

# EXPERIMENT- 10

Demonstrate the TTL/ Life of a Packet

SURYA Gold  
Date \_\_\_\_\_ Page \_\_\_\_\_

Experiment - 10

Aim: Demonstrate TTL / life of a packet

Topology:

```
graph LR
    R1["20.0.0.10  
Router  
10.0.0.10"] --- R2["30.0.0.10  
Router  
20.0.0.20"]
    R2 --- R3["30.0.0.10  
Router  
40.0.0.10"]
    R1 --- ED1["End device  
10.0.0.1"]
    R3 --- ED2["End device  
40.0.0.1"]
```

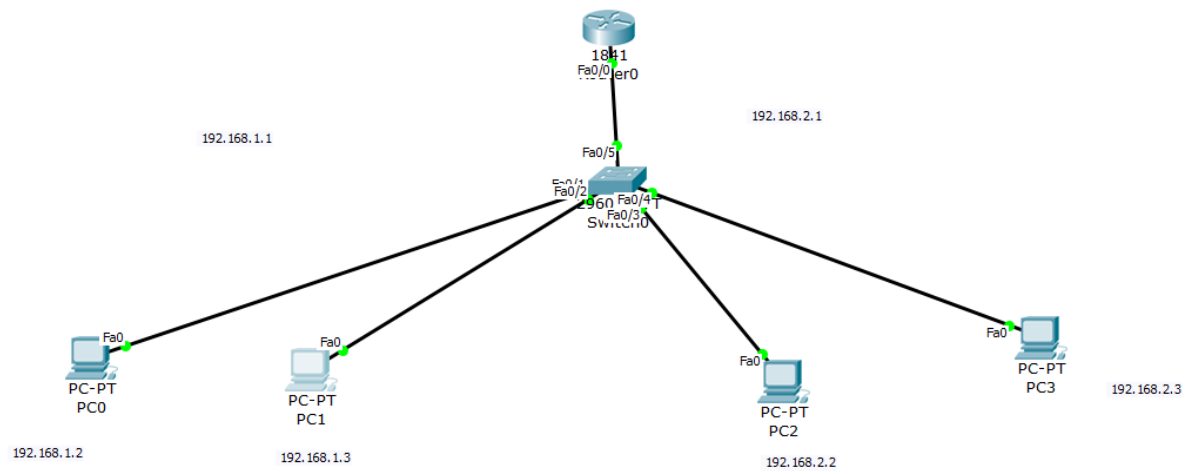
Procedure:

- 1 Create a topology as shown with 2 end devices and 3 routers.
- 2 Set ip addresses to end devices and also set gateways.
- 3 Configure routers either statically or dynamically / default routing.
- 4 In simulation mode, send a simple PDU from one end device to another.
- 5 Use capture button to view each movement of the PDU.
- 6 Click on the PDU at each stop and observe inbound and outbound details.

Results:

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	2888	2892	2896
2900	2904	2908	2912	2916
2920	2924	2928	2932	2936
2940	2944	2948	2952	2956
2960	2964	2968	2972	2976
2980	2984	2988	2992	2996
3000	3004	3008	3012	3016
3020	3024	3028	3032	3036
3040	3044	3048	3052	3056
3060	3064	3068	3072	3076
3080	3084	3088	3092	3096
3100	3104	3108	3112	3116
3120	3124	3128	3132	3136
3140	3144	3148	3152	3156
3160	3164	3168	3172	3176
3180	3184	3188	3192	3196
3200	3204	3208	3212	3216
3220	3224	3228	3232	3236
3240	3244	3248	3252	3256
3260	3264	3268	3272	3276
3280	3284	3288	3292	3296
3300	3304	3308	3312	3316
3320	3324	3328	3332	3336
3340	3344	3348	3352	3356
3360	3364	3368	3372	3376
3380	3384	3388	3392	3396
3400	3404	3408	3412	3416
3420	3424	3428	3432	3436
3440	3444	3448	3452	3456
3460	3464	3468	3472	3476
3480	3484	3488	3492	3496
3500	3504	3508	3512	3516
3520	3524	3528	3532	3536
3540	3544	3548	3552	3556
3560	3564	3568	3572	3576
3580	3584	3588	3592	3596
3600	3604	3608	3612	3616
3620	3624	3628	3632	3636
3640	3644	3648	3652	3656
3660	3664	3668	3672	3676
3680	3684	3688	3692	3696
3700	3704	3708	3712	3716
3720	3724	3728	3732	3736
3740	3744	3748	3752	3756
3760	3764	3768	3772	3776
3780	3784	3788	3792	3796
3800	3804	3808	3812	3816
3820	3824	3828	3832	3836
3840	3844	3848	3852	3856
3860	3864	3868	3872	3876
3880	3884	3888	3892	3896
3900	3904	3908	3912	3916
3920	3924	3928	3932	3936
3940	3944	3948	3952	3956
3960	3964	3968	3972	3976
3980	3984	3988	3992	3996
4000	4004	4008	4012	4016
4020	4024	4028	4032	4036
4040	4044	4048	4052	4056
4060	4064	4068	4072	4076
4080	4084	4088	4092	4096
4100	4104	4108	4112	4116
4120	4124	4128	4132	4136
4140	4144	4148	4152	4156
4160	4164	4168	4172	4176
4180	4184	4188	4192	4196
4200	4204	4208	4212	4216
4220	4224	4228	4232	4236
4240	4244	4248	4252	4256
4260	4264	4268	4272	4276
4280	4284	4288	4292	4296
4300	4304	4308	4312	4316
4320	4324	4328	4332	4336
4340	4344	4348	4352	4356
4360	4364	4368	4372	4376
4380	4384	4388	4392	4396
4400	4404	4408	4412	4416
4420	4424	4428	4432	4436
4440	4444	4448	4452	4456
4460	4464	4468	4472	4476
4480	4484	4488	4492	4496
4500	4504	4508	4512	4516
4520	4524	4528	4532	4536
4540	4544	4548	4552	4556
4560	4564	4568	4572	4576
4580	4584	4588	4592	4596
4600	4604	4608	4612	4616
4620	4624	4628	4632	4636
4640	4644	4648	4652	4656
4660	4664	4668	4672	4676
4680	4684	4688	4692	4696
4700	4704	4708	4712	4716
4720	4724	4728	4732	4736
4740	4744	4748	4752	4756
4760	4764	4768	4772	4776
4780	4784	4788	4792	4796
4800	4804	4808	4812	4816
4820	4824	4828	4832	4836
4840	4844	4848	4852	4856
4860	4864	4868	4872	4876
4880	4884	4888	4892	4896

