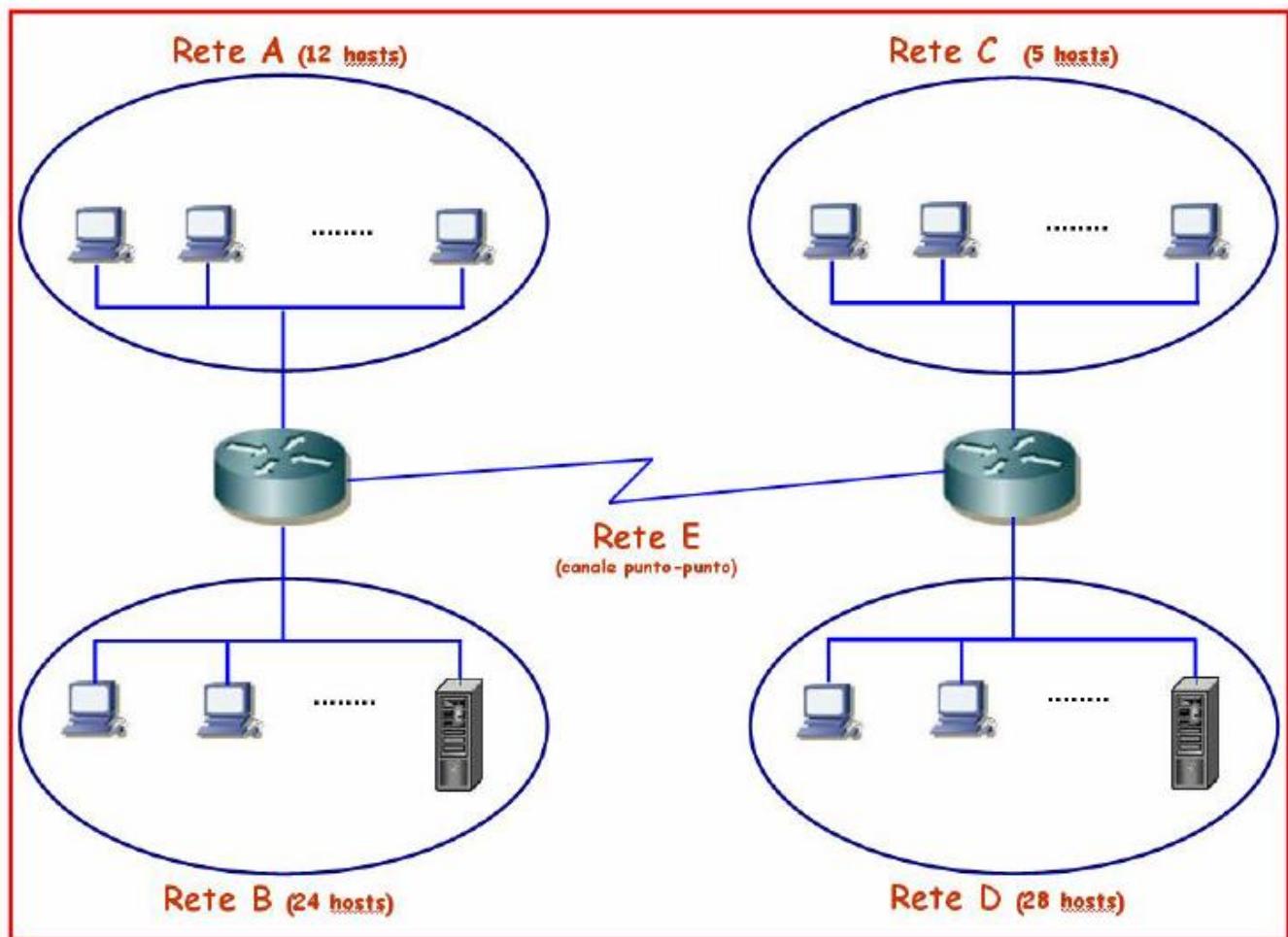


## Esercizio L9 di laboratorio:

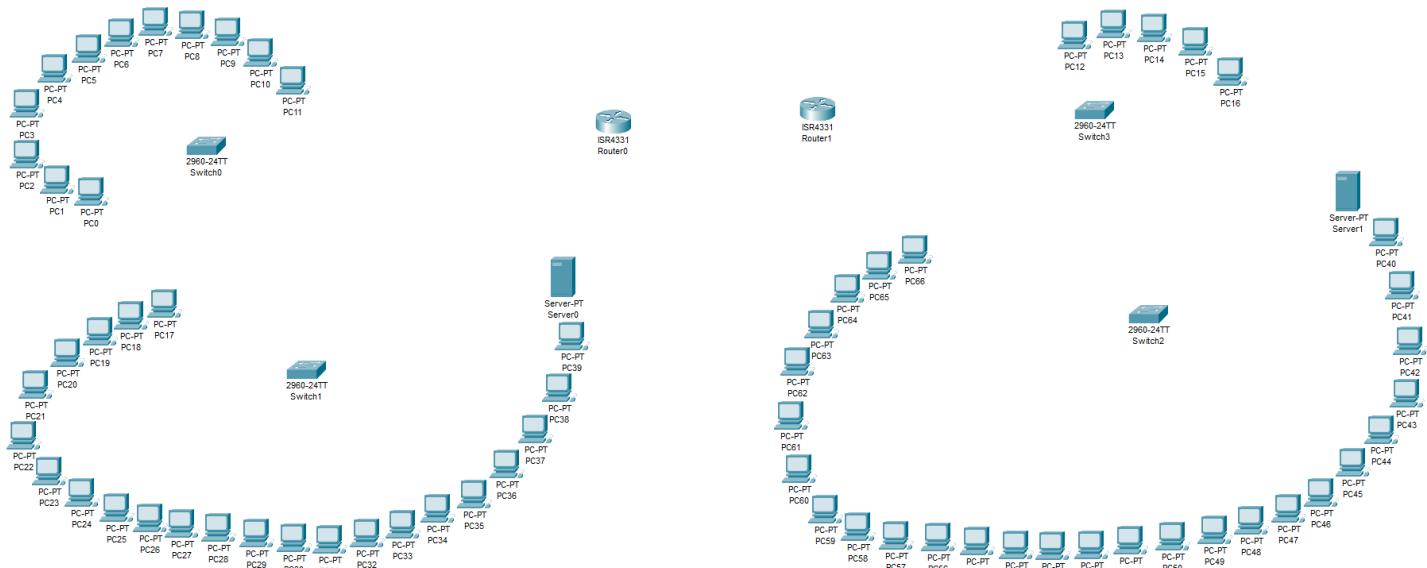
Pianificare, utilizzando l'indirizzo di classe C **200.20.5.0/24**, gli indirizzi IP di tutti i dispositivi che costituiscono la rete costituita da quattro LAN di 12, 24, 5 e 28 host collegate tramite due router come mostrato in figura.



Nella seguente tabella si riassumono gli indirizzi richiesti per pianificare i dispositivi che compongono la rete proposta :

Rete	Indirizzi richiesti	
A	13	12 IP per gli host + 1 per il router
B	25	24 IP per gli host + 1 per il router
C	6	5 IP per gli host + 1 per il router
D	29	28 IP per gli host + 1 per il router
E	2	2 IP per il collegamento punto-punto fra i due router

## Struttura della rete:



(Risultato iniziale)

## Componenti della Rete:

### 1. Rete A (12 host):

- Dispositivi:
  - da **PC-PT PC0** a **PC-PT PC11** (totale 12 PC)
  - **Switch 2960-24TT (Switch0)** (totale 1 Switch)

### 2. Rete B (24 host):

- Dispositivi:
  - da **PC-PT PC17** a **PC-PT PC38** (totale 23 PC)
  - **Switch 2960-24TT (Switch1)** (totale 1 Switch)
  - **Server-PT (Server0)**

### 3. Rete C (5 host):

- Dispositivi:
  - da **PC-PT PC12** a **PC-PT PC16** (totale 5 PC)
  - **Switch 2960-24TT (Switch3)** (totale 1 Switch)

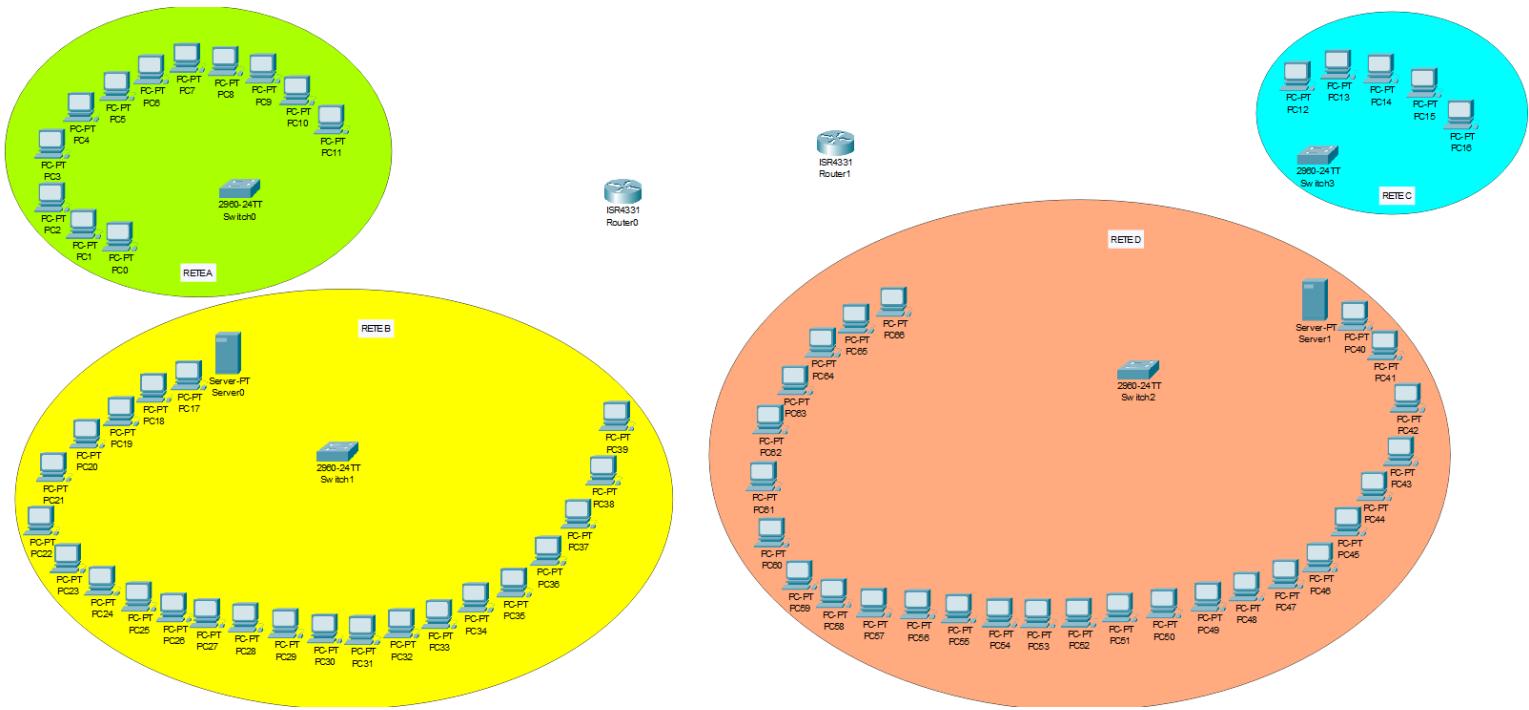
### 4. Rete D (28 host):

- Dispositivi:
  - da **PC-PT PC39** a **PC-PT PC65** (totale 27 PC)
  - **Switch 2960-24TT (Switch2)**  
(totale 1 Switch, inizialmente; sono 3 Switch in totale)
  - **Server-PT (Server1)**

### 5. Rete E (Collegamento punto-punto tra router):

- Dispositivi:
  - **Router0 e Router1** (collegamento punto-punto tra i due)

**Totale = 13 (A) + 25 (B) + 6 (C) + 31 (D) + 2 (E) = 77 dispositivi**

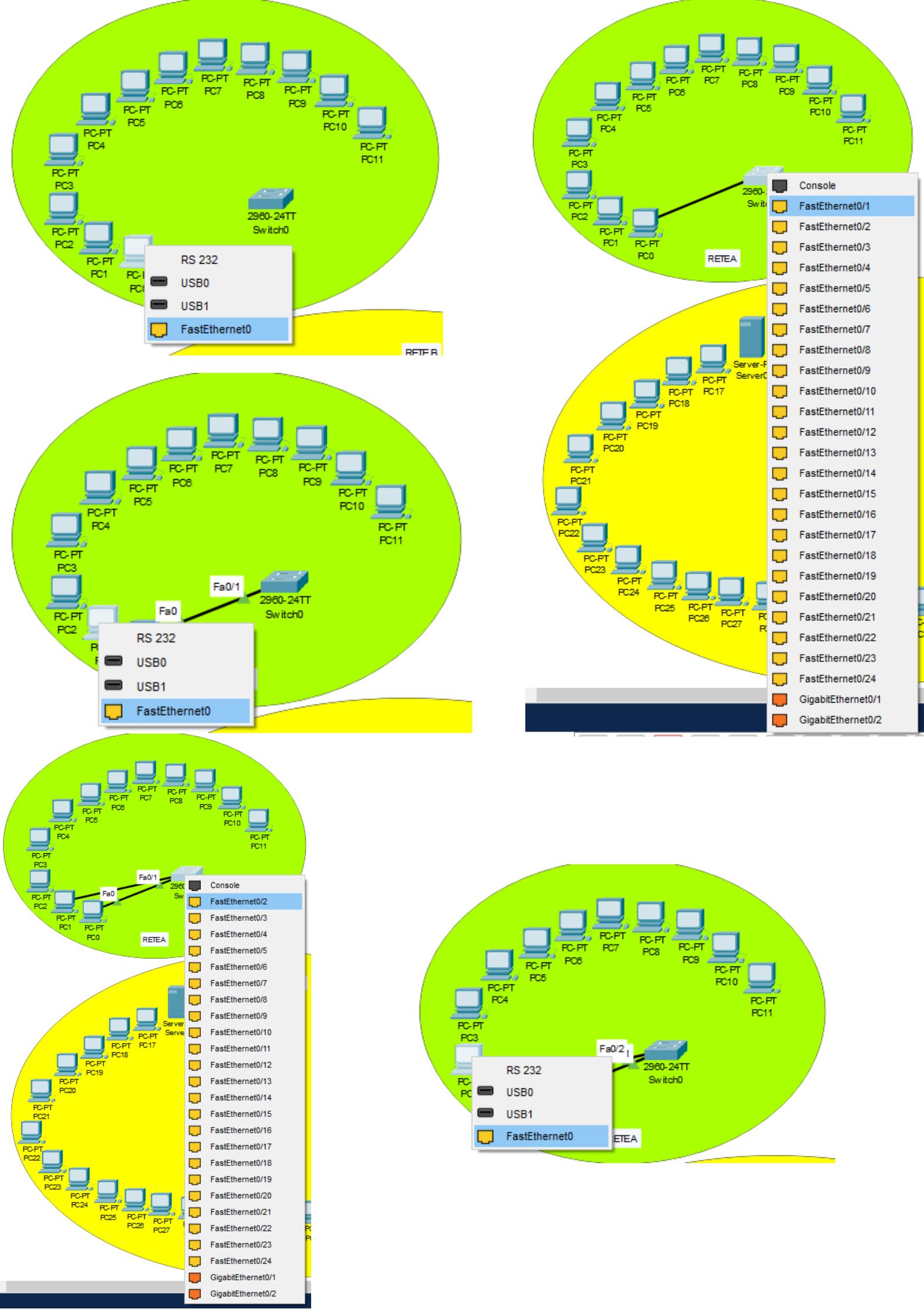


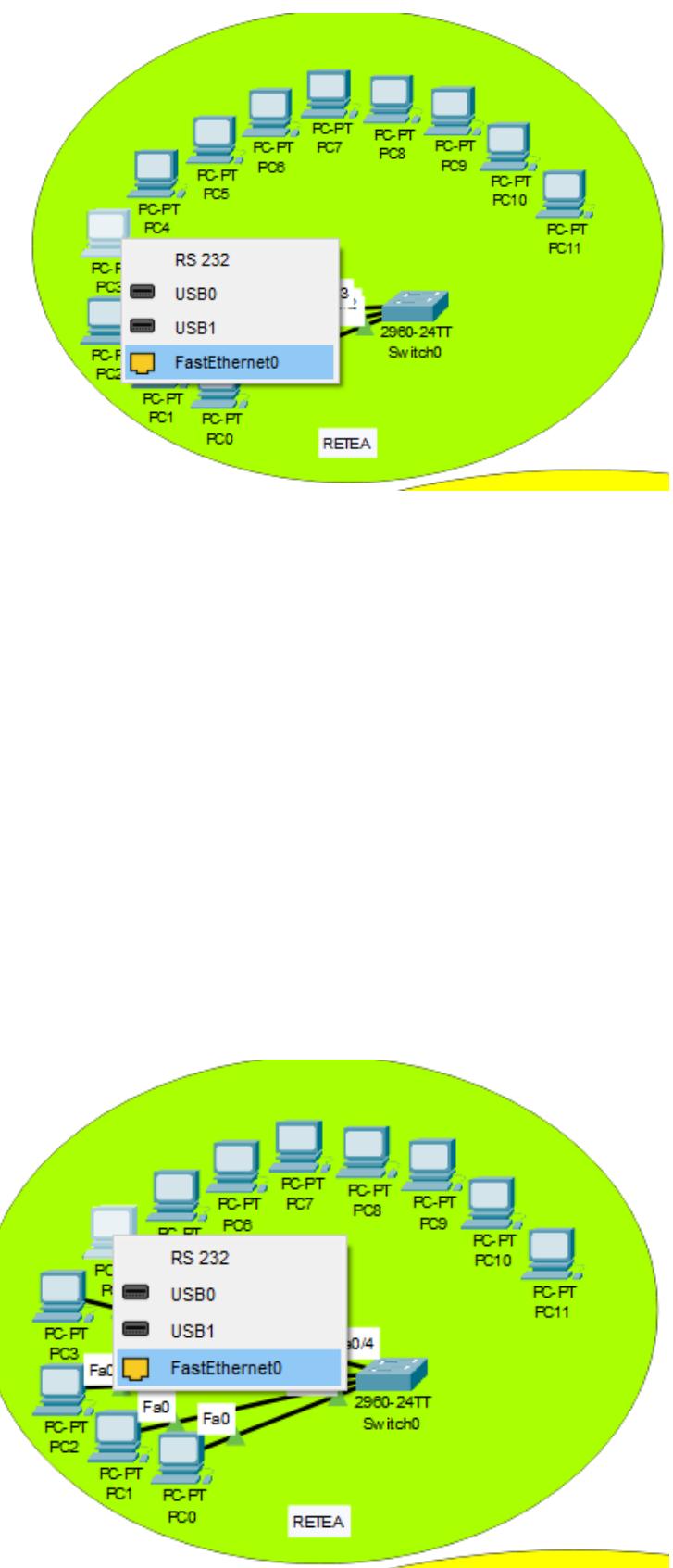
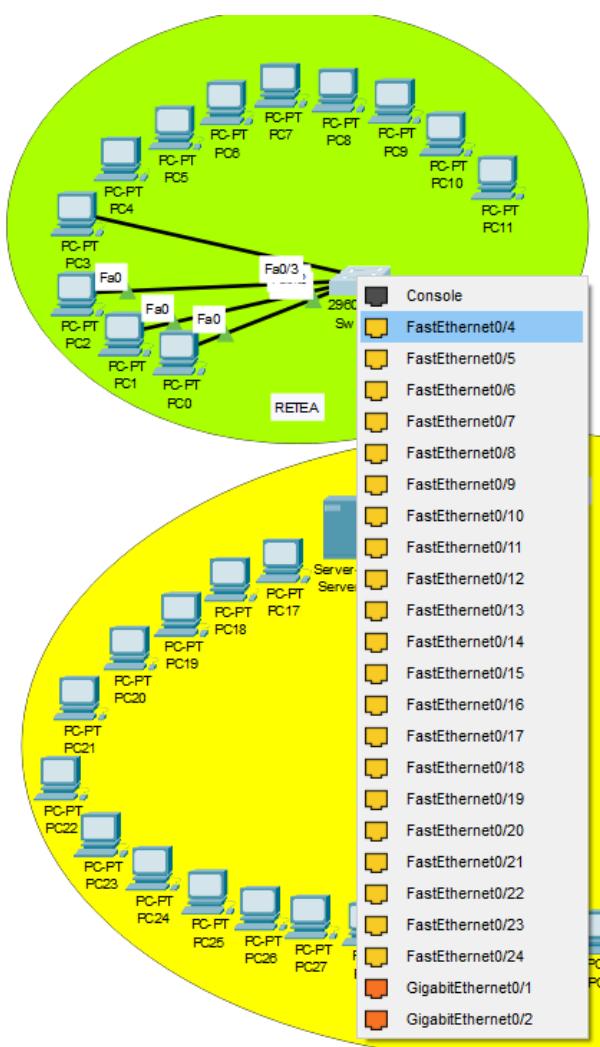
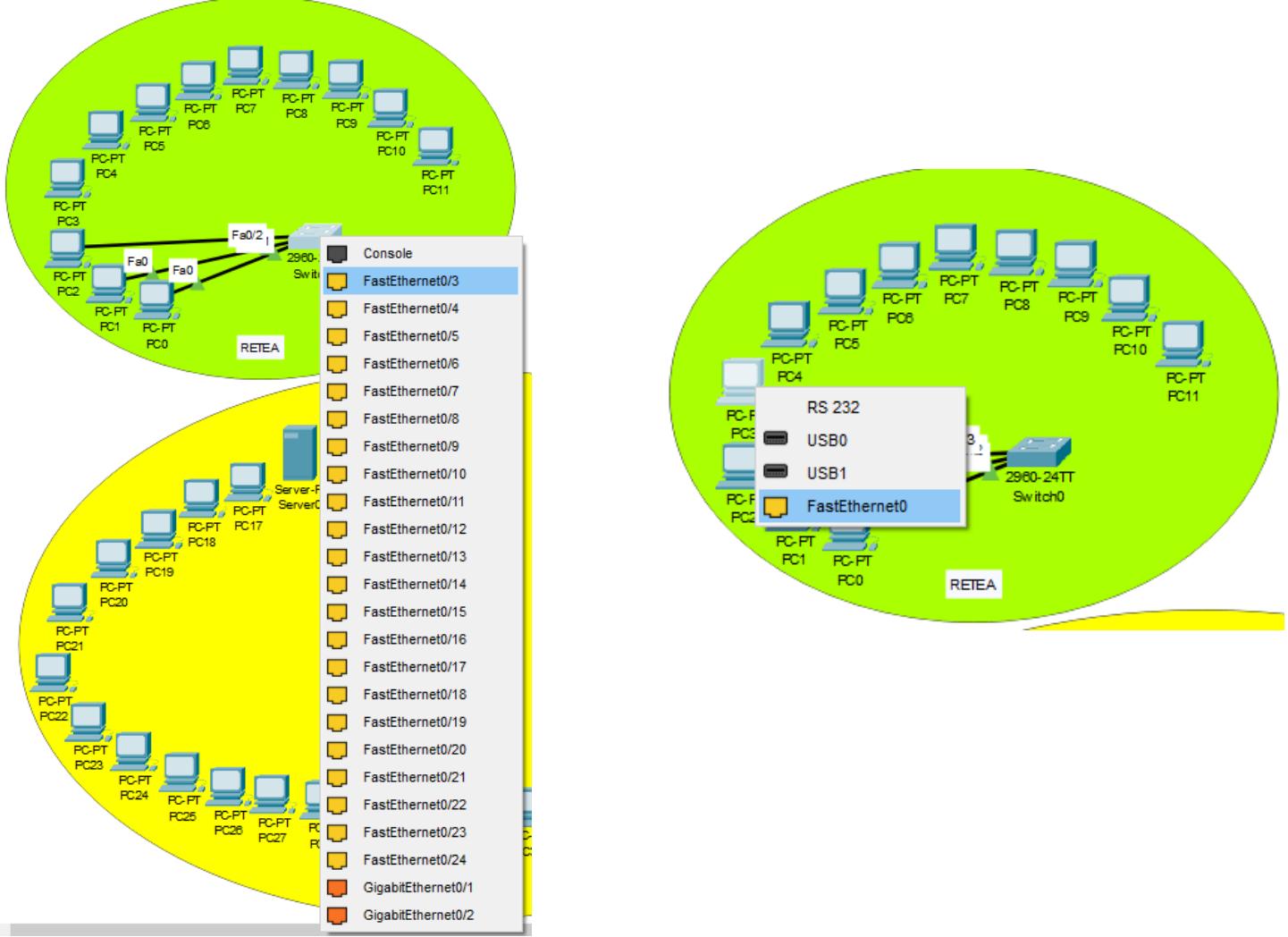
(Risultato intermedio)

