1. **Devops engineer creates a VPC. VPC is a entire IP address range. For each project you divide the ip address range and it is nothing but a subnet.**
2. **Flow of VPC:**

**Internet 🡪 Internet gateway 🡪 Public subnet 🡪 Elastic Load balancer 🡪 Route table 🡪 Security Group 🡪 Application (present in VPC).**

**These are the critical components of VPC.**

1. **NACL are basically an automation to your security groups. Instead of defining the same thing again and again you can define that as part of NACL. i.e. You can use NACL if you need multiple security groups for same subnet.**
2. **If application present in VPC wants to communicate with internet then NAT gateway is used. It is bad practice to expose your application/server ip address to internet. To overcome this, you need to do masking of IP address.**

**This masking of ip address is called NAT gateway. It either exposed router public ip or load balancer public ip. If uses router public ip then it is called NAT gateway or if it uses the Load balance public ip then it is called SNAT.**

1. **VPC flow logs used to debug VPC issue. This service is chargeable inside VPC.**
2. **VPC is the one that introduces the concept of private cloud in world of public cloud and adds lot of security.**
3. **In AWS, security is a shared responsibility. It means Devops or AWS engineer should do their part to enhance the security.**
4. **Primary difference between SG & NACL:**

**>SG basically serves at the instance i.e. ec2 level.**

**>All outbound traffic is allowed in default AWS SG except port 25. Port 25 is blocked by default to avoid any email spam activity.**

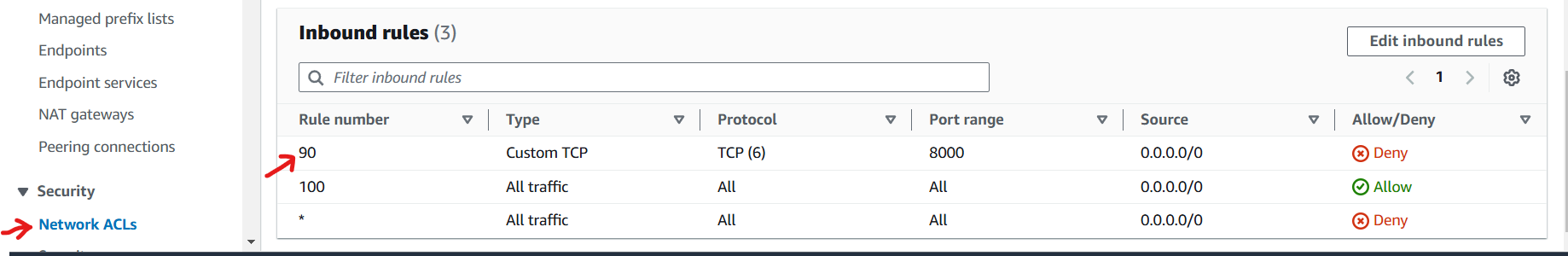
**>NACL applied at the subnet level.**

**>NACL adds an additional layer of security after SG.**

**>e.g. suppose if someone has allowed all traffic at SG by mistakenly then you can manage allow/deny traffic by using NACL at subnet level & gets apply on all applications which come under that subnet. Wow.**

**9. In NACL, lowest rule number is having highest priority.**

**VPC 🡪 Network ACLs**

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