Demystifying Networking
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Lecture – 32
Addressing in Public and Private Networks

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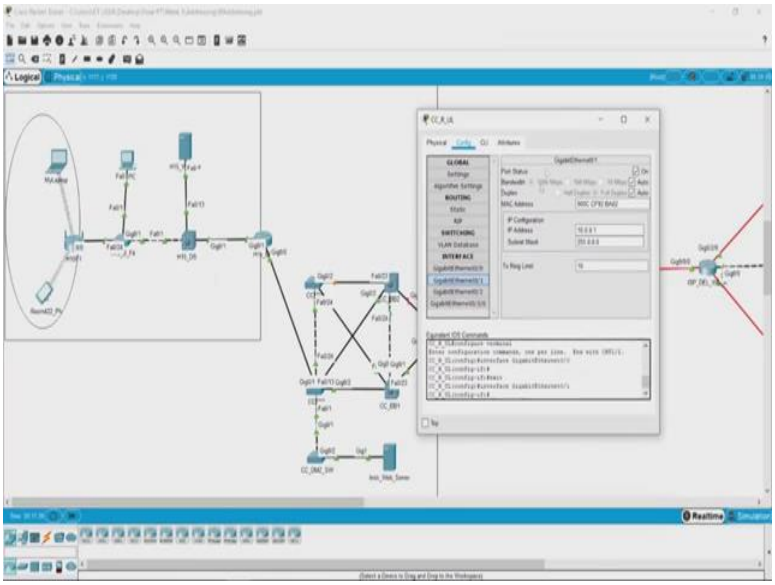

Now, let us look at, what are the other interfaces that this router has.

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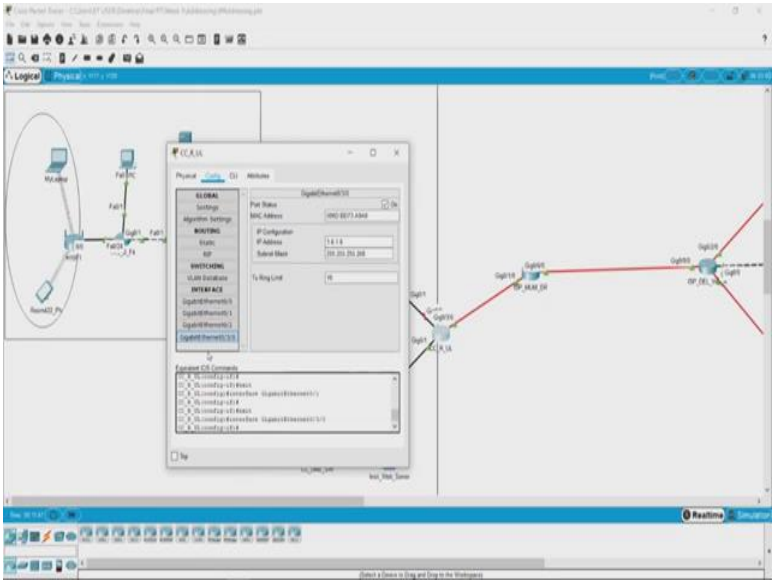

So, the other interface this router has is, something called gigabit Ethernet 0/3/0, which is this interface and the IP address here is 1.6.1.6. Now, this IP address as we saw in that slide, does not belong to the private IP addresses. All the network that we saw inside the campus were private IP addresses which anybody can use.

So, any college which is trying to establish its own network, could use any set of those IP addresses because, they will be communicating only inside of the campus, which is, so, inside of this router, all these devices will have their own unique addresses. Now, as soon as the communication leaves this router, which connects the campus to the internet, it gets a globally routable address which is 1.6.1.6.

