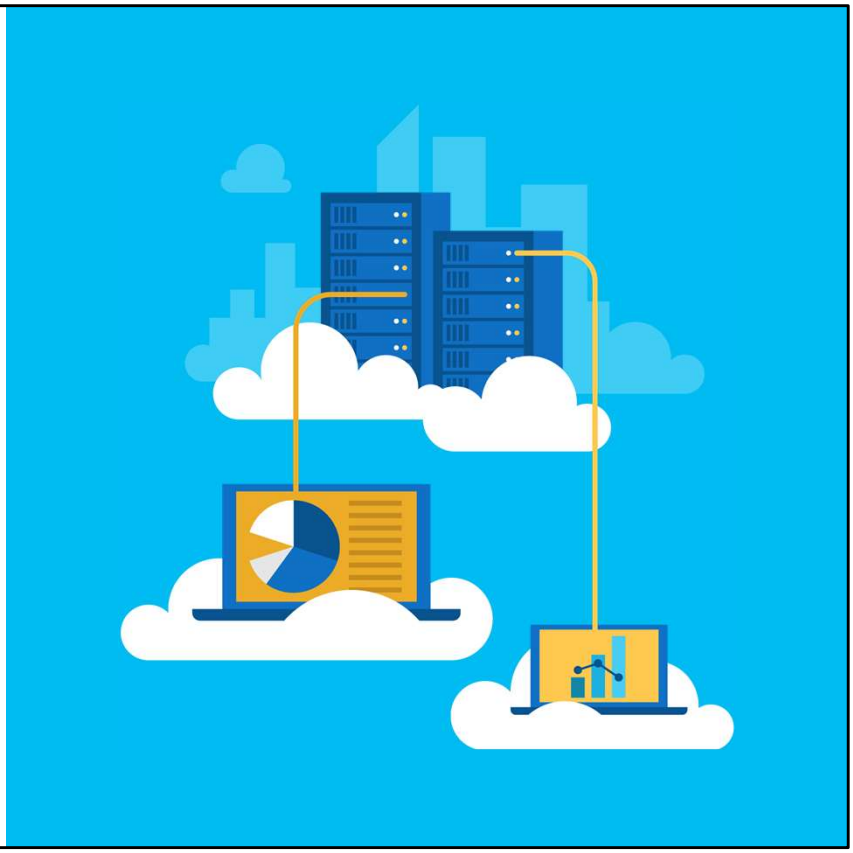
Microsoft

AZ-900T0x

Learning Path:

Explore Microsoft Azure Cloud concepts



Adjust the title page for AZ-900T00 or AZ-900T01.

Learning objectives

Learning Objectives – Explore Azure cloud concept

You will learn the following concepts:

- Why Cloud
  - Definition of cloud computing
  - Benefits of the cloud
- Cloud Models
  - Public, Private, and Hybrid cloud
  - Choosing the best for you
- Cloud Services
  - IaaS, PaaS, and SaaS
  - Sharing responsibility

Azure

This slide is important. We are telling the learners… This is what I am going to tell you.

We then tell them / show them.

At the end we review what we told them.

Then we give them references for further learning.

Then we say Thanks you where we will then put our closing deck for customer feedback…

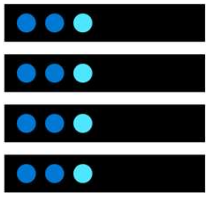
Module: Discuss why cloud services?

Discuss Why Cloud Services
Introduction

Learning Objectives:

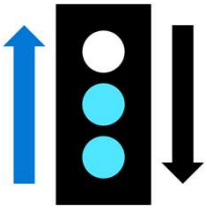
- Explore common cloud computing services
- Explore the benefits of cloud computing

Define cloud computing



Compute

Storage



Networking

Analytics

Cloud providers include Microsoft, Amazon, and Google

Cloud computing - https://azure.microsoft.com/en-us/overview/what-is-cloud-computing/

Compute power - such as Linux servers or web applications.
Storage - such as files and databases.
Networking - such as secure connections between the cloud provider and your company.
Analytics - such as visualizing telemetry and performance data.

Try This Exercise

1. Open a browser.
2. Enter the URL portal.azure.com
3. Take a few minutes and look at the site.
4. Can you find:
    1. where to create a resource like a Virtual Machine?
    2. how to launch your Dashboard to see what resources you have?
    3. where Microsoft Learn training site is linked right into Azure to help you learn?
5. Close your browser.