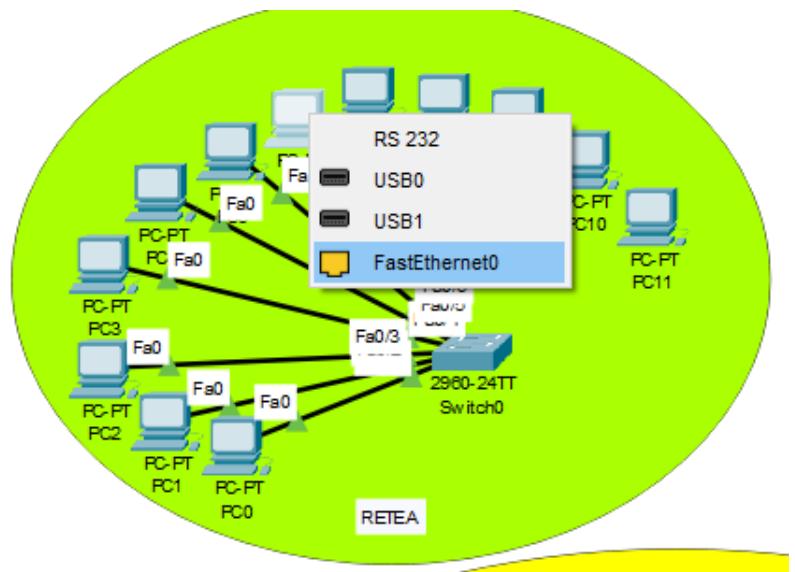
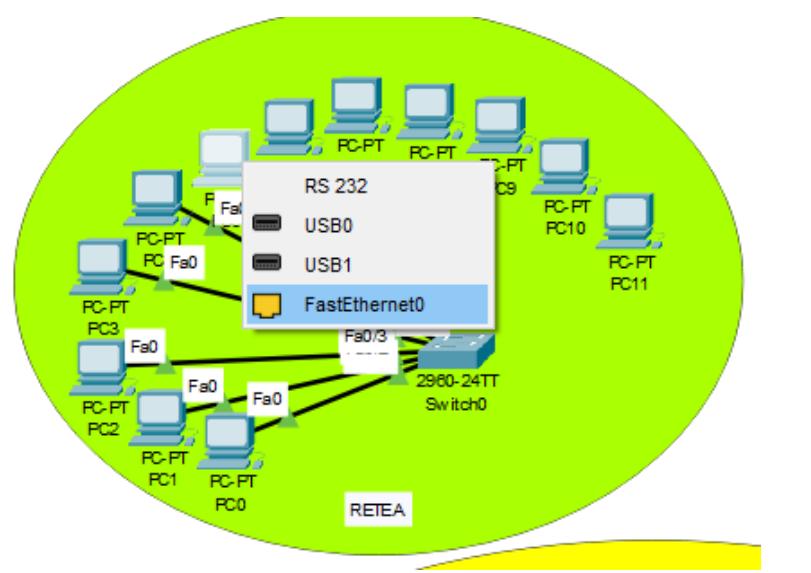
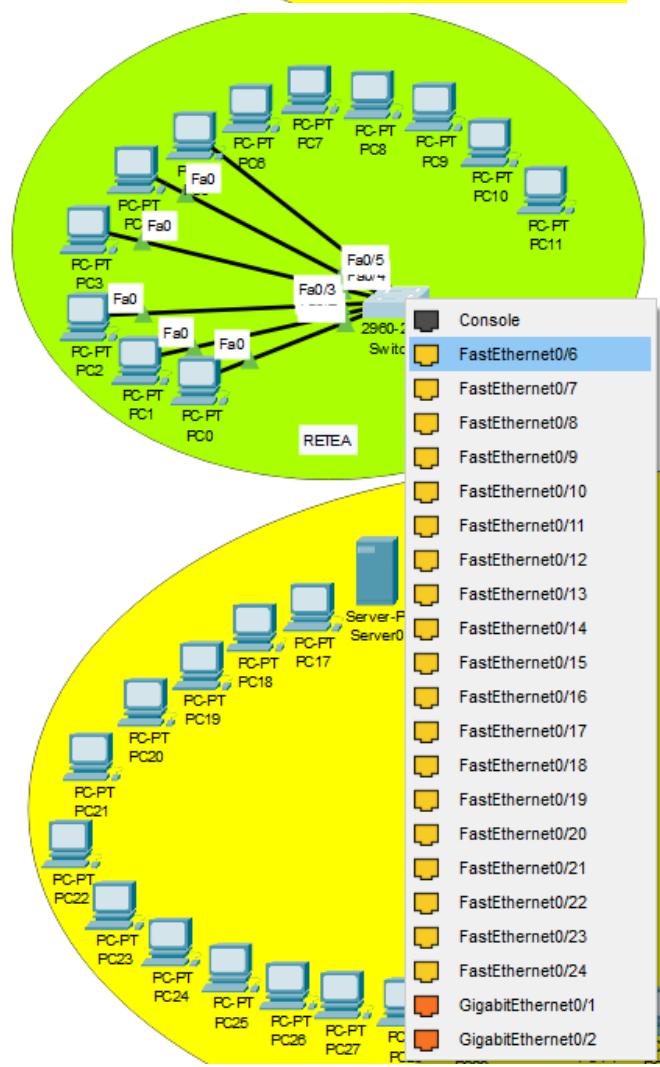
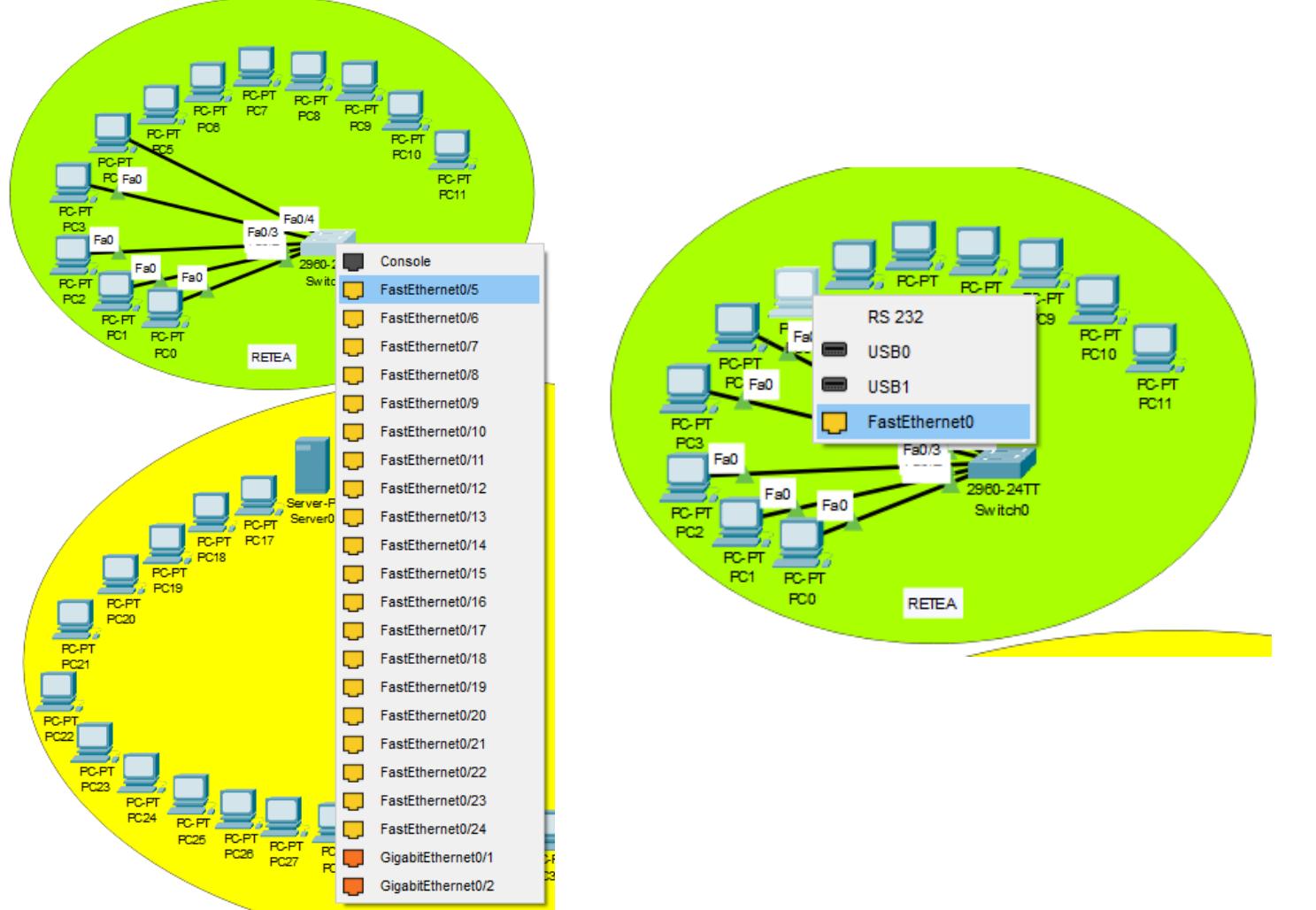
## Collegamenti dei Dispositivi nella Rete:

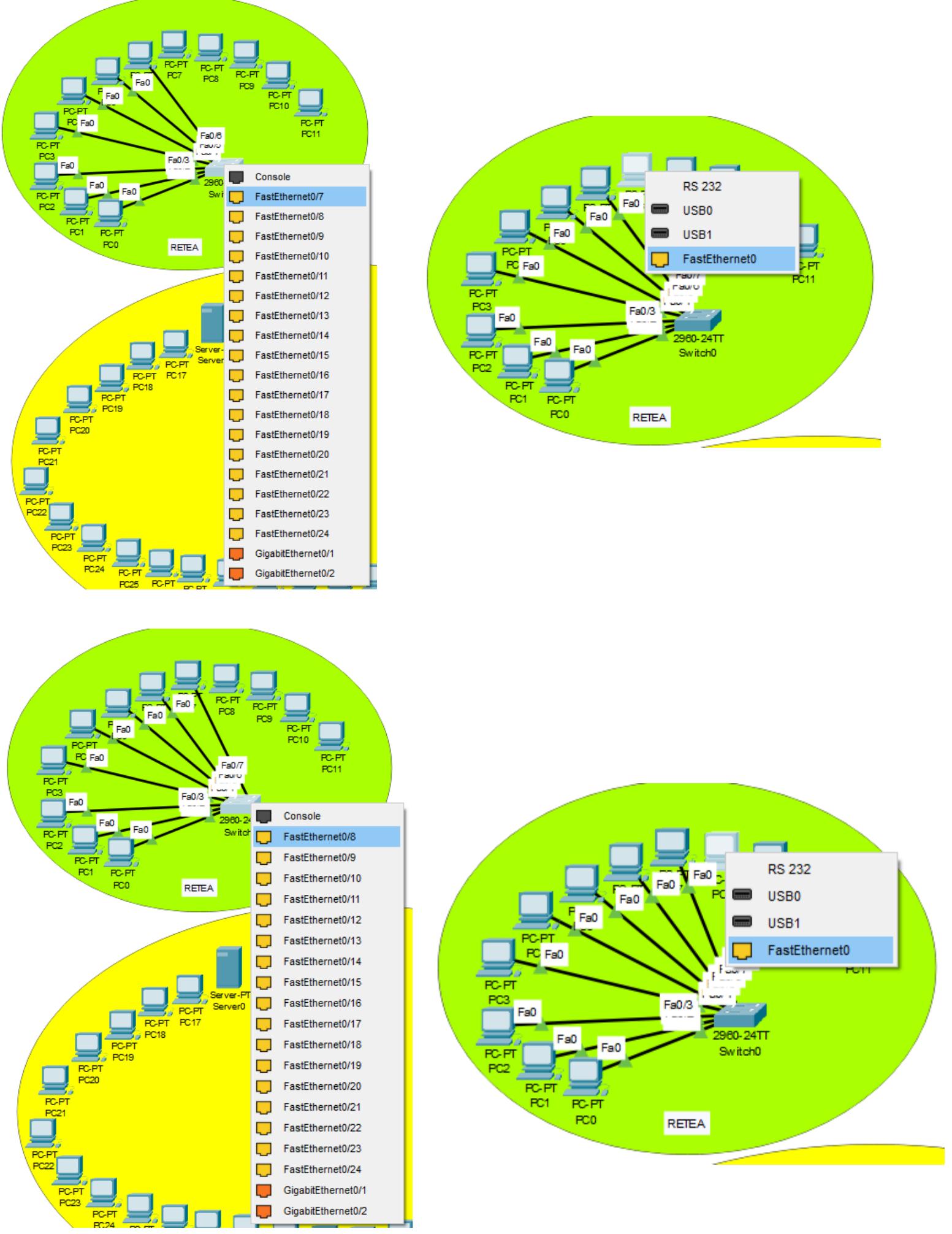
### RETE A:

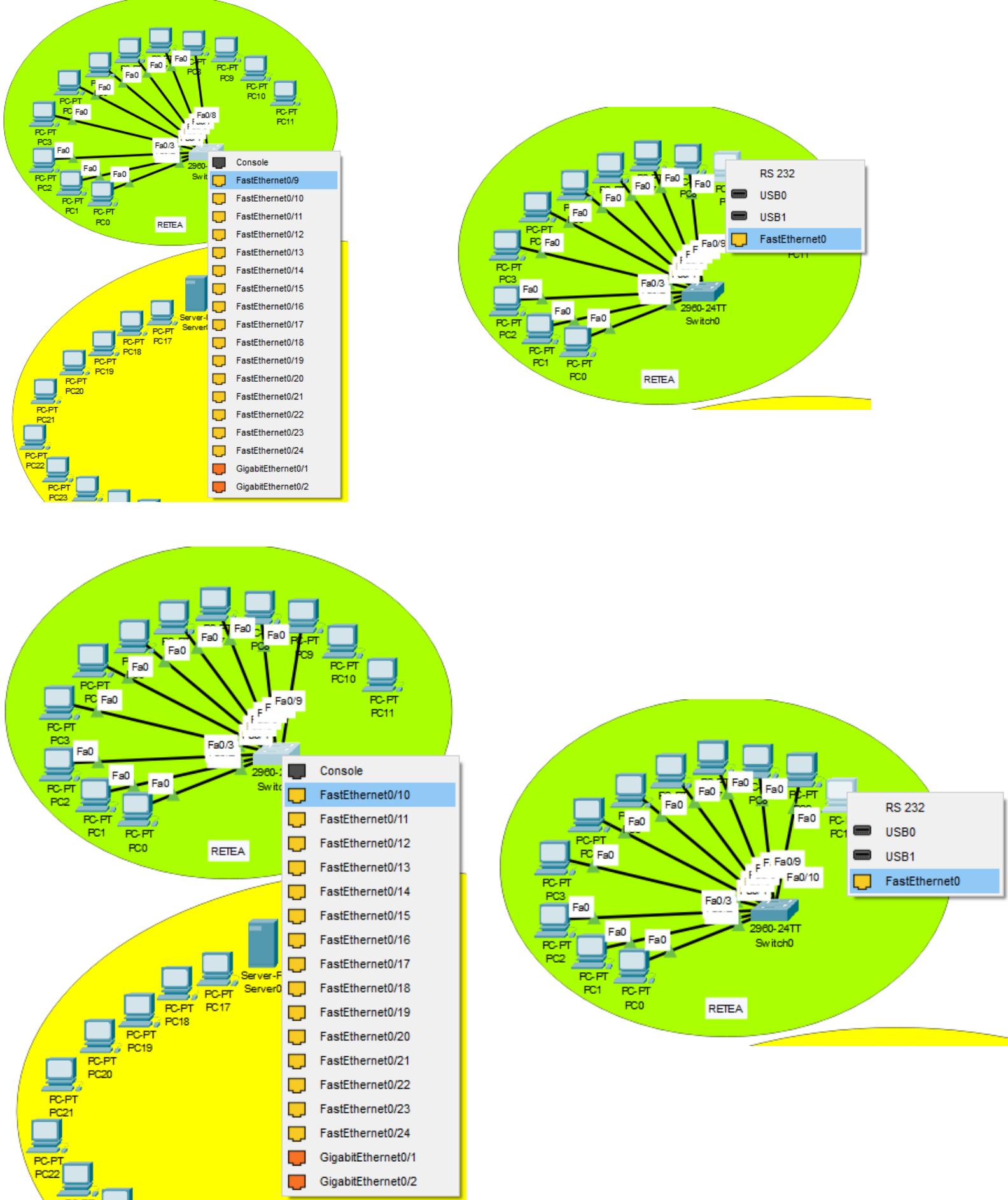
- Collegare i PC (PC-PT PC0, PC-PT PC1, PC-PT PC2, PC-PT PC3, PC-PT PC4, PC-PT PC5, PC-PT PC6, PC-PT PC7, PC-PT PC8, PC-PT PC9, PC-PT PC10 e PC-PT PC11) allo switch 2960-24TT (Switch0) utilizzando le porte FastEthernet0/1, FastEthernet0/2, FastEthernet0/3, FastEthernet0/4, FastEthernet0/5, FastEthernet0/6, FastEthernet0/7, FastEthernet0/8, FastEthernet0/9, FastEthernet0/10, FastEthernet0/11 e FastEthernet0/12 dello switch e le porte FastEthernet0 dei PC con cavi copper straight-through.

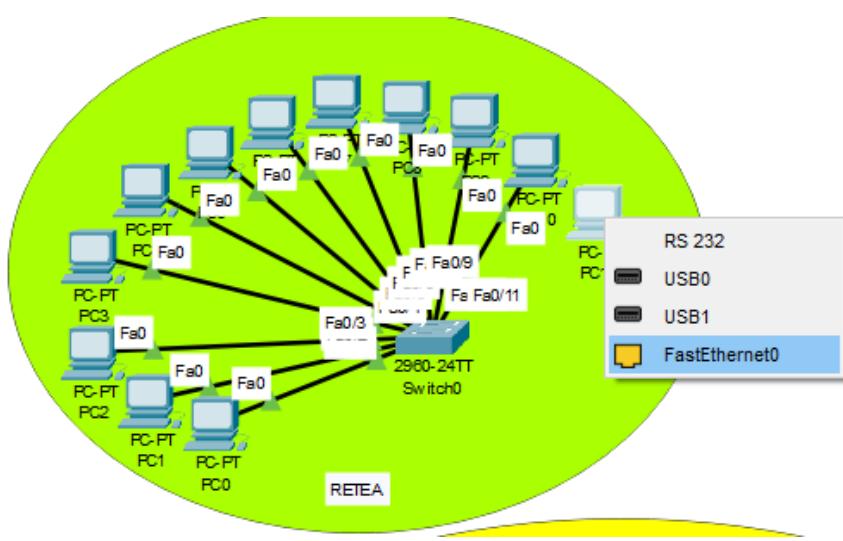
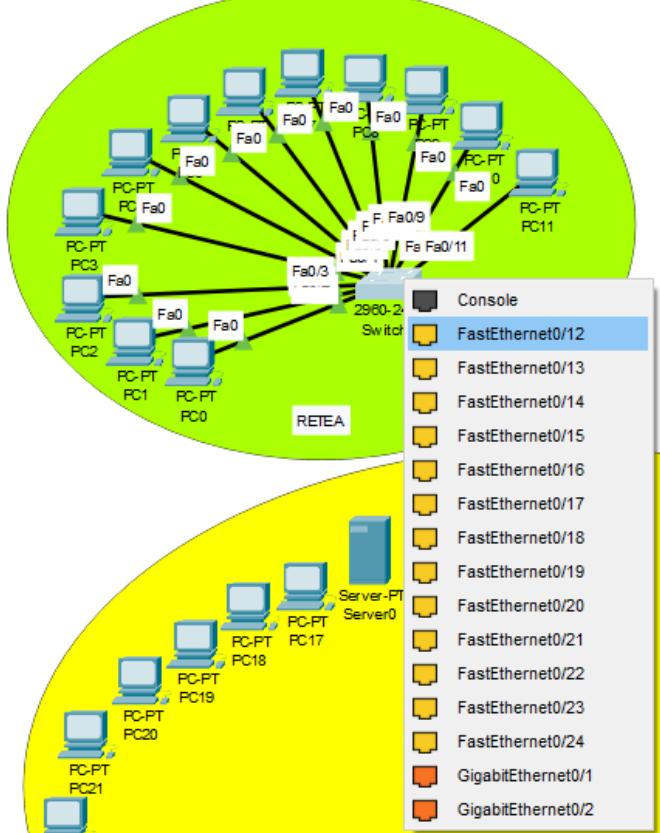
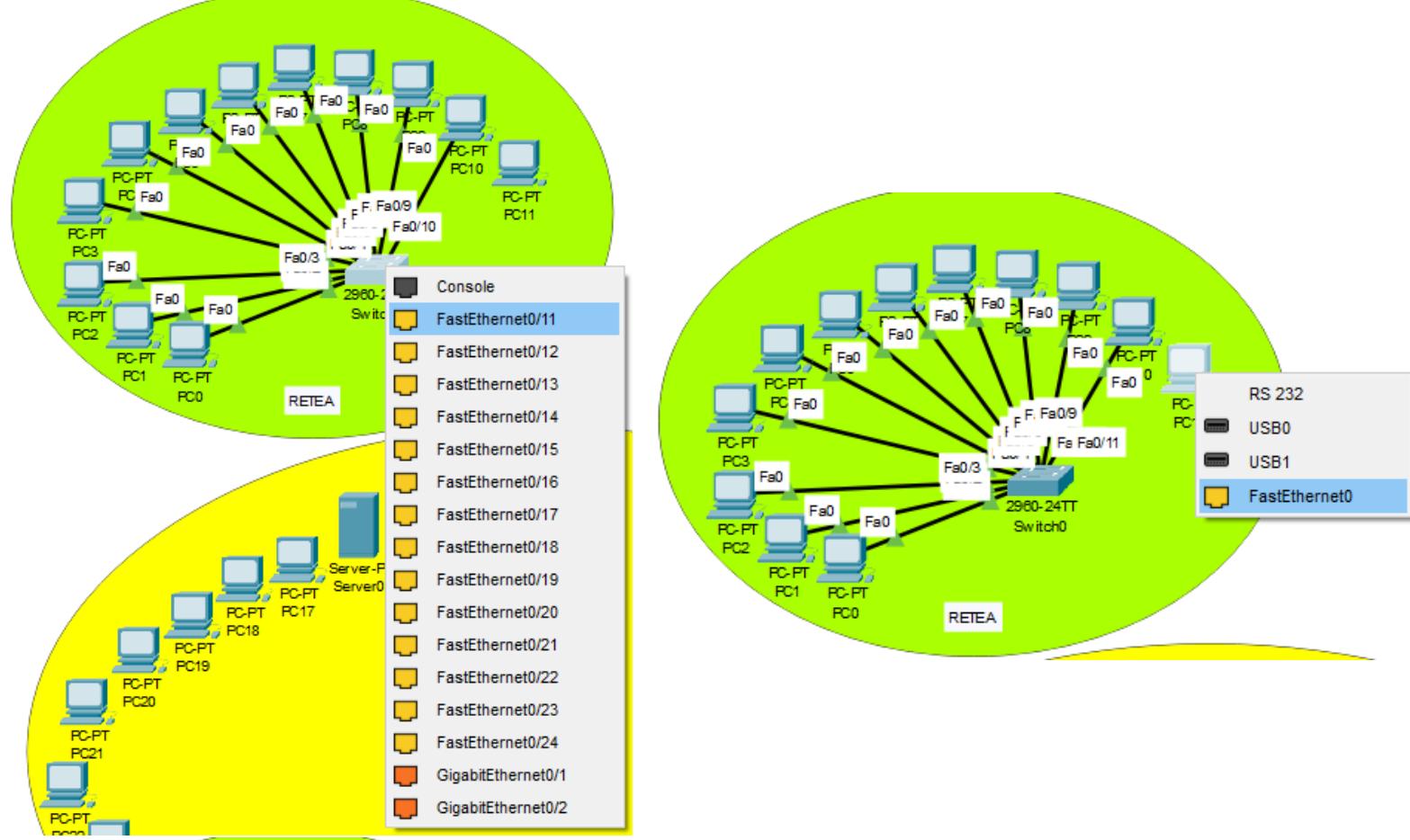






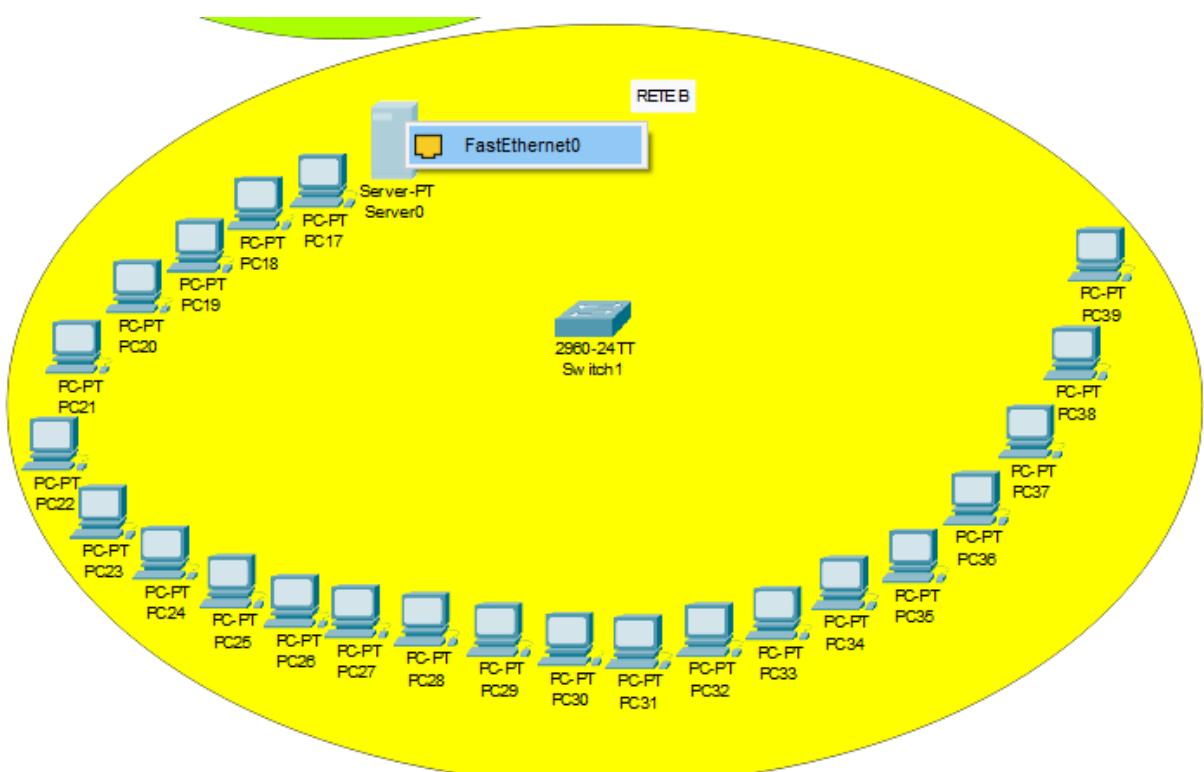


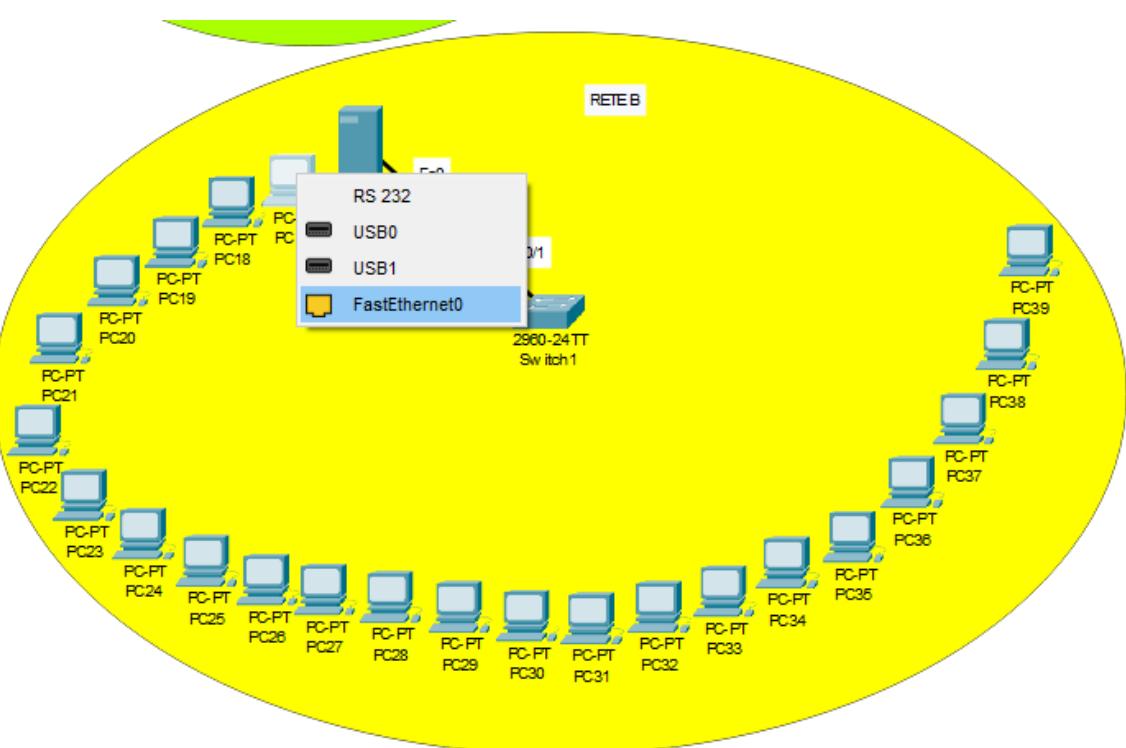
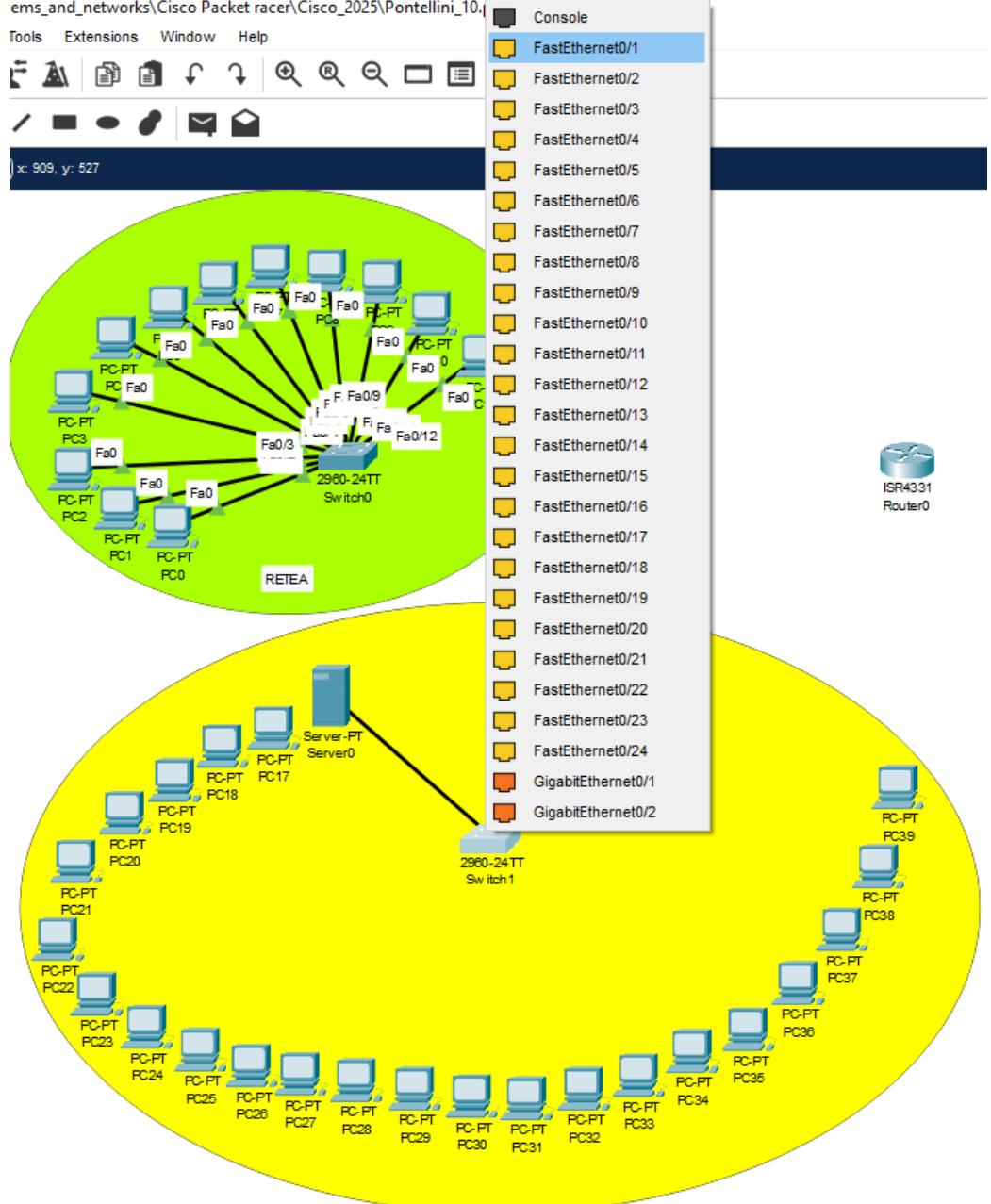


