading a new package and configuration file
- Using continuous deployment for upgrades
- Swapping deployments



Lesson 2: Managing and maintaining cloud services

- Modifying configuration files
- Managing endpoints and queues
- Adding a PaaS Cloud service to a VNET
- Demonstration: Scaling PaaS cloud services
- Configuring the monitoring of PaaS cloud services
- Monitoring PaaS cloud services

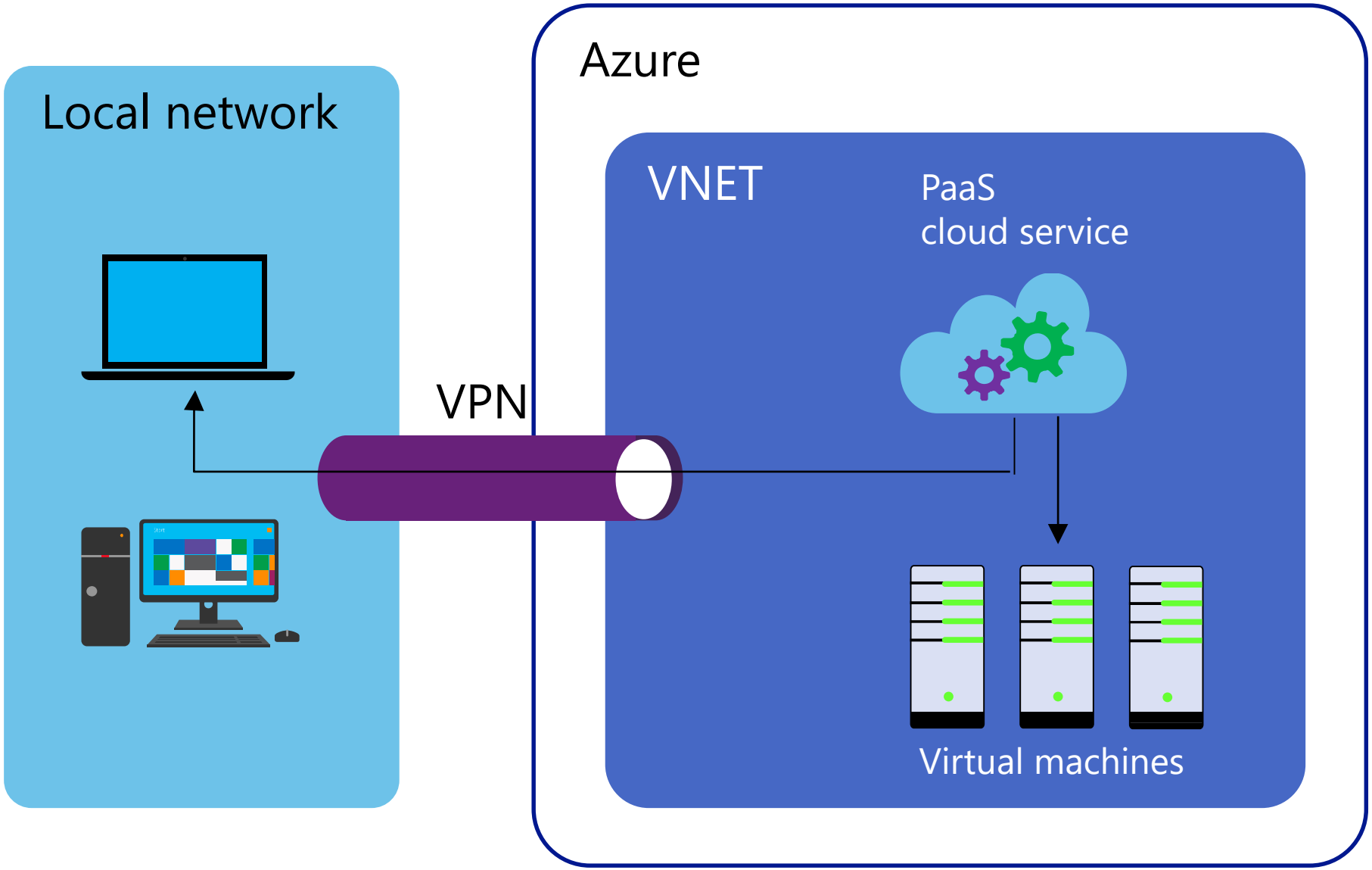
Modifying configuration files

```
<ServiceConfiguration
serviceName="ExampleCloudService" >
  <Role name="MyWebRole">
    <Instances count="2" />
    <ConfigurationSettings>
      <Setting name="StorageConnectionString"
        value="UseDevelopmentStorage=true" />
    </ConfigurationSettings>
  </Role>
  <Role name="MyWorkerRole">
    <Instances count="3" />
    <ConfigurationSettings>
      <Setting name="DbConnectionString"
         value="{insert your connection string}" />
    </ConfigurationSettings>
  </Role>
</ServiceConfiguration>
```

Managing endpoints and queues

- Direct communication
  - Endpoints
- Storage queues
  - Up to 64 KB in each message
  - Up to 200 TB in each queue
  - Seven days TTL for each message
- Service Bus queues
  - Up to 1 MB in each message (depending on the service tier)
  - Up to 80 GB in each queue (depending on partitioning settings)
  - Unlimited message TTL

Adding a PaaS cloud service to a VNET



Demonstration: Scaling PaaS cloud services

- In this demonstration, you will see how to:
  - Set the default instance count for a cloud service
  - Schedule a larger instance count for an expected load peak

Configuring the monitoring of PaaS cloud services

- Minimal monitoring
  - Provides basic metrics: CPU percentage, data in, data out, disk read throughput, disk write throughput
  - Does not incur extra charges
- Verbose monitoring
  - Requires a storage account
  - Requires a diagnostics connection string
  - Provides a much wider range of performance metrics
  - Incurs storage costs

Monitoring PaaS cloud services

- Adding metrics to the monitoring table:
  1. Choose a role
  2. Choose a counter

- Adding an alert to a metric:
  1. Choose the cloud service, deployment, and role
  2. Set the condition and threshold
  3. Specify email addresses to receive the alert or a Webhook to which the alert should be routed

Lab: Implementing PaaS cloud services

- Exercise 1: Deploying a PaaS cloud service
- Exercise 2: Configuring deployment slots and RDP
- Exercise 3: Monitoring cloud services

Estimated Time: 60 minutes

Lab Scenario

You want to evaluate the capabilities of PaaS cloud services to host A. Datum web applications. Your development team has provided a simple cloud service project that you can use to test its functionality in Azure. You want to show how staging and production slots can be used to simplify the deployment of new versions of the cloud service. You also want to determine whether you can monitor the service to get clear information on resource usage.

Lab Review

- In Exercise 2, you enabled RDP access and used the RDP client to connect to an instance of a web role. Why would administrators connect to cloud service role instances with RDP?
- You want to ensure you can identify the volume of network traffic your PaaS cloud service has received over the last hour. Should you configure a monitoring metric or an alert?

Module Review and Takeaways

- Review Question