

Login Details for experimenting account

Email: space.in.the.news@gmail.com

Passsword: e[G‘uaX?9i”aieJ

0.1 Users

Username: Ben

Access Type: AWS Managment Console access

Console Password: sdjf248r+(23ef)-af2+

Sign in link: <https://266867367924.signin.aws.amazon.com/console>

1 Accroynyms

- CIDR = Classless Interdomain Routing
- VPC = Virual Private Cloud

2 Basics and Introduction

2.1 AWS Global Infrastructure

- Availability zone = one or more data centres
- Each region consists of two or more Availability zones.
- Each region is completely independent.
- Every region is connected via a high bandwidth, fully redundant network. (does not use the internet - more consistent result than internent)

2.2 AWS Pricing

2.2.1 Compute

Amounnt of resources (eg. CPU, RAM, ...)

2.2.2 Storage

Quantity of data (size allocated for data normally)

2.2.3 Outbound Data Transfer

Don't pay for inbound data, but do pay for the quantity of data that is transferred out from all services.

3 Create Billing Alarm

1. Navigate to **Billing & Cost Management Dashboard** from the main page (can be searched for (search for 'billing')).
2. select **preferences** on the left

Can also (from the main page (services drop down)) go to CloudWatch.

1. Go to **CloudWatch**
2. Change region to N. Virginia
3. select **In Alarm**
4. create alarm
5. billing alarm
6. total
7. leave settings the same
8. click next to set up SNS **Simple Notification Service**
9. Select **In Alarm**
10. Create new topic
11. Set topic and email
12. set up topic
13. confirm email subscription
14. can be viewed in the SNS Console
15. Click next
16. set alarm name
17. next
18. click **create alarm**
19. done

4 AWS Identity and Access Management Service (IAM)

Can apply an **IAM Policy** to an **IAM User** or **IAM Group** (to define permissions)

IAM User = an entity that represents a person or service.

IAM Group = a collection of users and have policies attached to them.

IAM Role = Roles are "assumed" by trusted entities and can be used for delegation.

Access Key = Consists of an Access key ID and a secret access key. Used for programmatic access to the API.

5 Create IAM User and Group

1. Select **Services** drop down in the main bar
2. select **IAM** under the **Security, Identity, & Compliance** section.
- 3.

5.1 Create a User Group

1. click on **User Groups** (or the number below it)
2. Click **Create Group**
(blue button, top right)
3. Set Group name
4. Attach Permissions Policy.
for full administrator access, select **AdministratorAccess**
5. Click **Create Group**
(blue button, bottom right)

5.1.1 Create User (to be added to the user group)

1. Under **Access management** on the LHS panel, select **Users**.
2. Click **Add User** (blue button, top right).
3. Type in a user name
4. select access type and provide a password to be used by user if necessary.
5. click next
... onto permissions
6. Add User to the existing **Admins** group.
7. Once confirmed, can sign in using the link provided (using the username and password just created)

6 Amazon Virtual Private Cloud (VPC)

VPC = a logically isolated portion of the AWS cloud within a region.

Subnets are created within availability zones (AZs).

- Can have Public and Private subnets

- Public subnets means instances running in it get a public IP address and can access the internet gateway directly.

- Private subnets cannot access the internet gateway directly. (there is a way to get around this though)

Route Table is used to configure the VPC router.

Route Tables can be assigned to the subnets.
Can launch virtual servers into VPC subnets.
Each VPC has a different block of IP addresses.
CIDR = Classless Interdomain Routing. (IP addressing concept)
Can Create multiple VPCs within each region.
Each subnet has a block of IP addresses from the CIDR block.

To view VPCs, go to Services, VPC (under networking and content delivery)

7 Security Groups & Network Access Control Lists (NACLs)

NACLs = Types of Firewalls

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