

Date: 01/08/2024

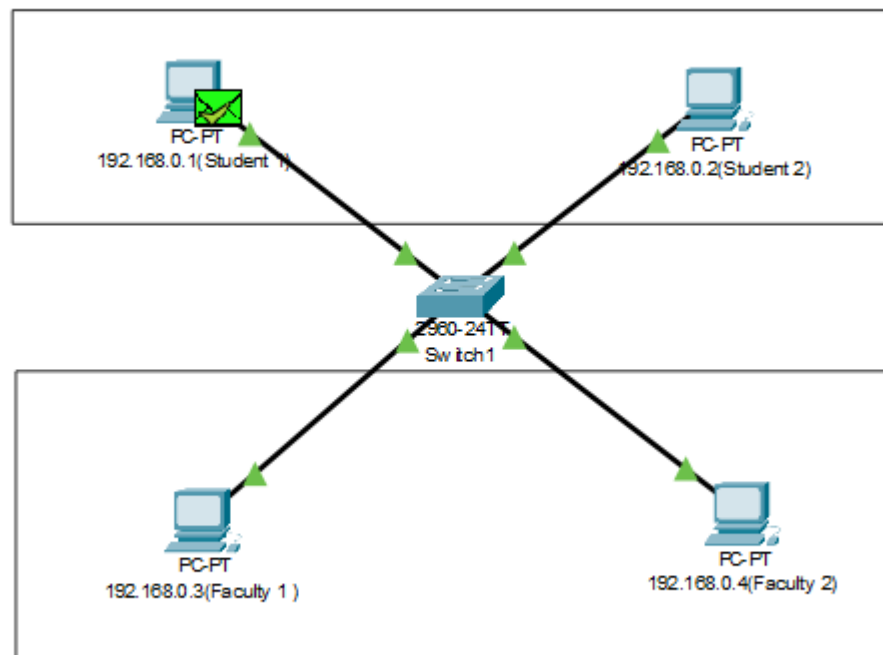
Lab Practical #05:

Study the concept of VLAN using packet tracer.

Practical Assignment #05:

1. Implement the different network structures in VLAN and VLAN trunking. Also check connectivity between them using ping command or PDU utility.

1st V-lan :-



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PDU Information at Device: 192.168.0.1(Student 1)

OSI Model Inbound PDU Details

PDU Formats

EthernetII			
0	4	8	Bytes
PREAMBLE: 101010..10		DEST ADDR: 00E0.F9D7.55BD	
SRC ADDR: 0090.2BAC.1B57	TYP E: 0x	DATA (VARIABLE LENGTH)	FCS: 0x00000000

IP						
0	4	8	16	20	24	Bits
VER: 4	IHL: 5	DSCP: 0x00	TL: 28			
ID: 0x0003			FLAG: 0	FRAG OFFSET: 0x000		
TTL: 128		PRO: 0x01	CHKSUM			
SRC IP: 192.168.0.2						
DST IP: 192.168.0.1						
DATA (VARIABLE LENGTH)						