## Topology:



# Result:

PDU Information at Device: Router0

OSI Model	Inbound PDU Details	Outbound PDU Details
PDU Formats		
<b>Ethernet II</b>		
0 4 8 14 19 bytes		
PREAMBLE: 101010...1011		
DEST MAC: 00E0.A374.8A02		
SRC MAC: 0090.2BC9.7819		
TYPE: 0x800		
DATA (VARIABLE LENGTH)		
FCS: 0x0		
<b>IP</b>		
0 4 8 16 19 31 Bits		
4 IHL DSCP: 0x0 TL: 28		
ID: 0x1		
TTL: 255		
PRO: 0x1		
CHKSUM		
SRC IP: 10.0.0.1		
DST IP: 40.0.0.1		
OPT: 0x0		
DATA (VARIABLE LENGTH)		
<b>ICMP</b>		
0 8 16 31 Bits		
TYPE: 0x8		
CODE: 0x0		
CHECKSUM		
ID: 0x2		
SEQ NUMBER: 1		

PDU Information at Device: Router0

OSI Model	Inbound PDU Details	Outbound PDU Details
PDU Formats		
<b>HDLC</b>		
0 8 16 32 32+x 48+x 56+x Bits		
FLG: 011		
ADR: 0x0		
CONTROL: 0x0		
DATA: (VARIABLE LENGTH)		
FCS: 0x0		
FLG: 011		
<b>IP</b>		
0 4 8 16 19 31 Bits		
4 IHL DSCP: 0x0 TL: 28		
ID: 0x1		
TTL: 254		
PRO: 0x1		
CHKSUM		
SRC IP: 10.0.0.1		
DST IP: 40.0.0.1		
OPT: 0x0		
DATA (VARIABLE LENGTH)		
<b>ICMP</b>		
0 8 16 31 Bits		
TYPE: 0x8		
CODE: 0x0		
CHECKSUM		
ID: 0x2		
SEQ NUMBER: 1		

PDU Information at Device: Router1

OSI Model	Inbound PDU Details	Outbound PDU Details
PDU Formats		
<b>HDLC</b>		
0 8 16 32 32+x 48+x 56+x Bits		
FLG: 011		
ADR: 0x0		
CONTROL: 0x0		
DATA: (VARIABLE LENGTH)		
FCS: 0x0		
FLG: 011		
<b>IP</b>		
0 4 8 16 19 31 Bits		
4 IHL DSCP: 0x0 TL: 28		
ID: 0x1		
TTL: 254		
PRO: 0x1		
CHKSUM		
SRC IP: 10.0.0.1		
DST IP: 40.0.0.1		
OPT: 0x0		
DATA (VARIABLE LENGTH)		
<b>ICMP</b>		
0 8 16 31 Bits		
TYPE: 0x8		
CODE: 0x0		
CHECKSUM		
ID: 0x2		
SEQ NUMBER: 1		

PDU Information at Device: Router1

OSI Model	Inbound PDU Details	Outbound PDU Details
PDU Formats		
<b>HDLC</b>		
0 8 16 32 32+x 48+x 56+x Bits		
FLG: 011		
ADR: 0x0		
CONTROL: 0x0		
DATA: (VARIABLE LENGTH)		
FCS: 0x0		
FLG: 011		
<b>IP</b>		
0 4 8 16 19 31 Bits		
4 IHL DSCP: 0x0 TL: 28		
ID: 0x1		
TTL: 253		
PRO: 0x1		
CHKSUM		
SRC IP: 10.0.0.1		
DST IP: 40.0.0.1		
OPT: 0x0		
DATA (VARIABLE LENGTH)		
<b>ICMP</b>		
0 8 16 31 Bits		
TYPE: 0x8		
CODE: 0x0		
CHECKSUM		
ID: 0x2		
SEQ NUMBER: 1		