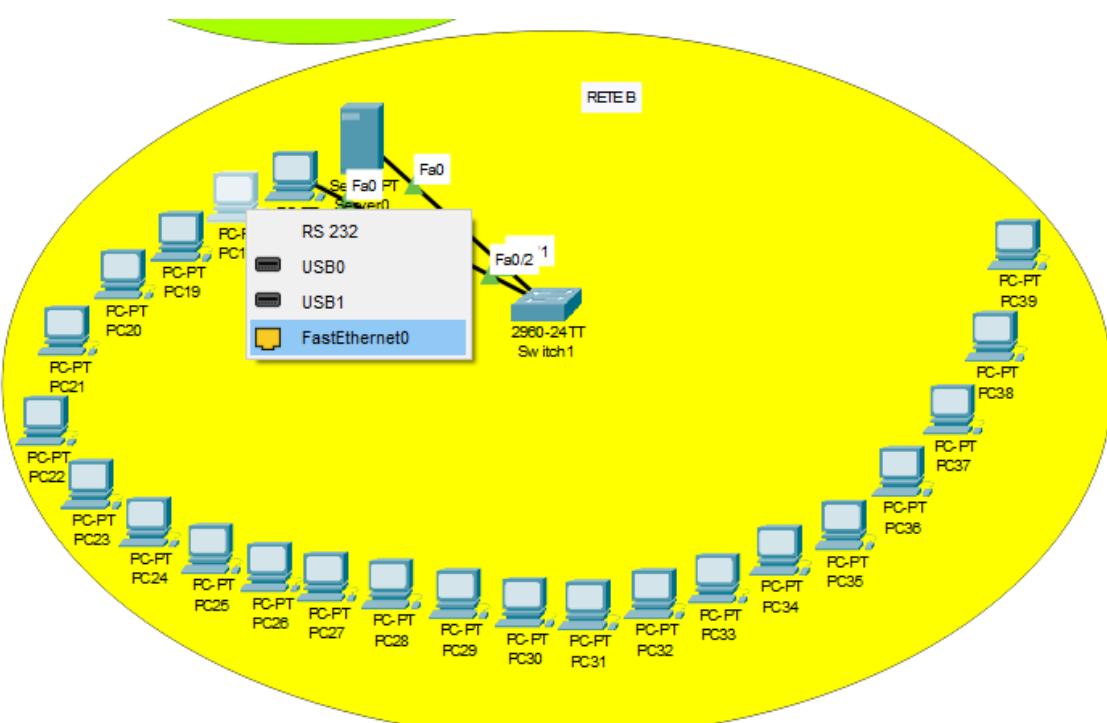
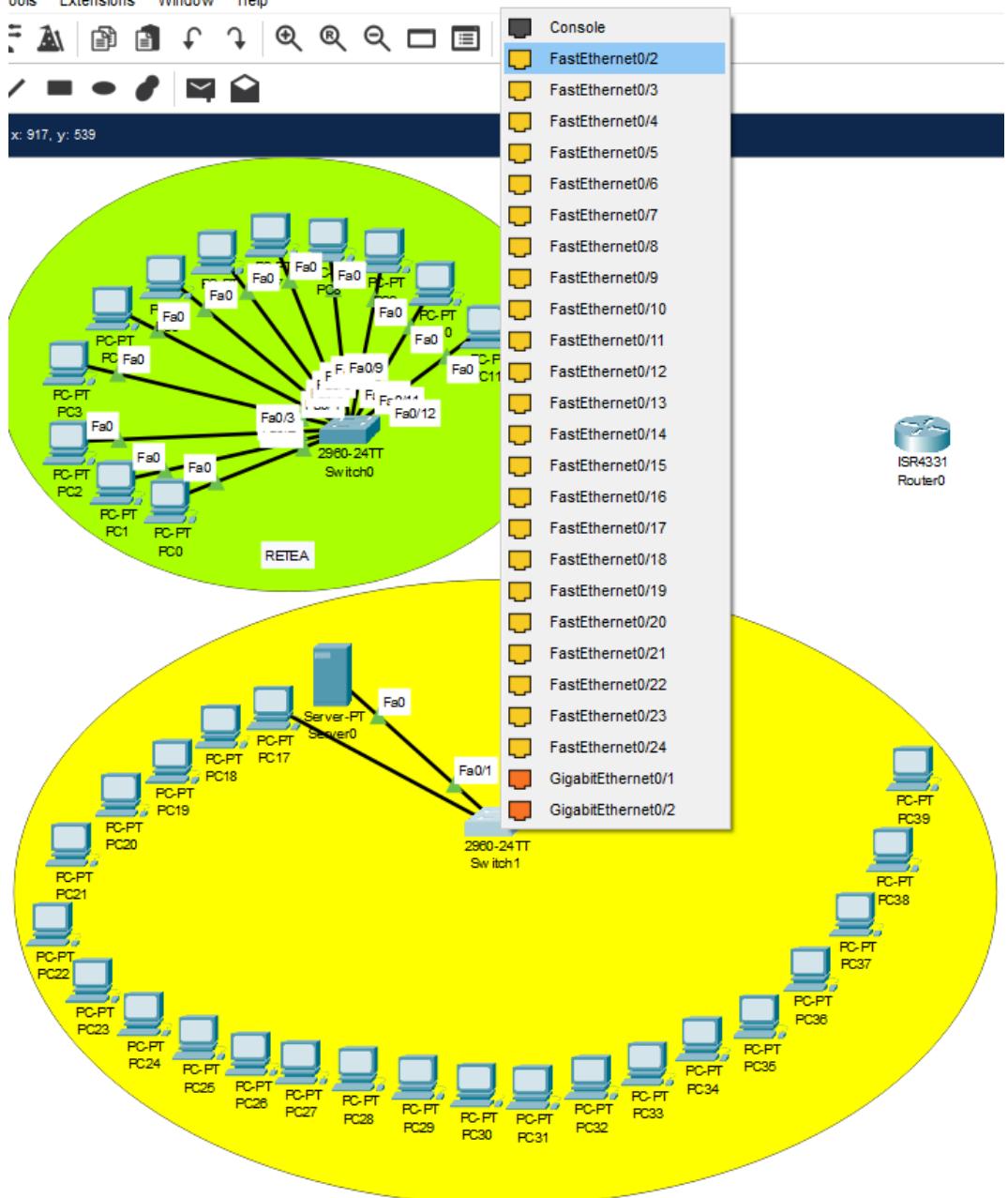


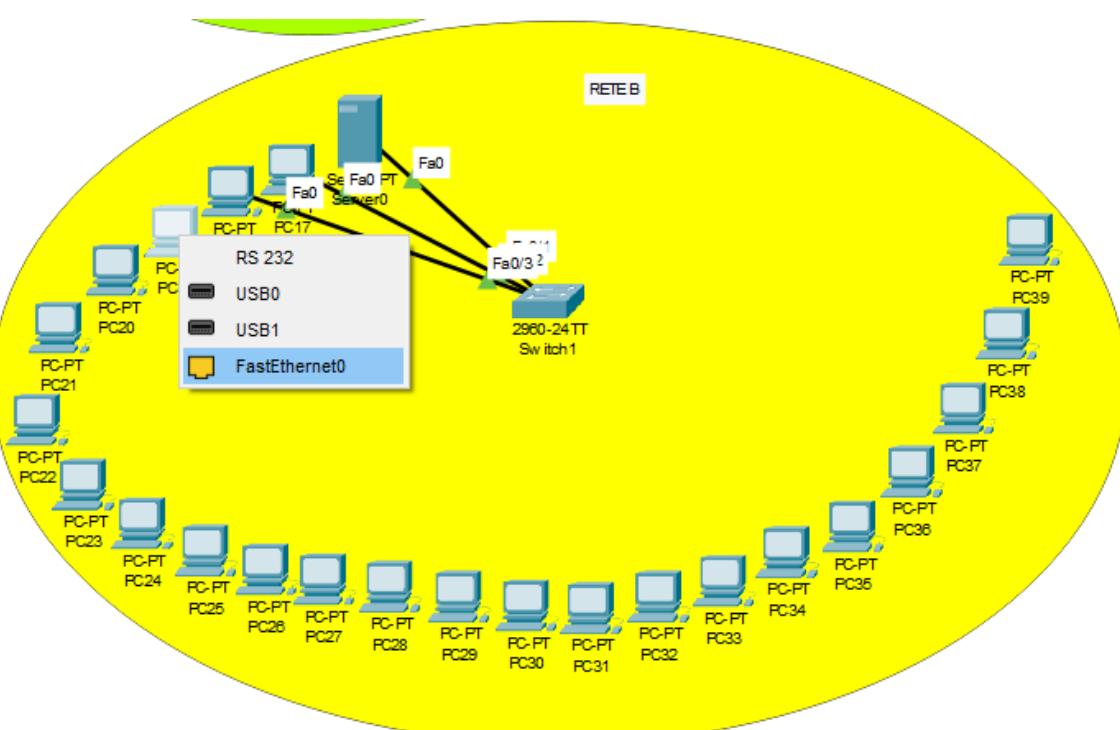
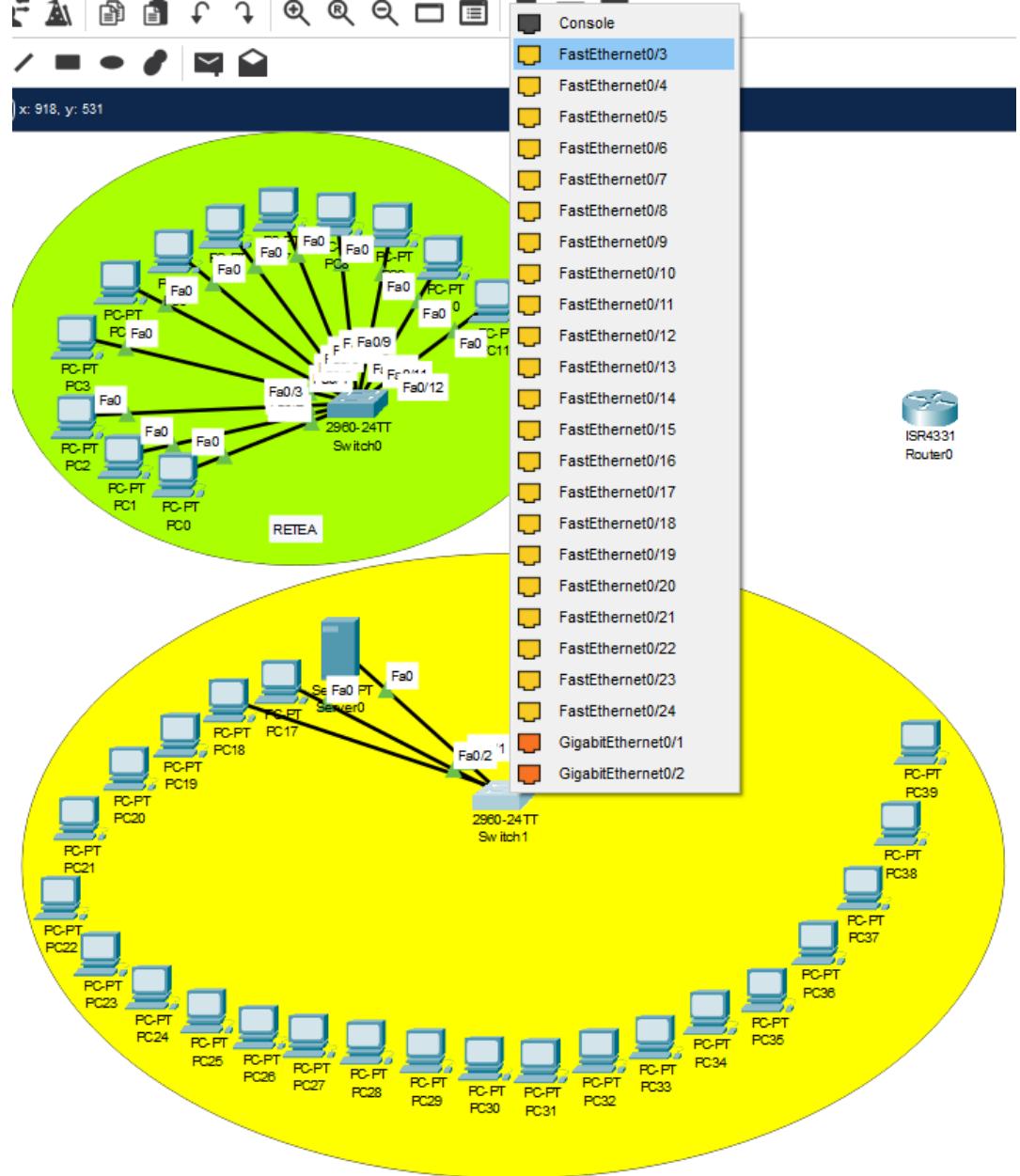
## RETE B:

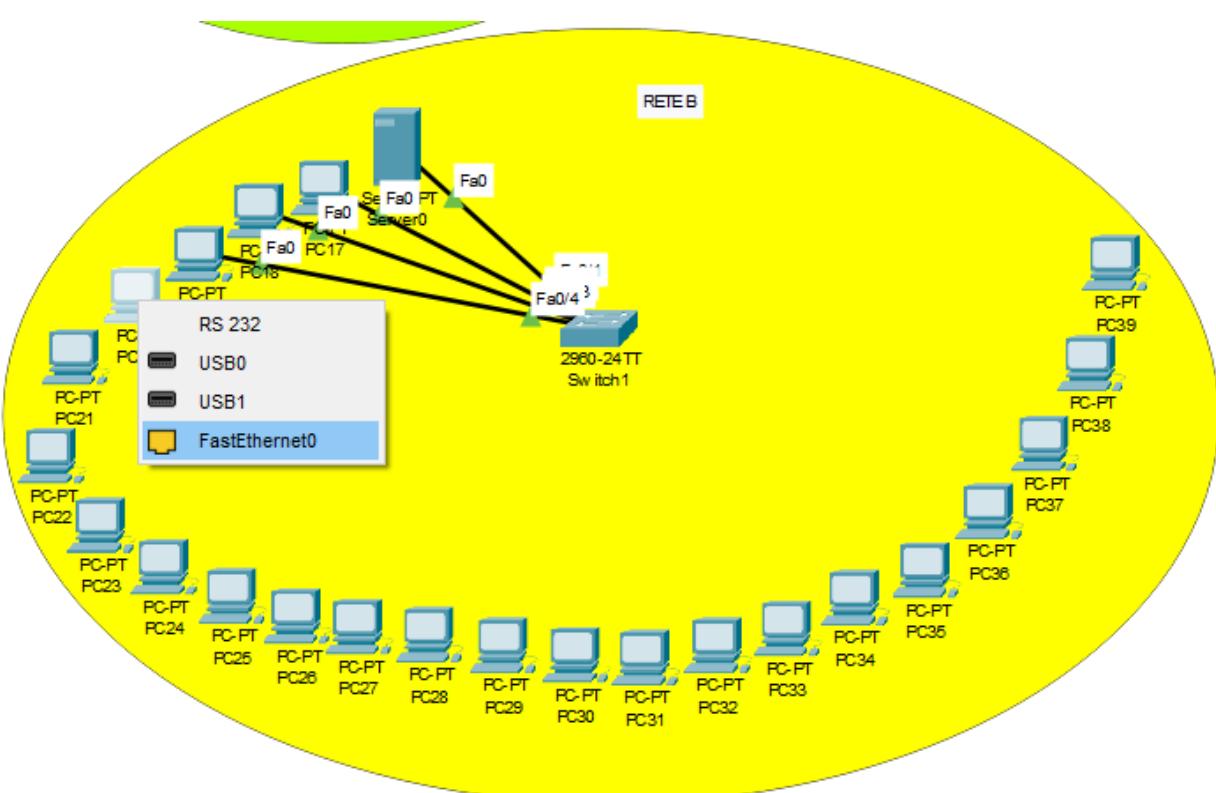
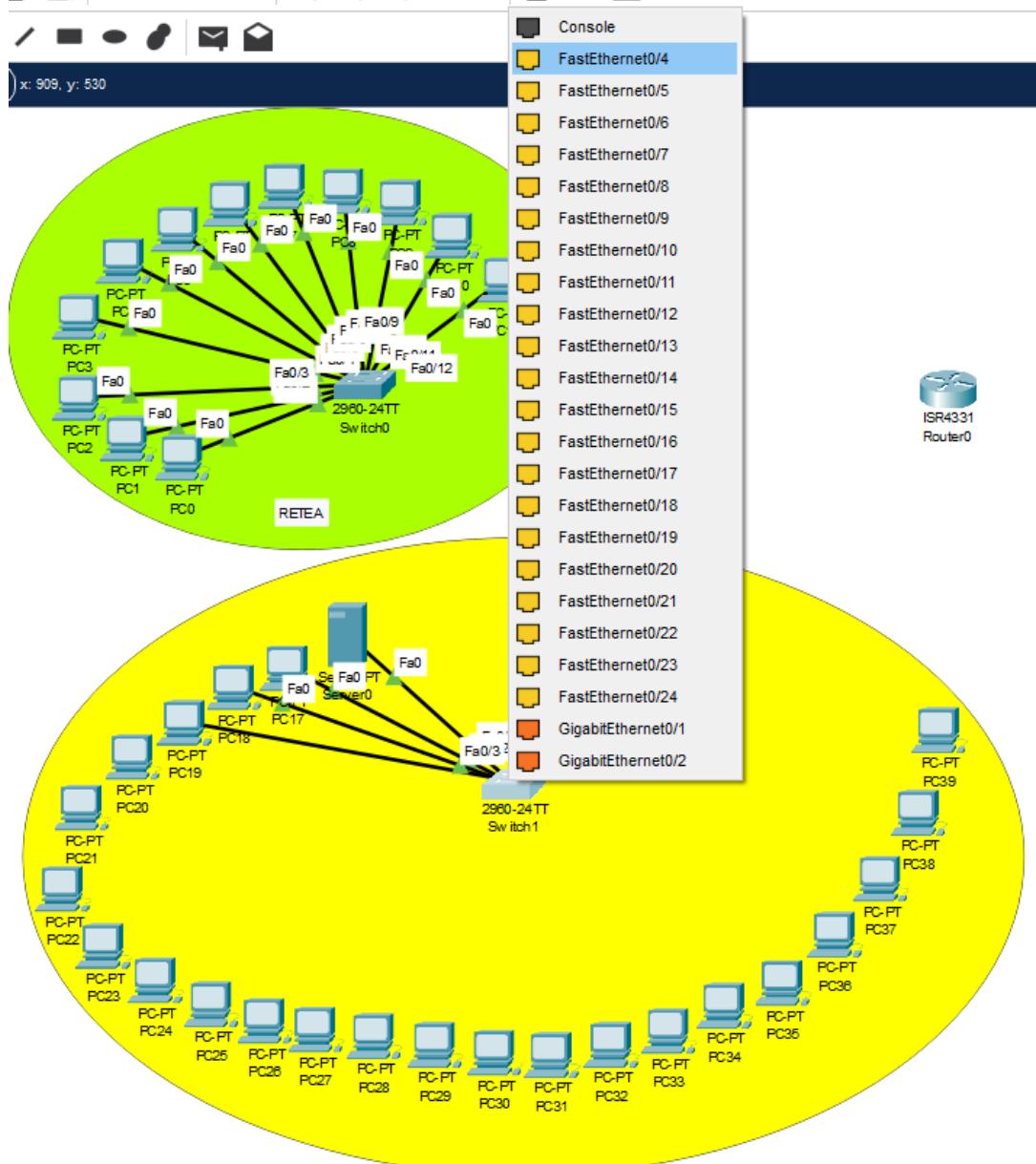
- Collegare i PC (PC-PT PC17, PC-PT PC18, PC-PT PC19, PC-PT PC20, PC-PT PC21, PC-PT PC22, PC-PT PC23, PC-PT PC24, PC-PT PC25, PC-PT PC26, PC-PT PC27, PC-PT PC28, PC-PT PC29, PC-PT PC30, PC-PT PC31, PC-PT PC32, PC-PT PC33, PC-PT PC34, PC-PT PC35, PC-PT PC36, PC-PT PC37, PC-PT PC38 e PC-PT PC39) e il Server-PT (Server0) allo switch 2960-24TT (Switch1) utilizzando le porte FastEthernet0/1, FastEthernet0/2, FastEthernet0/3, FastEthernet0/4, FastEthernet0/5, FastEthernet0/6, FastEthernet0/7, FastEthernet0/8, FastEthernet0/9, FastEthernet0/10, FastEthernet0/11, FastEthernet0/12, FastEthernet0/13, FastEthernet0/14, FastEthernet0/15, FastEthernet0/16, FastEthernet0/17, FastEthernet0/18, FastEthernet0/19, FastEthernet0/20, FastEthernet0/21, FastEthernet0/22, FastEthernet0/23 e FastEthernet0/24 dello switch e le porte FastEthernet0 dei PC e del Server0 con cavi copper straight-through.