Switch1

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

FastEthernet0/10

FastEthernet0/11

FastEthernet0/12

VLAN Configuration

VLAN Number

VLAN Name

Add Remove

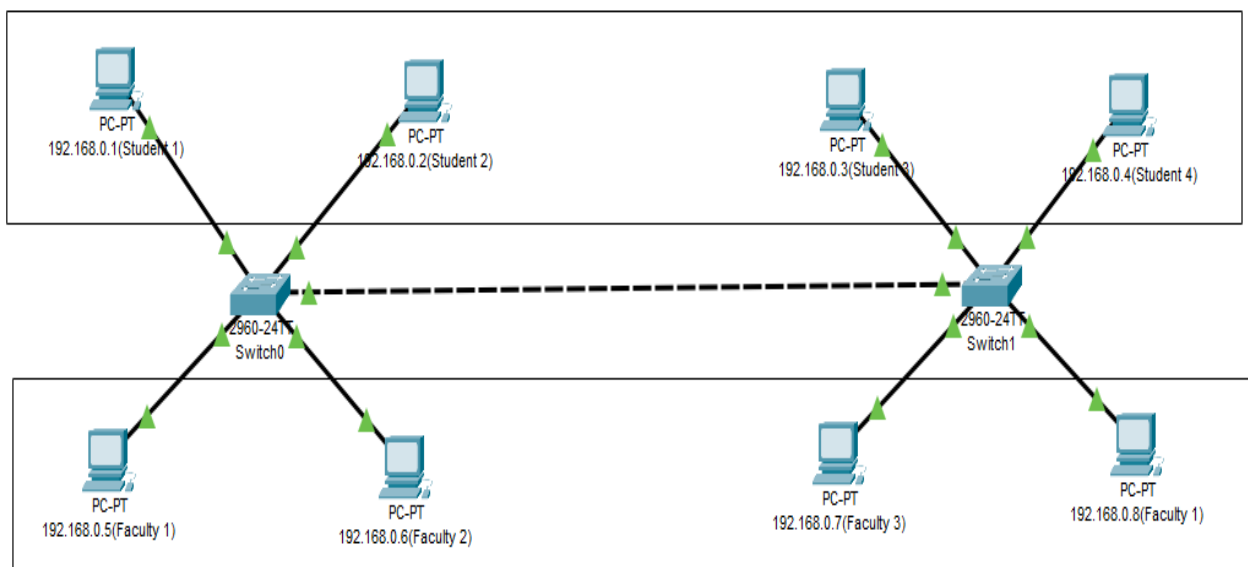
VLAN No	VLAN Name
1	default
100	student
200	faculty
1002	fddi-default
1003	token-ring-default
1004	fddinet-default
1005	trnet-default

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Steps :-

- Create a 4 devices and each divides connect between switch.
- Each devices add IP Address and same name as Label.
- For example IP 192.168.0.1 same as all Ip.
- Two V-lan are created Name is Student and Faculty.
- Now Switch configuration .click switch and click Vlan_Database.
- In Vlan_Database Add Vlan Number and Vlan Name and click Add Button.
- In Switch click Fast Eathernet portnumber and config the portnumber of devices.
- To Pass Msg between Two vlan but it not be send because devices connect different lan.
- Two devices connect same vlan it will be sent msg one to another succesfully.

2nd V-lan :-

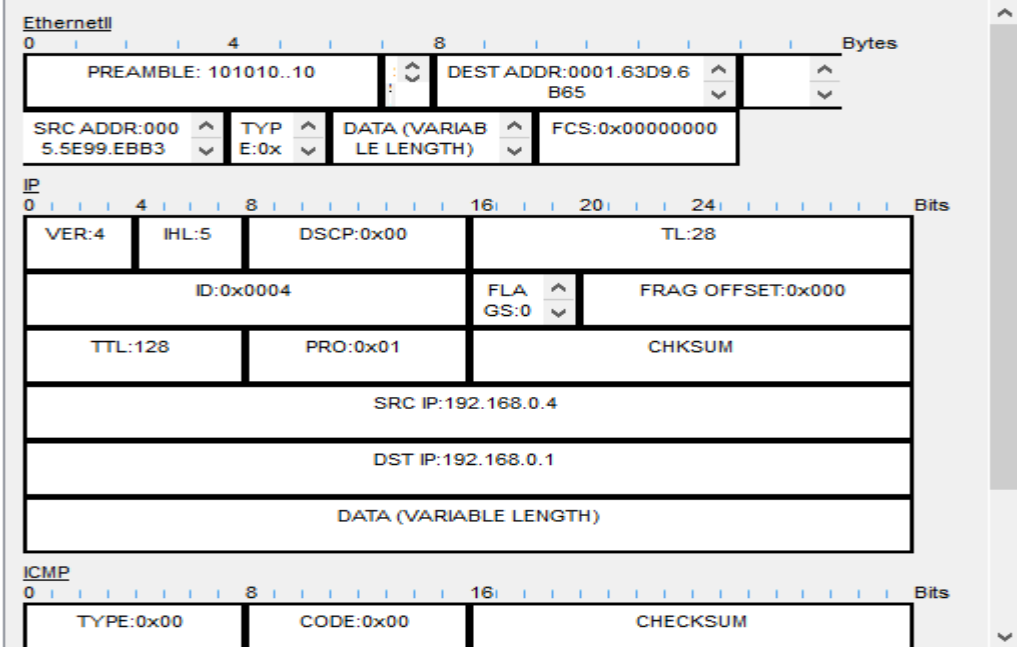


Date: 01/08/2024

PDU Information at Device: 192.168.0.1(Student 1)

