IAM :
=====
1) This service is used to create users,Groups,Roles
and Custom policies.

2) By Using this service we can give restricted access
of aws services to the users.

3) It's Account level service.

Creating IAM user:
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1) Goto IAM dash Board
2) Click on Users
3) Click on Add user
4) Give any name to user
5) Select both AWS access types
5) Give any password to the users.
6) Click on Next
7) Attach any "Attach existing policies directly".
8) Click on "Next"
9) Click on "Create User".
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Policy:
=======
1) By using policy we assign permission to
IAM users.
2) There are two types of policies.
a) User based policies
b) Resource based policies.
3) User based policies: Policy which we can assign
to the IAM users. There are two types of
user based policies
a) AWS managed policies
b) Customer based policies
4) Resource Based Policy : Policy is directly assigned
to resource it self only
ex: On S3 bucket.
5) Policy contains below elements
a) Effect (M)
b) Action (M)
c) Resource (M)
d) Condition (O)
e) Version (M)
f) Statement(M)
f) Prinicipal(O)
6) Policies are written "JSON" Format
7) Effect: Effect is having two possible values
a) allow
b) deny
8) Action: Action is based on service and resources.
ex : StopInstances

StartInstances
RunInstances
CreateVpc
CreateVolume
AttachVolume
DettachVolume
etc

9) Resource:The things which can create/destory.
ex : If we launch two ec2 instances,those two are
resources,
If we create Elastic IP ,That also a resource.

10) Resource defination, we give it by using "ARN"
(Amzon Resource Name) Format
Arnformat:
arn:aws:<service_name>:<Region_code>:<Account>:
resource/RegionType
ex : Lets take one instance launched in
mumbai region in "521937342151" Account,
The id of ec2 instance is "i-23456834".
ARN Format:
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arn:aws:ec2:ap-south-1:521937342151:instance/i-23456834

Examples:
========
1) Create a policy which will deny
terminate ec2 instances.
and policy allow all other ec2 action.

```
{
   "Version": "2012-10-17",
   "Statement": [
      {
         "Effect": "Allow",
         "Action": "ec2:*",
         "Resource": "*"
      },
  {
         "Effect": "Deny",
         "Action": "ec2:TerminateInstances",
         "Resource": "*"
      }

   ]
}
```

2)Create a policy which will deny
terminate ec2 instances and creating new key pairs.
and policy allow all other ec2 action.

```
{
```

```
   "Version": "2012-10-17",
   "Statement": [
      {
         "Effect": "Allow",
         "Action": "ec2:*",
         "Resource": "*"
      },
  {
         "Effect": "Deny",
         "Action": ["ec2:TerminateInstances",
  "ec2:CreateKeyPair"
  ]
         "Resource": "*"
      }

   ]
}
```

3) Write a policy which will deny to terminate "i-345672"
ec2 instance which located in mumbai. and all other
ec2 action are allowed.

```
 {
   "Version": "2012-10-17",
   "Statement": [
      {
         "Effect": "Allow",
         "Action": "ec2:*",
         "Resource": "*"
      },
  {
         "Effect": "Deny",
         "Action": "ec2:TerminateInstance",
         "Resource": "arn:aws:ec2:ap-south-1:345627890:instance/i-345672"
      }

   ]
}
```

4) Write a policy will allow all ec2 related action
only in mumbai region.

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1) Write a policy which will deny Deleting VPC
and allow all other EC2 related actions.

2) Write a policy which will deny replace route table
and allow all other EC2 related actions.
3) Write policy which will deny to upload objects into
s3 bucket and allow all other s3 and ec2 related
actions.
4) Write a policy which will deny to attach/dettach

new instances to elb.

5) Write a policy which will deny edit of ASG.

6) Write a policy which will deny to create s3 buckets in mumbai region and allow same in all other regions.
7) Write a policy which will allow full ec2 permissionsonly only in mumbai region.

8) Write a policy which allow to launch only t2.micro instances.
9) Write a policy which allow to launch only t2.micro instances only in mumbai region.
10) Write a policy which allow to stop/start/terminate only t2.micro instances.

11) Write a policy which will deny to terminate "i-675489345" instance, which is located in mumbai region