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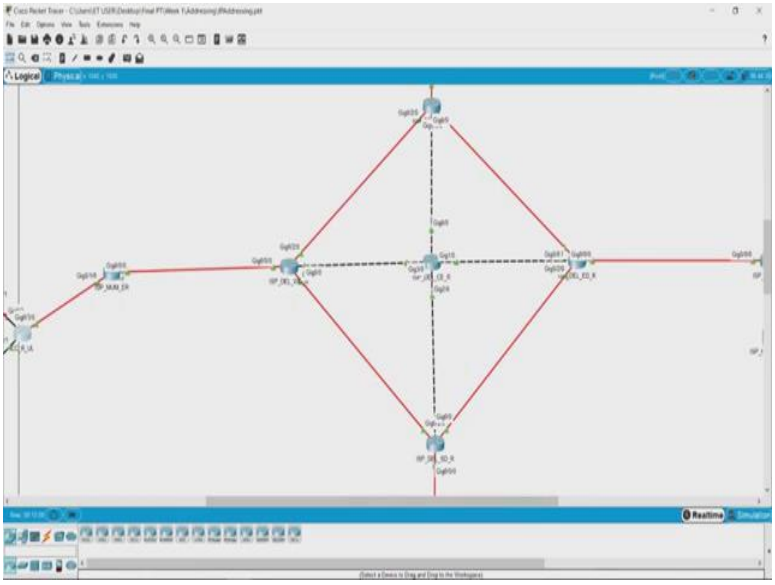

Let us look at the rest of the network. Now what we see here is, here is a router which is basically the internet service provider at Mumbai which connects to another router of the internet service provider in Delhi.

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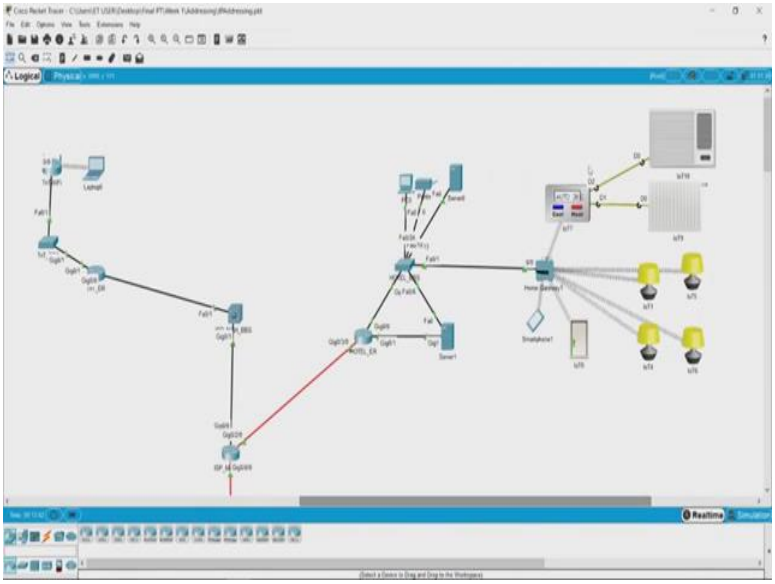

So, here we have four routers, which connect to the internet service providers of the relevant cities as we saw in our hypothetical situation here. So, this basically becomes something like the backbone of the network in this topology, and here what we have is another network. So, this is a network of a hotel, a smart hotel I would say, because this has something called the home gateway and internet of thing based devices, like these lamps, the door and this air conditioning and heating unit, which could also be operated over the internet. And, that is one of the beauties of packet tracer that it allows you to experiment with all these kind of devices.

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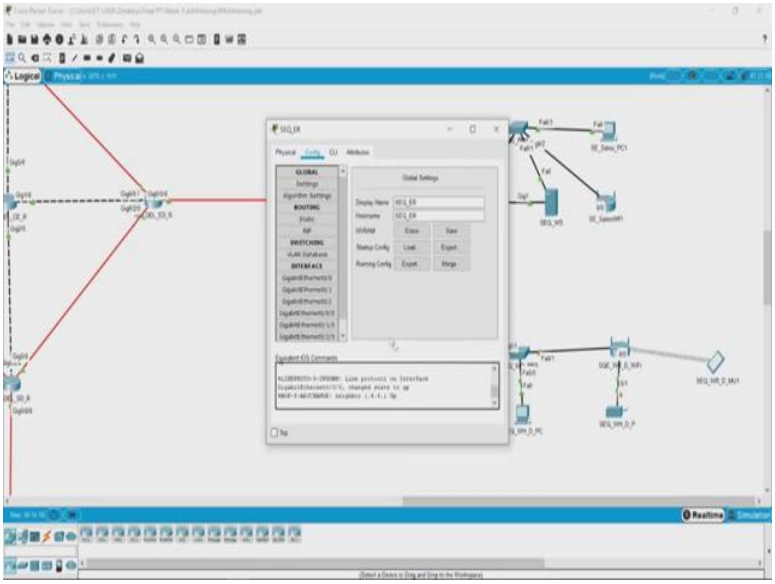

So, here we have another network of a company and another network over here. So, something interesting to look at here is, if you look at this router and try to see what are the interfaces this has.

