Network Address Translation

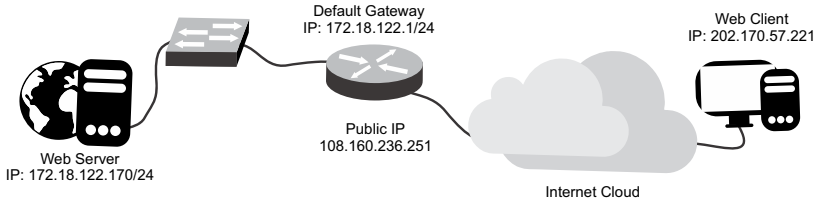
https://github.com/DelfinoRT

Routers or firewalls running some form of **Network Address Translation (NAT)** perform a process in which one or more local IP address is translated into one or more Global IP address and vice versa in order to provide Internet access to the local hosts.

NAT extended the useful life of Ipv4 addressing on the Internet for many years.
Many routers and firewalls offer NAT as a feature in addition to the core capability of routing. NAT is not routing, but a separate technology.

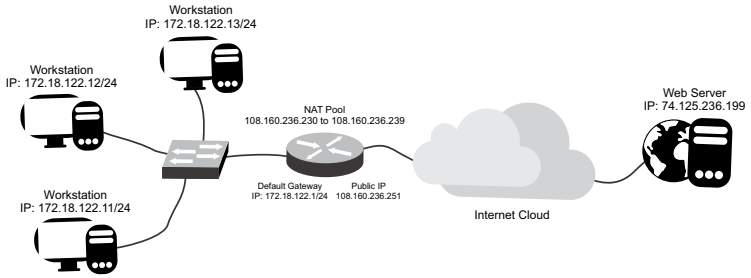
Static NAT

In this, a single private IP address is mapped with single Public IP address, i.e., a private IP address is translated to a public IP address (one-to-one mapping). Static NAT (Network Address Translation) is useful when a network device inside a private network needs to be accessible from internet. It is used in Web hosting.



Dinamyc NAT

In this type of NAT, multiple private IP address are mapped to a pool of public IP addresses (NAT pool.). It is used when we know the number of fixed users that want to access the Internet at a given point of time.
Dynamic NAT establishes a one-to-one mapping between a private IP address to a public IP address.



PAT (PORT ADDRESS TRANSALATION)

(PAT) also known as NAT Overload, is another type of dynamic NAT which can map multiple private IP addresses to a single public IP address by using a technology known as Port Address Translation.
Port numbers are used to distinguish the traffic, i.e., which traffic belongs to which IP address. This is most frequently used as it is cost effective as thousands of users can be connected to the Internet by using only one real global (public) IP address.