

## Command Line Interface

- Create IAM user
- Give user – Administrator Access ( Full Access )
- Create IAM user – Download CSV file
- Go to the user which you have created – click on security credentials -
- Create Access Key – Download CSV file of Access key ( in that file you can get Access key and Secret key )
- Download CLI for windows from google
- Open power shell or command prompt

❖ Using CLI you can create any services which we have created using aws console

- Using CLI – Create VPC
  - Create Subnet
  - Create Internet Gateway
  - Attach Internet Gateway to VPC
  - Create Route table - create route
  - Create Security Group – add security group
  - Create network Acl

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/powershell

PS C:\Users\Karuna> msisexec.exe /i https://awscli.amazonaws.com/AWSCLIV2.msi
PS C:\Users\Karuna> msisexec.exe /i https://awscli.amazonaws.com/AWSCLIV2.msi /qn
PS C:\Users\Karuna> aws --version
aws-cli/2.10.3 Python/3.9.11 Windows/10 exe/AMD64 prompt/off
PS C:\Users\Karuna> aws ec2 create-vpc --cidr-block 172.17.0.0/16

You must specify a region. You can also configure your region by running "aws configure".
PS C:\Users\Karuna> aws configure
AWS Access Key ID [None]: AKIAR2FK1Z7HBUUE4HX
AWS Secret Access Key [None]: p0Y9xuGqRlqoCnbinJ3r1v6E2LBYo7hmoXa6Tfgz
Default region name [None]: us-east-1
Default output format [None]: json
PS C:\Users\Karuna> aws ec2 create-vpc --cidr-block 172.17.0.0/16
{
  "Vpc": {
    "CidrBlock": "172.17.0.0/16",
    "DhcpOptionsId": "dopt-0a164f062da9a37e4",
    "State": "pending",
    "VpcId": "vpc-01ee46d57f8b33283",
    "OwnerId": "124911143742",
    "InstanceTenancy": "default",
    "Ipv6CidrBlockAssociationSet": [],
    "CidrBlockAssociationSet": [
      {
        "AssociationId": "vpc-cidr-assoc-0d6ed1da00b9fb32c",
        "CidrBlock": "172.17.0.0/16",
        "CidrBlockState": {
          "State": "associated"
        }
      }
    ],
    "IsDefault": false
  }
}
```

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PS C:\Users\Karuna> aws ec2 create-subnet --vpc-id vpc-01ee46d57f8b33283 --cidr-block 172.17.100.0/24 --availability-zone us-east-1b
{
  "Subnet": {
    "AvailabilityZone": "us-east-1b",
    "AvailabilityZoneId": "usel-az1",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "172.17.100.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "available",
    "SubnetId": "subnet-0e2b9f0f96aedc34c",
    "VpcId": "vpc-01ee46d57f8b33283",
    "OwnerId": "124911143742",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-east-1:124911143742:subnet/subnet-0e2b9f0f96aedc34c",
    "EnableDns64": false,
    "Ipv6Native": false,
    "PrivateDnsNameOptionsOnLaunch": {
      "HostnameType": "ip-name",
      "EnableResourceNameDnsRecord": false,
      "EnableResourceNameDnsAAAARecord": false
    }
  }
}

PS C:\Users\Karuna> aws ec2 describe-vpcs --vpc-id
{
  "Vpcs": [
    {
      "CidrBlock": "172.17.0.0/16",
      "DhcpOptionsId": "dopt-0a164f062da9a37e4",
      "State": "available",
      "VpcId": "vpc-01ee46d57f8b33283",
      "OwnerId": "124911143742",
      "InstanceTenancy": "default",
      "CidrBlockAssociationSet": [
        {
          "AssociationId": "vpc-cidr-assoc-0d6ed1da00b9fb32c",
          "CidrBlock": "172.17.0.0/16",
          "CidrBlockState": {
            "State": "associated"
          }
        }
      ],
      "IsDefault": false
    },
    {
      "CidrBlock": "10.0.0.0/16",
      "DhcpOptionsId": "dopt-0a164f062da9a37e4",
      "State": "pending"
    }
  ]
}
```

