

Linux Cloud and DevOps

- 4th Course in Linux Foundations Specialization

LearnQuest

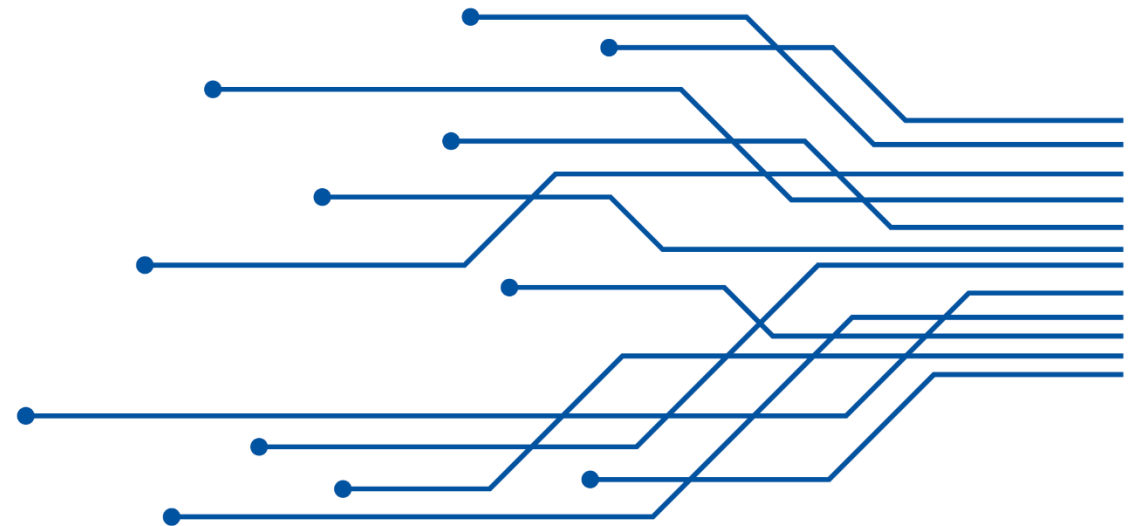
The background of the slide features a collection of 3D-rendered geometric shapes, including squares, rectangles, and rounded rectangles, in various colors like blue, orange, green, and purple. These shapes are interconnected by a network of grey 3D arrows pointing in different directions, creating a sense of flow and connectivity. The overall aesthetic is modern and technical.

Cloud Computing Models

In this module, we look at different cloud computing models.

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Learning Objectives

Cloud Computing Models

Upon completion of this module, learners will be able to:

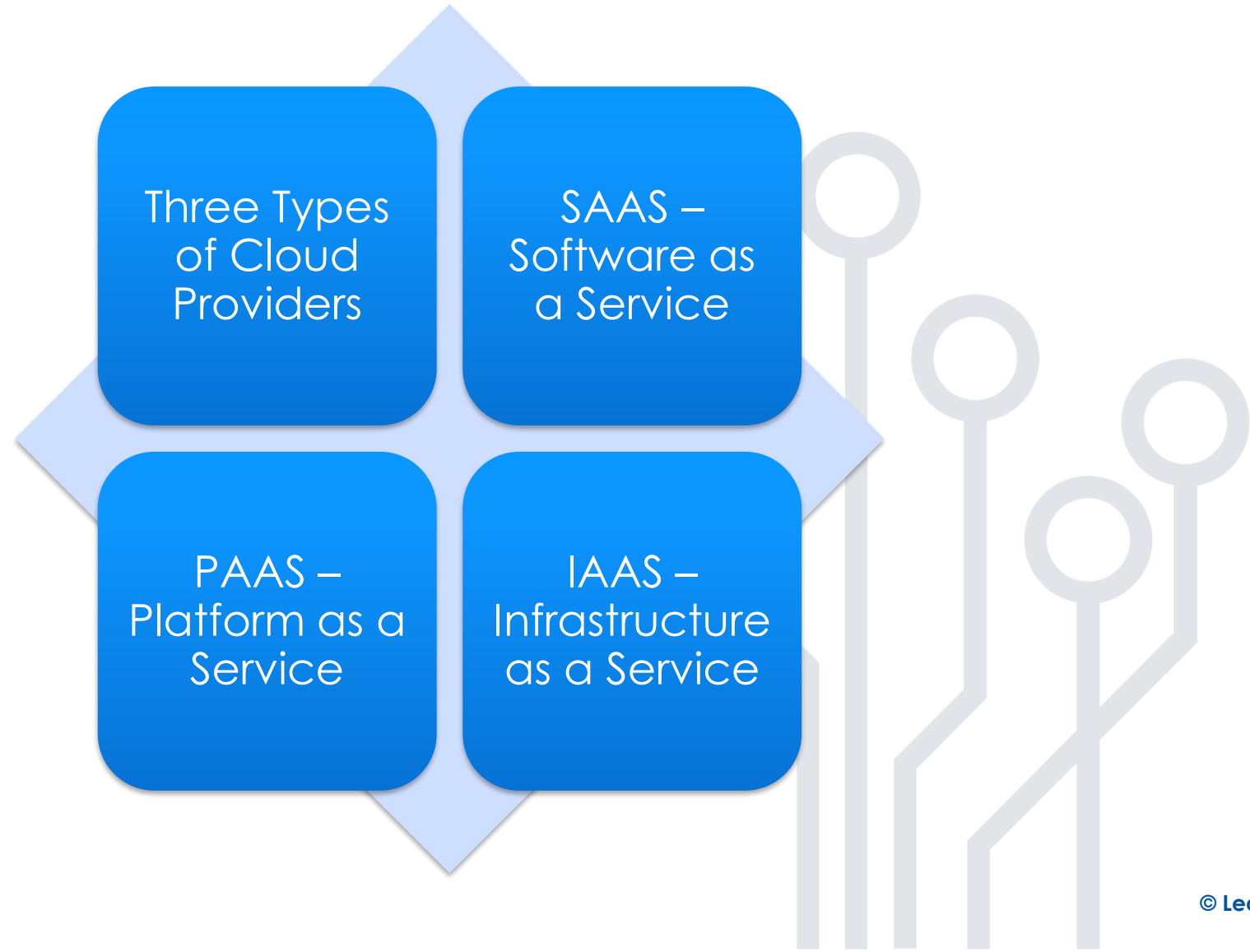
- Describe Software-as-a-Service (SAAS) use cases
- Describe Platform-as-a-Service (PAAS) use cases
- Describe Infrastructure-as-a-Service (IAAS) use cases

Lesson 1

Software-as-a-Service

In this lesson we look at Software-as-a-Service

Cloud Provider Types



Software-as-a-Service (SaaS)

- Software as a service (SaaS) is a software licensing and delivery model in which software is licensed on a subscription basis and is hosted in the cloud.
- SaaS apps are typically accessed by users using a thin client (web browser).

SaaS has become a common delivery model for many business applications, including:

- office software
- messaging software
- payroll processing software
- accounting software
- collaboration software
- customer relationship management (CRM)
- enterprise resource planning (ERP)
- learning management systems
- content management (service desk management)

Outsourced IT

No More Running from Machine-to-Machine for software upgrades

- No DVDs
- No License Keys to Manage
- Typically delivered in Web Browser

Example SaaS Providers

Microsoft Office 365

Google G Suite

Zoho

Microsoft Office 365



Outlook
(Messaging &
Calendaring)

Word (Word
Processing)

Excel (Spread
Sheet)

PowerPoint
(Presentation
Software)

Teams (Video
Sharing)

Plus, More

Google GSuite



Gmail
(Messaging &
Calendaring)



Google Docs
(Word
Processing)



Google Sheets
(Spread Sheet)



Google Slides
(Presentation
Software)