OSI Model Inbound PDU Details

PDU Formats



Switch0

Physical Config CLI Attributes

GLOBAL

- Settings
- Algorithm Settings

SWITCHING

- VLAN Database

INTERFACE

- FastEthernet0/1
- FastEthernet0/2
- FastEthernet0/3
- FastEthernet0/4
- FastEthernet0/5
- FastEthernet0/6
- FastEthernet0/7
- FastEthernet0/8
- FastEthernet0/9
- FastEthernet0/10
- FastEthernet0/11
- FastEthernet0/12

VLAN Configuration

VLAN Number:

VLAN Name:

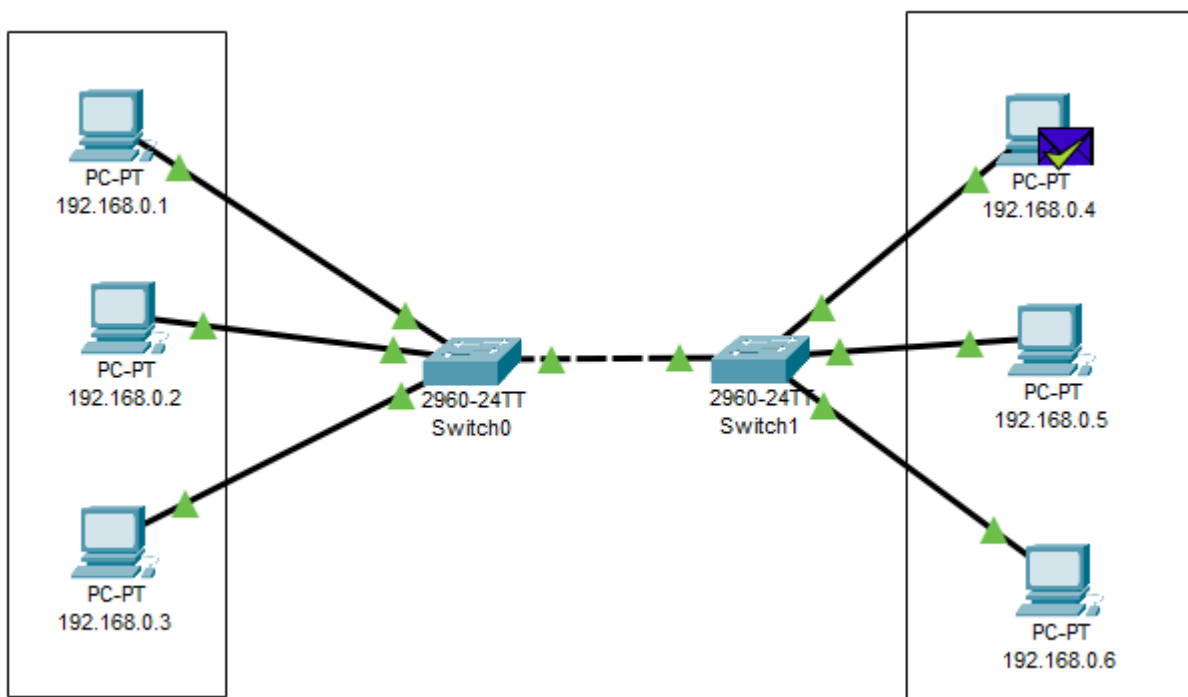
VLAN No	VLAN Name
1	default
100	Student
200	Faculty
1002	fddi-default
1003	token-ring-default
1004	fddinet-default
1005	trnet-default

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Steps :-

- Take 8 pc and assign Ip address and label to each pc.
- Take 2 Switch and Make 2 Lan with 4 pc each.
- Now there is local area network but We need to implement Virtual Lan database for implement Virtual Lan we need to configure Virtual Lan database in configure Section in switch.
- Make 2 New Virtual Lan configuration with unique Virtual Lan number and name.
- Now check the Port where the pc is connected and open that port configuration in switch and set Virtual Lan to access mode and select your Virtual Lan database name in dropdown.
- Now we need to connect both Switch but here we need to give Virtual Lan mode to trunk because there are number different Virtual Lan signal travel threw it.
- Now you configure two Virtual Lan in different local area network.