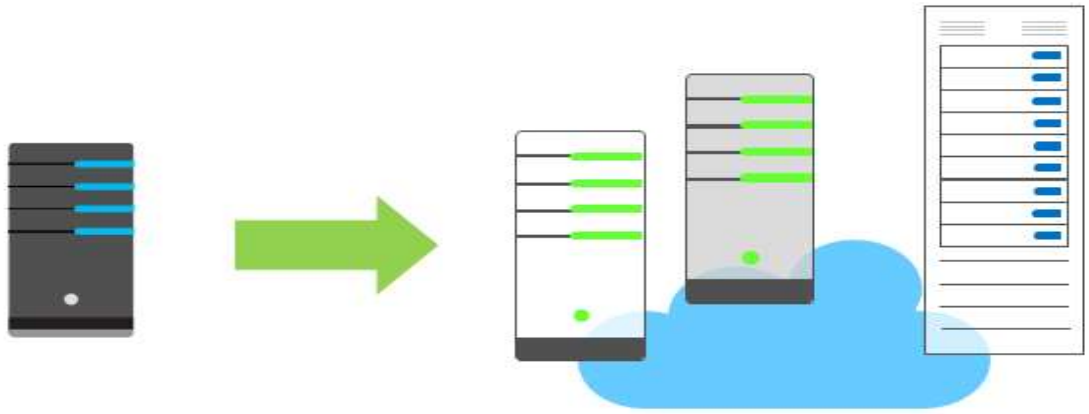
Explore key cloud concepts

High availability	Fault tolerance
Scalability	Elasticity
Global reach	Customer latency capabilities
Agility	Predictive cost considerations
Disaster recovery	Security

There is a term reference guide available at https://azure.microsoft.com/en-us/overview/cloud-computing-dictionary/

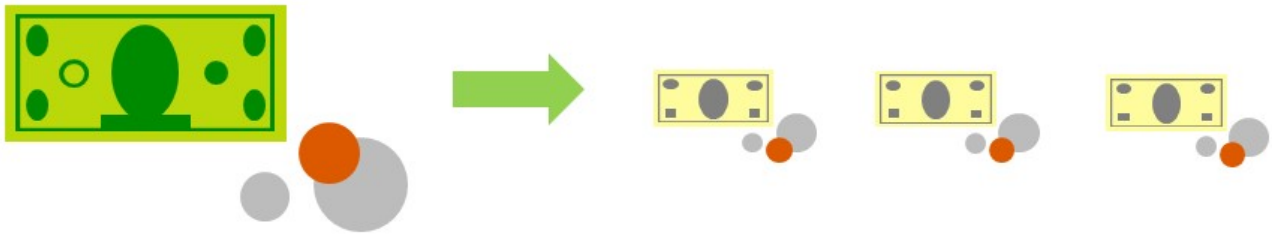
Discuss economies of scale

E*conomies of scale* – Cloud providers can reduce costs and gain efficiency when operating at a large scale.



Cloud providers are very large businesses, and thus can leverage the benefits of economies of scale and then pass those benefits on to their customers.

Compare CapEx vs. OpEx



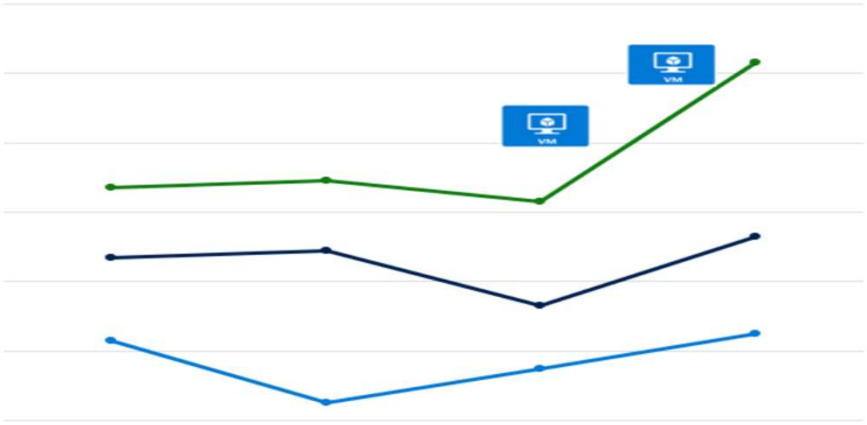
Capital Expenditure (CapEx)

- High upfront cost, value of investment reduces over time.

Operational Expenditure (OpEx)

- Spend on services or products as needed.
- No upfront cost, pay-as-you use.