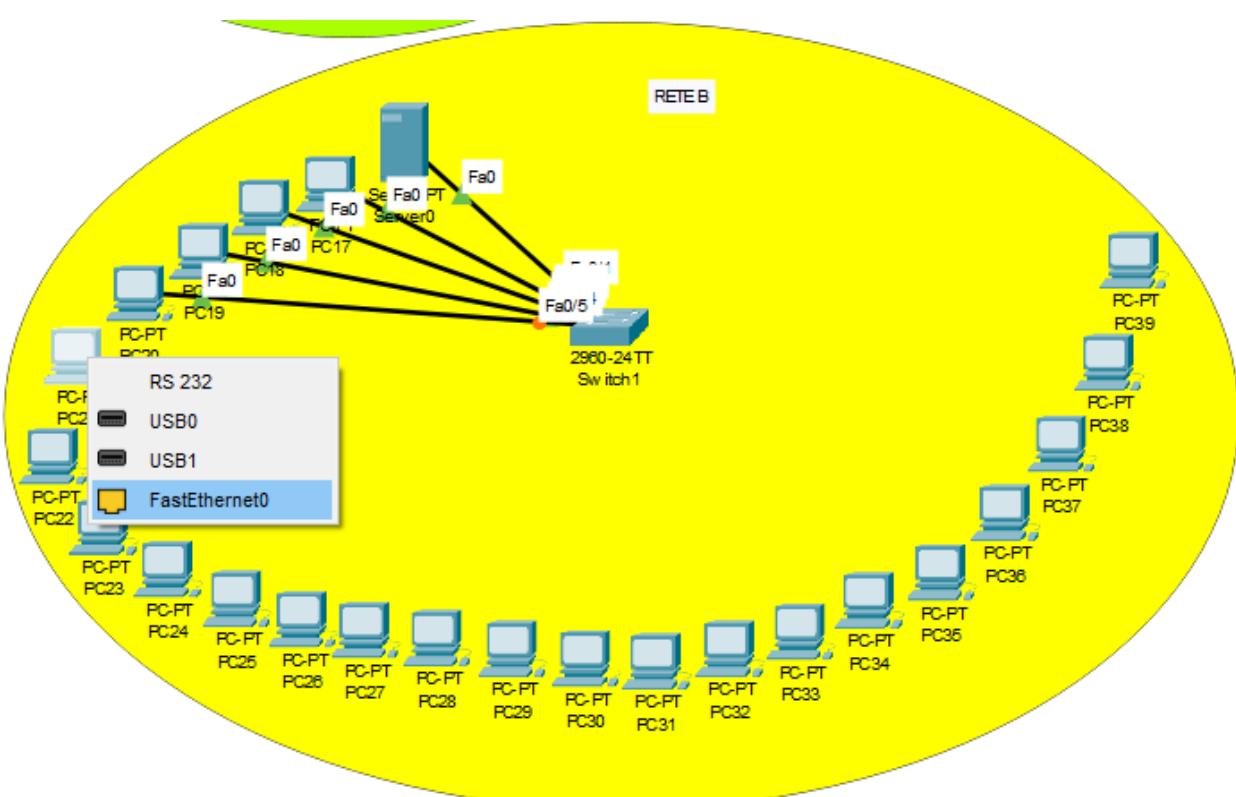
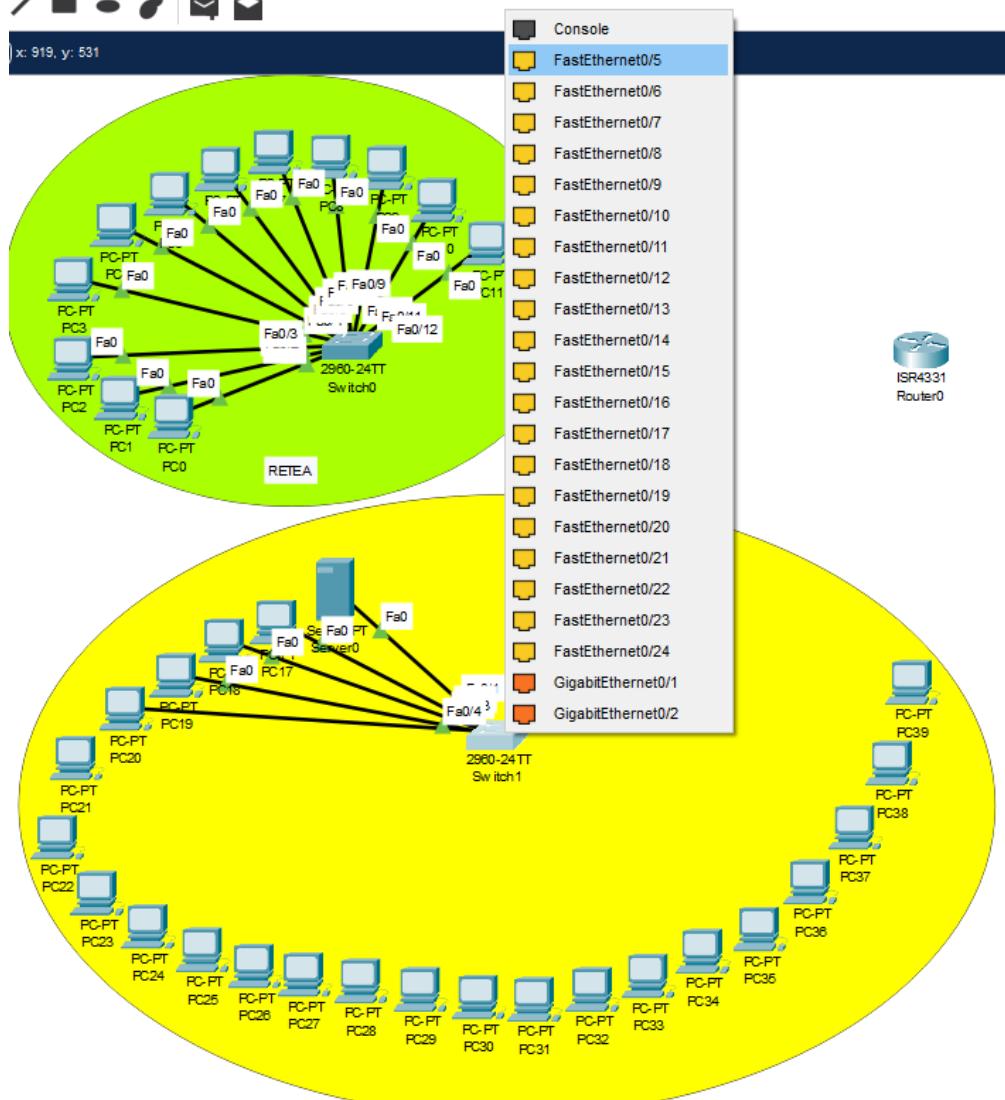


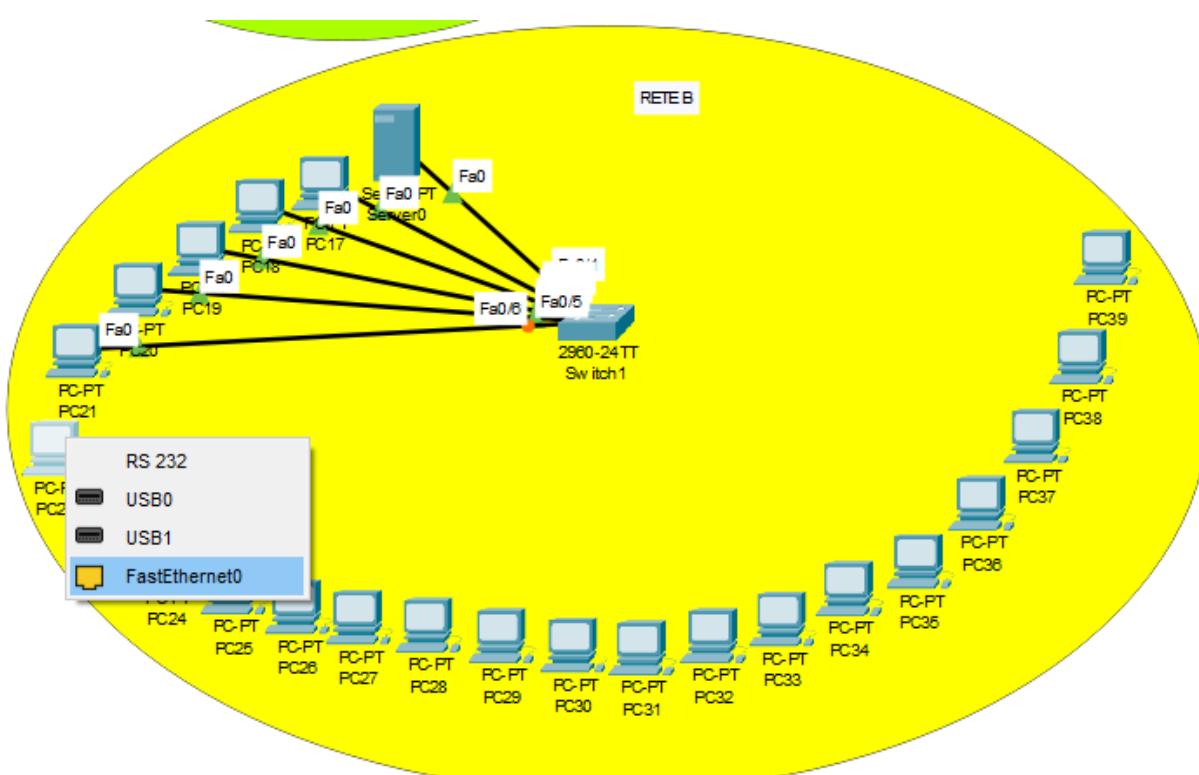
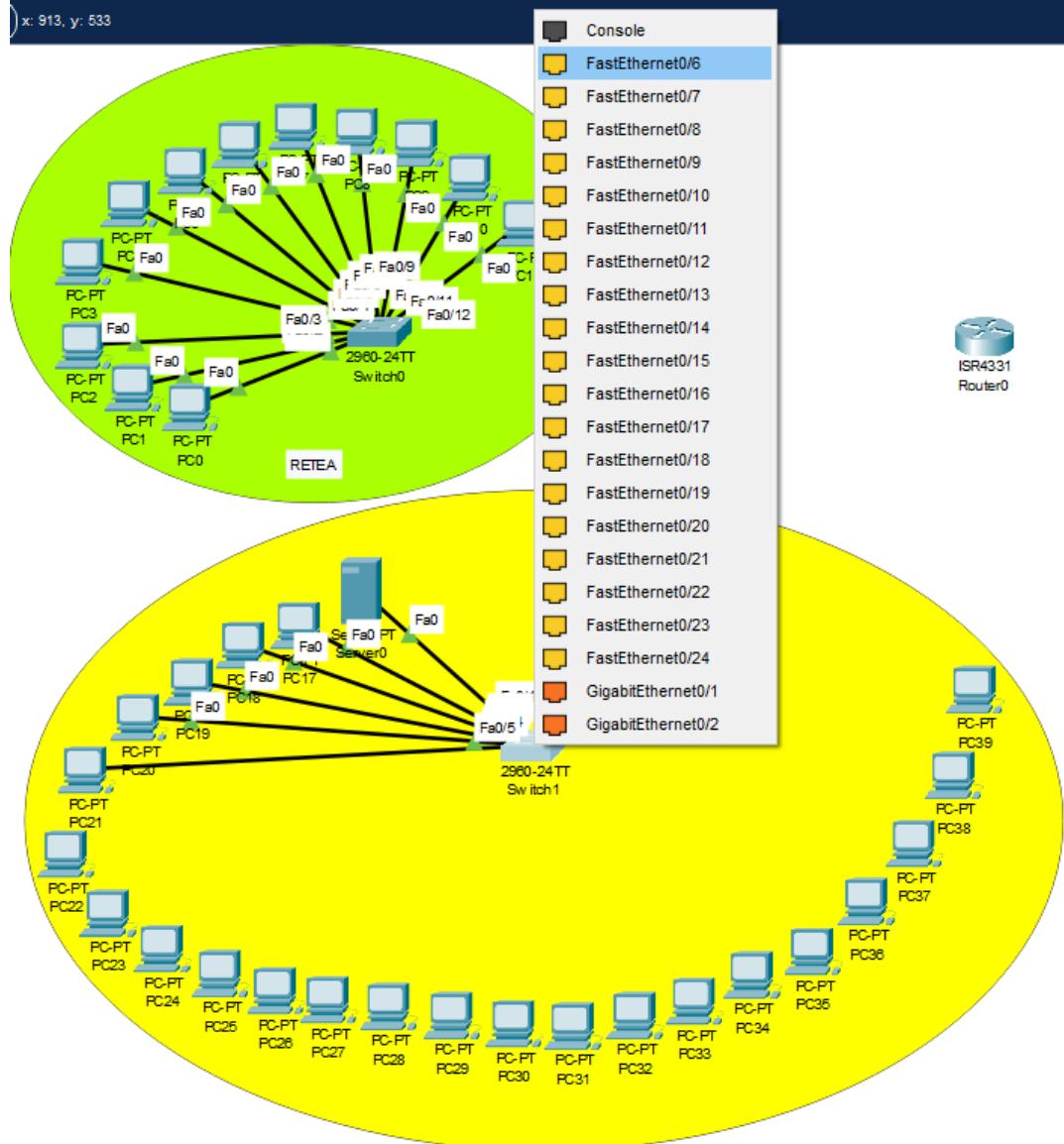


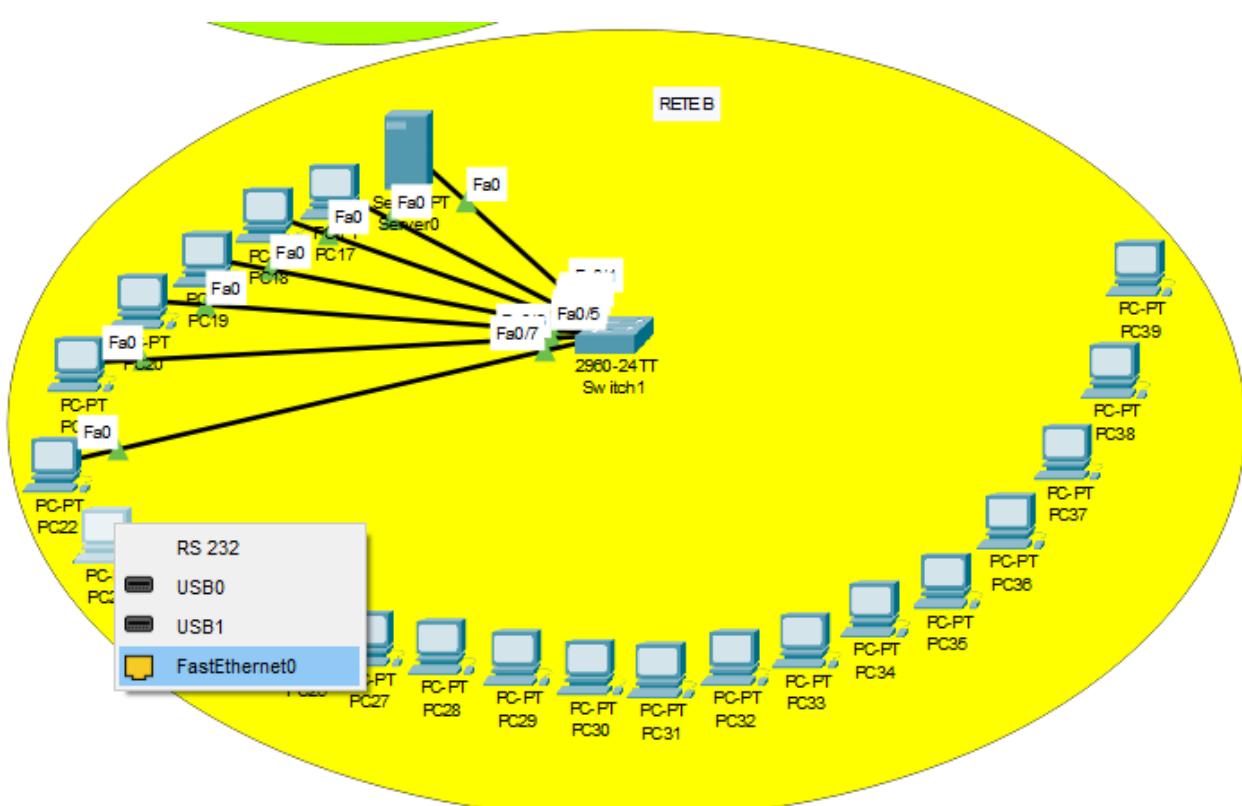
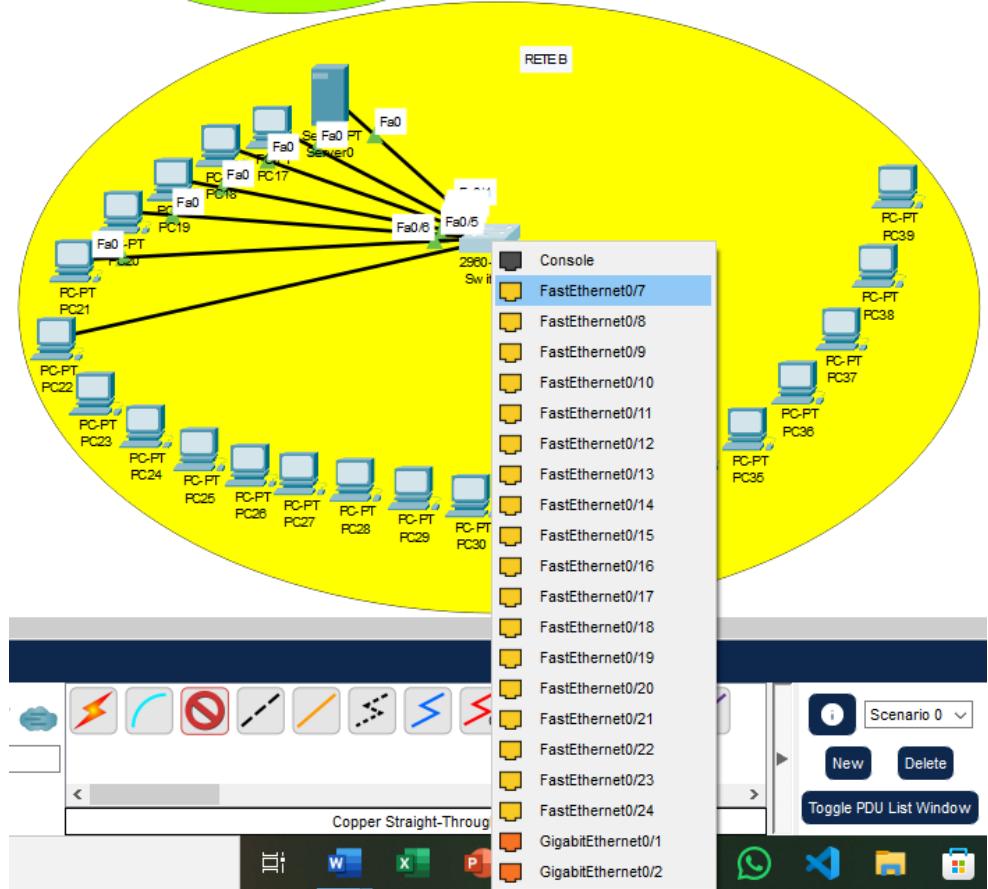


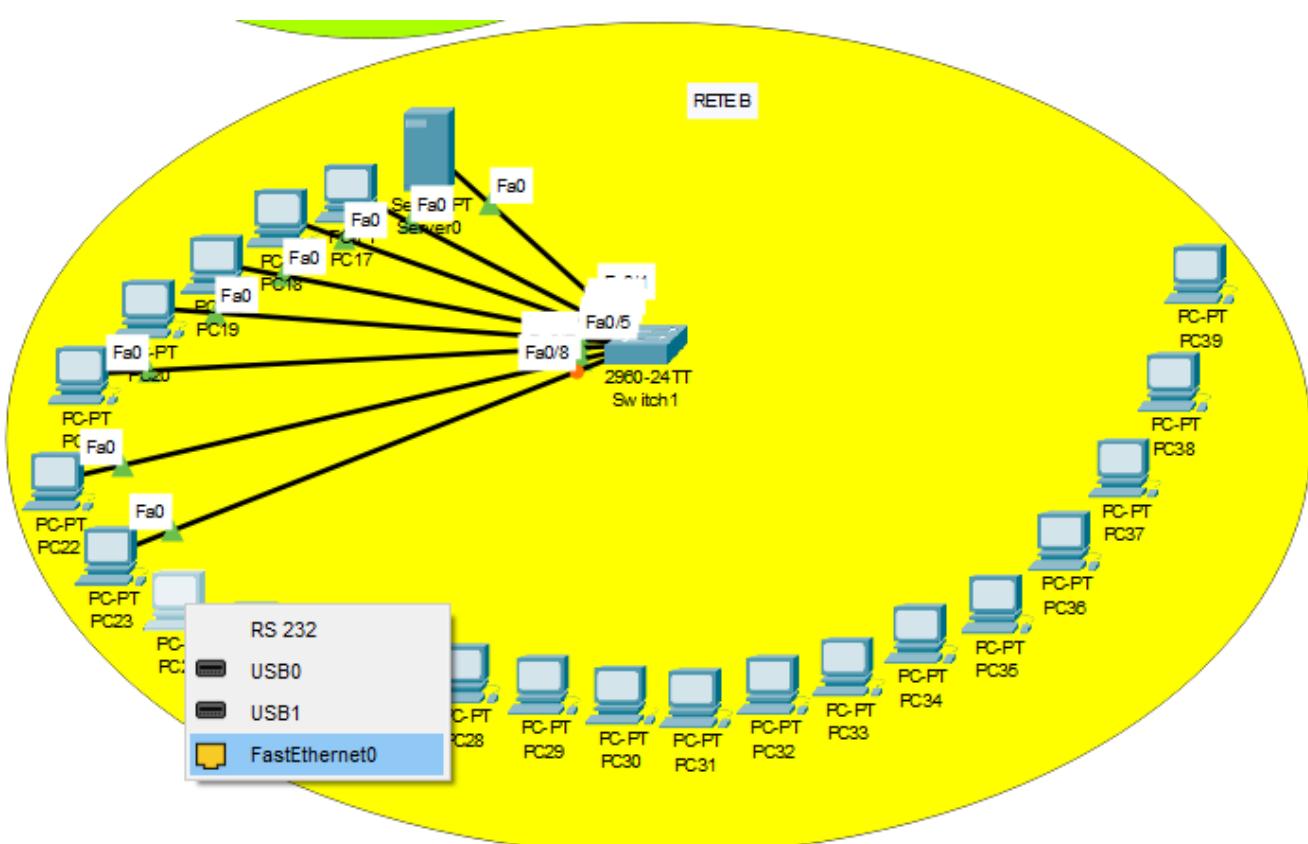
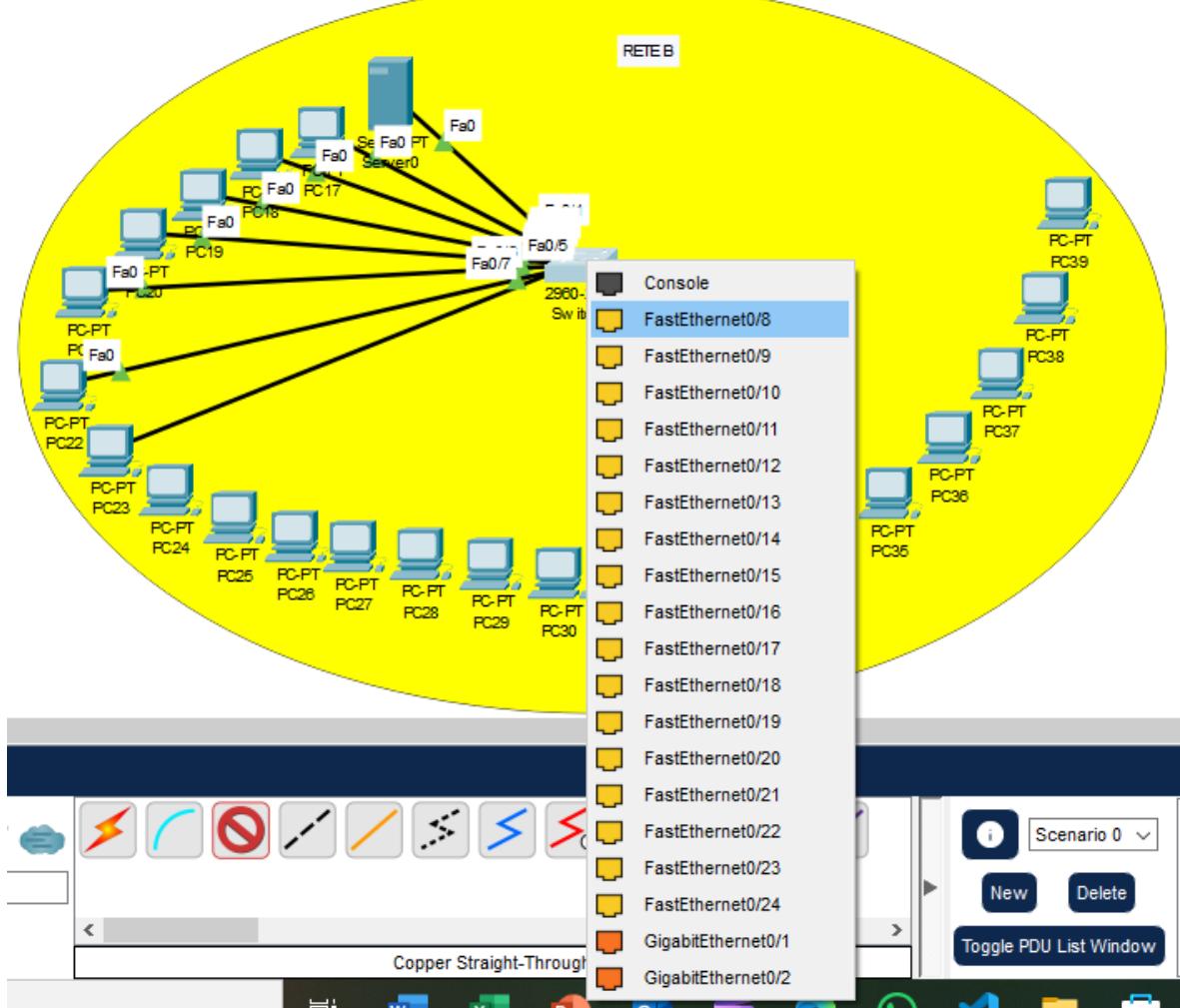