3rd V-lan :-



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PDU Information at Device: 192.168.0.4

OSI Model Inbound PDU Details

PDU Formats

EthernetII

PREAMBLE: 101010...10		DEST ADDR: 00D0.FFE4.4C53	
SRC ADDR: 0001.63CC.1C95	TYP: E:0x	DATA (VARIABLE LENGTH)	FCS: 0x00000000

IP

VER: 4	IHL: 5	DSCP: 0x00	TL: 28
ID: 0x0002		FLAG: 0	FRAG OFFSET: 0x000
TTL: 128	PRO: 0x01	CHKSUM	
SRC IP: 192.168.0.2			
DST IP: 192.168.0.4			
DATA (VARIABLE LENGTH)			

ICMP

TYPE: 0x00	CODE: 0x00	CHECKSUM
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Switch0

Physical Config CLI Attributes

GLOBAL

- Settings
- Algorithm Settings

SWITCHING

- VLAN Database

INTERFACE

- FastEthernet0/1
- FastEthernet0/2
- FastEthernet0/3
- FastEthernet0/4
- FastEthernet0/5
- FastEthernet0/6
- FastEthernet0/7
- FastEthernet0/8
- FastEthernet0/9
- FastEthernet0/10
- FastEthernet0/11
- FastEthernet0/12

VLAN Configuration

VLAN Number: 150

VLAN Name: Faculty

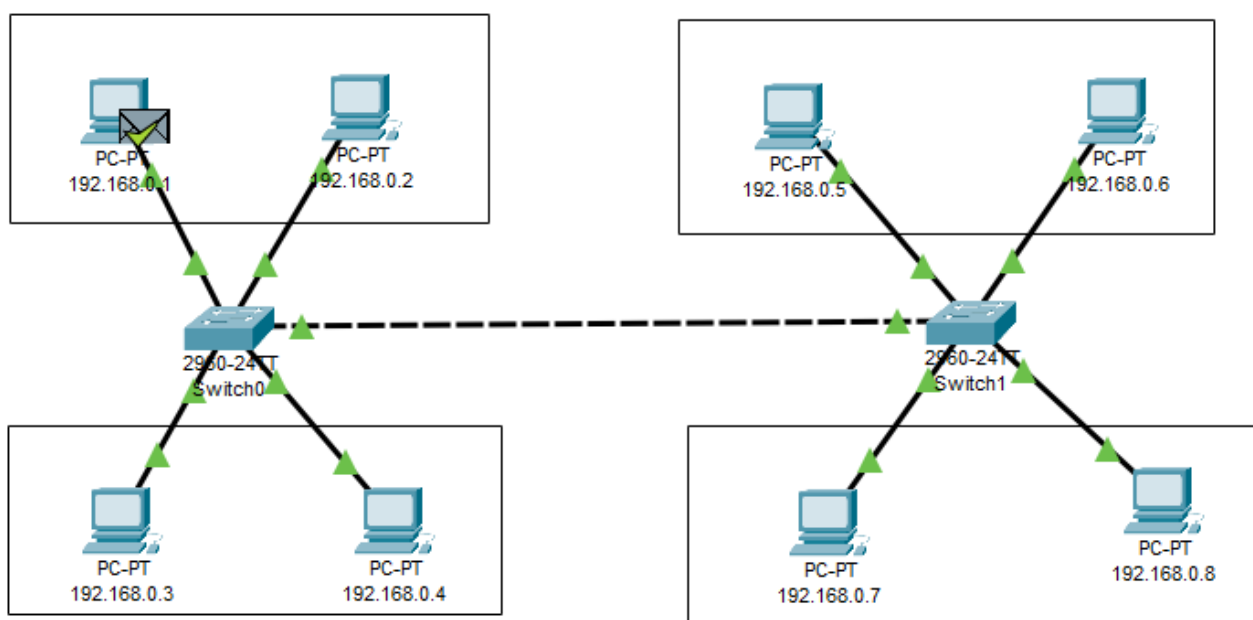
VLAN No	VLAN Name
1	default
100	Student
150	Faculty
1002	fddi-default
1003	token-ring-default
1004	fddinet-default
1005	trnet-default

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Steps :-

- Take 6 pc and assign Ip address and label to each pc.
- Take 2 Switch and Make 2 Lan with 3 pc each.
- Now there is local area network but We need to implement Virtual Lan database for implement Virtual Lan we need to configure Virtual Lan database in configure Section in switch.
- Make 2 New Virtual Lan configuration with unique Virtual Lan number and name.
- Now check the Port where the pc is connected and open that port configuration in switch and set Virtual Lan to access mode and select your Virtual Lan database name in dropdown.
- Now we need to connect both Switch but here we need to give Virtual Lan mode to trunk because there are number different Virtual Lan signal travel threw it.
- Now you configure two Virtual Lan in different local area network.

