CLOUD COMPUTING

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Infrastructure as a Service

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Defining and managing roles and access privileges for individual network users and circumstances to grant privileges

One digital entity per individual

Once the digital identity is established it should be maintained, modified and monitored through a user's access life cycle.

IAM

Administering user access across an entire enterprise and ensure compliance with corporate policies and government regulations.

Password-management tools, provisioning software, security-policy enforcement applications, reporting and monitoring apps and identity repositories

IAM can be provided by OpenAuth, Role-based Access Control (RBAC), Digital Identities, Security Tokens, Identity Providers, etc.

OAuth

- An application request the access to resources controlled by the resource owner

- The resource owner grants permission to access the resource in the form of token and a matching shared-secret

- Token may be issued with specified scope and lifetime

IAM

RBAC

- A user who wants to access the cloud resources sends his/her data to the system administrator

- The administrator assigns permissions and access control policies which are stored in user roles and data access policies

AWS IAM - Key Pair

AWS uses public-key cryptography to encrypt and decrypt login information.

A key pair -> Private key+ Public Key

Prove your identity with the keys to access any resource

Private key is used instead of password

Anyone who possesses your private keys can connect to your instance

AWS IAM - Key Pair

To acquire a Virtual machine (EC2) in AWS you require a key-pair

AWS only stores the public key, and the user stores the private key

The keys that Amazon EC2 uses are 2048-bit SSH-2 RSA keys.

You can have up to 5,000 key pairs per Region

There are three options for creating a key pair:

- Generate a key pair using the key pair wizard

- Generate a key pair when creating Amazon EC2

- Generate using a third-party tool such as OpenSSH, then import the public key to Amazon EC2

Creating a Key Pair

1. Open the Amazon EC2 console at http://console.aws.amazon.com/ec2/
2. On the navigation bar select region for the key pair
3. Click **Key Pairs** in the navigation pane to display the list of key pairs associated with the account
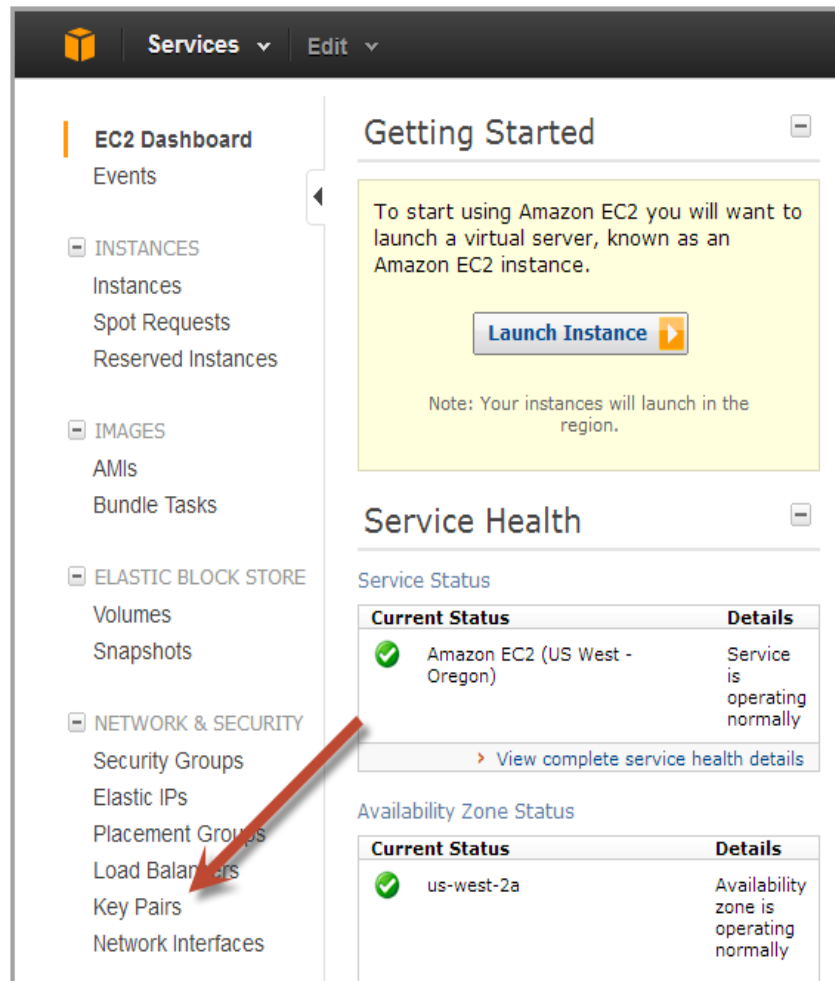
4. Click **Create Key Pair**

5. Enter a name for the key pair in the **Key Pair Name (Ex: my-key-pair)** field of the dialog box and click **Create**

6. The private key file, will be available in .pem and .ppk format. If your machine is Linux or mac machine download .pem. If windows, download .ppk file.

7. Linux and MAC users - Change the permission of the file using the command

   chmod 400 my-key-pair.pem

THANK YOU

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