EX NO:3b Study RJ45 connector and Crimping of cable with RJ45 connector

DATE:03.08.24

AIM:

To Study RJ45 connector and Crimping of cable with RJ45 connector.

RESOURCES REQUIRED:

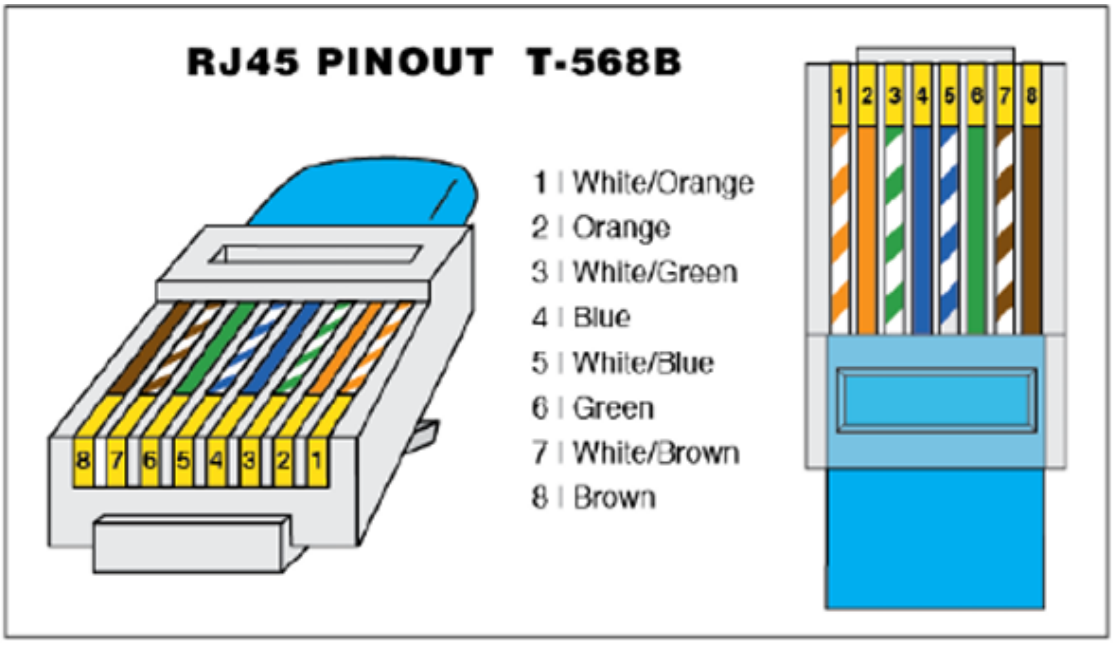
H/W Requirements: RJ45,Crimping Tool, Printer, and Internet Connection.

S/W Requirements: Cisco Packet Tracer.

THEORY:

RJ45:

RJ45 cable is used for connect the ALL HMI and engineer station through a switch to communicated each other. It is used to download the any modification and which is made in eraphics in engineering station.RJ45 cable also used for communicate the printer with computer.

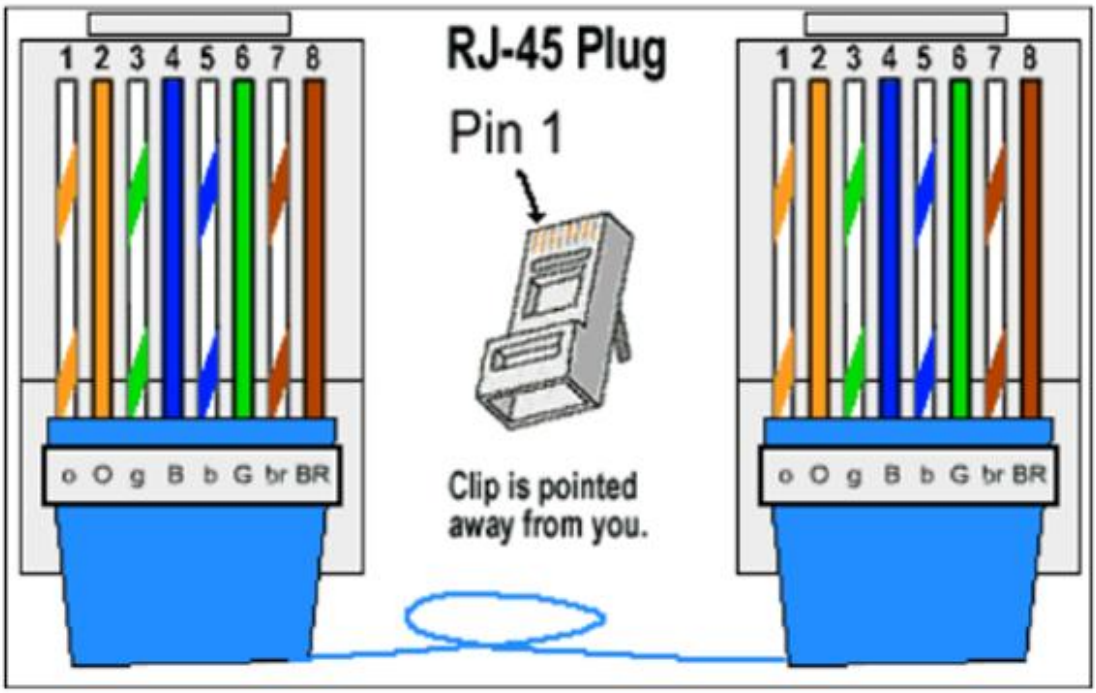


There are four pairs ofwires in an Ethernet cable, and an Ethernet connector (8P8C) has eight pin slots. Each pin 1s identified by a number, starting from left to nght, with the clip facing away from you.

There is two kinds of Ethernet cable is used for communication.

1. Straight Through
2. Cross over cable

Straight Through cable: STRAIGHT THROUGH Ethernet cables are the standard cable used for almost all purposes, and are often called “patch cables”. It is highly recommend you duplicate the color order as shown on the left. Note how the green pair is not side-by-side as are all the other pairs. This configuration allows for longer wire runs.



CROSSOVER CABLES: The purpose of a Crossover Ethernet cable is to directly connect one computer to another computer (or device) without going through a router, switch or hub.

Crimping Tool:

Crimpers are tools used to make cold weld joints between two wires or a wire and aconnector, such as lugs. Ideally, the electrical and mechanical properties of the weld joint are as strong as the parent materials. Crimping tools are sized according to the wire gauges (using AWG - American Wire Gauge) they can accept. Some come with interchangeable die heads that allow for a wider range of wire sizes and connectors.

How to use: First you will need to strip the length of wire that you want to crimp. Then, attach the connector. For crimping tools with interchangeable dies, you will need to select the right die head for the connector by matching wire gauge ratings. For dieless crimpers, you will need to match to the proper groove. Finally, apply pressure, take out the newly crimped connector, and give a few tugs to make sure you have a solid and secure connection.

PROCEDURE:

Strip the Cable: Remove about 1 inch of the outer insulation using the wire stripper. Untwist the wire pairs and align them according to the desired wiring standard (T568A or T568B).

Trim the Wires: Cut the wires evenly to ensure they fit into the RJ45 connector.

Insert Wires into the RJ45 Connector: Push the wires into the connector, making sure each wire goes into the correct slot. The outer jacket should also be inside the connector for proper strain relief.

Crimp the Connector: Insert the connector into the crimping tool and squeeze it firmly. This secures the wires and locks the connector in place.

Test the Cable: Use a cable tester to ensure proper connectivity and functionality.

RESULT:

Thus, the of Study RJ45 connector and Crimping of cable with RJ45 connector is studied.