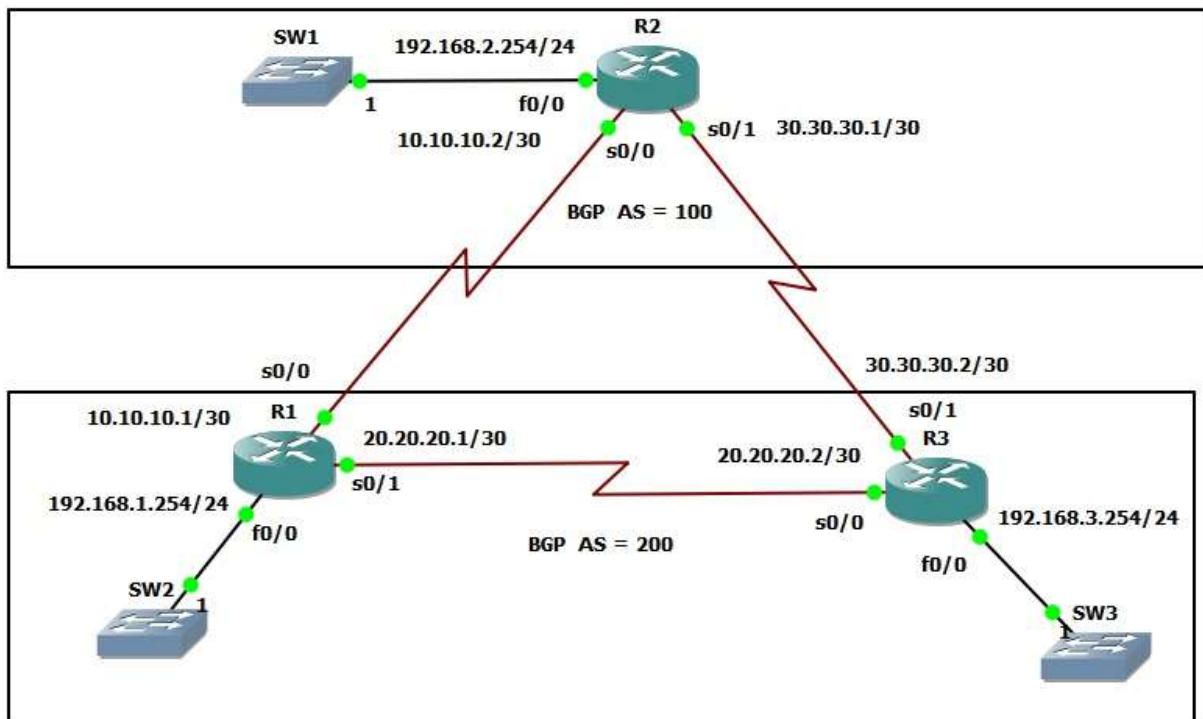




Lab 23 – Basic BGP



```
R1(config)#router bgp 200
```

```
R1(config-router)#neighbor 10.10.10.2 remote-as 100
```

```
R1(config-router)#neighbor 20.20.20.2 remote-as 200
```

```
R1(config-router)#network 192.168.1.0
```

```
R1(config-router)#network 10.10.10.0 mask 255.255.255.252
```

```
R1(config-router)#network 20.20.20.0 mask 255.255.255.252
```

```
R2(config)#router bgp 100
```

```
R2(config-router)#neighbor 10.10.10.1 remote-as 200
```

```
R2(config-router)#neighbor 30.30.30.2 remote-as 200
```

```
R2(config-router)#network 192.168.2.0
```

```
R2(config-router)#network 10.10.10.0 mask 255.255.255.252
```

```
R2(config-router)#network 30.30.30.0 mask 255.255.255.252
```

```
R3(config)#router bgp 200
```

```
R3(config-router)#neighbor 20.20.20.1 remote-as 200
```

```
R3(config-router)#neighbor 30.30.30.1 remote-as 100
```

```
R3(config-router)#network 192.168.3.0
```

```
R3(config-router)#network 20.20.20.0 mask 255.255.255.252
```

```
R3(config-router)#network 30.30.30.0 mask 255.255.255.252
```

```
R1#show ip route bgp
```

```
B 192.168.2.0/24 [20/0] via 10.10.10.2, 00:03:02
```

```
B 192.168.3.0/24 [200/0] via 20.20.20.2, 00:01:18
```

```
30.0.0.0/30 is subnetted, 1 subnets
```

```
B 30.30.30.0 [200/0] via 20.20.20.2, 00:01:03
```

```
R2#show ip route bgp
```

```
20.0.0.0/30 is subnetted, 1 subnets
```

```
B 20.20.20.0 [20/0] via 10.10.10.1, 00:04:46
```

```
B 192.168.1.0/24 [20/0] via 10.10.10.1, 00:04:46
```

```
B 192.168.3.0/24 [20/0] via 30.30.30.2, 00:04:46
```

