AWS – Getting Started

Developing and Deploying to AWS

* Deploying scalable applications (Elastic Beanstalk)
* Storing Static Content
* Creating Reproducible Infrastructure with Cloud Formation Templates

AWS – The Big Picture

* Core Services of AWS
* Elastic Cloud Compute
* Virtual Machines
* Extended Services
* Different ways to access AWS

**Core Services – Elastic Cloud Compute (EC2), Simple Storage Service (S3), Relational Database Service (RDS), Route53**

Harnessing the Power of AWS from the Command Line to Code –

* Web Console
* Command Line Interface Utility
* Software Development Kits (SDK)

AWS Service Health Dashboard

<http://status.aws.amazon.com>

\*Most AWS Bugs are misconfigured Security Groups

Elastic Cloud Compute (EC2)

**An Instance** can be used to Run Applications, run Virtual Desktops/Machines, Run 3rd Party Software, and Computing. It can basically do anything, and is a computer.

Computing services operating in remote data servers around the world. **Elastic refers to** the computing service being able to expand and retract as needed.

The basic building block in EC2 is an instance. An instance is basically a virtual server

When Creating an instance, the first is selecting an Amazon Machine Image (AMI)

**Amazon Machine Image (AMI)** is an Operating System + Software used on an EC2 Instance

Amazon updates the Image Software … Not my instance… So, it will stay updated until I create it. Once this occurs, I will need to manually update or create a new instance and migrate the existing code (I need to do research to see what is common and the decision making behind what is the preferred path \*\*\*\*\*\*\*)

Once you have selected an Image for your Instance, the next thing you will do is to select your Instance Type. This is basically the specs for your Instance, cpu, ram, etc.

* You can create families or sub-categories for your Instance Types.

Large Instance Type Comparison – Its important to know what you will need in regard to vCPU and Memory. The price is changed based off the size.

Configuring the Instance Details is the next step and helps with scaling.

Adding Storage allows you to calculate Storage and you decide by adding Elastic Block Storage. It is specifically for using EC2. You can also add Volumes and adjust the Size needed for each.

Step 5 is for tags which are not that important right now.

At step 6 we have the Security Group**. The Security Group** is like a little firewall or IP-based communication rules for a single or group of service instances.

* An example of Security Group scenarios would be – Controlling who can SSH into EC2 Instance
* Allow access between EC2 Instances
* Allow access to Databases
* Accept HTTP Requests

Finally review the instance in step 7 and create the instance with an existing key pair. This allows us to SSH into the instance and make whatever modifications we want.

EC2 Instances are charged by the hour. Instance Type, AMI Type change the price.

Simple Storage Service (S3)

Widely used as the place to store files. Maximum file size of 5 terabytes.

Buckets are the foundational structure of S3. Main resource of add, modifying and deleting objects.

Buckets can

* trigger events when objects are added/modified/deleted
* preserve older versions of objects
* replicate objects across regions

Buckets are accessed via URLS. Example below:

<https://s3-us-west-1.amazonaws.com/okfido.org/img/okfido_logo.png>

s3-us-west-1 is the S3 Bucket Region

okfido.org is the Bucket Name

okfido\_logo.png is the Object Path