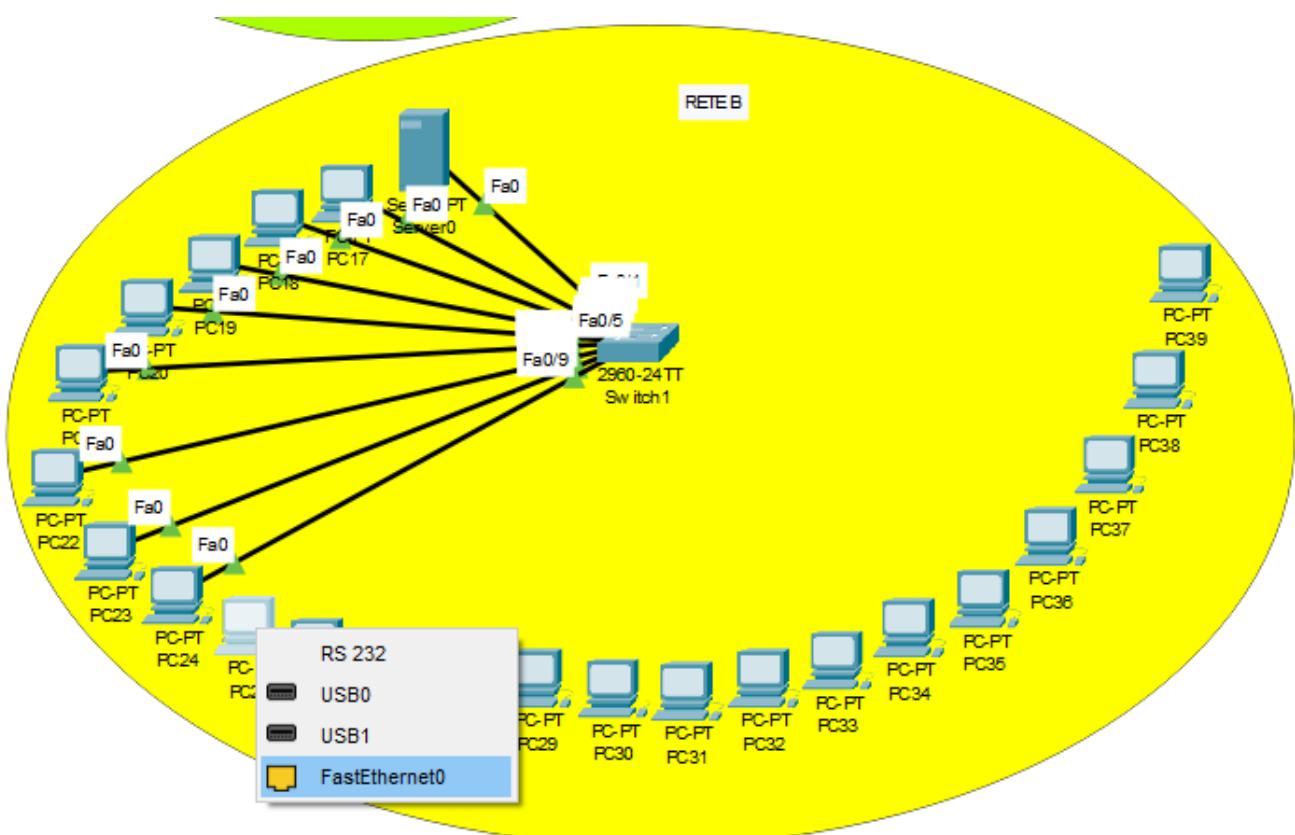
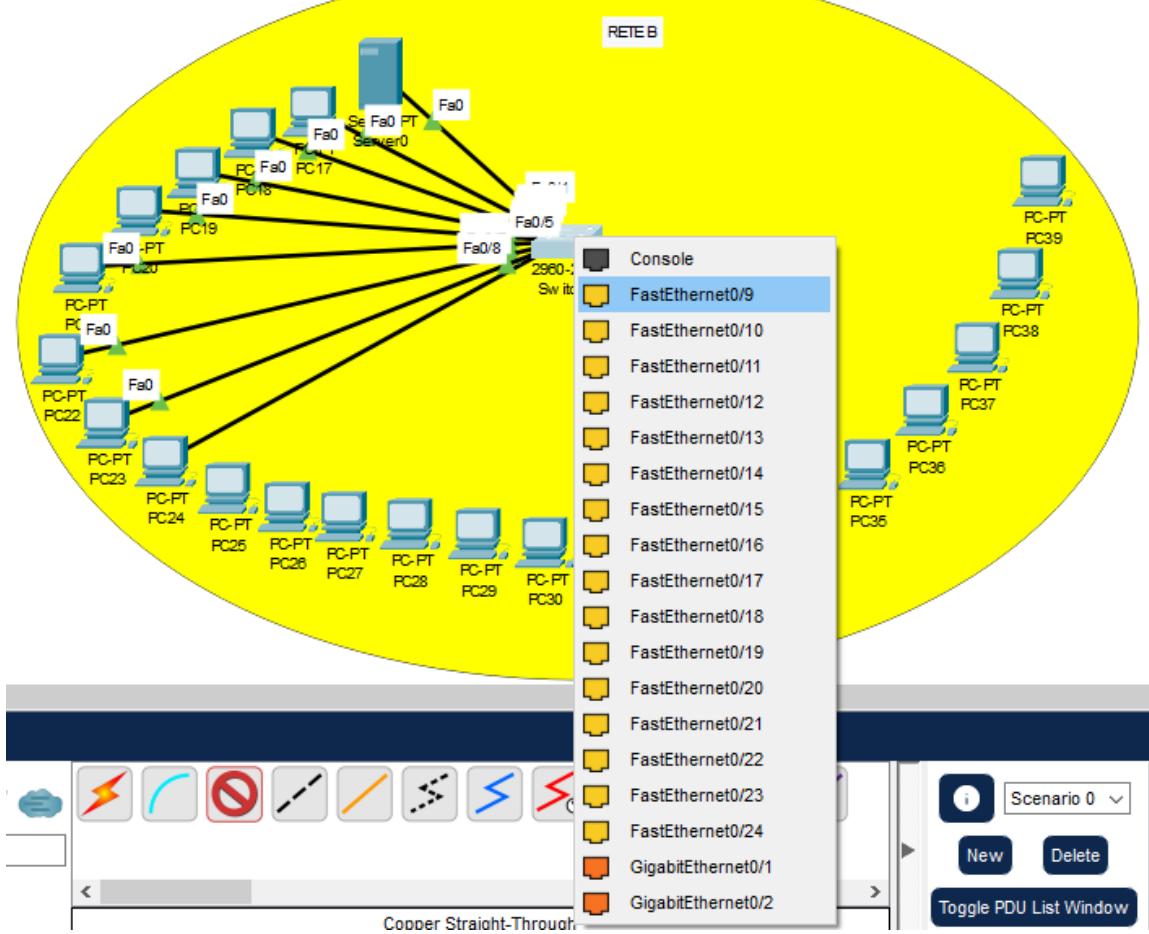
x: 919, y: 531

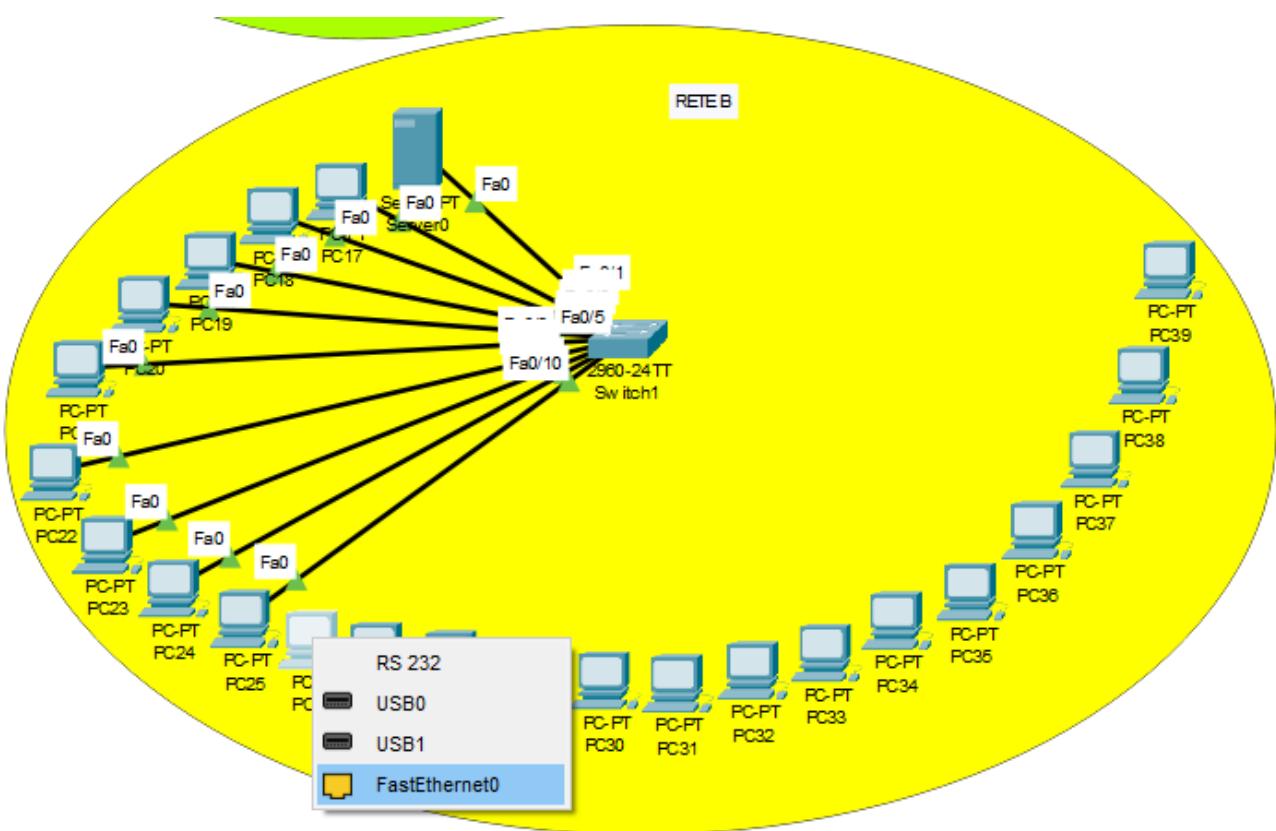
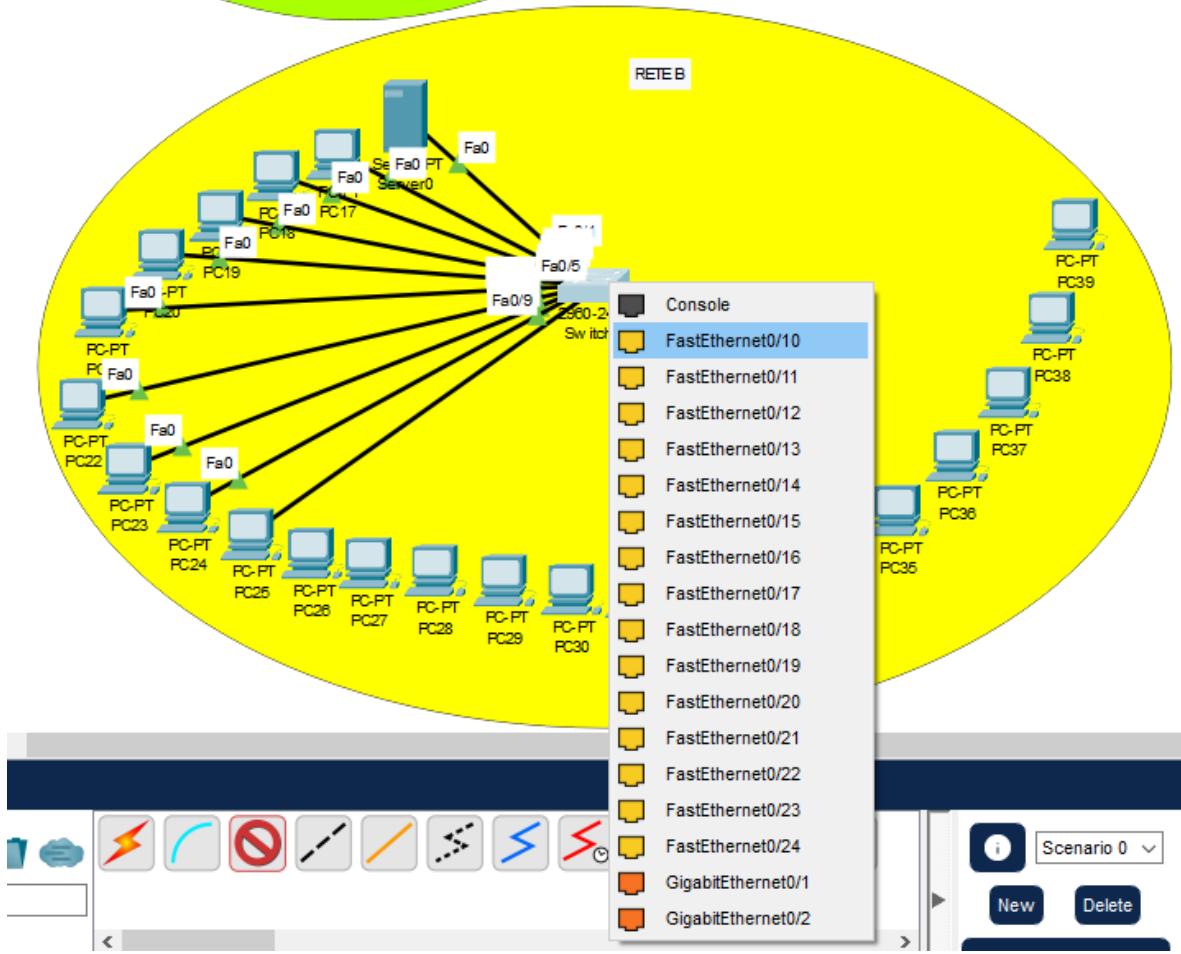


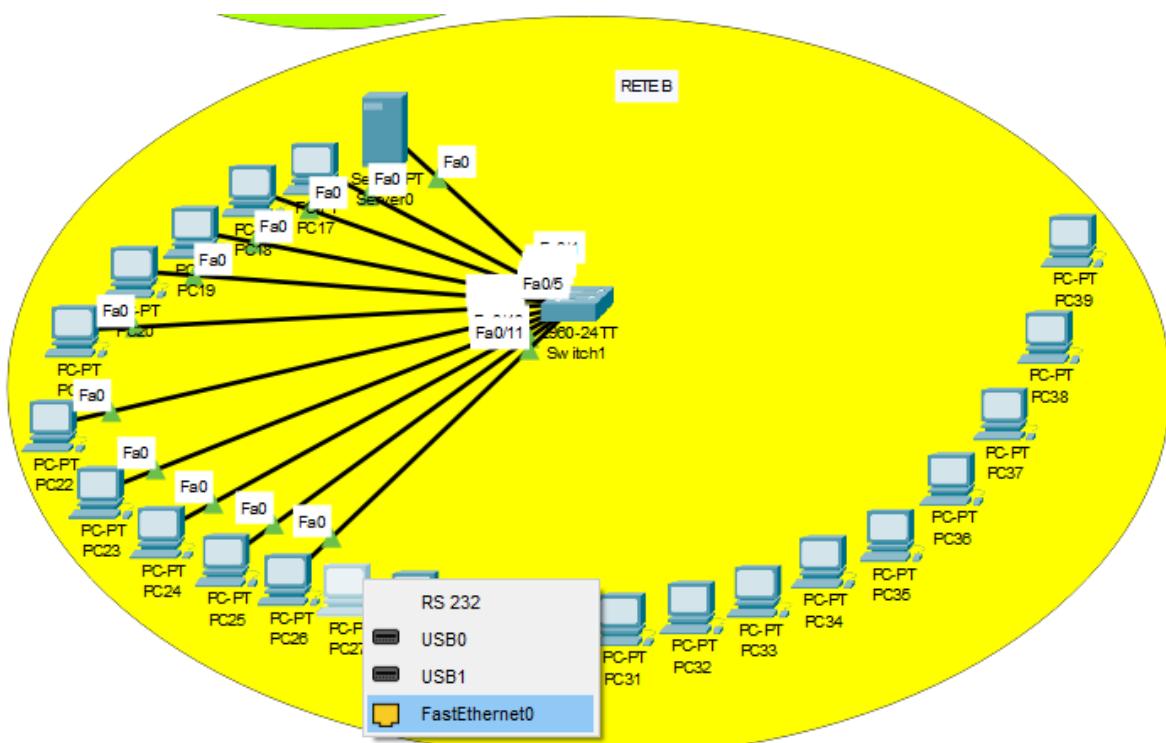
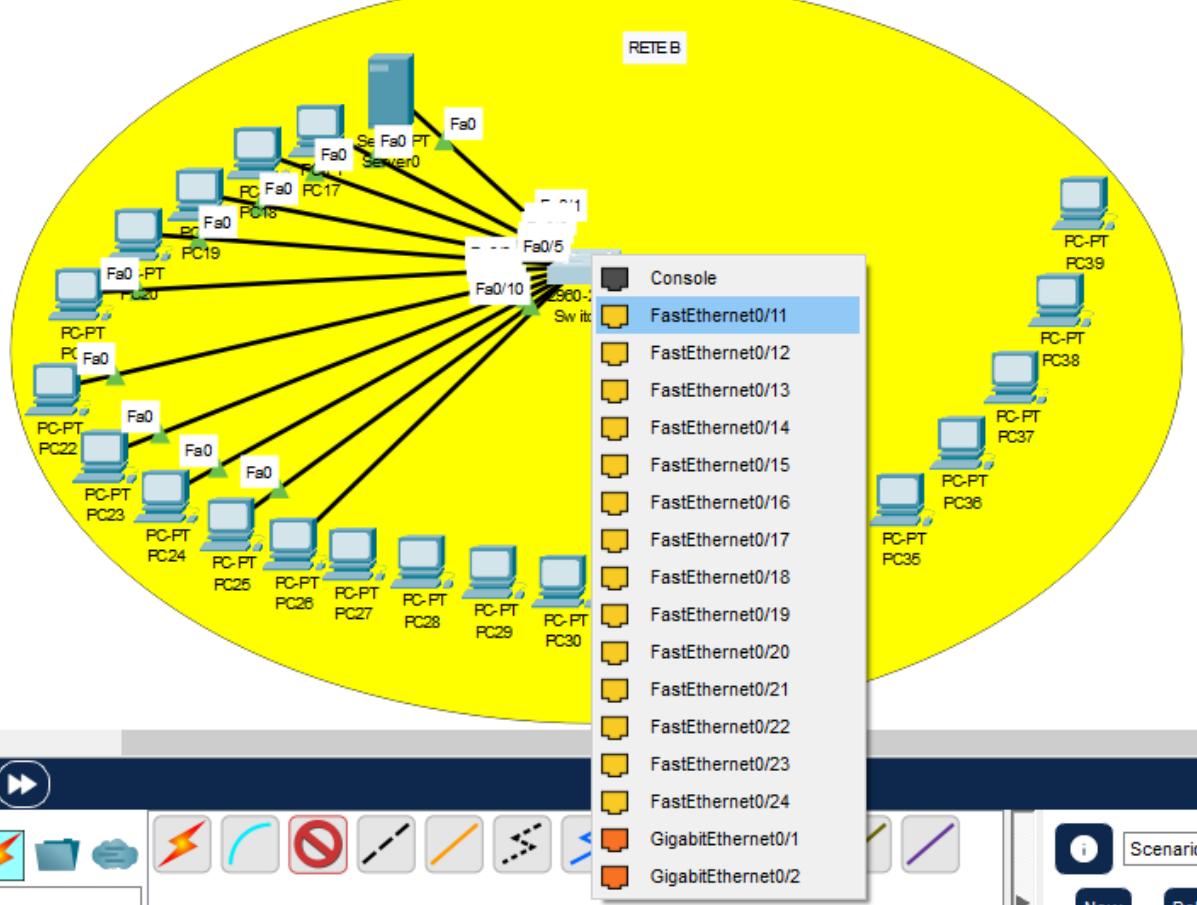


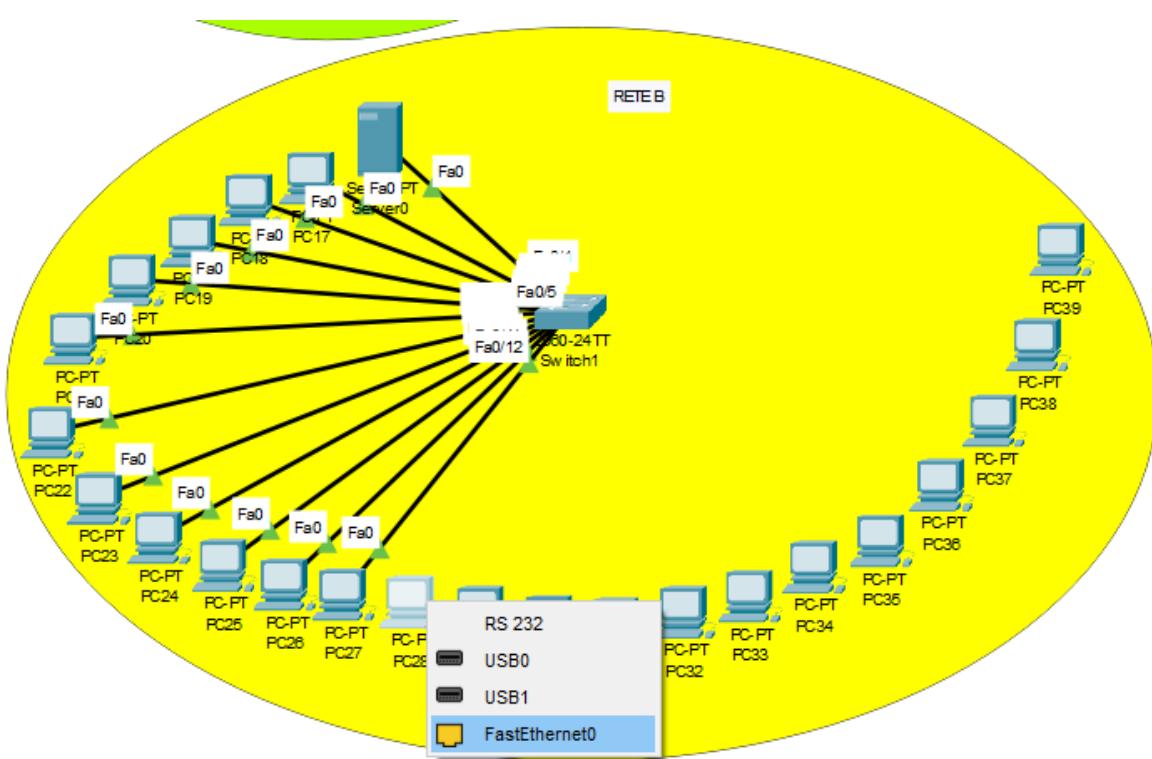
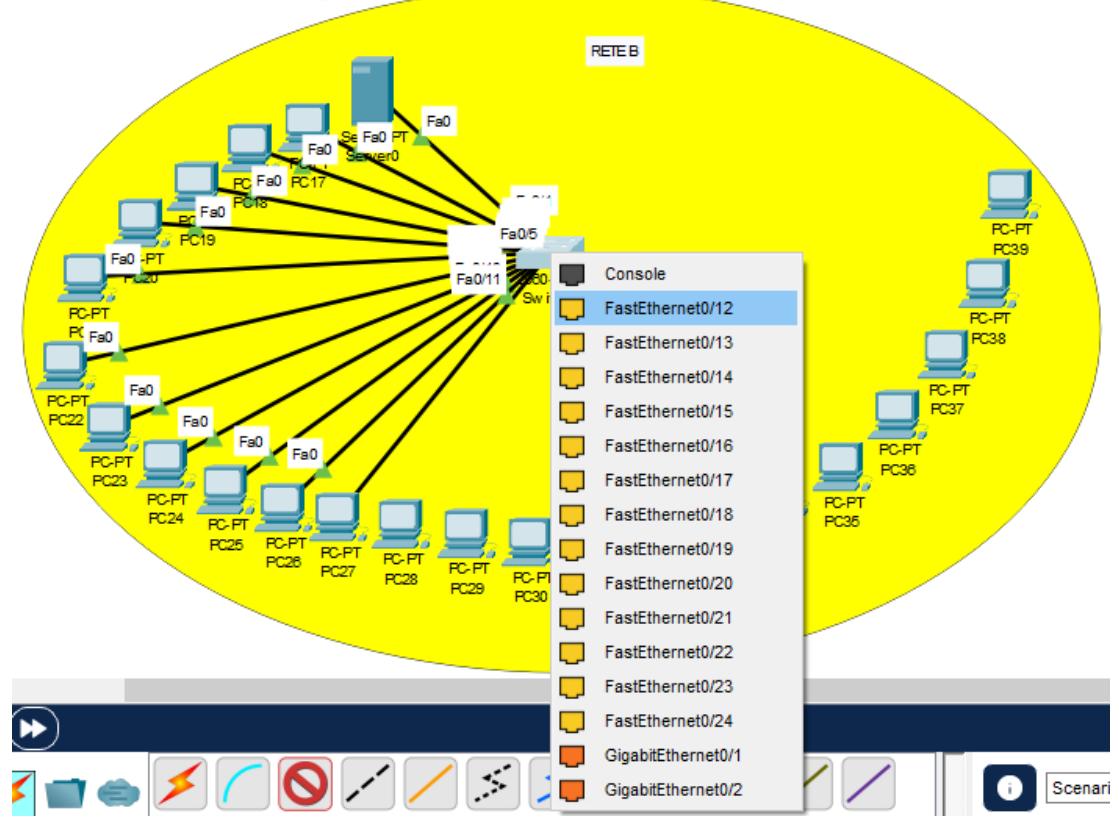


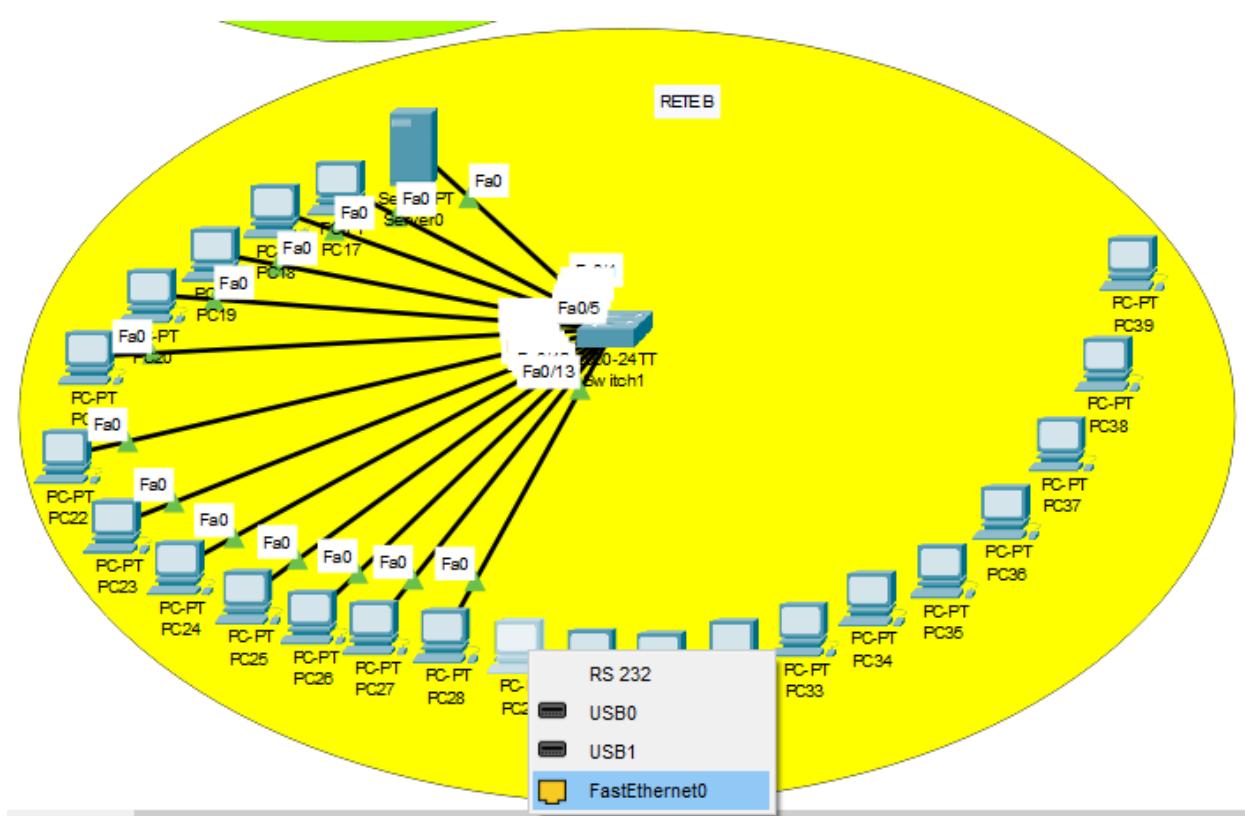
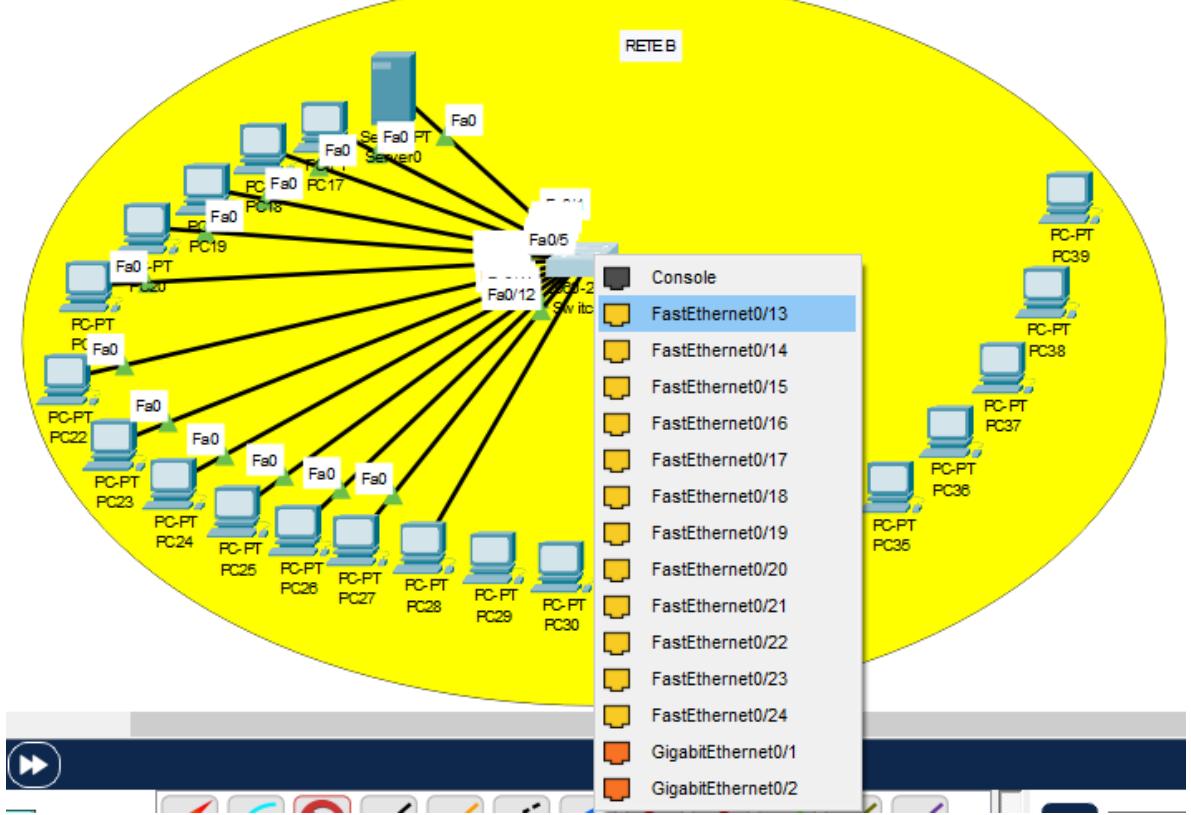


