## Demystifying Networking Prof. Sridhar Iyer Department of Computer Science and Engineering Indian Institute of Technology, Bombay

## Lecture - 31 Addressing a local network manually

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So, now let us look at this router, which is basically the end router for the hostel or the hostel network.

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Now, this router looks something different than your standard W-iFi routers and instead of a graphical user interface that they have, this has something called like the command line interface, which is this.

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And, this usually works with certain set of commands, but for the ease of it let us look at the 'configuration tab' and in the 'configuration tab' you can see certain basic settings even if you do not know the commands. And it also displays the relevant corresponding commands over here. So, let us look at the interfaces this router has.

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Now, this interface is on and has an IP address of 10.10.15.1, which is gigabit ethernet 0.0 or gig 0.0. Now let us look at some other interface which is, gigabit Ethernet 0/1 which is this one. Now this has 172.16.0.1. Now, when we were looking at the configuration page of our Wi-Fi router in the hostel, we saw that the gateway was 172.16.0.1.

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So, for this WiFi router, the router that connects it to the other network is this, or its gateway. Now, this router also has two different networks, as we saw, the first one 10.10.15.1 and the other one 172.16.0.1. So, it is a gateway for all the devices inside this network and enables them to communicate to the rest of the network. Now, similarly now this entire section becomes our campus network. which we saw last time also in the previous packet tracer video.

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Now, let us look at this router, which is the last router of the campus or we call it the edge router. Now again let us look at the interfaces that it has. So, this interface is not switched on. Let us look at some other interfaces. So, now, what we see here is 10.0.0.1.

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So here, this is the gateway for all the networks that run in the campus, like we saw here in this, there was a network with the address 10.10.15.1 and as the subnet mask is 255, all these three octets could take values between 0 to 255. Hence, all those addresses would fall into the same network, and this router becomes the gateway of that entire campus network.