**Q1. What is IP and PORT ? What are their ranges?**

* IP stands for internet protocol is an address is used to identify computer on internet.
* IP address is UNIQUE id which are uniquely defined to the all the computers.
* It is logical & software address and combination of network and host address.
* It helps in connecting your computer to other devices on your network.
* IP addressing are classified into two types
* IPv4 and IPv6 stand for version 4 and version 6
* Ipv4 is 32 bit addressing and ipv6 is 128 bit addressing.
* IPv4 is separated by .(dot) and IPv6 is separated by : (colon).
* IPv4 is representing decimal numbers while IPv6 seperating hexamdecimal numbers ( 0 to 9 & A to F )

**Port** is a used Run the application it is endpoint of system to communicate with other system with help of port numbers.

0-1024 ports reserved and 1023-65535 port are available for user

**There are 5 classes of IP address:**

**Class A :**

**Actual range of class A**

|  |  |  |  |
| --- | --- | --- | --- |
| 255 | 0 | 0 | 0 |
| N | H | H | H |
| 0 | 0 | 0 | 0 |
| 127 | 255 | 255 | 255 |

Where the N is stand for network and H is stands for host

Total network in class A is 128.

Total host in class a is 256\*256\*256=**1,67,77,216** host addresses are available in class A.

**Valid range of class A (Register Global Public Static):**

|  |  |  |  |
| --- | --- | --- | --- |
| 255 | 0 | 0 | 0 |
| N | H | H | H |
| 1 | 0 | 0 | 1 |
| 126 | 255 | 255 | 254 |

**Class B :**

Actual range of class B

|  |  |  |  |
| --- | --- | --- | --- |
| 255 | 255 | 0 | 0 |
| N | N | H | H |
| 128 | 0 | 0 | 0 |
| 191 | 255 | 255 | 255 |

Total network in class B is 64\*256=16384

Total host network in Class B =256\*256=65,536

Actual range of class B (Register Global Public Static)

|  |  |  |  |
| --- | --- | --- | --- |
| 255 | 255 | 0 | 0 |
| N | N | H | H |
| 128 | 0 | 0 | 1 |
| 191 | 255 | 255 | 254 |

**Class C :**

Actual range of class C

|  |  |  |  |
| --- | --- | --- | --- |
| 255 | 255 | 255 | 0 |
| N | N | N | H |
| 192 | 0 | 0 | 0 |
| 223 | 255 | 255 | 255 |

There is total 3 network addressing in class C =32\*256\*256=2097152.

The host in class C single network =256

Valid range of class C (register Global public Static)

|  |  |  |  |
| --- | --- | --- | --- |
| 255 | 255 | 255 | 0 |
| N | N | N | H |
| 192 | 0 | 0 | 1 |
| 223 | 255 | 255 | 254 |

**Class D :**

It is used for multicasting purpose and used by router.

|  |  |  |  |
| --- | --- | --- | --- |
| 224 | 0 | 0 | 0 |
| 239 | 255 | 255 | 255 |

|  |  |  |  |
| --- | --- | --- | --- |
| 224 | 0 | 0 | 1 |
| 239 | 255 | 255 | 254 |

**Class E**

It is used for research & scientific purpose.

|  |  |  |  |
| --- | --- | --- | --- |
| 240 | 0 | 0 | 0 |
| 255 | 255 | 255 | 255 |

|  |  |  |  |
| --- | --- | --- | --- |
| 240 | 0 | 0 | 1 |
| 255 | 255 | 255 | 254 |

**Q2. What is HTTP and HTTP Verbs?**

HTTP is a htypertext transfer protocol which establishing connection between client and server.

It is a protocol which helps to communicate a client with servers by sending datapackets means making request to the server and server will respond to the client.

HTTP dones the request response process between client and server.

Unsecure (http = 80)

Secure (https = 443)

HTTP Verbs are:

* GET - GET verb is used to getting information or data from the server requesting by the client.
* POST - POST verb is used to adding or inserting new data or record oe submiting the essential data of client to the server.
* PUT - PUT verb is simply used to modify the record or credentials on the server by client.
* DELETE - DELETE verb is used to delete or remove the data from the server.
* Option
* Patch
* Connect

**Q3. List down few important status codes with their message.**

**Status codes** (1xx,2xx,3xx,4xx,5xx) :

1xx = represented for informational

100 – continue

101 – switching protocol

2xx = represented for success

200 – ok 201 – created 202 – accepted

204 – no content

3xx = represented for redirection

304 – not modified

4xx = represented for Client errors

400 – bad request 401 – unauthorized 403 – forbidden

404 – not found 409 - conflict

5xx = represented for server error

500 – internal server error 502 – bad gateway

**Q4. What is an API endpoint?**

API (Application program interface) endpoint is the code allows two software programs to communicate with each other.

It is done by sending request to the server by the client and receiving response sended by the server to the client.

**Q5. What is REST API?**

It is an application program to request GET,PUT,POST,DELETE data.

REST suggests to the server for creating an object and send data to the requested client as a response.

And API is a application program interface which allows communication between client and server.

REST API performing CURD (CREATE,READ,UPDATE,DELETE) operation that is nothing but your GET,POST,PUT,DELETE

**Q6. What are the Licenses in software development?**

The following are the licences if software development:

* MIT
* Apache 2.0
* GPL
* Mozilla
* Creative commas
* BSD