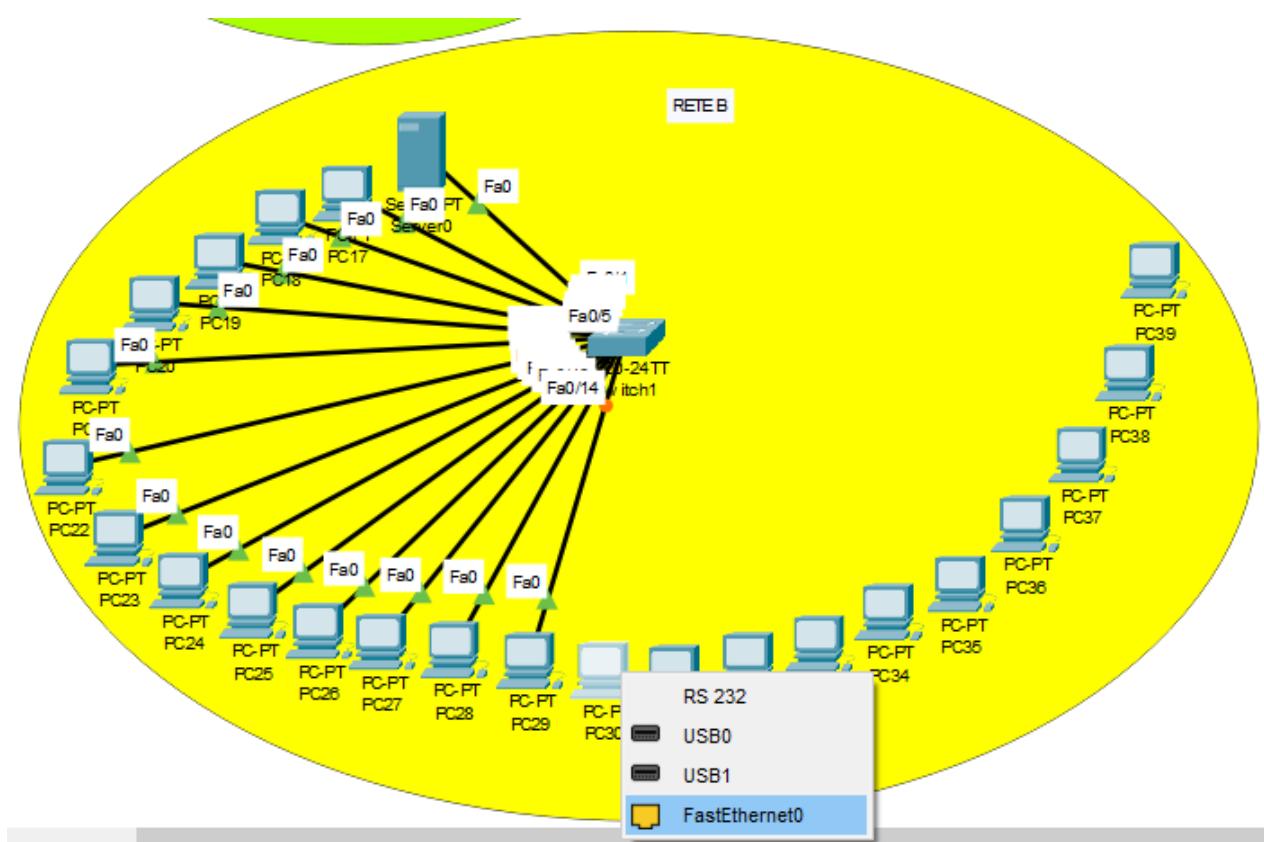
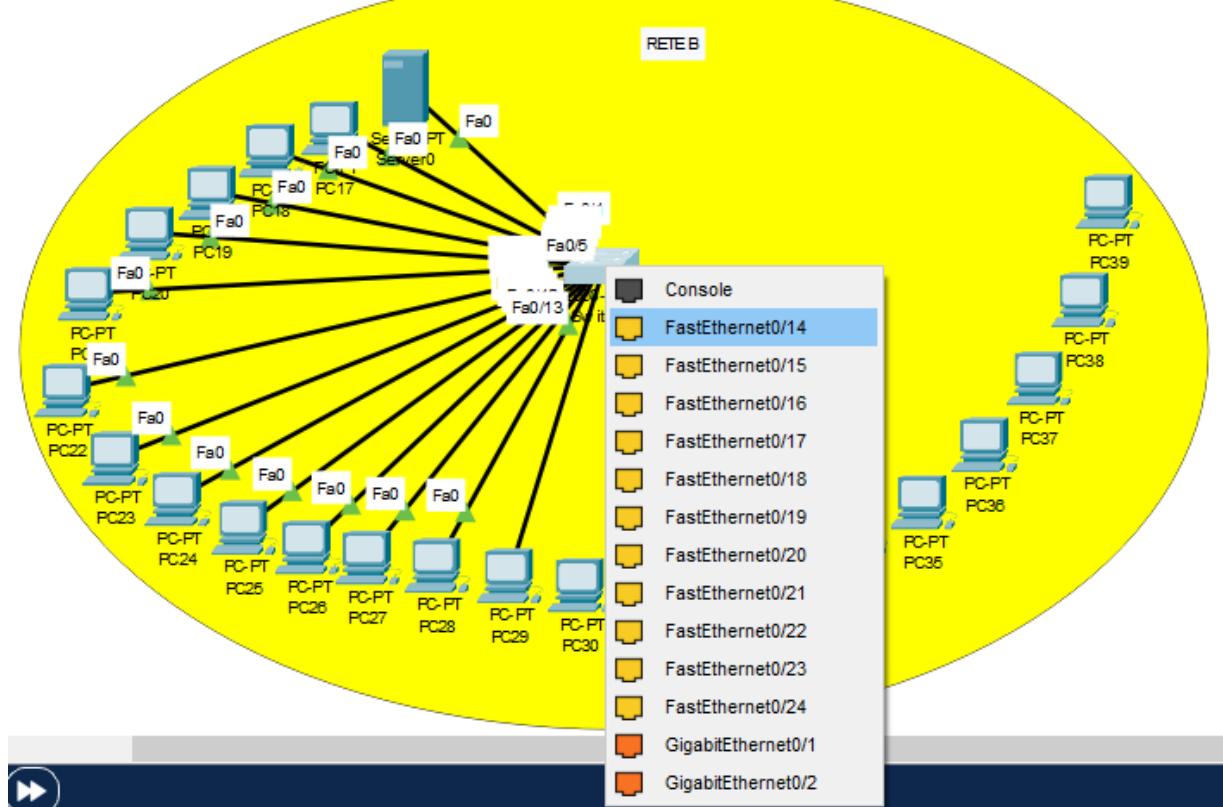


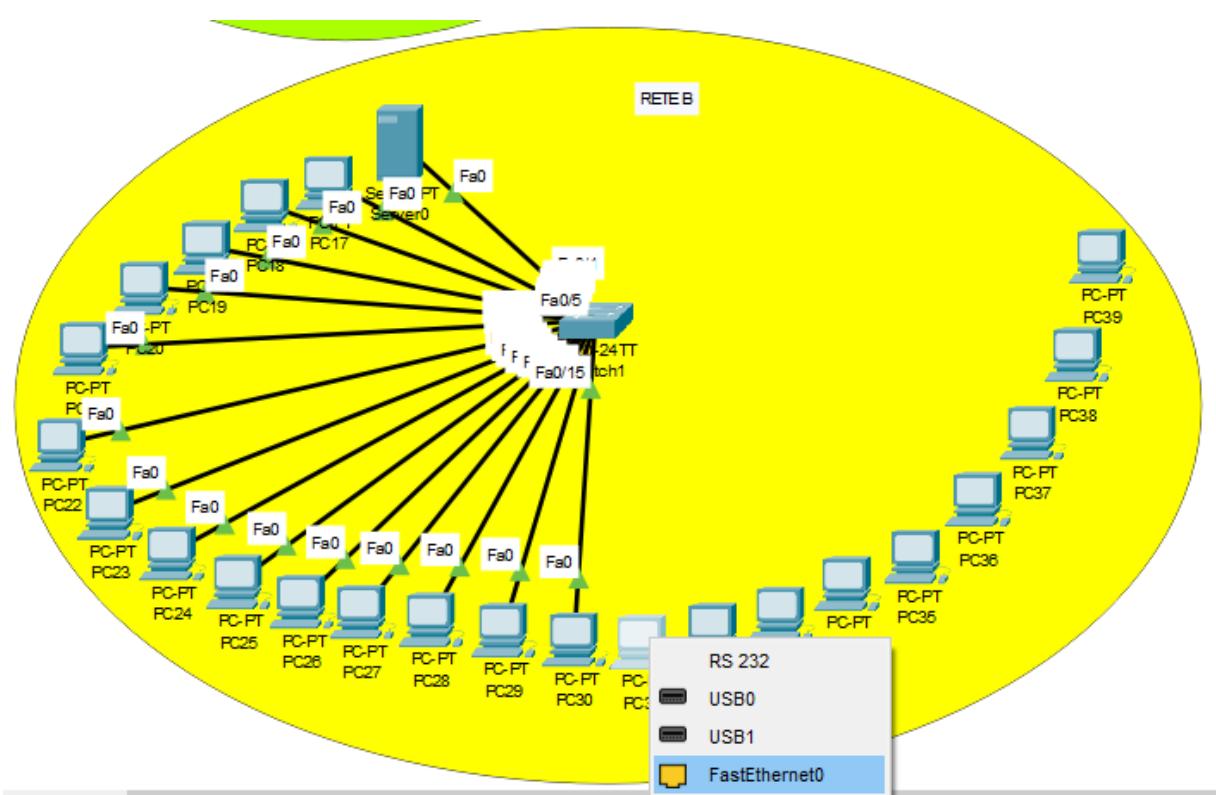
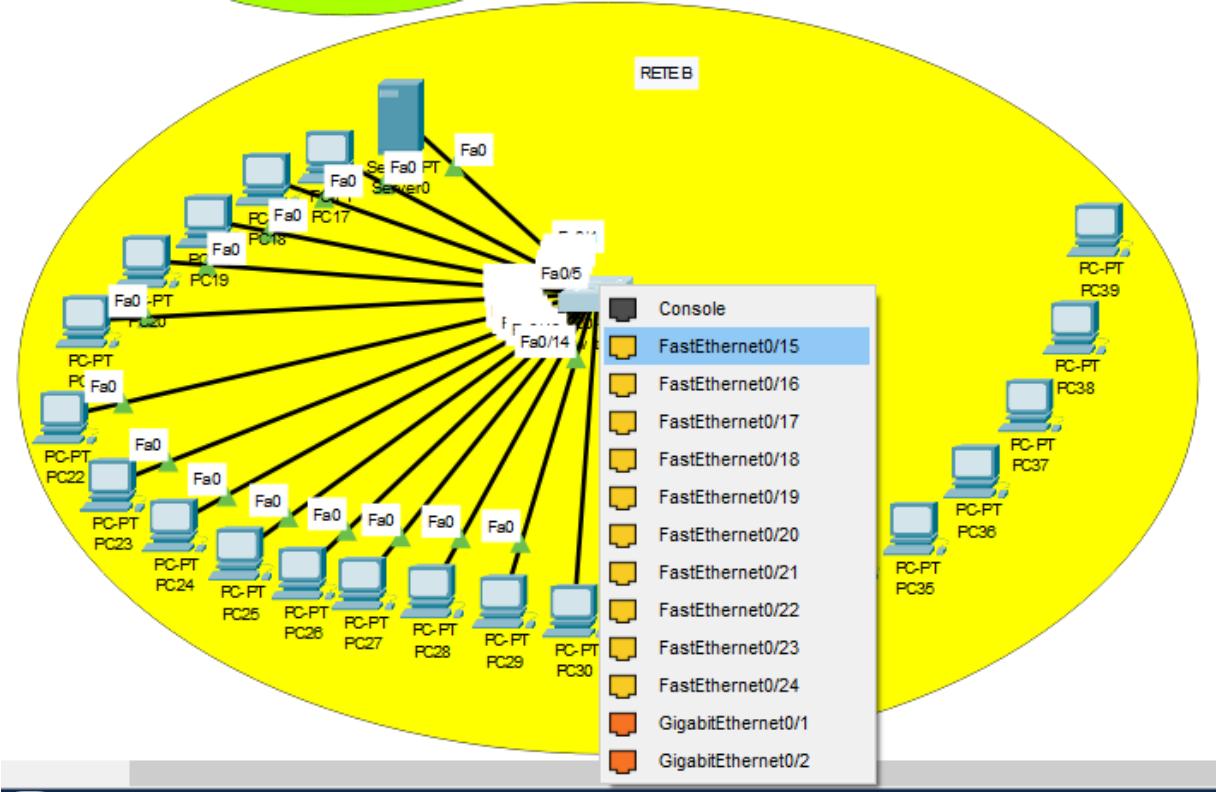


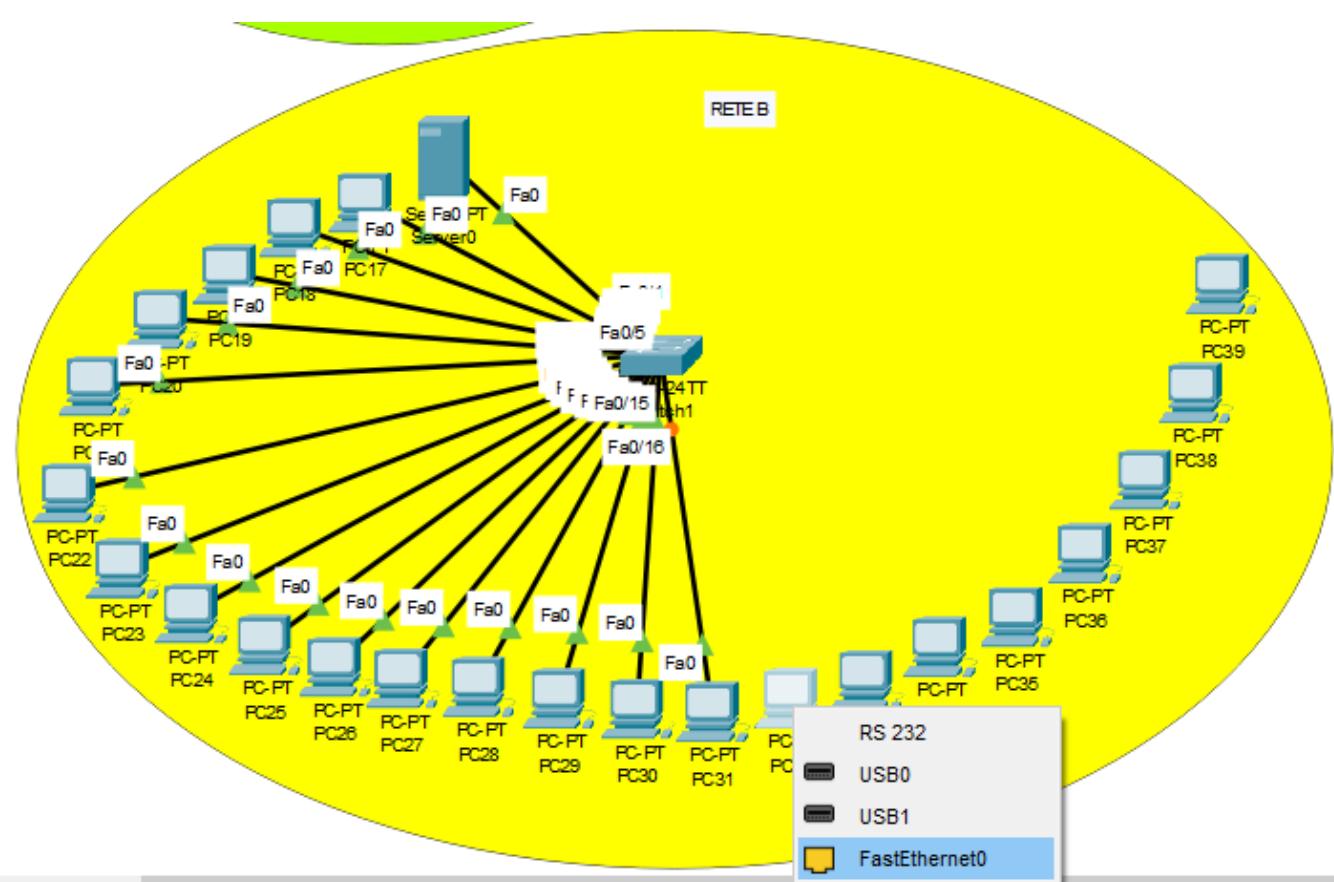
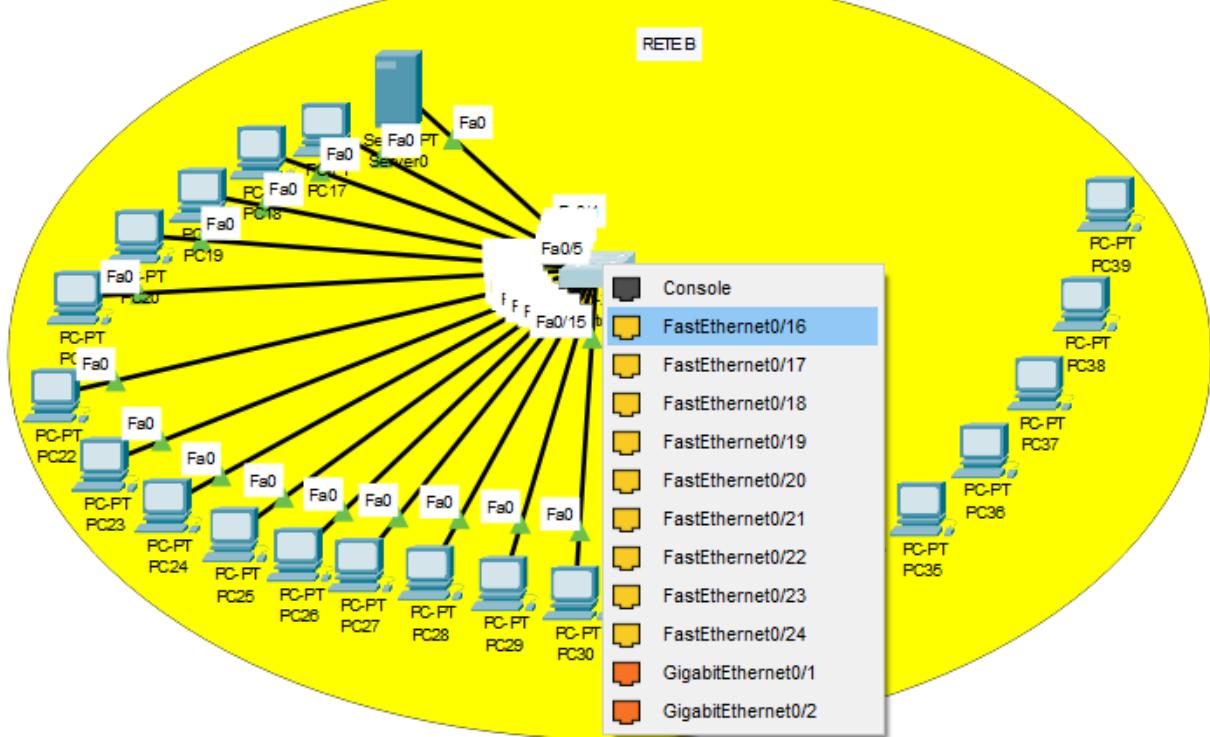


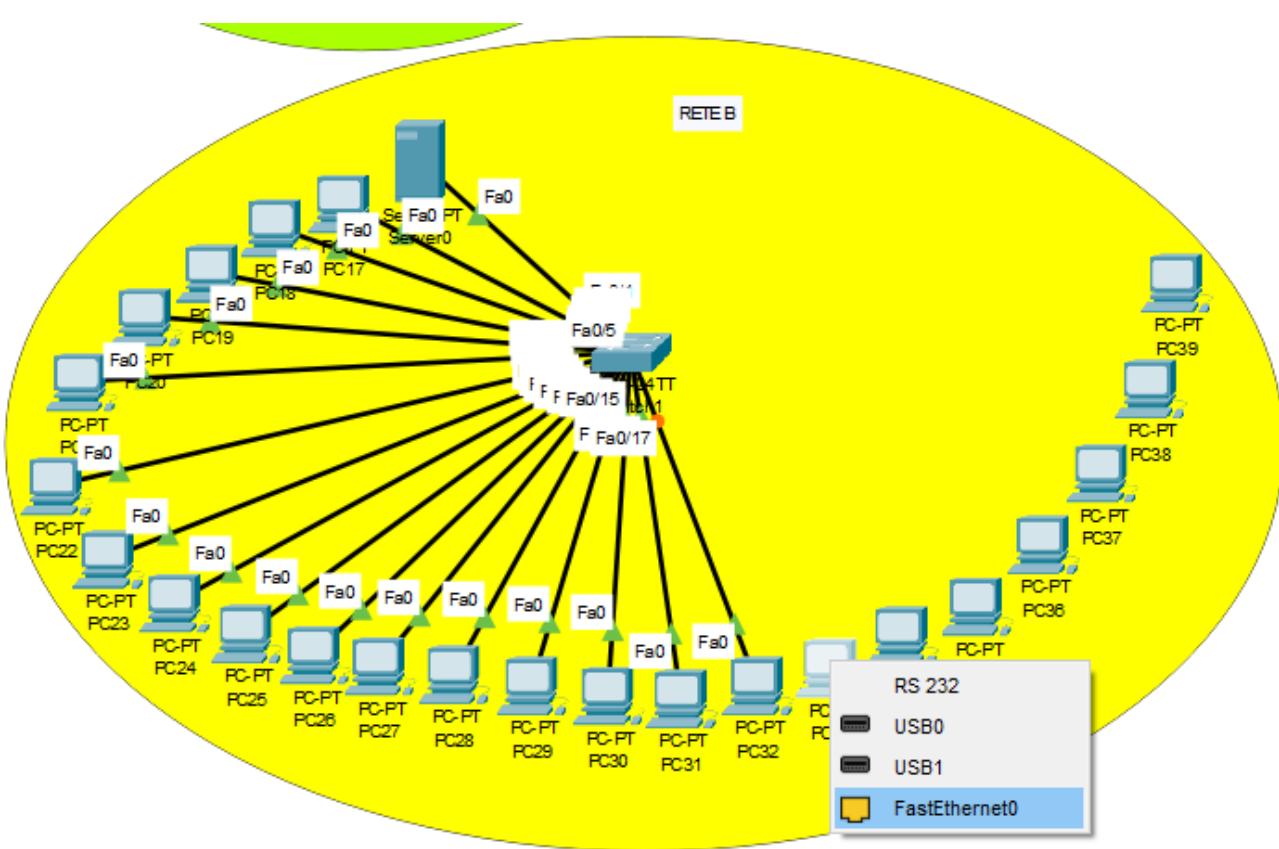
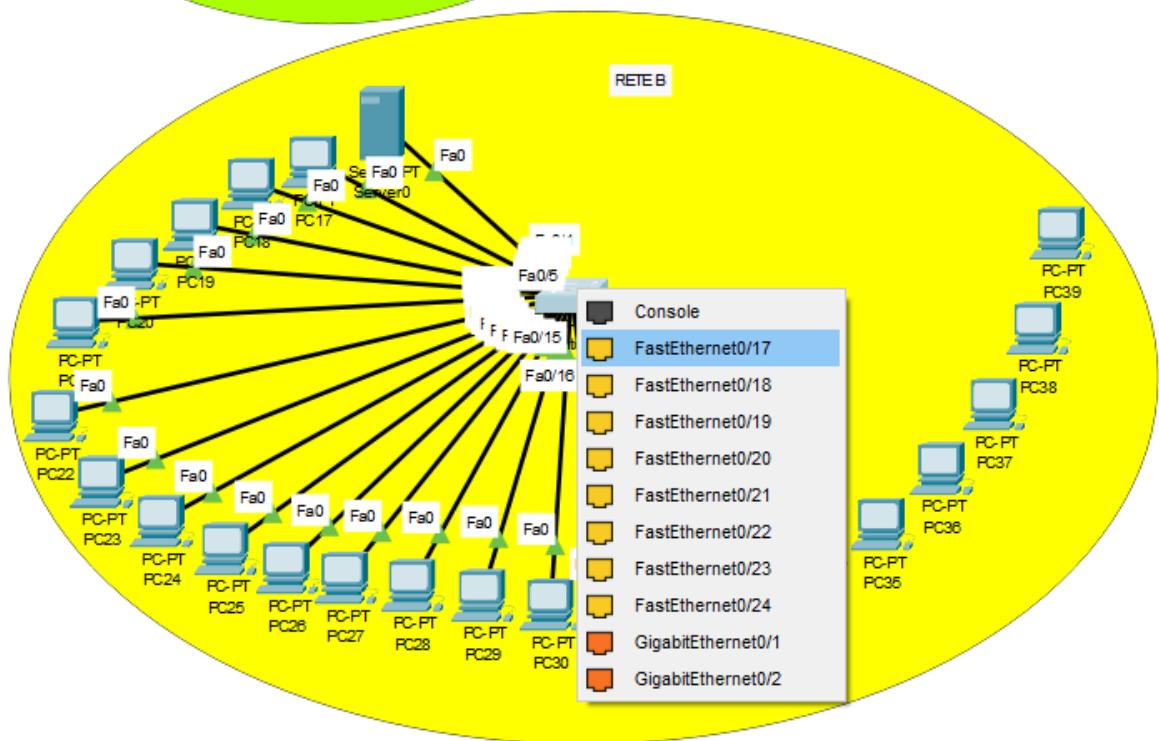


