Elk Technologies
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Module 1: Course Introduction

DevNet Associates v1.0

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Module Objectives

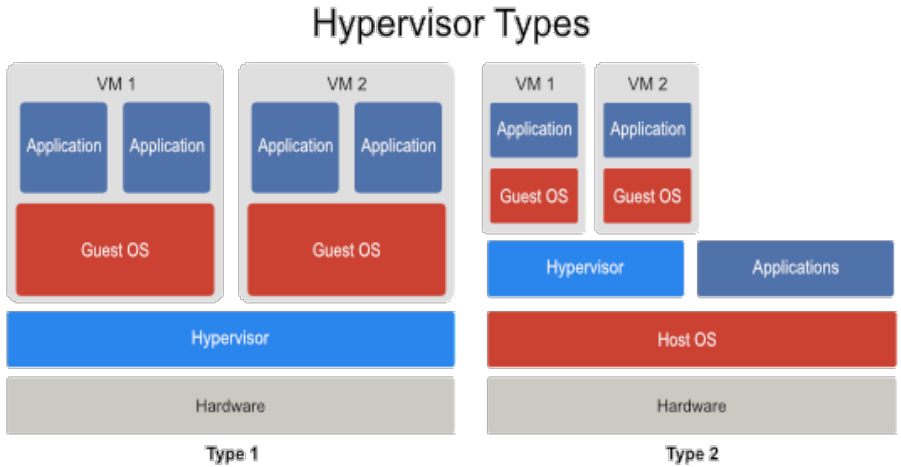
- Module Title: Course Introduction
- Module Objective: Use basic Python programming and Linux skills
- This module will cover the virtual machine setup and the basics of Linux and Python. It will comprise of the following sections:

Topic Title	Topic Objective
Your Lab Environment	Install a virtual lab environment.
Linux	Using basic commands to manage the Linux file system and permissions.
Python	Use basic Python commands you will use throughout the course.

1.1 Your Lab Environment

Set Up Your Lab Environment

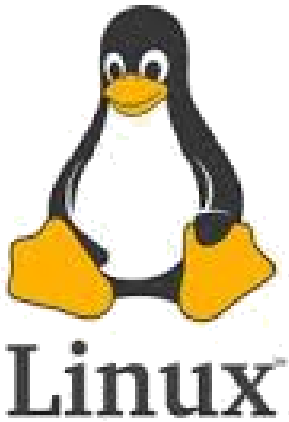
- With virtualization, virtual computers can operate and run within physical computers. These computers are called **Virtual Machines (VMs).**
- VMs are often called **guests**, and physical computers are often called **hosts**.
- The software running on top of the host operating system that manages the virtual machines is called a **Hypervisor – Type 2**.
- Most modern computers and operating systems can run virtual machines.



1.2 Linux

Linux for DevNet

- Linux has gained widespread use in servers, Internet of Things (IoT) devices, networking equipment, smartphones, and many other devices that may not seem as even being computers.
- All coding labs in this course are performed on a Linux-based VM.



Lab – Linux Review

- **Basic commands to know:**
  - `ls` List files/directories
  - `ls -l` List permissions
  - `ls –a` List hidden files/directories
  - `sudo` Super User Do
  - `pwd` Show current path
  - `ps` Show processes
  - `ifconfig` Show interfaces
  - `ifconfig –a` Show active and inactive interfaces
  - `apt update` Show updates
  - `apt upgrade` Perform upgrades
  - `apt install` Install a package
  - `apt remove` Remove a package
  - `grep` Search
  - `cd` Change directories
  - `cd ..` Backup one level
  - `mkdir` Make a directory
  - `mv` Move
  - `cp` Copy a file
  - `cp -r` Copy a directory
  - `rm` Remove a file
  - `rm -r` Remove a directory
  - `less` View a portion of a document that fits in the terminal windows
  - `more` View entire document
  - `touch` Create a file
  - `nano` File editor

1.3 Python

Python Programming

- Python is an easy to learn programming language.
- Few factors that make Python a great tool for learning basic coding are:
  - It is easy to learn - the time needed to learn Python is shorter than for many other languages.
  - It is easy to use for writing new software – it is possible to write code faster when using Python.
  - It is easy to obtain, install and deploy - Python is free, open and multiplatform.
- Python provides a solid foundation and allows to learn other programming languages (for example, C++, Java, or C) much easier and faster.

Lab - Python Programming Review

- **Basic commands to know:**
  - **Basic arithmetic**
  - **`# make comments`**
  - **How to create variables**
    - `list = ["item", "item2"]`
    - `dictionary = {"key": "value", "key2": "value2"}`
    - `tuple = ("item", "item2")`
  - **`print("Variable is :" + variable)`**
  - **`input("Enter a value: ")`**
  - **`type(var)`**
  - **`if, elif, else`**

1.4 Course Introduction Summary

What did I learn in this module?

- This Course Introduction module was designed to help you prepare to take the DevNet Associate (DEVASC) course.
- The Install the Virtual Lab Environment gets you and your PC ready for the coding labs you will find in this course.
- The Linux Review and Python Programming Review labs help you to determine whether you are ready with the prerequisite knowledge and skills required to successfully take the DEVASC course.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