Define consumption-based model



Consumption-based model = Pay only for the resources you use

This consumption-based model brings with it many benefits, including:

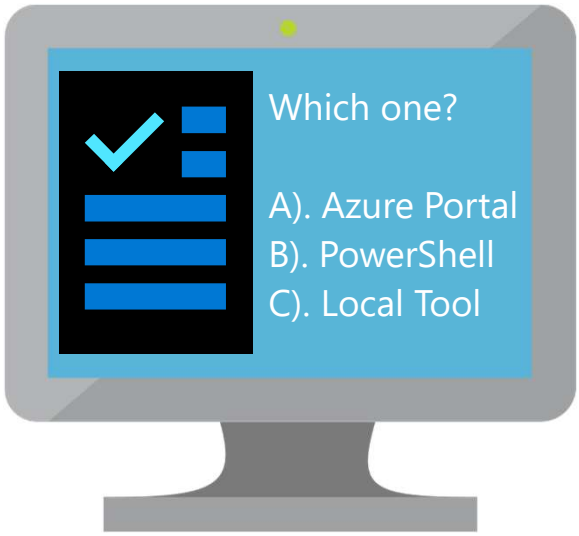
- No upfront costs.
- No need to purchase and manage costly infrastructure that they may or may not use to its fullest.
- The ability to pay for additional resources when they are needed.
- The ability to stop paying for resources that are no longer needed.

Knowledge Check

Populate with instructions to use the polling tool of your choice

Module:
Discuss why cloud services

1. Use your Smartphones or Mobile Devices
2. Go to (*insert polling app link of your choice*)
   Enter Code: 123-45-678
3. Please participate in the quiz for this section



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In order to promote interactivity, WWL suggests the use of Mentimeter, Kahoot or a similar polling technology. Please feel free to adjust this slide as needed and populate with the instructions based on the polling tool of your choice.

Summary - Discuss why cloud services

In this module, you've learned about cloud computing, what it is and what its key characteristics are. H ere are some of the things you covered:

- Types of cloud models and when to use which.
- Key terms and concepts such as high availability, agility, elasticity, fault tolerance, and CapEx vs. OpEx.

Learn more:

- Cloud Computing Terms
- What is Azure?
- Azure compliance offerings
- Azure Architecture Center
- Overview of Azure compute options

Module: Distinguish types of cloud models

Distinguish Types of Cloud Models
Introduction

Learning Objectives

- Explore Public, Private, and Hybrid cloud models
- Decide which cloud deployment model is best for you

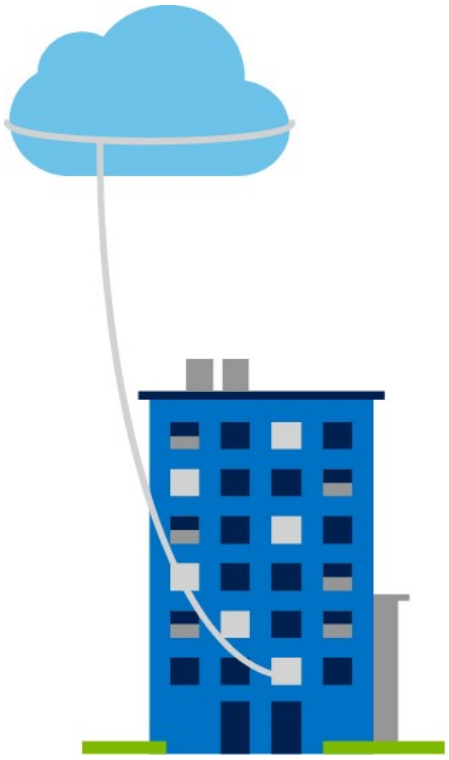
Define public cloud

- Owned by cloud services or *hosting* provider.
- Provides resources and services to multiple organizations and users.
- Accessed via secure network connection (typically over the internet).

What are public, private, and hybrid clouds? - https://azure.microsoft.com/en-us/overview/what-are-private-public-hybrid-clouds/

Define private cloud

- **Organizations create a cloud environment in their datacenter.**
- **Organizations responsible for operating the services they provide.**



- Owned and operated by the organization.

- Organizations create a cloud environment in their datacenter.
- Self-service access to compute resources provided to users within the organization.
- Organizations responsible for operating the services they provide.

Define hybrid cloud

Combines *Public* and *Private* clouds to allow applications to run in the most appropriate location.