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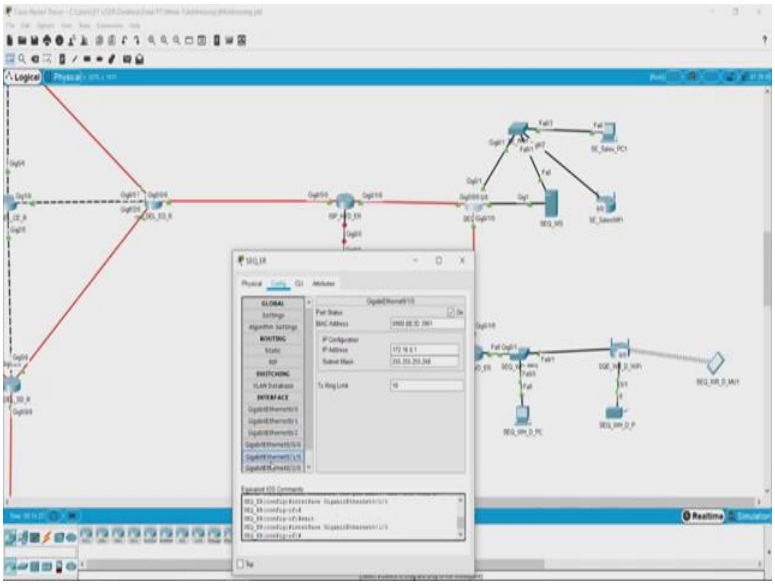

So, it has 0/0/0, 0/0/1 and 0, ok, this one is switched off. Just look at this one. This one is also switched off.

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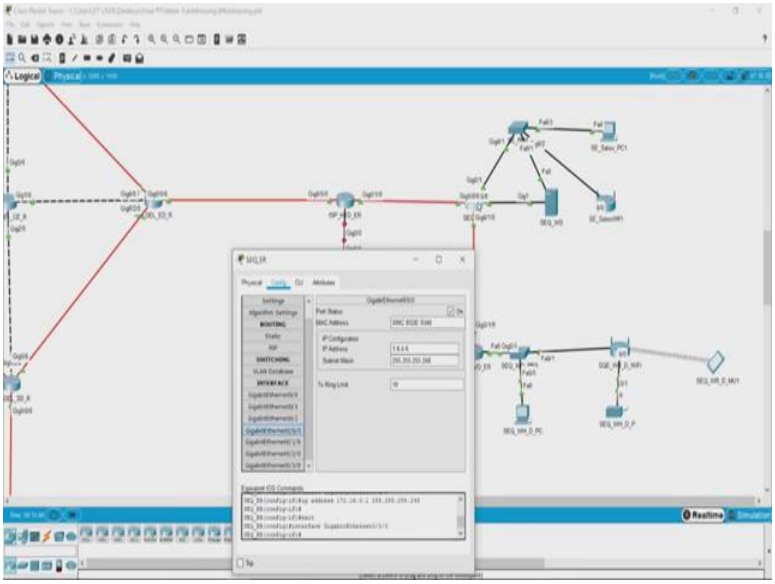

So, here what we see is, here it has a private address and here it has a globally routable address, that means, this is the edge router for the company. And, this company now has a remote site within that city, which is maybe at different building in a different place in the same city, but it connects to that office through its edge router, that means, all the communication here first has to come to this building's router and then only can leave to the internet. Now why do this? This could be because of lot of reasons, it makes it easier to implement company policies and it makes it easier to see what kind of communication is going over the internet now.