4th V-lan :-



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PDU Information at Device: 192.168.0.1

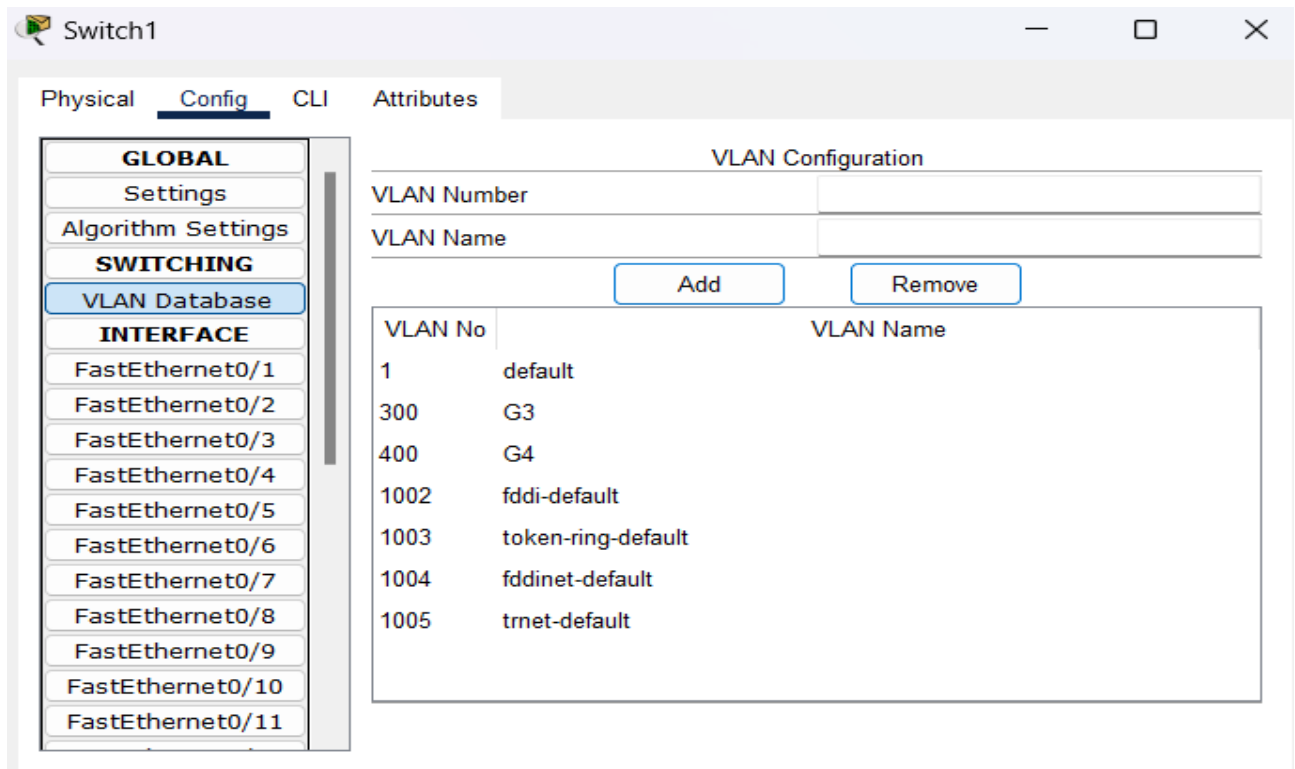
OSI Model Inbound PDU Details

PDU Formats

EthernetII

0	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100	104	108	112	116	120	124	128	132	136	140	144	148	152	156	160	164	168	172	176	180	184	188	192	196	200	204	208	212	216	220	224	228	232	236	240	244	248	252	256	260	264	268	272	276	280	284	288	292	296	300	304	308	312	316	320	324	328	332	336	340	344	348	352	356	360	364	368	372	376	380	384	388	392	396	400	404	408	412	416	420	424	428	432	436	440	444	448	452	456	460	464	468	472	476	480	484	488	492	496	500	504	508	512	516	520	524	528	532	536	540	544	548	552	556	560	564	568	572	576	580	584	588	592	596	600	604	608	612	616	620	624	628	632	636	640	644	648	652	656	660	664	668	672	676	680	684	688	692	696	700	704	708	712	716	720	724	728	732	736	740	744	748	752	756	760	764	768	772	776	780	784	788	792	796	800	804	808	812	816	820	824	828	832	836	840	844	848	852	856	860	864	868	872	876	880	884	888	892	896	900	904	908	912	916	920	924	928	932	936	940	944	948	952	956	960	964	968	972	976	980	984	988	992	996	1000	1004	1008	1012	1016	1020	1024	1028	1032	1036	1040	1044	1048	1052	1056	1060	1064	1068	1072	1076	1080	1084	1088	1092	1096	1100	1104	1108	1112	1116	1120	1124	1128	1132	1136	1140	1144	1148	1152	1156	1160	1164	1168	1172	1176	1180	1184	1188	1192	1196	1200	1204	1208	1212	1216	1220	1224	1228	1232	1236	1240	1244	1248	1252	1256	1260	1264	1268	1272	1276	1280	1284	1288	1292	1296	1300	1304	1308	1312	1316	1320	1324	1328	1332	1336	1340	1344	1348	1352	1356	1360	1364	1368	1372	1376	1380	1384	1388	1392	1396	1400	1404	1408	1412	1416	1420	1424	1428	1432	1436	1440	1444	1448	1452	1456	1460	1464	1468	1472	1476	1480	1484	1488	1492	1496	1500	1504	1508	1512	1516	1520	1524	1528	1532	1536	1540	1544	1548	1552	1556	1560	1564	1568	1572	1576	1580	1584	1588	1592	1596	1600	1604	1608	1612	1616	1620	1624	1628	1632	1636	1640	1644	1648	1652	1656	1660	1664	1668	1672	1676	1680	1684	1688	1692	1696	1700	1704	1708	1712	1716	1720	1724	1728	1732	1736	1740	1744	1748	1752	1756	1760	1764	1768	1772	1776	1780	1784	1788	1792	1796	1800	1804	1808	