

Routers

- Routers know the paths to get to the different IP subnets on a network.
- They are required to send traffic from one subnet to another.
- Routers operate at Layer 3 of the OSI model.
- (They also operate at Layers 2 and 1, and will typically have awareness up to Layer 7.)

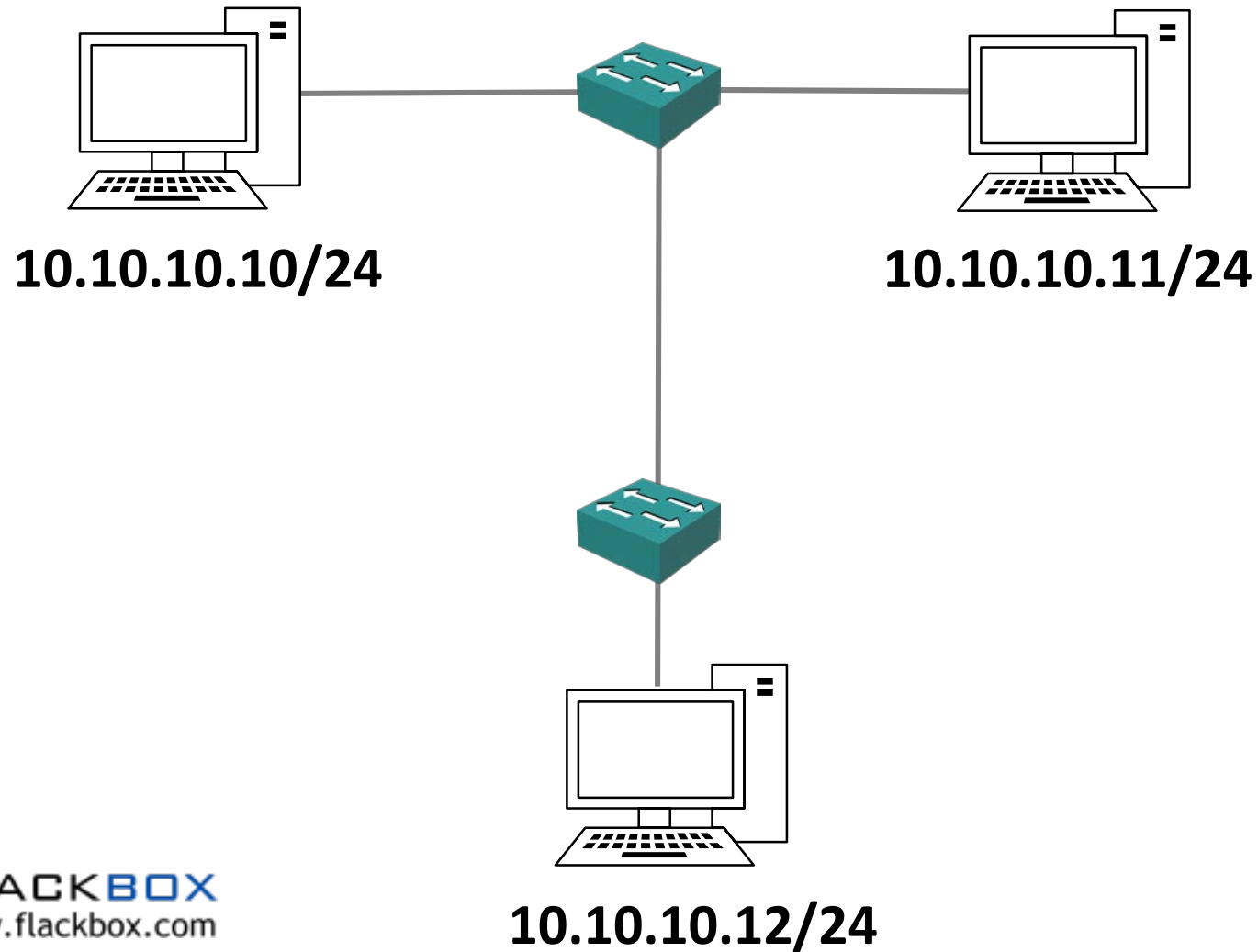


Routers vs Switches

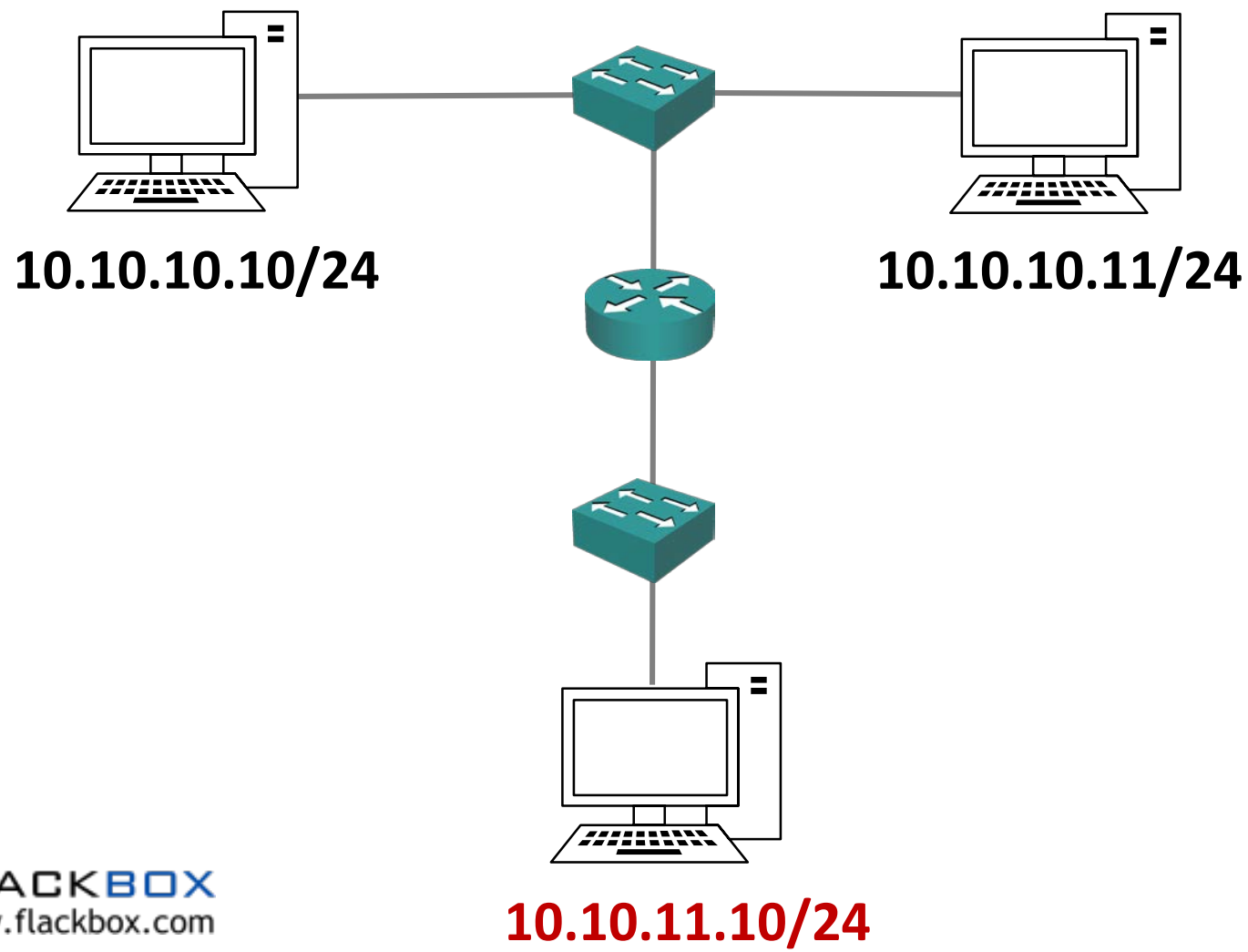


- Routers are Layer 3 aware and can route traffic between different networks.
- Switches are Layer 2 aware and can switch traffic between hosts on the Local Area Network.
- Routers support many types of interfaces, such as Ethernet, Serial, ISDN, ADSL etc.
- Switches typically only support Ethernet interfaces.
- Switches will typically have more ports than routers.
- Switches forward broadcast traffic, routers do not by default.

Switch Operation



Router Operation



Layer 3 Switches



- Advanced switches are Layer 3 aware and can route traffic between different IP subnets.
- Layer 3 switches will still typically support only Ethernet interfaces and will have more ports than routers.

Layer 3 Switch Operation