R3#show ip route bgp

10.0.0.0/30 is subnetted, 1 subnets

- B 10.10.10.0 [200/0] via 20.20.20.1, 00:05:55
- B 192.168.1.0/24 [200/0] via 20.20.20.1, 00:05:55
- B 192.168.2.0/24 [20/0] via 30.30.30.1, 00:05:55

R1#show ip bgp

BGP table version is 8, local router ID is 192.168.1.254

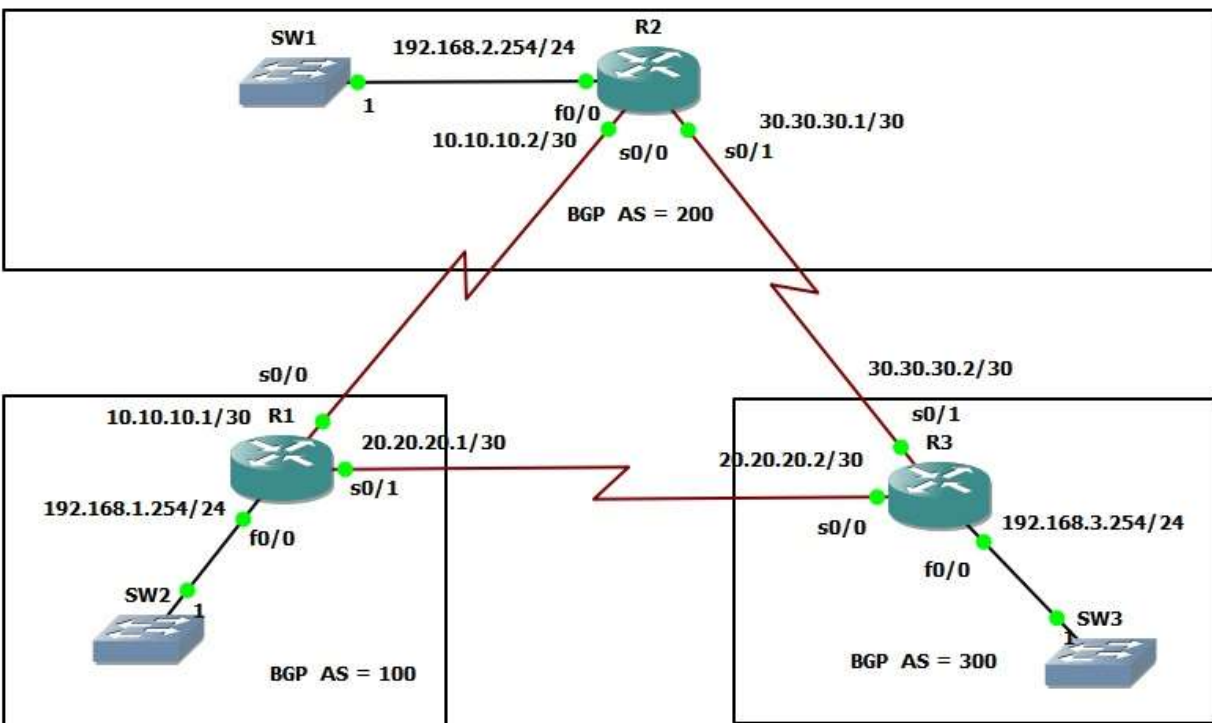
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,