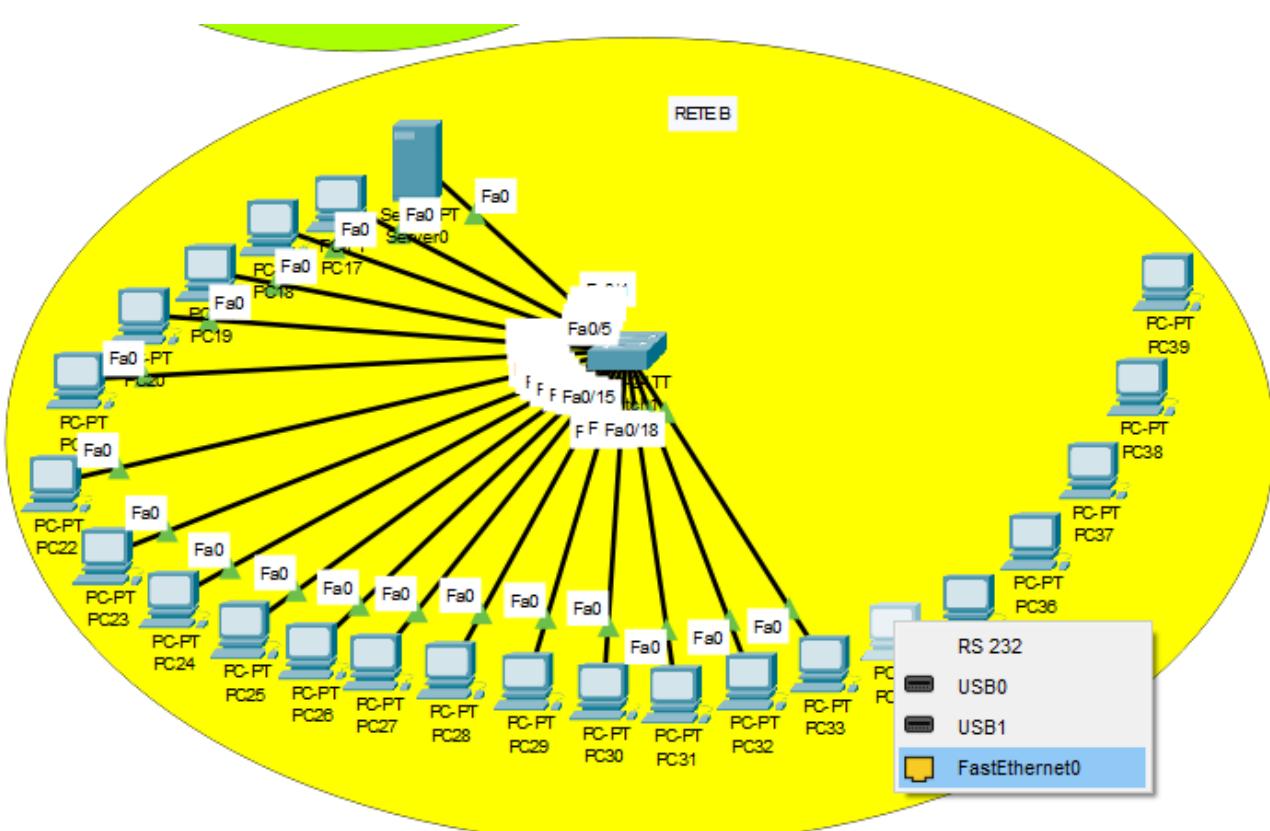
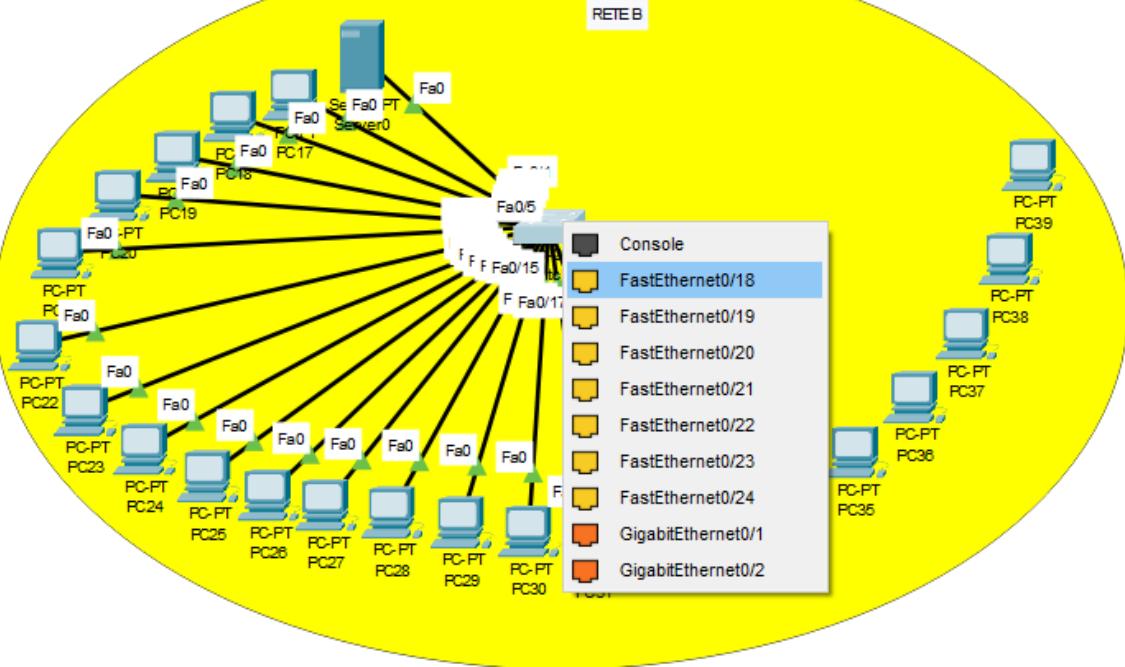


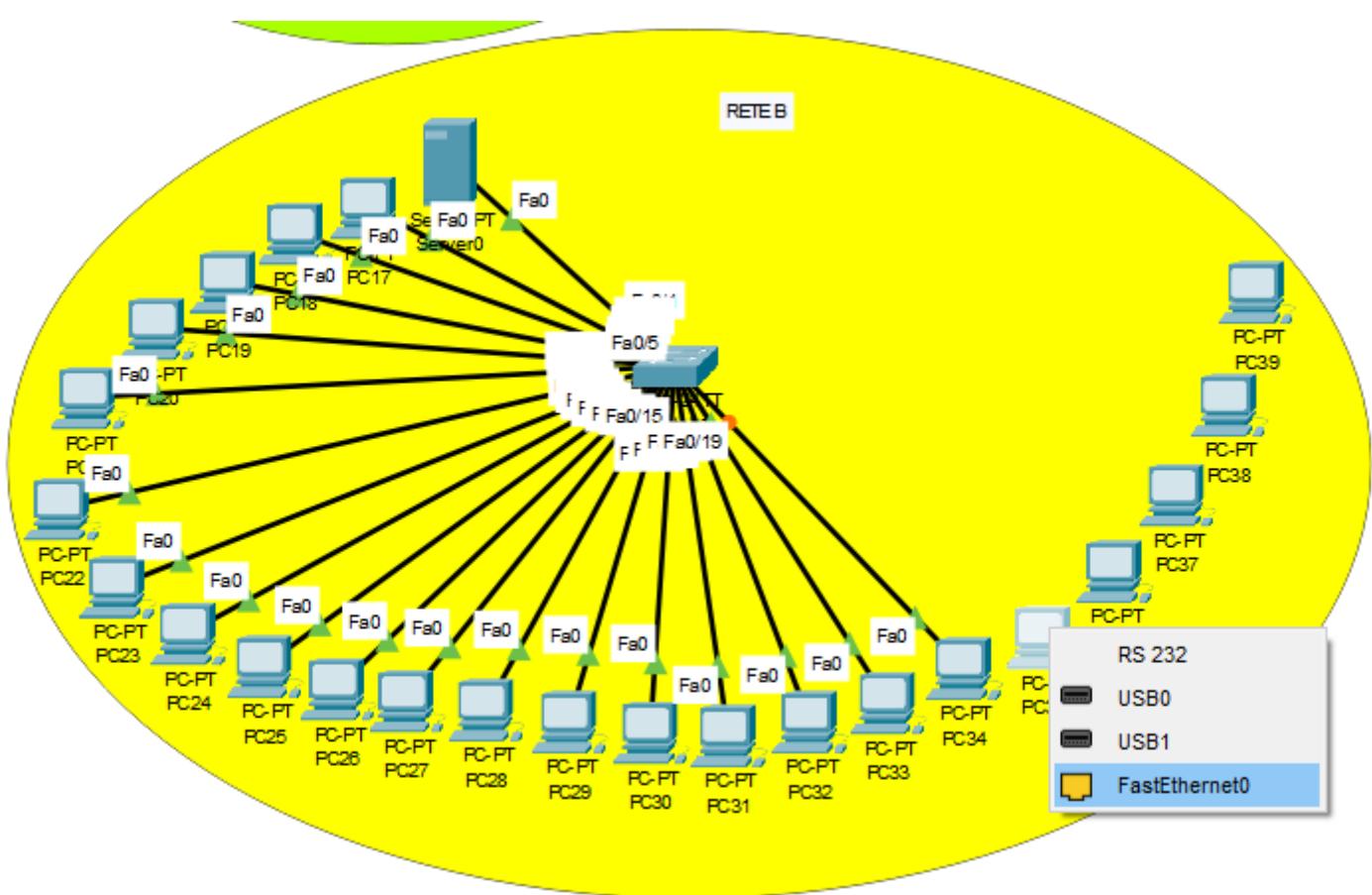
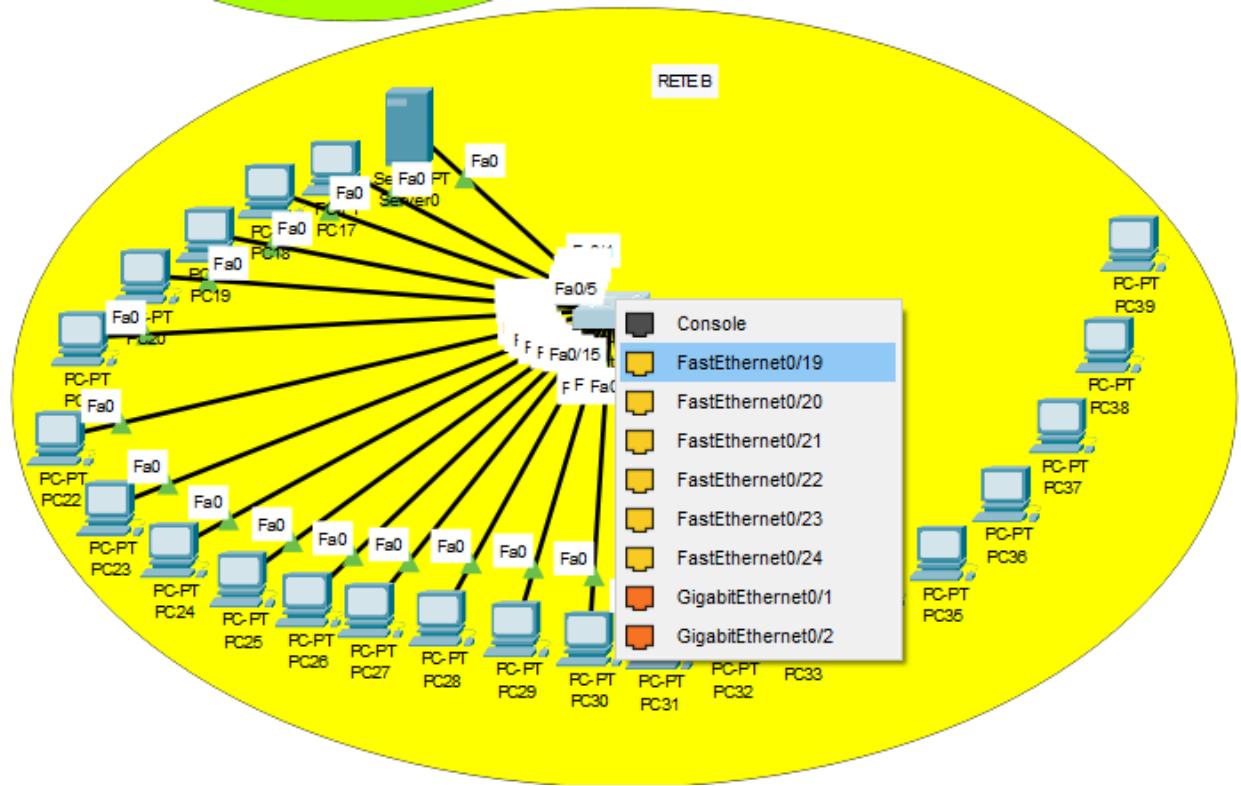


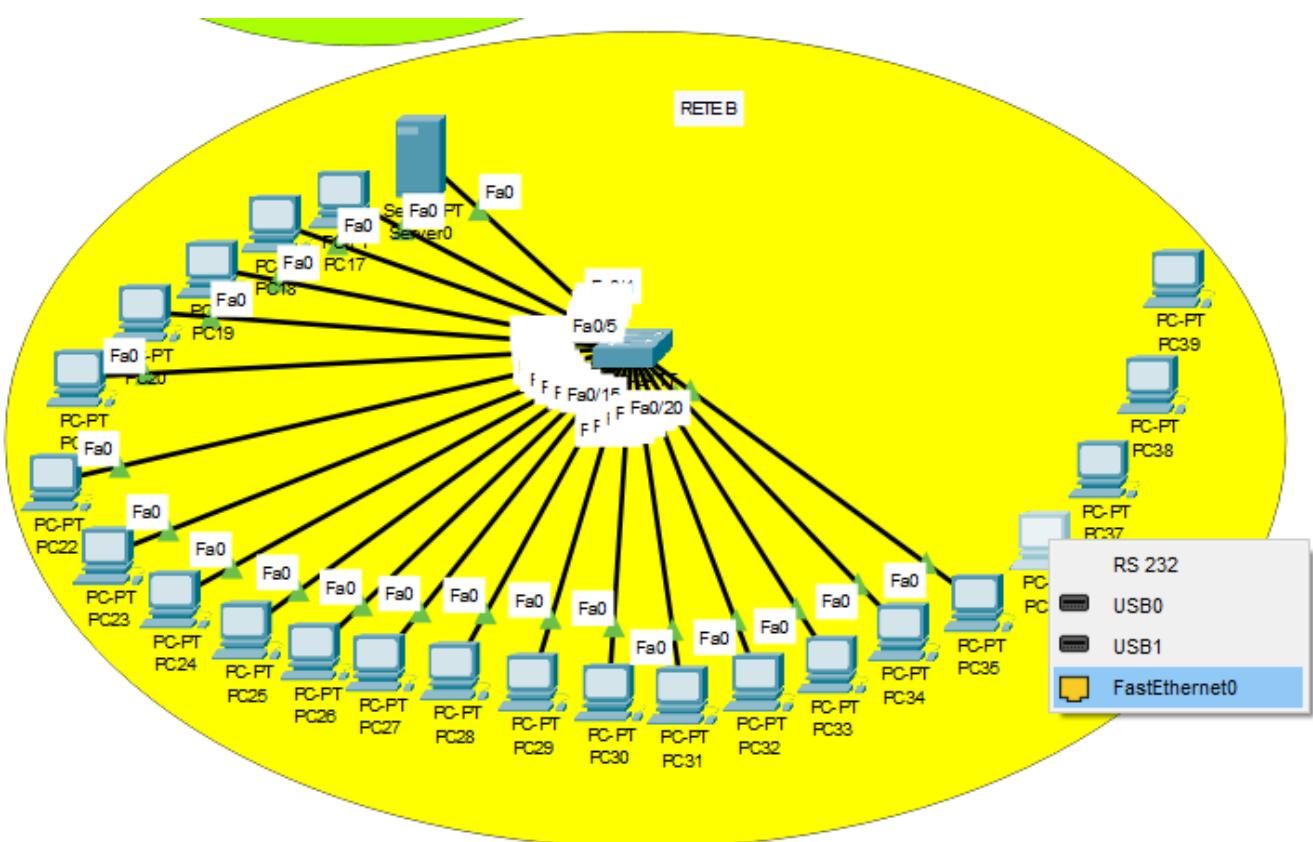
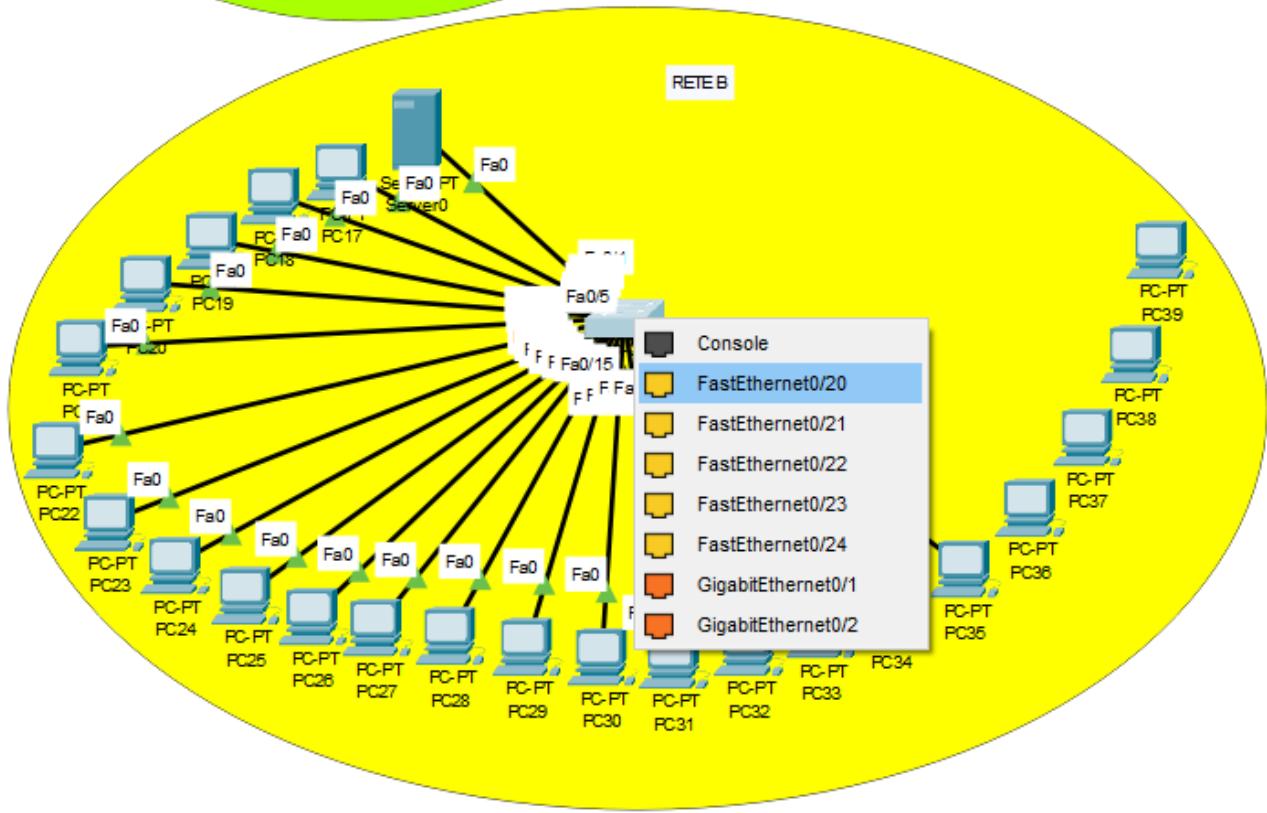


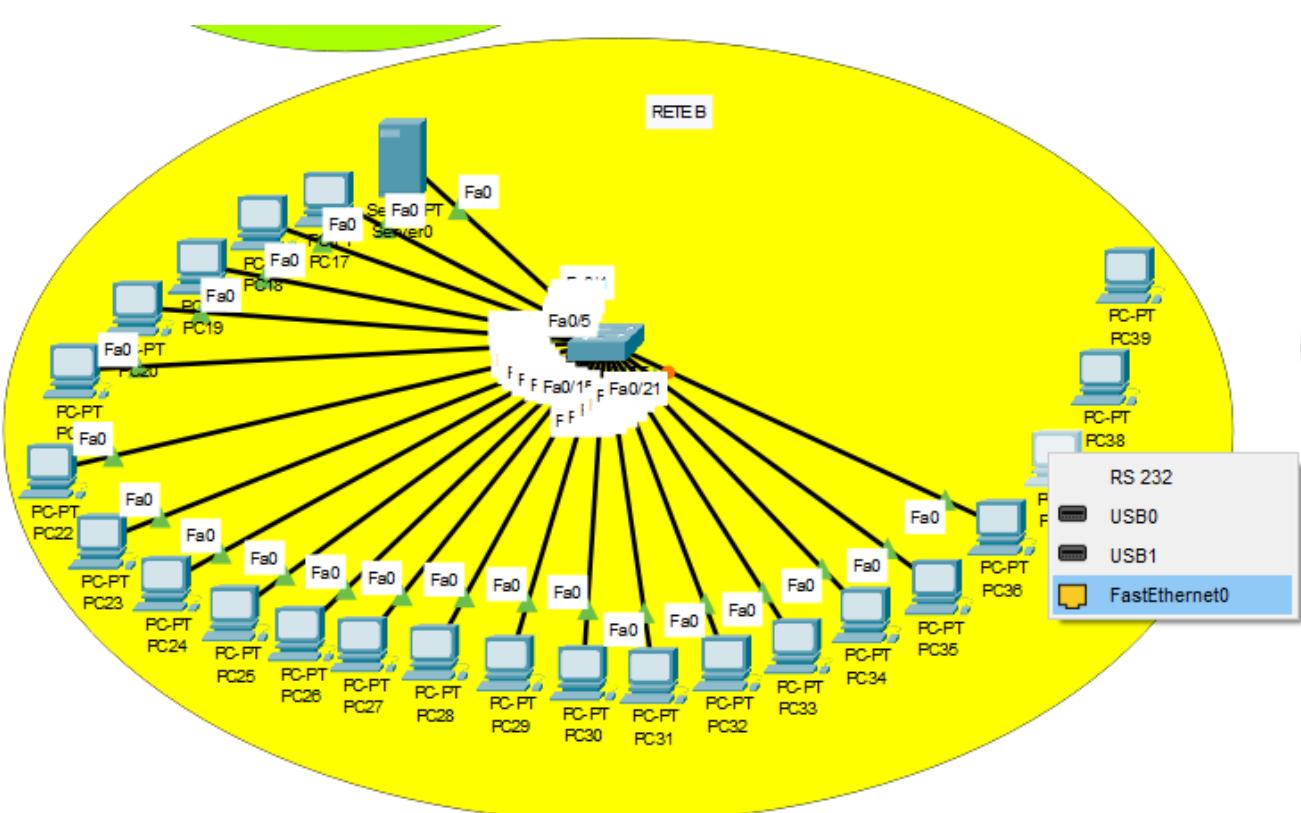
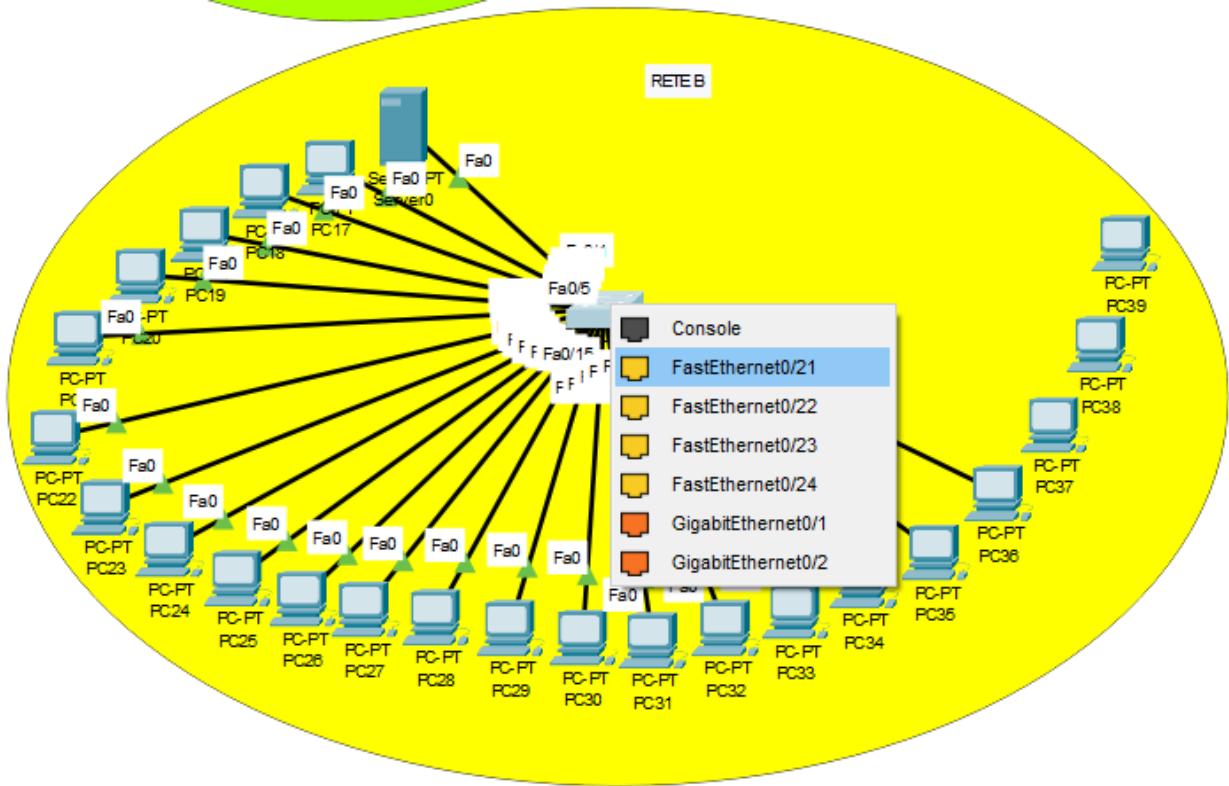