Google
Meetings (Video
Sharing)



Plus, More

Zoho

 Mail (Messaging & Calendaring)

 Writer (Word Processing)

 Sheet (Spread Sheet)

 Show (Presentation Software)

 Meeting (Video Sharing)

 Books (Accounting)

 CRM

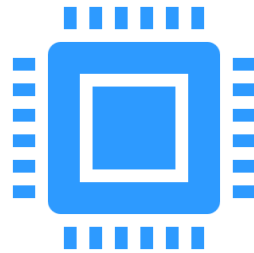
 Plus, Much, Much More



Why SaaS and Linux



We talked about why a customer may want SaaS but what about service providers?



As we have already explored, Linux has no licensing fees to spin up additional servers.



This low cost of scalability and large feature set makes Linux attractive for SaaS service providers.

Lesson 1 Review



SaaS is when our apps are hosted for us



Users require less IT support for SaaS



Linux is a great solution for SaaS service providers

Lesson 2

Platform-as-a-Service (PAAS)

In this lesson we look Platform-as-a-Service (PAAS)

Platform-as-a-Service (PAAS)



This category includes pre-built components that a developer can use when developing a cloud application.



The goal of PAAS is to allow the developer to focus on the development of a solution for the business functions.



Examples of PAAS offerings:

Force.com

Google App Engine

PAAS - Infrastructure Services



Node
Configuration



Load
Balancing



Logging



Database



Scheduled
Jobs

PAAS - Application Services

Authentication

Authorization

Rule Engine

Workflow

Bulk Email

Importing

Exporting

Activity
tracking

Object
Customization

New Object
Creation

PAAS - Application Services (Continued Part 2)

Detail View

Edit View

Data Update

User Interface
Customization

Multi-Select
Fields

Report Display

Report
Creation

Dashboard
Display

Dashboard
Creation

Mobile
Application

PAAS - Application Services (Continued Part 3)



Partner Portal



Customer Portal

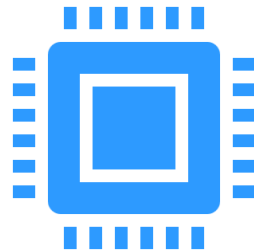


Anonymous Sites

Why PaaS and Linux



We talked about why a developer may want PaaS but what about Linux?



As we have already explored, Linux has no licensing fees to spin up additional servers.



This low cost of scalability and large feature set makes Linux attractive for PaaS service providers.

Lesson 2 Review



PaaS is aimed at Software Developers



Many application services are duplicated across all applications



Infrastructure services are required to scale cloud applications

Lesson 3

Infrastructure-as-a-Service

In this lesson we look at Infrastructure-as-a-Service

Infrastructure-as-a-Service

This category includes virtualization software that allows an operating system to be run in the cloud.

IaaS was designed to free the user from the purchase of hardware and allow for hardware upgrades easily.

Examples of IaaS offerings:

- Amazon EC2
- Rackspace
- Digital Ocean
- Microsoft Azure

IaaS Advantages



LOWER IT COSTS



EASIER TO ADD ON-
DEMAND RESOURCES



LOWER DOWN-TIME

No More Server Rooms

Eliminates Room Conditioning Costs

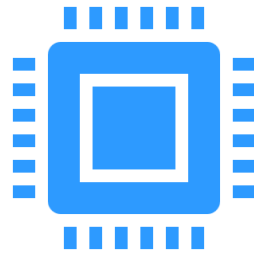
Eliminates Room Fire Suppression Costs

Eliminates Networking Costs

Why IaaS and Linux



We talked about why an organization may want IaaS but what about Linux?



As we have already explored, Linux has no licensing fees to spin up additional servers.



This low cost of scalability and large feature set makes Linux attractive for IaaS services.

Lesson 3 Review



IaaS does not eliminate an organization's need to manage the OS



IaaS takes the servers from the closet to the cloud



IaaS is a steppingstone for many organizations to SaaS