

The next three lines tell your system how to handle the loopback address. The second line is straightforward, but examine the first and third lines carefully. Earlier you learned that only 127.0.0.1 is the loopback, but according to the first route, any 127.0.0.0/8 address is the loopback. The third line is a little weird and is placed in the routing table to satisfy a loopback addressing requirement. Bottom line: no matter how you use a loopback address, as long as you start the address with 127, it will always go to 127.0.0.1.

Network	Destination	Netmask	Gateway	Interface	Metric
	127.0.0.0	255.0.0.0	On-link	127.0.0.1	306
	127.0.0.1	255.255.255.255	On-link	127.0.0.1	306
	127.255.255.255	255.255.255.255	On-link	127.0.0.1	306

The next line defines the local connection: *(Any packet for the 10.12.14.0) (I24 network ID) (don't use a gateway) (just ARP on the LAN interface to get the MAC address and send it directly to the recipient) (Cost of 281 to use this route).*

Network	Destination	Netmask	Gateway	Interface	Metric
	10.12.14.0	255.255.255.0	10.12.14.201	10.12.14.201	281

So, if a gateway of 10.12.14.201 here means “don't use a gateway,” why put a number in at all? Local connections don't use the default gateway, although every routing table has a gateway column. The Microsoft folks had to put *something* there, thus they put the IP address of the NIC. That's why the gateway address is the same as the interface address. The NIC is the gateway between the local PC and the destination. Just pass it out the NIC and the destination will get it.

Okay, on to the next line. This one's easy. Anything addressed to this machine should go right back to it through the loopback (127.0.0.1).

Network	Destination	Netmask	Gateway	Interface	Metric
	10.12.14.201	255.255.255.255	127.0.0.1	127.0.0.1	281

The next line is the directed broadcast. Occasionally your computer needs to send a broadcast to the other computers on the same network ID. That's what this row signifies. This difference between a directed broadcast and a full broadcast is the former goes only to the targeted subnet, not the full broadcast domain.

Network	Destination	Netmask	Gateway	Interface	Metric
	10.12.14.255	255.255.255.255	0.12.14.201	10.12.14.201	281

The next two lines are for the multicast address range. Odds are good you'll never need it, but most operating systems put it in automatically.

Network	Destination	Netmask	Gateway	Interface	Metric
	224.0.0.0	240.0.0.0	On-link	127.0.0.1	306
	224.0.0.0	240.0.0.0	On-link	10.12.14.201	281

The bottom lines define the default IP broadcast. If you send out an IP broadcast (255.255.255.255), your NIC knows to send it out to the local network.

Network	Destination	Netmask	Gateway	Interface	Metric
	255.255.255.255	255.255.255.255	On-link	127.0.0.1	306
	255.255.255.255	255.255.255.255	On-link	10.12.14.201	281