Hybrid cloud models have the following characteristics:

- **Resource location**. Specific resources run or are used in a public cloud, and others run or are used in a private cloud.
- **Cost and efficiency**. Hybrid cloud models allow an organization to leverage some of the benefits of cost, efficiency, and scale that are available with a public cloud model.
- **Control**. Organizations retain management control in private clouds.
- **Skills**. Technical skills are still required to maintain the private cloud and ensure both cloud models can operate together.

Compare cloud models

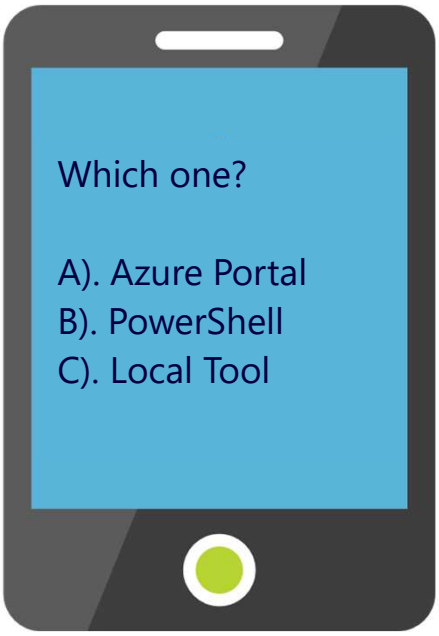
Public cloud:	• No capital expenditures to scale up. • Applications can be quickly provisioned and deprovisioned. • Organizations pay only for what they use.
Private cloud:	• Organizations have complete control over resources. • Organizations have complete control over security.
Hybrid cloud:	• Most flexibility. • Organizations determine where to run their applications. • Organizations control security, compliance, or legal requirements.

Knowledge Check

Populate with instructions to use the polling tool of your choice

Module:
Distinguish types of cloud models

1. Use your Smartphones or Mobile Devices
2. Go to *(insert polling app link of your choice)*
3. Enter Code: 123-45-678
4. Please participate in the quiz for this section



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Summary – Distinguish Types of Cloud Models

In this module, you've learned about different types of cloud models and the pro's and con's of each type of implementation. You saw content around:

- Explore Public, Private, and Hybrid cloud models
- Decide which cloud deployment model is best for you

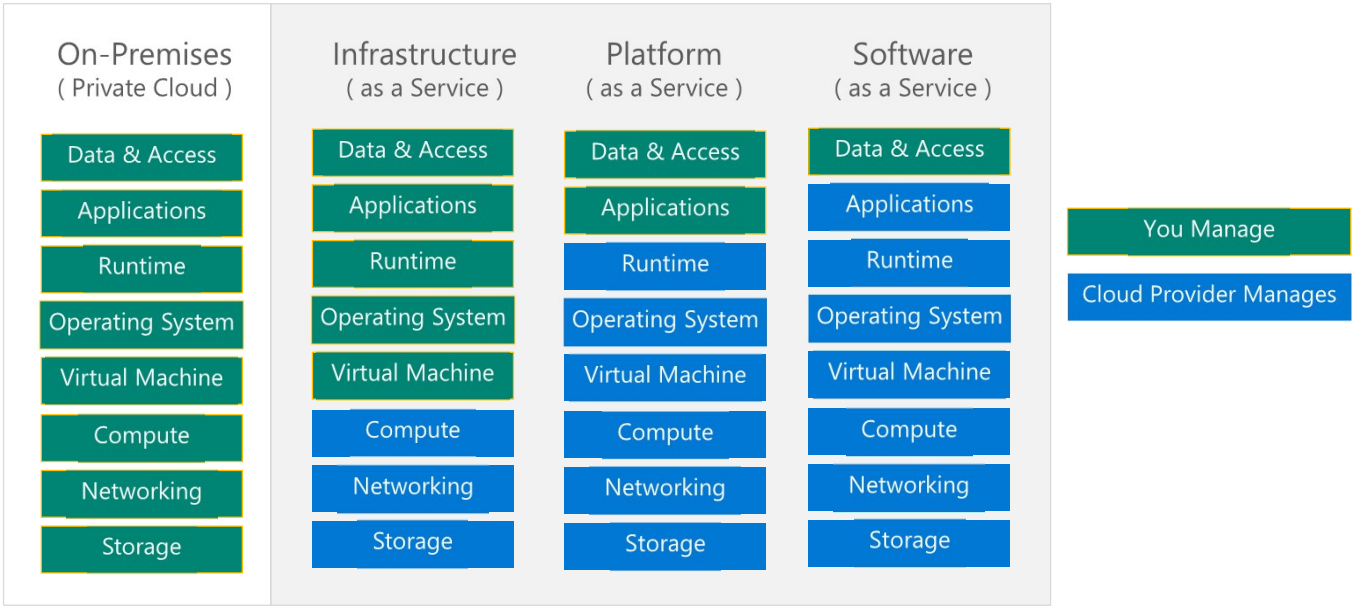
Module: Explore types of cloud services

Explore Types of Cloud Services
Introduction

Learning Objectives:

- Discuss the Shared Responsibility Model
- Review IaaS, PaaS, and SaaS cloud models
- Decide which cloud services is best for you

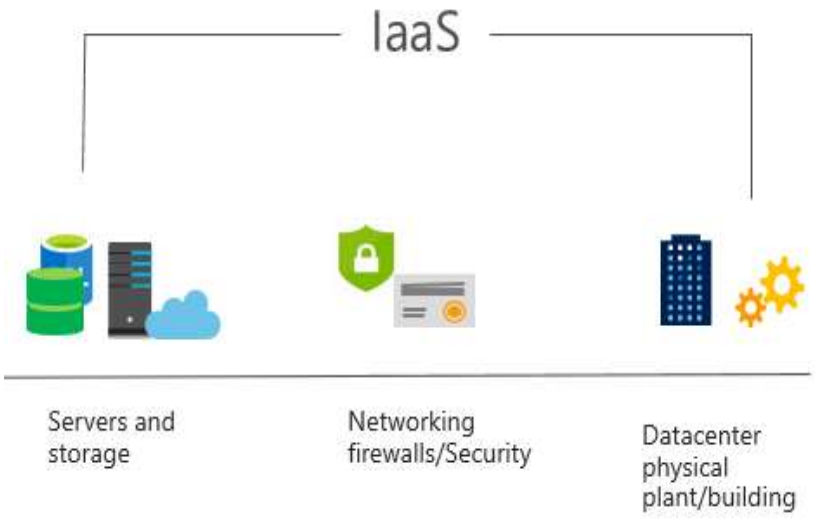
Discuss shared responsibility model



IaaS, PaaS, and SaaS have dedicated topics, coming up.

Define Infrastructure as a Service (IaaS)

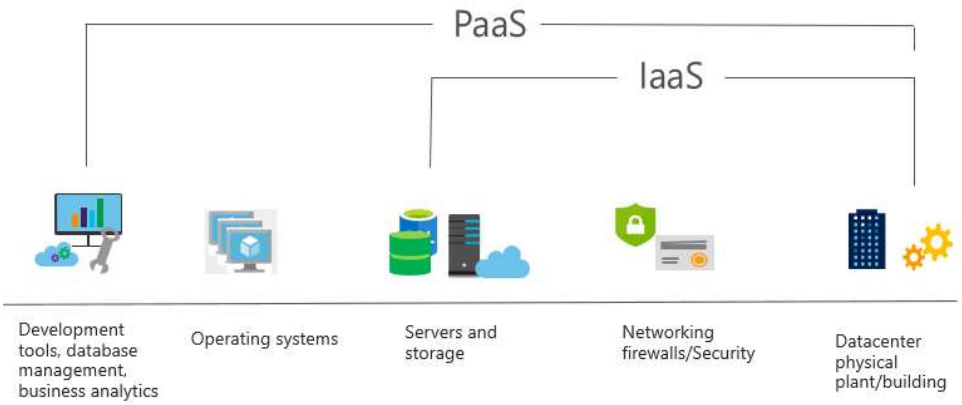
Build pay-as-you-go IT infrastructure by renting servers, virtual machines, storage, networks, and operating systems from a cloud provider.



For more information on IaaS, visit https://azure.microsoft.com/en-us/overview/what-is-iaas/

- Most basic cloud computing services category.
- Build pay-as-you-go IT infrastructure by renting servers, virtual machines, storage, networks, and operating systems from a cloud provider.
- Instant computing infrastructure, provisioned and managed over the internet.