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Windows PowerShell

{"VpcId": "vpc-0fe1563445f39f3c",
 "OwnerId": "124911143742",
 "InstanceTenancy": "default",
 "CidrBlockAssociationSet": [
  {
    "AssociationId": "vpc-cidr-assoc-07bf3dffa73568b45",
    "CidrBlock": "10.0.0.0/16",
    "CidrBlockState": {
      "State": "associated"
    }
  }
 ],
 "IsDefault": false,
 "Tags": [
  {
    "Key": "Name",
    "Value": "prod server VPC"
  },
  {
    "Key": "purpose",
    "Value": "prod workload"
  }
 ]
 },
 ],
 }
}

PS C:\Users\Karuna> aws ec2 create-subnet --vpc-id vpc-01ee46d57f8b33283 --cidr-block 172.17.200.0/24 --availability-zone us-east-1b
{
  "Subnet": {
    "AvailabilityZone": "us-east-1b",
    "AvailabilityZoneId": "usel-az1",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "172.17.200.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "available",
    "SubnetId": "subnet-043d170127a2386f3",
    "VpcId": "vpc-01ee46d57f8b33283",
    "OwnerId": "124911143742",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-east-1:124911143742:subnet/subnet-043d170127a2386f3",
    "EnableDns64": false,
    "Ipv6Native": false,
    "PrivateDnsNameOptionsOnLaunch": {
      "HostnameType": "ip-name",
      "EnableResourceNameDnsRecord": false,
      "EnableResourceNameDnsAAAARecord": false
    }
  }
}

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    },
    "IsDefault": false,
    "Tags": [
      {
        "Key": "Name",
        "Value": "prod server VPC"
      },
      {
        "Key": "purpose",
        "Value": "prod workload"
      }
    ]
  },
],
}

PS C:\Users\Karuna> aws ec2 create-subnet --vpc-id vpc-01ee46d57f8b33283 --cidr-block 172.17.200.0/24 --availability-zone us-east-1b
{
  "Subnet": {
    "AvailabilityZone": "us-east-1b",
    "AvailabilityZoneId": "usel-az1",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "172.17.200.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "available",
    "SubnetId": "subnet-043d170127a2386f3",
    "VpcId": "vpc-01ee46d57f8b33283",
    "OwnerId": "124911143742",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "SubnetArn": "arn:aws:ec2:us-east-1:124911143742:subnet/subnet-043d170127a2386f3",
    "EnableDns64": false,
    "Ipv6Native": false,
    "PrivateDnsNameOptionsOnLaunch": {
      "HostnameType": "ip-name",
      "EnableResourceNameDnsRecord": false,
      "EnableResourceNameDnsAAAARecord": false
    }
  }
}

PS C:\Users\Karuna> aws ec2 create-internet-gateway
{
  "InternetGateway": {
    "Attachments": [],
    "InternetGatewayId": "igw-09d69f3d5fbee7fa3",
    "OwnerId": "124911143742",
    "Tags": []
  }
}

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PS C:\Users\Karuna> aws ec2 attach-internet-gateway --internet-gateway-id igw-09d69f3d5fba7fa3 --vpc-id vpc-01ee46d57f8b33283
PS C:\Users\Karuna> aws ec2 create-route-table

usage: aws [options] <command> [<subcommand> ...] [parameters]
To see help text, you can run:

    aws help
    aws <command> help
    aws <command> <subcommand> help

aws.exe: error: the following arguments are required: --vpc-id
PS C:\Users\Karuna> aws ec2 create-route-table --vpc-id vpc-01ee46d57f8b33283
{
  "RouteTable": {
    "Associations": [],
    "PropagatingVgws": [],
    "RouteTableId": "rtb-0f73e97563dbffcb3",
    "Routes": [
      {
        "DestinationCidrBlock": "172.17.0.0/16",
        "GatewayId": "local",
        "Origin": "CreateRouteTable",
        "State": "active"
      }
    ],
    "Tags": [],
    "VpcId": "vpc-01ee46d57f8b33283",
    "OwnerId": "124911143742"
  }
}
PS C:\Users\Karuna> aws ec2 create-route --route-table-id rtb-0f73e97563dbffcb3 --destination-cidr-block "0.0.0.0/0" --gateway-id igw-09d69f3d5fba7fa3
{
  "Return": true
}
PS C:\Users\Karuna> aws ec2 create-security-group --group-name "web-ssh" --description "Web and SSH traffic" --vpc-id vpc-01ee46d57f8b33283
{
  "GroupId": "sg-076cc8e768b29a32d"
}
PS C:\Users\Karuna> aws ec2 authorize-security-group-ingress --group-id sg-076cc8e768b29a32d --protocol "tcp" --cidr "0.0.0.0/0" --port "80"
An error occurred (InvalidParameterValue) when calling the AuthorizeSecurityGroupIngress operation: CIDR block 0.0.0.0/0 is malformed
PS C:\Users\Karuna> aws ec2 authorize-security-group-ingress --group-id sg-076cc8e768b29a32d --protocol "tcp" --cidr "0.0.0.0/0" --port "80"
{
  "Return": true,
  "SecurityGroupRules": [
    {
      "SecurityGroupRuleId": "sgr-0d4e3b3d6979ef484",
      "GroupId": "sg-076cc8e768b29a32d",
      "GroupOwnerId": "124911143742",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": 80,
      "ToPort": 80,
      "CidrIpv4": "0.0.0.0/0"
    }
  ]
}
PS C:\Users\Karuna> aws ec2 authorize-security-group-ingress --group-id sg-076cc8e768b29a32d --protocol "tcp" --cidr "0.0.0.0/0" --port "443"
{
  "Return": true,
  "SecurityGroupRules": [
    {
      "SecurityGroupRuleId": "sgr-09d764edda3329582",
      "GroupId": "sg-076cc8e768b29a32d",
      "GroupOwnerId": "124911143742",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": 443,
      "ToPort": 443,
      "CidrIpv4": "0.0.0.0/0"
    }
  ]
}
PS C:\Users\Karuna> aws ec2 create-network-acl --vpc-id vpc-01ee46d57f8b33283
{
  "NetworkAcl": {
    "Associations": [],
    "Entries": [
      {
        "CidrBlock": "0.0.0.0/0",
        "Egress": true,
        "IcmpTypeCode": {}
      }
    ]
  }
}
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{
  "GroupId": "sg-076cc8e768b29a32d"
}
PS C:\Users\Karuna> aws ec2 authorize-security-group-ingress --group-id sg-076cc8e768b29a32d --protocol "tcp" --cidr "0.0.0.0/0" --port "80"
An error occurred (InvalidParameterValue) when calling the AuthorizeSecurityGroupIngress operation: CIDR block 0.0.0.0/0 is malformed
PS C:\Users\Karuna> aws ec2 authorize-security-group-ingress --group-id sg-076cc8e768b29a32d --protocol "tcp" --cidr "0.0.0.0/0" --port "80"
{
  "Return": true,
  "SecurityGroupRules": [
    {
      "SecurityGroupRuleId": "sgr-0d4e3b3d6979ef484",
      "GroupId": "sg-076cc8e768b29a32d",
      "GroupOwnerId": "124911143742",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": 80,
      "ToPort": 80,
      "CidrIpv4": "0.0.0.0/0"
    }
  ]
}
PS C:\Users\Karuna> aws ec2 authorize-security-group-ingress --group-id sg-076cc8e768b29a32d --protocol "tcp" --cidr "0.0.0.0/0" --port "443"
{
  "Return": true,
  "SecurityGroupRules": [
    {
