## Glossary

## IT Automation with Python

## **Terms and definitions from Course 5**

## A

**A/B testing:** A way to compare two versions of something to find out which version performs better

**Artifact:** A byproduct of the software development process that can be accessed and used, an item produced during programming

**Automatic scaling:** This service uses metrics to automatically increase or decrease the capacity of the system

**Autoscaling:** Allows the service to increase or reduce capacity as needed, while the service owner only pays for the cost of the machines that are in use at any given time

## C

**Capacity:** How much the service can deliver

**Cold data:** Accessed infrequently and stored in cold storage

**Configuration management:** Automation technique that manages the configuration of computers at scale

**Containers:** Applications that are packaged together with their configuration and dependencies

**Container registry:** A storage location for container images, organized for efficient access

**Container repository:** A container registry that manages container images

**Content Delivery Networks (CDN):** A network of physical hosts that are geographically located as close to the end users as possible

**Continuous delivery:** Any changes to the software are tested and then deployed to users and servers as soon as they are verified

**Continuous deployment:** Automates the deployment of code to production

**Continuous integration:** Constantly adding updates and improvements to software

## D

**DevOps:** Describes the steps of the software development lifecycle beyond writing code, the union between the development team and the operations team

**DevSecOps:** Adding security testing and protection to the software development lifecycle

**Disk image:** A snapshot of a virtual machine’s disk at a given point in time

**Docker:** An open-source tool used to build, deploy, run, update, and manage containers

**Domain-Specific Language (DSL):** A programming language that's more limited in scope

## E

**Ephemeral storage:** Storage used for instances that are temporary and only need to keep local data while they’re running

## F

**Facts:** Variables that represent the characteristics of the system

## H

**Hot data:** Accessed frequently and stored in hot storage

**Hybrid cloud:** A mixture of both public and private clouds

## I

**Input/Output Operations Per Second (IOPS):** Measures how many reads or writes you can do in one second, no matter how much data you're accessing

**Infrastructure as a Service (or IaaS):** When a Cloud provider supplies only the bare-bones computing experience

## K

**Kubernetes:** An open-source platform that gives programmers the power to orchestrate containers

## L

**Load balancer:** Ensures that each node receives a balanced number of requests

## M

**Manual scaling:** Changes are controlled by humans instead of software

**Multi-cloud:** A mixture of public and/or private clouds across vendors

## O

**Object storage:** Storage where objects are placed and retrieved into a storage bucket

**Orchestration:** The automated configuration and coordination of complex IT systems and services

## P

**Persistent storage:** Storage used for instances that are long lived and need to keep data across reboots and upgrades

**Platform as a Service (or PaaS):** When a Cloud provider offers a preconfigured platform to the customer

**Pod:** A group of one or more containers that are scheduled and run together

**Private cloud:** When your company owns the services and the rest of your infrastructure

**Production:** The software is pushed out to the end users from a cloud server

**Public cloud:** The cloud services provided to you by a third party

**Puppet:** The current industry standard for configuration management, also known as the client

**Puppet master:** Known as the Puppet server

## R

**Rate limits:** Prevent one service from overloading the whole system

**Reference images:** Store the contents of a machine in a reusable format

**Registry:** A place where containers or artifacts are stored and organized

## S

**Software as a Service (or SaaS):** When a Cloud provider delivers an entire application or program to the customer

**Staging:** A strategic DevOps approach where we specify the build steps and tests

**Sticky sessions:** All requests from the same client always go to the same backend server

## T

**Templating:** The process of capturing all of the system configuration to let us create VMs in a repeatable way

**Throughput:** The amount of data that you can read and write in a given amount of time

## U

**Utilization limits:** Cap the total amount of a certain resource that you can provision