1812	1816	1820	1824	1828	1832	1836	1840	1844	1848	1852	1856	1860	1864	1868	1872	1876	1880	1884	1888	1892	1896	1900	1904	1908	1912	1916	1920	1924	1928	1932	1936	1940	1944	1948	1952	1956	1960	1964	1968	1972	1976	1980	1984	1988	1992	1996	2000	2004	2008	2012	2016	2020	2024	2028	2032	2036	2040	2044	2048	2052	2056	2060	2064	2068	2072	2076	2080	2084	2088	2092	2096	2100	2104	2108	2112	2116	2120	2124	2128	2132	2136	2140	2144	2148	2152	2156	2160	2164	2168	2172	2176	2180	2184	2188	2192	2196	2200	2204	2208	2212	2216	2220	2224	2228	2232	2236	2240	2244	2248	2252	2256	2260	2264	2268	2272	2276	2280	2284	2288	2292	2296	2300	2304	2308	2312	2316	2320	2324	2328	2332	2336	2340	2344	2348	2352	2356	2360	2364	2368	2372	2376	2380	2384	2388	2392	2396	2400	2404	2408	2412	2416	2420	2424	2428	2432	2436	2440	2444	2448	2452	2456	2460	2464	2468	2472	2476	2480	2484	2488	2492	2496	2500	2504	2508	2512	2516	2520	2524	2528	2532	2536	2540	2544	2548	2552	2556	2560	2564	2568	2572	2576	2580	2584	2588	2592	2596	2600	2604	2608	2612	2616	2620	2624	2628	2632	2636	2640	2644	2648	2652	2656	2660	2664	2668	2672	2676	2680	2684	2688	2692	2696	2700	2704	2708	2712	2716	2720	2724	2728	2732	2736	2740	2744	2748	2752	2756	2760	2764	2768	2772	2776	2780	2784	2788	2792	2796	2800	2804	2808	2812	2816	2820	2824	2828	2832	2836	2840	2844	2848	2852	2856	2860	2864	2868	2872	2876	2880	2884
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Steps :-

- Take 8 pc and assign Ip address and label to each pc.
- Take 2 Switch and Make 2 Lan with 4 pc each.
- Now there is local area network but We need to implement Virtual Lan database for implement Virtual Lan we need to configure Virtual Lan database in configure Section in switch.
- Make 4 New Virtual Lan configuration with unique Virtual Lan number and name.
- Now check the Port where the pc is connected and open that port configuration in switch and set Virtual Lan to access mode and select your Virtual Lan database name in dropdown.
- Now we need to connect both Switch but here we need to give Virtual Lan mode to trunk because there are number different Virtual Lan signal travel threw it.
- Now you configure two Virtual Lan in different local area network