Define Platform as a Service (PaaS)

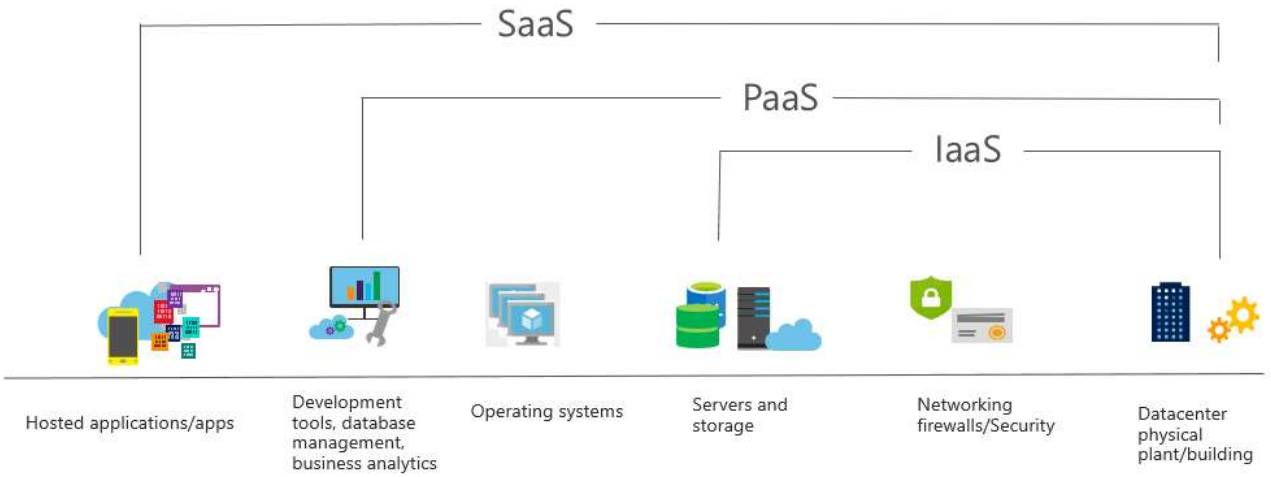


Provides environment for building, testing, and deploying software applications; without focusing on managing underlying infrastructure.

For more information on PaaS, see https://azure.microsoft.com/en-us/overview/what-is-paas/

- Provides environment for building, testing, and deploying software applications.
- Helps create applications quickly, without focusing on managing underlying infrastructure.

Define Software as a Service (SaaS)



Users connect to and use cloud-based apps over the internet: for example, Microsoft Office 365, email, and calendars.

Common usage scenarios:

- Examples of Microsoft SaaS services include Microsoft Office 365, Skype, and Microsoft Dynamics CRM Online.

For more information on SaaS, see https://azure.microsoft.com/en-us/overview/what-is-saas/

Compare cloud services

IaaS	PaaS	SaaS
• The most flexible cloud service. • You configure and manage the hardware for your application.	• Focus on application development. • Platform management is handled by the cloud provider.	• Pay-as-you-go pricing model. • Users pay for the software they use on a subscription model.

The slide contains only some of the cloud service comparison discussion points.

Knowledge Check

Populate with instructions to use the polling tool of your choice

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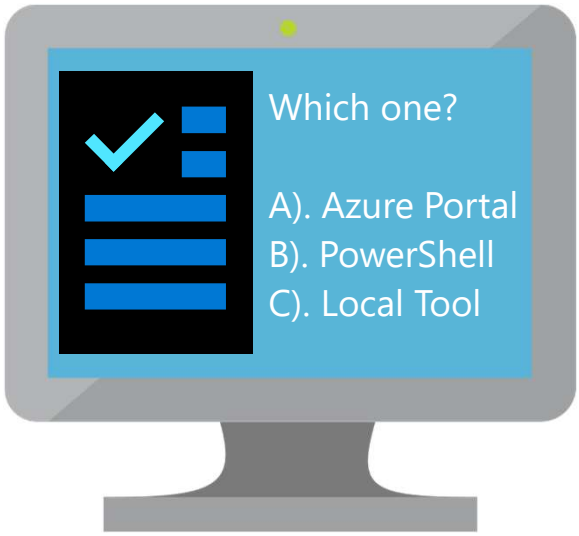

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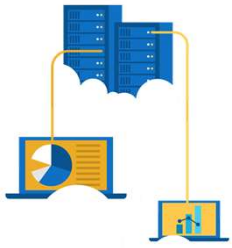
Summary – Explore Types of Cloud Services

In this module, you've learned about how you can build your cloud solutions in different ways, and that you share responsibility with your cloud provider on who maintains and secures your solutions:

- Discuss the Shared Responsibility Model
- Review IaaS, PaaS, and SaaS cloud models
- Decide which cloud services is best for you

Learning Path review



As you have time go through the Module Review questions in the student materials.