r RIB-failure, S Stale

Origin codes: i - IGP, e - EGP, ? - incomplete

| Network | Next Hop | Metric | LocPrf | Weight | Path |
|------------------|------------|--------|--------|--------|-------|
| * 10.10.10.0/30 | 10.10.10.2 | 0 | | 100 | i |
| *> | 0.0.0.0 | 0 | 32768 | | i |
| * i20.20.20.0/30 | 20.20.20.2 | 0 | 100 | 0 | i |
| *> | 0.0.0.0 | 0 | 32768 | | i |
| *>i30.30.30.0/30 | 20.20.20.2 | 0 | 100 | 0 | i |
| * | 10.10.10.2 | 0 | 0 | 100 | i |
| *> 192.168.1.0 | 0.0.0.0 | 0 | 32768 | | i |
| * i192.168.2.0 | 30.30.30.1 | 0 | 100 | 0 | 100 i |
| *> | 10.10.10.2 | 0 | 0 | 100 | i |
| *>i192.168.3.0 | 20.20.20.2 | 0 | 100 | 0 | i |

Lab 24 – BGP-Weigth



```
R1(config)#router bgp 100
R1(config-router)#neighbor 10.10.10.2 remote-as 200
R1(config-router)#neighbor 20.20.20.2 remote-as 300
R1(config-router)#network 192.168.1.0
R1(config-router)#network 10.10.10.0 mask 255.255.255.252
R1(config-router)#network 20.20.20.0 mask 255.255.255.252

R2(config)#router bgp 200
R2(config-router)#neighbor 10.10.10.1 remote-as 100
R2(config-router)#neighbor 30.30.30.2 remote-as 300
R2(config-router)#network 192.168.2.0
R2(config-router)#network 10.10.10.0 mask 255.255.255.252
```

```
R2(config-router)#network 30.30.30.0 mask 255.255.255.252
```

```
R3(config)#router bgp 300
```

```
R3(config-router)#neighbor 20.20.20.1 remote-as 100
```

```
R3(config-router)#neighbor 30.30.3.1 remote-as 100
```

```
R3(config-router)#network 192.168.3.0
```

```
R3(config-router)#network 20.20.20.0 mask 255.255.255.252
```

```
R3(config-router)#network 30.30.30.0 mask 255.255.255.252
```

```
R1#show ip bgp
```

```
BGP table version is 7, local router ID is 192.168.1.254
```

```
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
```

```
          r RIB-failure, S Stale
```

```
Origin codes: i - IGP, e - EGP, ? - incomplete
```

| Network | Next Hop | Metric | LocPrf | Weight | Path |
|-----------------|------------|--------|--------|--------|-------|
| * 10.10.10.0/30 | 10.10.10.2 | 0 | 0 | 200 | i |
| *> | 0.0.0.0 | 0 | 32768 | | i |
| * 20.20.20.0/30 | 20.20.20.2 | 0 | 0 | 300 | i |
| *> | 0.0.0.0 | 0 | 32768 | | i |
| * 30.30.30.0/30 | 20.20.20.2 | 0 | 0 | 300 | i |
| *> | 10.10.10.2 | 0 | 0 | 200 | i |
| *> 192.168.1.0 | 0.0.0.0 | 0 | 32768 | | i |
| * 192.168.2.0 | 20.20.20.2 | | 0 | 300 | 200 i |
| *> | 10.10.10.2 | 0 | 0 | 200 | i |

```
* 192.168.3.0 10.10.10.2 0 200 300 i
```

```
*> 20.20.20.2 0 0 300 i
```

```
R1#show ip route bgp
```

```
B 192.168.2.0/24 [20/0] via 10.10.10.2, 00:02:00
```

```
B 192.168.3.0/24 [20/0] via 20.20.20.2, 00:01:01
```

```
30.0.0.0/30 is subnetted, 1 subnets
```

```
B 30.30.30.0 [20/0] via 10.10.10.2, 00:02:00
```

```
R2(config)#router bgp 200
```

```
R2(config-router)#neighbor 10.10.10.1 weight 500
```

```
R2(config-router)#neighbor 30.30.30.2 weight 1000
```

```
R2#clear ip bgp * soft in
```

```
R2#clear ip bgp * soft out
```

```
R2#show ip bgp
```

```
BGP table version is 13, local router ID is 192.168.2.254
```

```
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
```

```
r RIB-failure, S Stale
```

```
Origin codes: i - IGP, e - EGP, ? - incomplete
```

