

Known IPv6 addresses or ranges

Address ranges

Address range	Description
200::/3	This address range is assigned for globally routable unicast addresses.
ff00::/8	This address range is assigned for multicast purposes.
fe80::/10	This address range is used for link-local address generation. Routers should never forward packets in this range from one link to another.
fec0::/10	This address range was earlier assigned for private IPv6 addressing or site-local addressing. In latest RFCs use of this range has been deprecated and we should choose some random /48 subnet from fd00::/8 for private addressing. Organization routers should not forward packets with source/destination IPs in this range outside the organization.
fd00::/8	We can choose some random /48 subnet from this range for private IPv6 addressing within organization. These can help in ensuring connectivity in nodes even when we are renumbering.
fc00::/8	Addresses in these range will be assigned by some numbering authority for private use. Such authority is does not exists at the time of this writing.
2001:db8::/32	Address in this range are used for documentation purposes or for writing examples in book. Routers should not forward packets with source/destination addresses in this range over Internet.
2002::/16	Address in this range are reserved for 6-to-4 tunnels. Firewalls should filter these range on IPv6 side and protocol 41 on IPv4 side to avoid security problems due to 6-to-4 tunnels
3ffe::/16	This address range was assigned to 6bone for testing IPv6 development. The use of this range in any new setup is deprecated. Routers should never forward packets with source/destination in this range.

Addresses

Address	Description
::	Unspecified address. This can be used by node for neighbour discovery to ensure that there is no other node which already has the address which it is going to use for link-local purposes.
::1	Loopback address. This address must be assigned to loopback adapter only. This can be used for internal communication within host. The packets with source/destination IP address as loopback address should not leave IPv6 node.
ff02::1	All node multicast address. This address can be used to contact all IPv6 nodes on a particular link. This address is useful for multicast listener discovery or for replying to queries when source address was unspecified ::, etc.
ff02::2	All routers multicast address. This address can be used to contact all IPv6 routers on the link. This is used to send router solicitation messages so that node can get prefix and other administrative information.
FF02:0:0:0:0:1:FF00::/104	Solicited node multicast address. The solicited-node multicast address is formed by taking the low-order 24 bits of the address (unicast or anycast) and appending those bits to the 104-bit prefix FF02:0:0:0:0:1:FF00::/104. A node is required to compute and support a solicited-node multicast address for every unicast and anycast address it is assigned.