

## Policies

- > In IAM, Policies are documents that defines permissions.
- > It is a set of instructions/rules written in JSON format, that AWS reads to allow/deny the actions.
- > It decides, 'who can do actions', 'what can be performed', 'on which resources the actions can be performed' & 'under what conditions it can be performed'.

eg. of IAM Policy in JSON format:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "Statement1",
      "Effect": "Allow",
      "Action": "s3:ListBucket",
      "Resource": "arn:aws:s3:::my-bucket"
    },
    {
      "Sid": "Statement2",
      "Effect": "Deny",
      "Action": "s3:DeleteObject",
      "Resource": "arn:aws:s3:::my-bucket/*"
    }
  ]
}
```

- 1. Version:** Version of the policy lang. which is defined by AWS
- 2. Statement block:** It is a block of rules(policies). It is a list of rules inside a policy & in here we can have multiple rules.
- 3. Statement ID(Sid):** Unique identifier for the rule/policy.
- 4. Effect:** Tells AWS whether the rule 'grants permission' OR 'denies permission'
  - Allow: permission is granted.
  - Deny: permission is blocked.
- 5. Action:** Specifies the resources/part of the resource for which permissions are being given.
- 6. Resource:** specifies the resource on which rule have been applied.

## Networking Concepts

### >> Computer Network:

- >> When 2 or more computers (servers or devices) are connected over a network then it is called a 'Computer Network'.



>> A computer network is a set of nodes connected by a communication link.

Devices present in the network.

A medium that connects the devices (eg: cables, wifi). It can be wired as well as wireless.

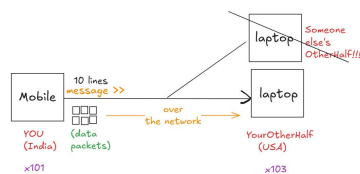
### >> Internet:

- >> The Internet is a biggest computer network.
- >> It interconnects billions computing devices throughout the world, so that they can communicate with each other.



>> Mainly used for communication b/w devices.

>> Packets: A packet is a small chunk of data that is sent over a network.



### >> Address:

- > An 'address' is a unique identifier that tells the network, where a device/service/data should go, so that communication can happen correctly.
- > Every device present in any network has an address attached to it.
- > In networking, an address tells the computer where to send the data packets.

### >> Type of Address:

1. MAC Address (Physical address)
2. Logical Address