| Network | Next Hop | Metric | LocPrf | Weight | Path |
|-----------------|------------|--------|--------|----------|-------|
| * 10.10.10.0/30 | 30.30.30.2 | | | 1000 300 | 100 i |
| * | 10.10.10.1 | 0 | | 500 100 | i |
| *> | 0.0.0.0 | 0 | | 32768 | i |

```
*> 20.20.20.0/30 30.30.30.2 0 1000 300 i
* 10.10.10.1 0 500 100 i
* 30.30.30.0/30 30.30.30.2 0 1000 300 i
*> 0.0.0.0 0 32768 i
*> 192.168.1.0 30.30.30.2 1000 300 100 i
* 10.10.10.1 0 500 100 i
*> 192.168.2.0 0.0.0.0 0 32768 i
* 192.168.3.0 10.10.10.1 500 100 300 i
*> 30.30.30.2 0 1000 300 i
```

```
R2(config-router)#no neighbor 30.30.30.2 weight 1000
```

```
R2(config-router)#no neighbor 10.10.10.1 weight 500
```

```
R2#clear ip bgp * soft out
```

```
R2#clear ip bgp * soft in
```

1)

```
R2(config)#access-list 5 permit 192.168.3.0 0.0.0.255
```

```
R2(config)#access-list 10 permit 192.168.1.0 0.0.0.255
```

2)

```
R2(config)#route-map list-5 permit 10
```

```
R2(config-route-map)#match ip address 5
```

```
R2(config-route-map)#set weight 1000
```

```
R2(config-route-map)#route-map list-5 permit 20
```

```
R2(config)#route-map list-10 permit 10
```

```
R2(config-route-map)#match ip address 10
```

```
R2(config-route-map)#set weight 500
```

```
R2(config-route-map)#route-map list-10 permit 20
```

3)

```
R2(config)#router bgp 200
```

```
R2(config-router)#neighbor 30.30.30.2 route-map list-10 in
```

```
R2(config-router)#neighbor 10.10.10.1 route-map list-5 in
```

```
R2#clear ip bgp * soft out
```

```
R2#clear ip bgp * soft in
```

```
R2#show ip bgp
```

BGP table version is 21, local router ID is 192.168.2.254

Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,

r RIB-failure, S Stale

Origin codes: i - IGP, e - EGP, ? - incomplete

| Network | Next Hop | Metric | LocPrf | Weight | Path |
|-----------------|------------|--------|--------|-----------|------|
| * 10.10.10.0/30 | 30.30.30.2 | | | 0 300 100 | i |
| * | 10.10.10.1 | 0 | 0 | 100 | i |
| *> | 0.0.0.0 | 0 | 32768 | | i |
| * 20.20.20.0/30 | 30.30.30.2 | 0 | | 0 300 | i |
| *> | 10.10.10.1 | 0 | | 0 100 | i |
| * 30.30.30.0/30 | 30.30.30.2 | 0 | | 0 300 | i |


```
*>      0.0.0.0      0      32768 i
*> 192.168.1.0  30.30.30.2          500 300 100 i
*      10.10.10.1      0      0 100 i
*> 192.168.2.0  0.0.0.0      0      32768 i
*> 192.168.3.0  10.10.10.1          1000 100 300 i
*      30.30.30.2      0      0 300 i
```

```
R2#show ip bgp 192.168.3.0
```

```
BGP routing table entry for 192.168.3.0/24, version 20
```

```
Paths: (2 available, best #1, table Default-IP-Routing-Table)
```

```
Advertised to update-groups:
```

```
  1
```

```
100 300
```

```
10.10.10.1 from 10.10.10.1 (192.168.1.254)
```