      "SecurityGroupRuleId": "sgr-09d764edda3329582",
      "GroupId": "sg-076cc8e768b29a32d",
      "GroupOwnerId": "124911143742",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": 443,
      "ToPort": 443,
      "CidrIpv4": "0.0.0.0/0"
    }
  ]
}
PS C:\Users\Karuna> aws ec2 create-network-acl --vpc-id vpc-01ee46d57f8b33283
{
  "NetworkAcl": {
    "Associations": [],
    "Entries": [
      {
        "CidrBlock": "0.0.0.0/0",
        "Egress": true,
        "IcmpTypeCode": {}
      }
    ]
  }
}
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"CidrIpv4": "0.0.0.0/0"
}
}
PS C:\Users\Karuna>
PS C:\Users\Karuna> aws ec2 create-network-acl --vpc-id vpc-01ee46d57f8b33283
{
  "NetworkAcl": {
    "Associations": [],
    "Entries": [
      {
        "CidrBlock": "0.0.0.0/0",
        "Egress": true,
        "IcmpTypeCode": {},
        "PortRange": {},
        "Protocol": "-1",
        "RuleAction": "deny",
        "RuleNumber": 32767
      },
      {
        "CidrBlock": "0.0.0.0/0",
        "Egress": false,
        "IcmpTypeCode": {},
        "PortRange": {},
        "Protocol": "-1",
        "RuleAction": "deny",
        "RuleNumber": 32767
      }
    ],
    "IsDefault": false,
    "NetworkAclId": "acl-0725ac6a130c093c5",
    "Tags": [],
    "VpcId": "vpc-01ee46d57f8b33283",
    "OwnerId": "124911143742"
  }
}
PS C:\Users\Karuna> aws ec2 create-network-acl-entry --ingress --cidr-block "0.0.0.0/0" --protocol "tcp" --port-range :From=22, To=22 --rule-action "allow" --network-acl-id acl-0725ac6a130c093c5 --rule-number 70
>>
PS C:\Users\Karuna> aws ec2 create-network-acl-entry --ingress --cidr-block "0.0.0.0/0" --protocol "tcp" --port-range "From=22, To=22" --rule-action "allow" --network-acl-id acl-0725ac6a130c093c5 --rule-number 70
PS C:\Users\Karuna> aws ec2 describe-network-acl --network-acl-id acl-0725ac6a130c093c5
usage: aws [options] <command> [<subcommand> ...] [<parameters>]
To see help text, you can run:
    aws help
    aws <command> help
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Invalid choice: 'describe-network-acl', maybe you meant:
  * describe-network-acls
  * describe-network-interfaces
PS C:\Users\Karuna> aws ec2 describe-network-acls --network-acl-id acl-0725ac6a130c093c5
{
  "NetworkAcls": [
    {
      "Associations": [],
      "Entries": [
        {
          "CidrBlock": "0.0.0.0/0",
          "Egress": true,
          "Protocol": "-1",
          "RuleAction": "deny",
          "RuleNumber": 32767
        },
        {
          "CidrBlock": "0.0.0.0/0",
          "Egress": false,
          "PortRange": {
            "From": 22,
            "To": 22
          },
          "Protocol": "6",
          "RuleAction": "allow",
          "RuleNumber": 70
        },
        {
          "CidrBlock": "0.0.0.0/0",
          "Egress": false,
          "Protocol": "-1",
          "RuleAction": "deny",
          "RuleNumber": 32767
        }
      ],
      "IsDefault": false,
      "NetworkAclId": "acl-0725ac6a130c093c5",
      "Tags": [],
      "VpcId": "vpc-01ee46d57f8b33283",
      "OwnerId": "124911143742"
    }
  ]
}
PS C:\Users\Karuna> aws ec2 create-network-interface --private-ip-address 172.16.100.99 --subnet-id subnet-0e2b9f0f96aedc34c
An error occurred (InvalidParameterValue) when calling the CreateNetworkInterface operation: Address does not fall within the subnet's address range
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