DEFAULT GATEWAY :

1. It is the node or internal to router that helps end host device to get connected to internet.
2. It is the default node that end host points to so as to represent this end host in internet for communication.
3. It does Network Address Translation in case any end host wants to have communication in internet.
4. By default , it is assigned with the router’s interface IP that is acting as a part of that LAN.
5. End host which tries to communicate with the destination device (known IP of it) will first identify whether destination node is present inside its own network. Otherwise, It is sent to the router’s interface (default gateway configured) which by NAT maintains the mapping of the source node IP : source port with Router’s interface IP
6. Thus , the request from the end host will be represented in terms of router in internet and response will also be sent only to default gateway from which the requested client will be identified and with the help of ARP, router identifies the source MAC and forwards to the appropriate interface and layer-2 device will then forward packet to appropriate device.

TO CHECK DEFAULT GATEWAY :

1. Using “ip route show” command in linux shows the IP of the default gateway if configured.
2. Using “route -n” command in linux presents table whose first row is the default gateway
3. Using “ping” command in linux with the help of default gateway IP
4. Using “traceroute” command with any valid destination IP will cross default gateway from first hop.
5. Using “arp -a” command in linux will list default gateway IP if configured.