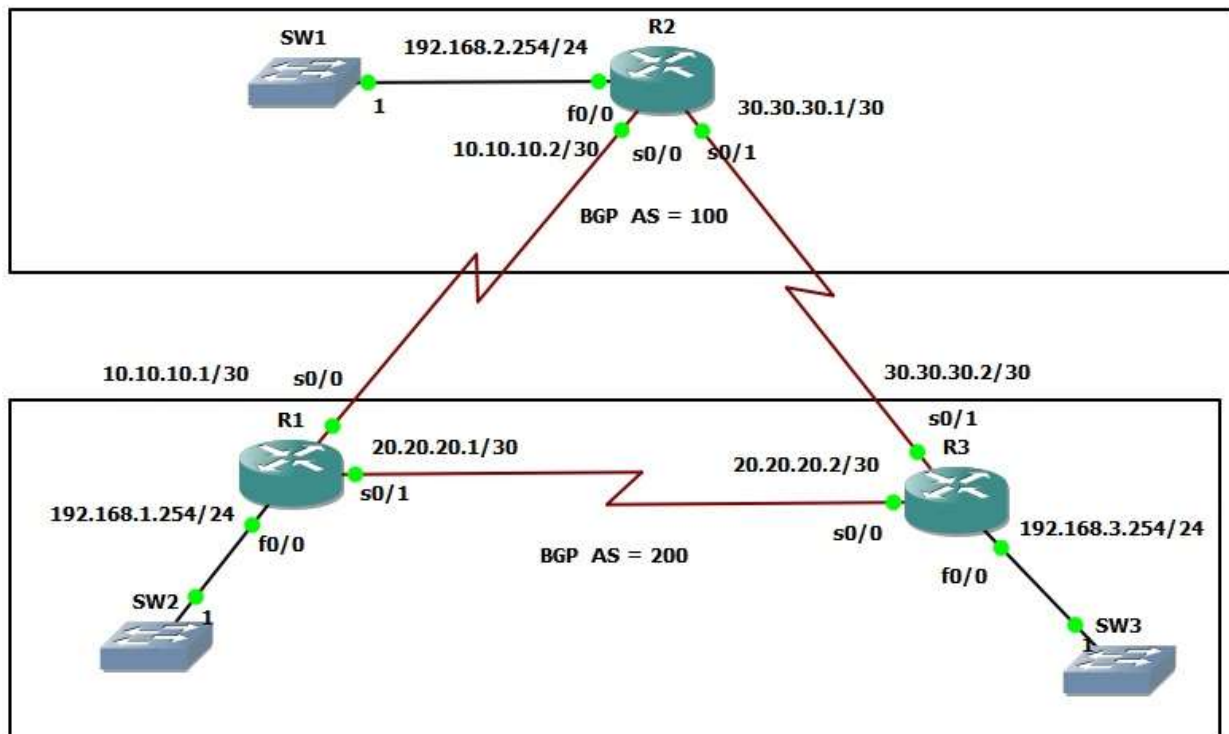
```
Origin IGP, localpref 100, weight 1000, valid, external, best
```

```
300
```

```
30.30.30.2 from 30.30.30.2 (192.168.3.254)
```

```
Origin IGP, metric 0, localpref 100, valid, external
```

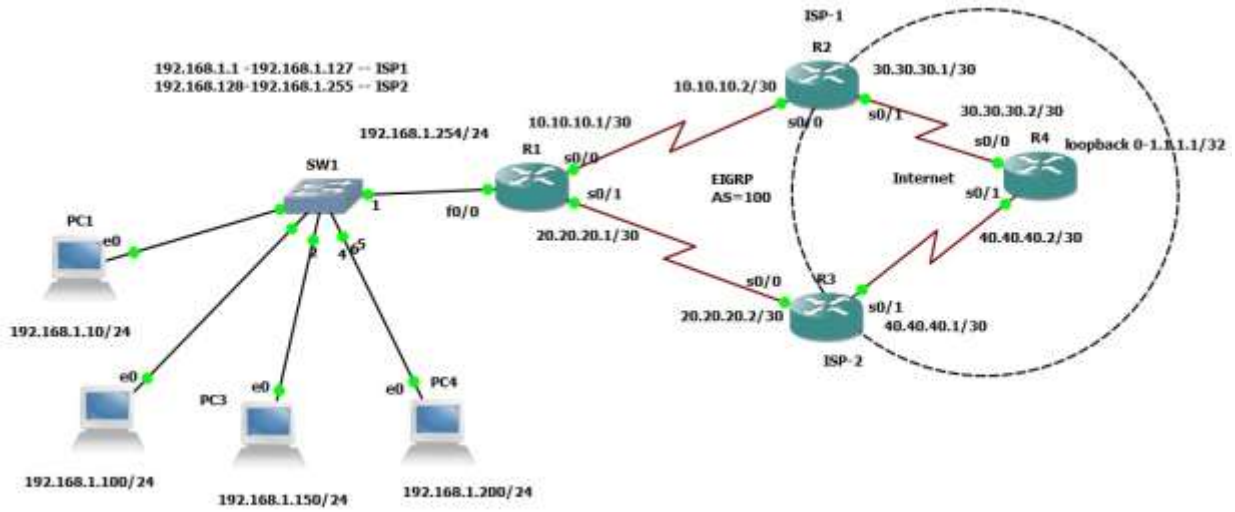
Lab 25 – BGP-Local Preference



Lab 26 – BGP-MED

(Network Diagram Based On Lab 25)

