Elastic Compute Cloud (EC2) Part 2

Amazon Web Services

Amazon Machine Images (AMI)

An Amazon Machine Image is essentially a virtual machine image much like you would have for Windows or Linux based VMs. This is the initial software of the instance when you launch an instance. For example, you can have a Red Hat Linux AMI or a Windows 2012 with SQL AMI. Amazon Machine Images are customizable in that you can preconfigure a baseline image with software and then create a new AMI from it for distribution.

AMI will consist of

- Operating System
- State of patches or updates
- Application on the system

Four Sources of AMIs

- Published by Amazon Web Services
- AWS Marketplace
- Create your own AMIs
- Shared AMIs

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Linux AMI Virtualization Types

Linux Amazon Machine Images use one of two types of virtualization: paravirtual (PV) or hardware virtual machine (HVM).

- HVM AMIs
  - Are presented with a fully virtualized set of hardware and boot by executing the master boot record of the root block device of your image.
  - Ability to run an operating system directly on top of a virtual machine without any modification, like bare metal hardware
  - Can take advantage of hardware extensions that provide fast access to the underlying hardware on the host system.

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- PV AMIs
  - Boot with a special boot loader called PV-GRUB, which starts the boot cycle and then chain loads the kernel specified in the menu.lst file on your image
  - Paravirtual guests can run on host hardware that does not have explicit support for virtualization
  - Cannot take advantage of special hardware extensions such as enhanced networking or GPU processing

Amazon EC2 – IP Addressing

Instances that are launched in the AWS Cloud need IP Address for network connectivity and to enable you to access them.

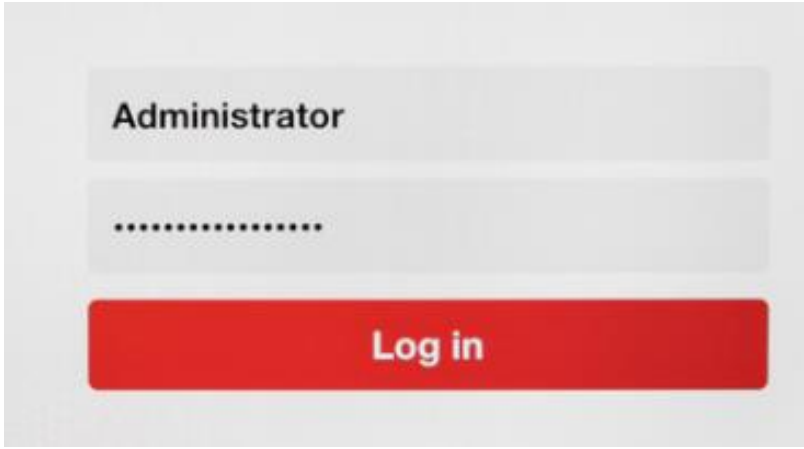
The following addressing options are available:

- Public Domain Name System (DNS)
- Private IP
- Public IP
- Elastic IP

Amazon EC2 – Initial Access

When you launch an EC2 instance you need to use Public Key Cryptography to decrypt and login information. Key Pairs are created in the Management Console, using the CLI or API. AWS will store the public key and you have to keep the private key to gain access to login information.

- The private key is used to gain access to Linux based servers using SSH.
- For Windows instances, login is facilitated by using the local Administrator Account and an associated password.



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Demo 1

Setup a Linux Web Server