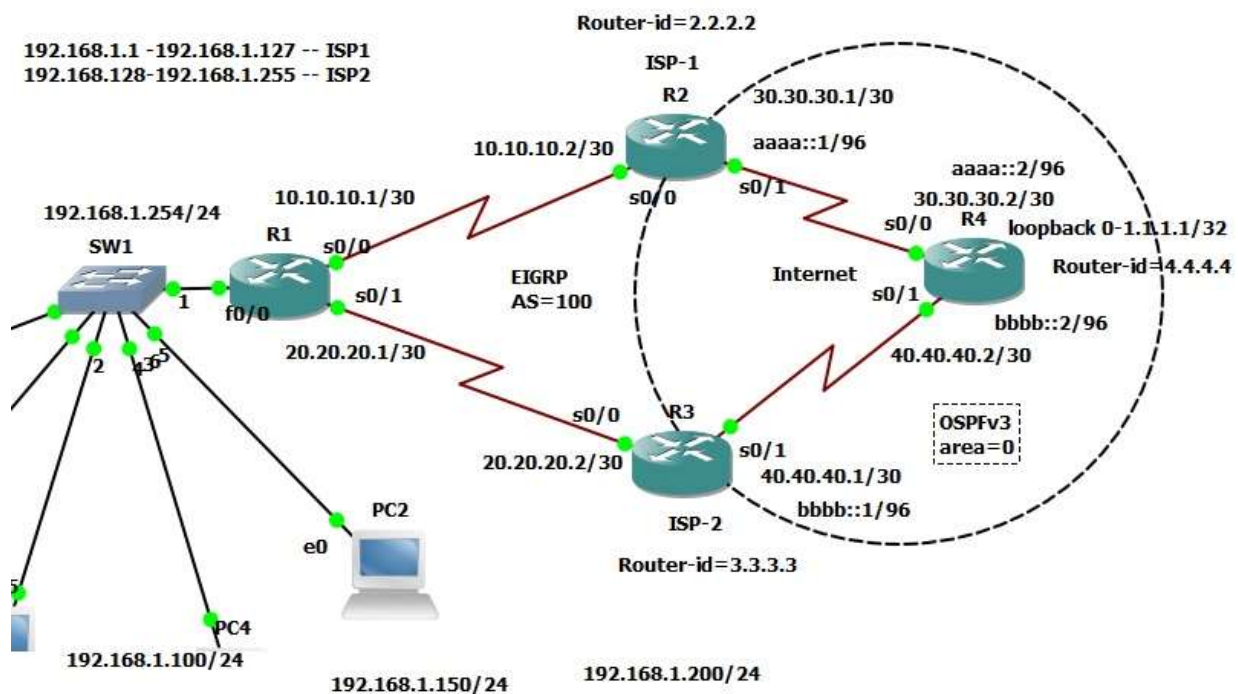
Lab 27 – PBR



Lab 28 – IP SLA

(Network Diagram Based On Lab 27)

Lab 29 – Basic IPv6



Lab 30 – OSPFv3 (IPv6)

(Network Diagram Based On Lab 29)

สนใจสมัครสมาชิกโครงการ เรียน Online กับอาจารย์เกรียงศักดิ์ นามโคตร (อาจารย์ดอย) มีรายละเอียดตาม link นี้ครับ
http://www.jodoi.org/Online_by_ajdoi.pdf

และจะมีการสร้าง Username เพื่อเข้าสู่ระบบให้ โดยใช้ Link นี้เป็นหลัก <http://ajdoi.jodoi.org/>



จัดทำโดย อาจารย์เกรียงศักดิ์ นามโคตร (Mr.Jodoi)

<http://www.jodoi.org> , <http://www.jodoi.com>

jodoi@jodoi.com