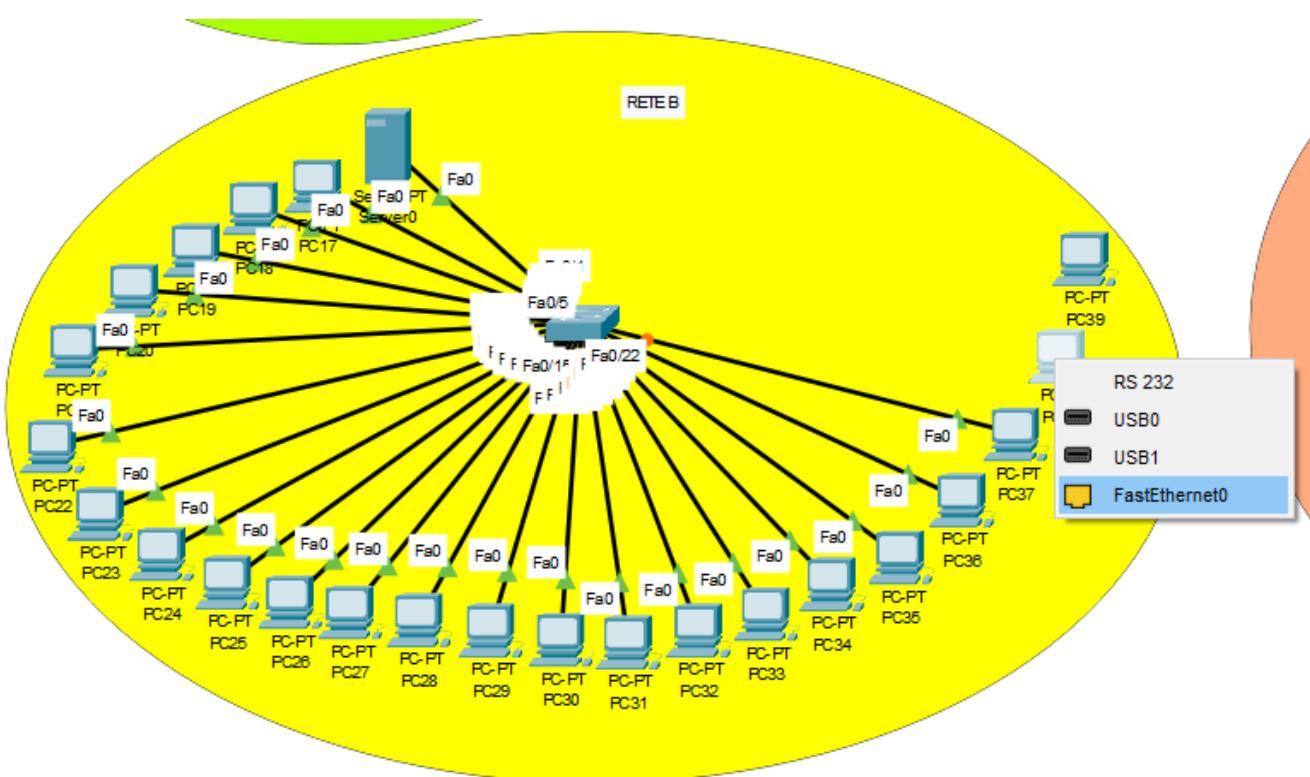
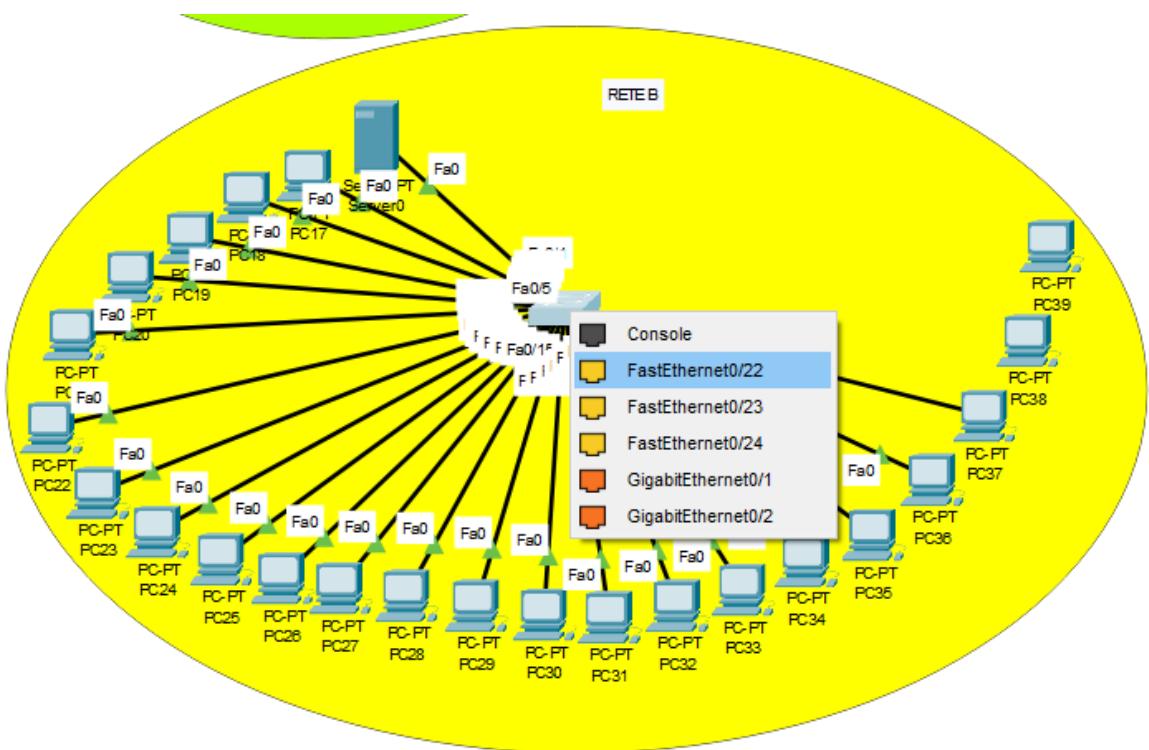


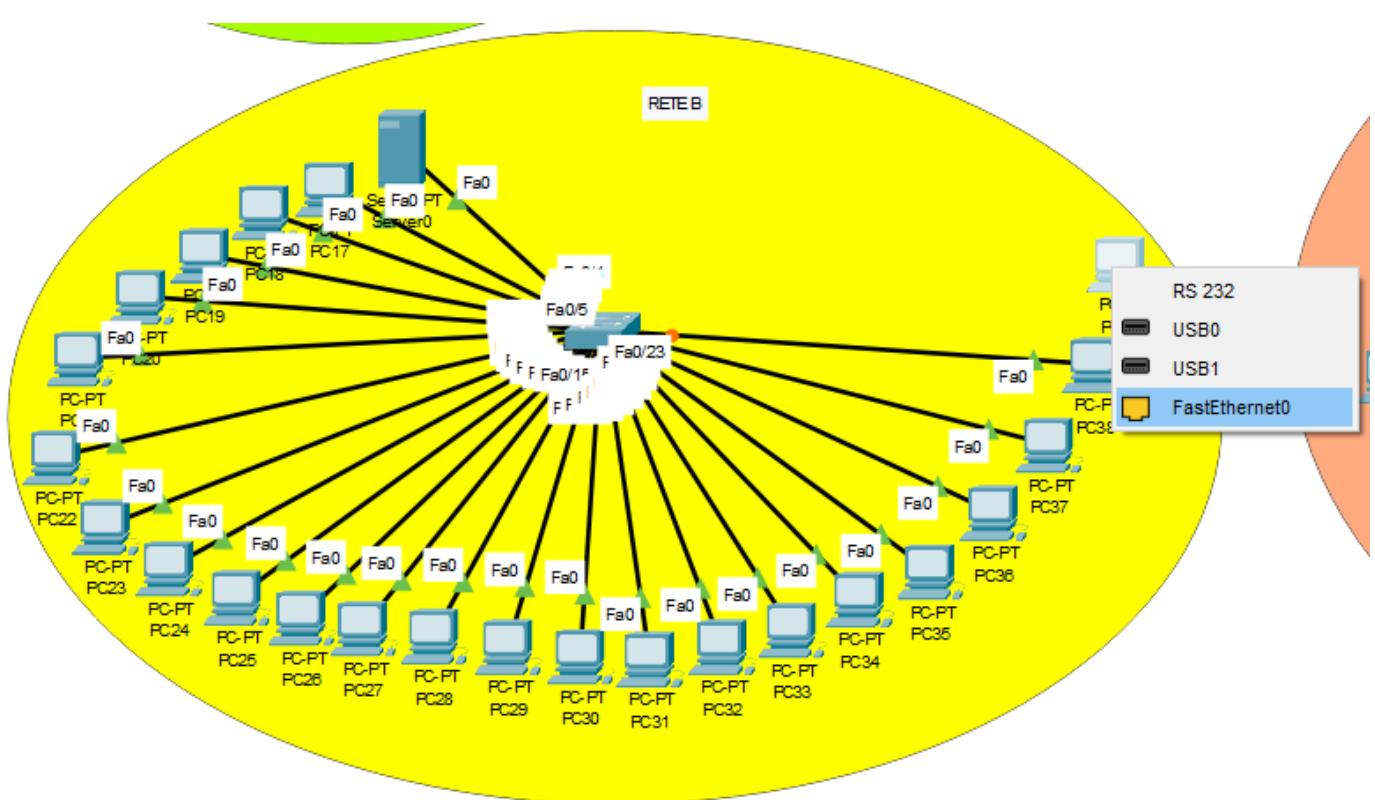
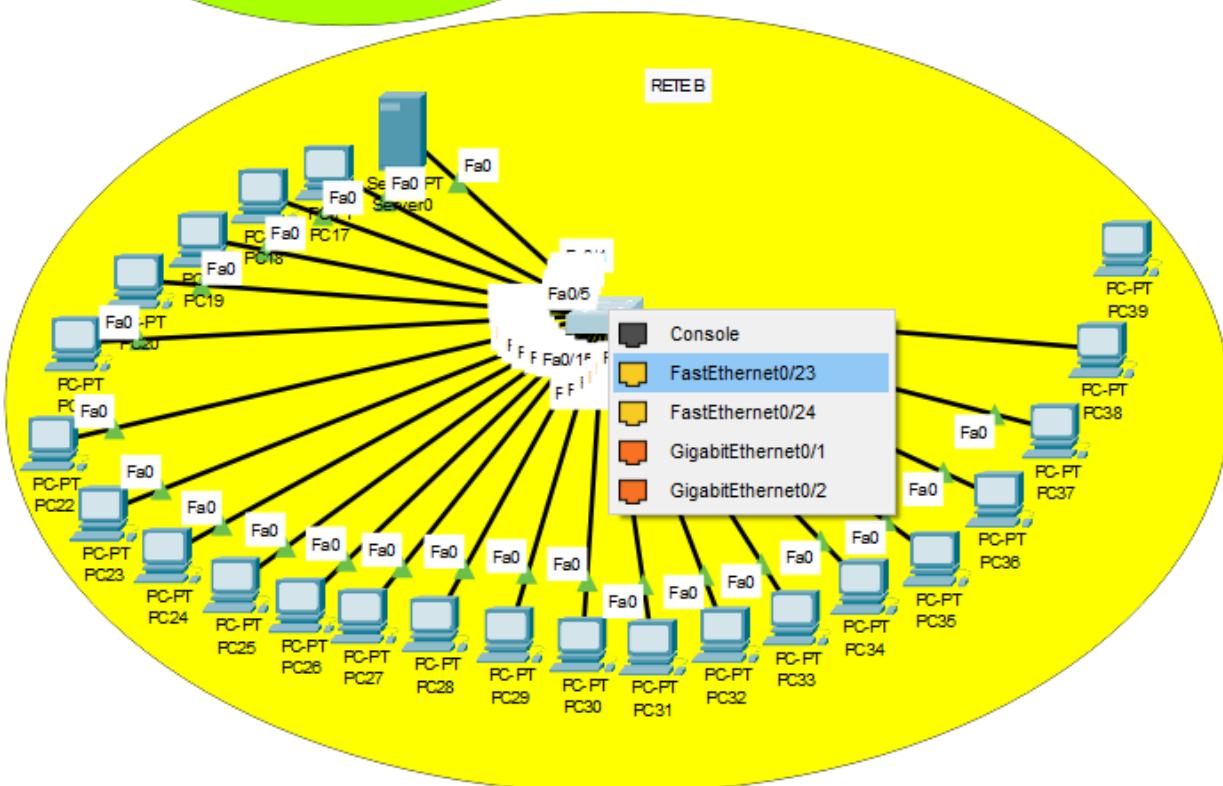


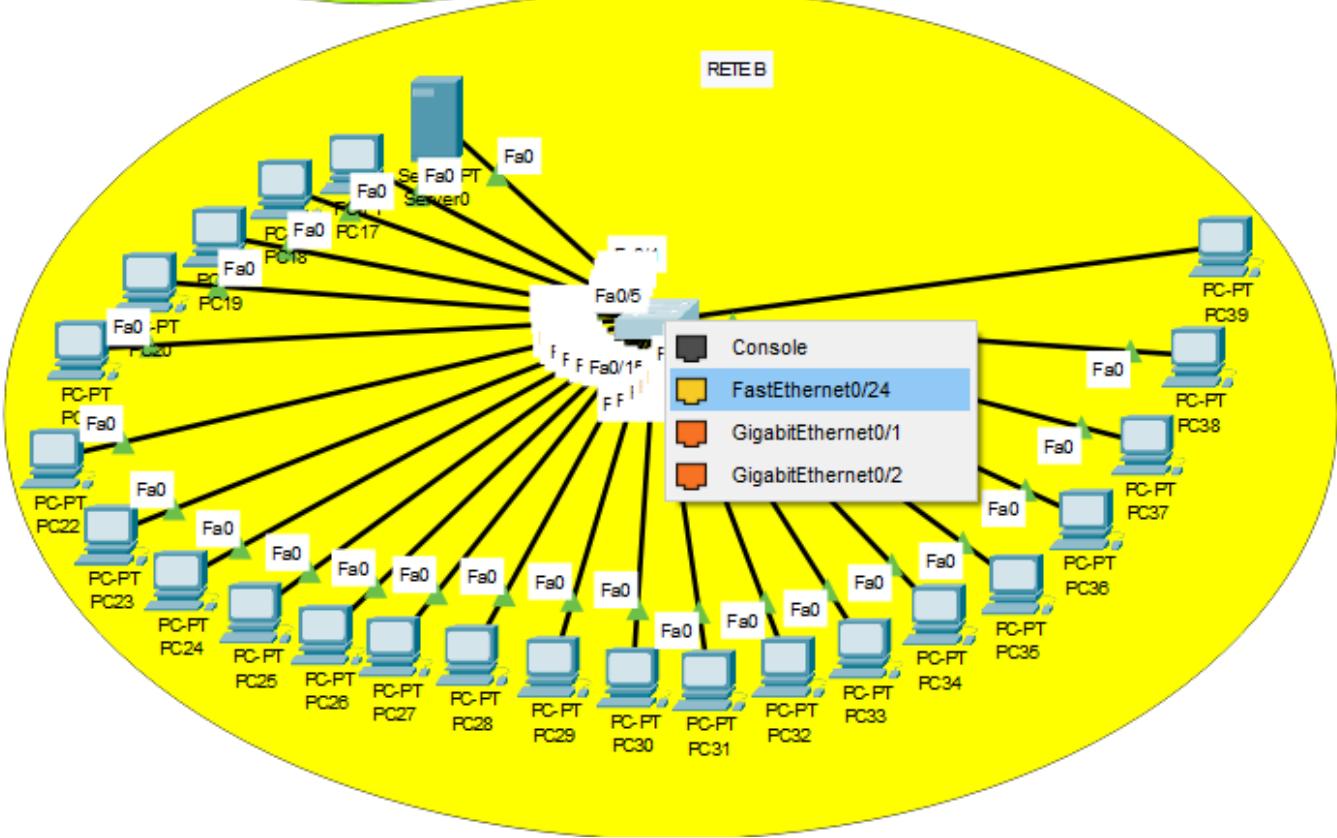






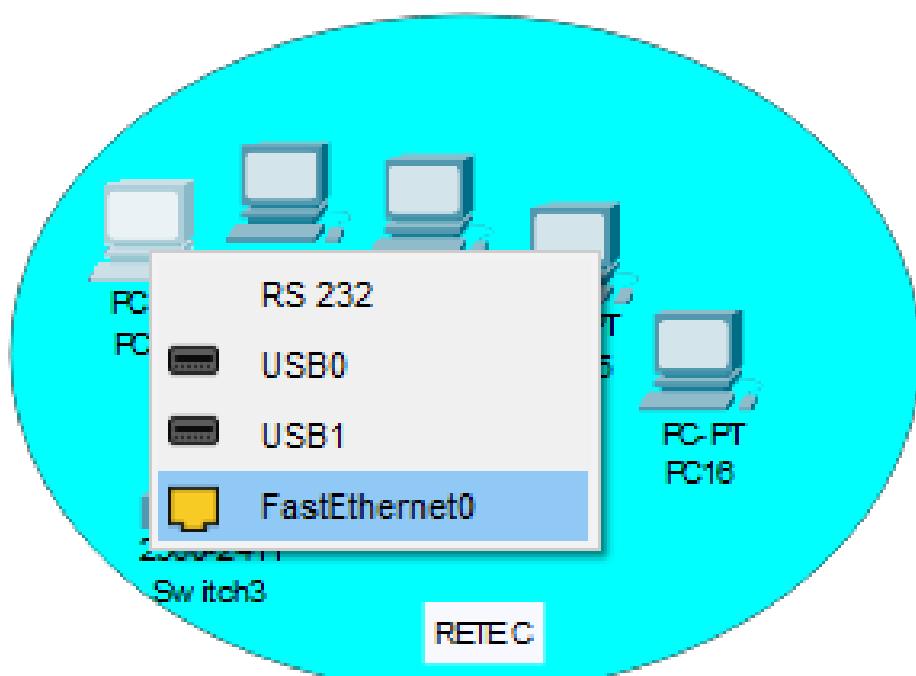


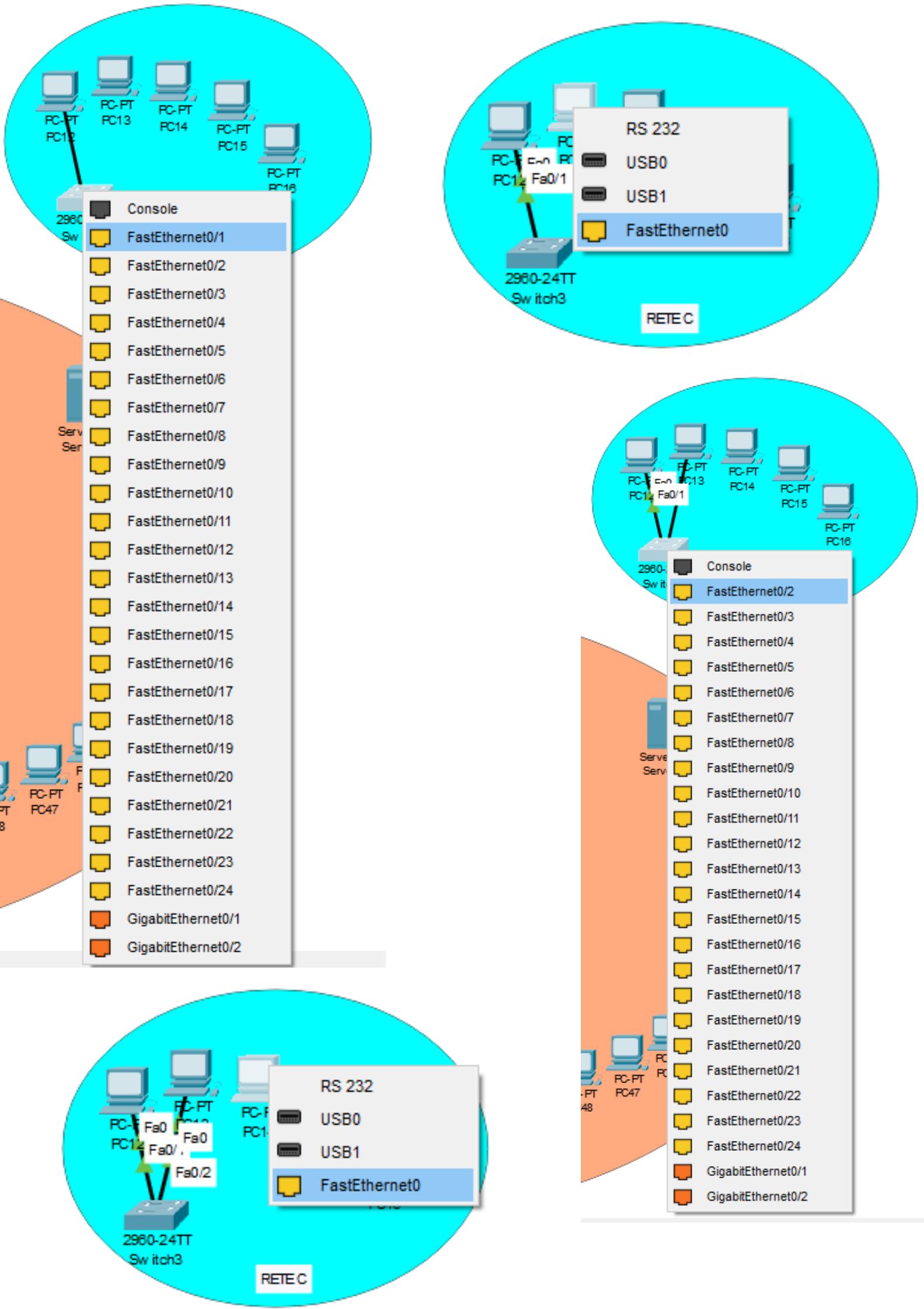


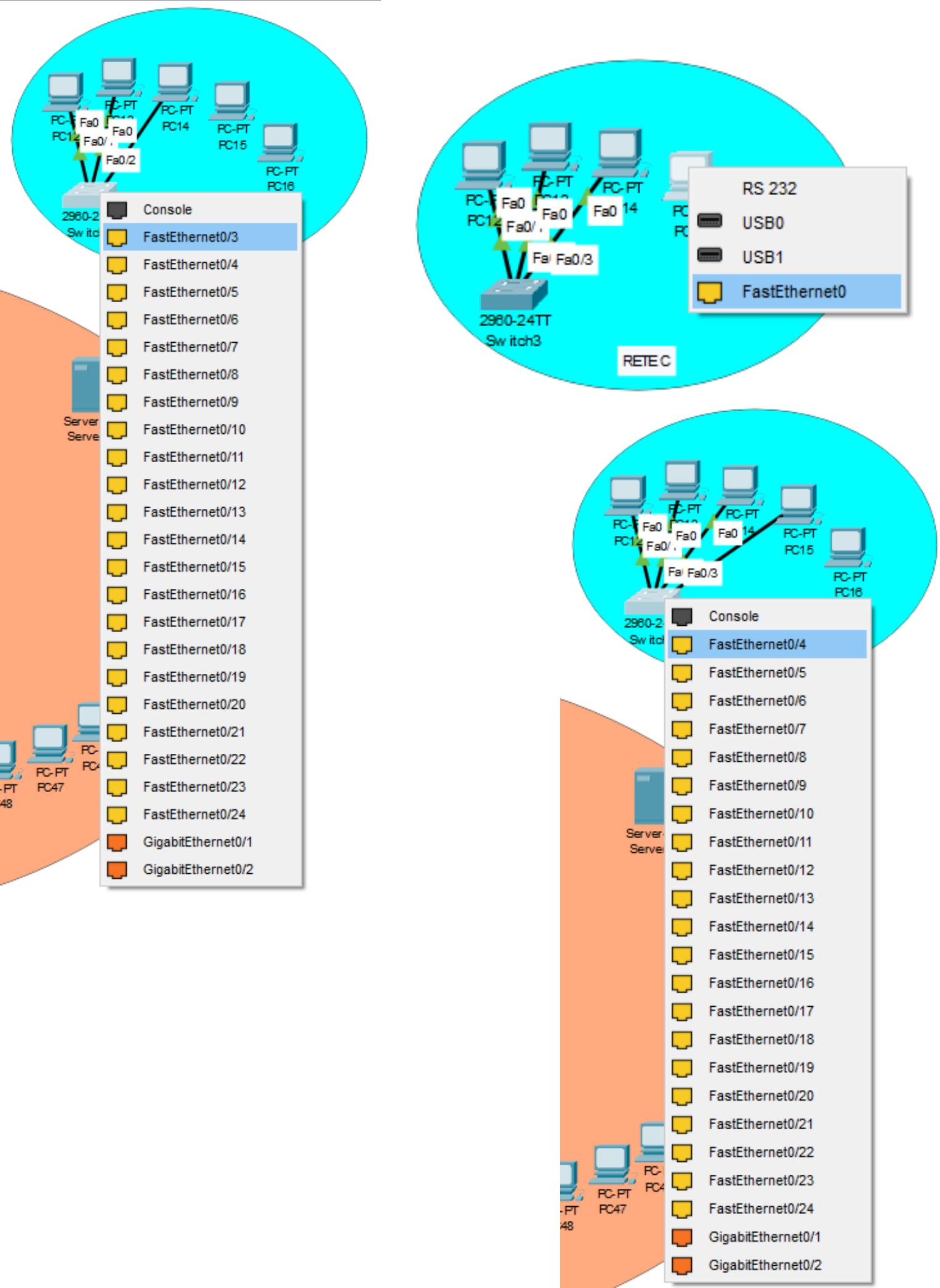


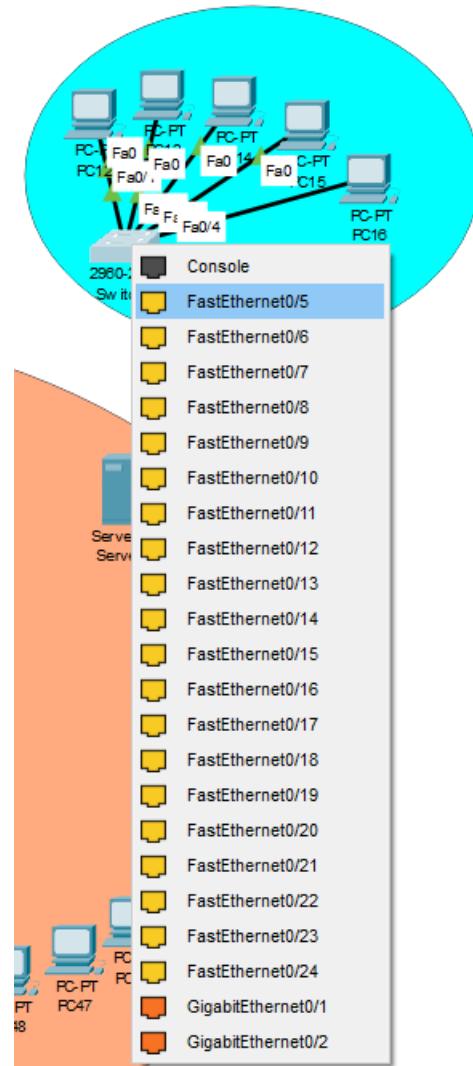
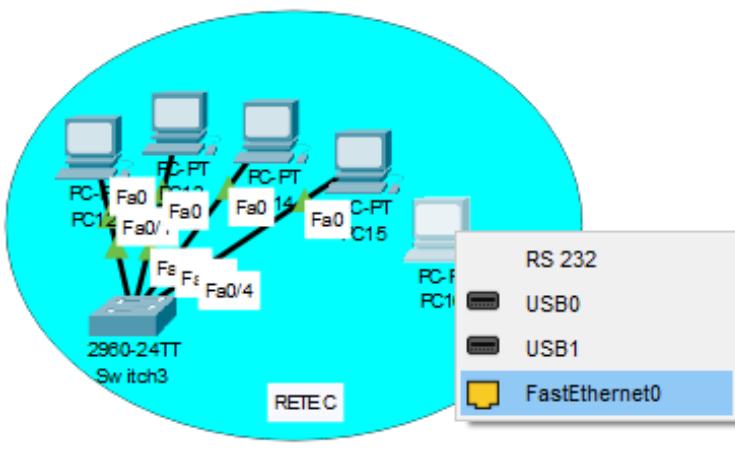
### RETE C:

- Collegare i PC (PC-PT PC12, PC-PT PC13, PC-PT PC14, PC-PT PC15 e PC-PT PC16) allo switch 2960-24TT (Switch3) utilizzando le porte FastEthernet0/1, FastEthernet0/2, FastEthernet0/3, FastEthernet0/4 e FastEthernet0/5 dello switch e le porte FastEthernet0 dei PC con cavi copper straight-through.







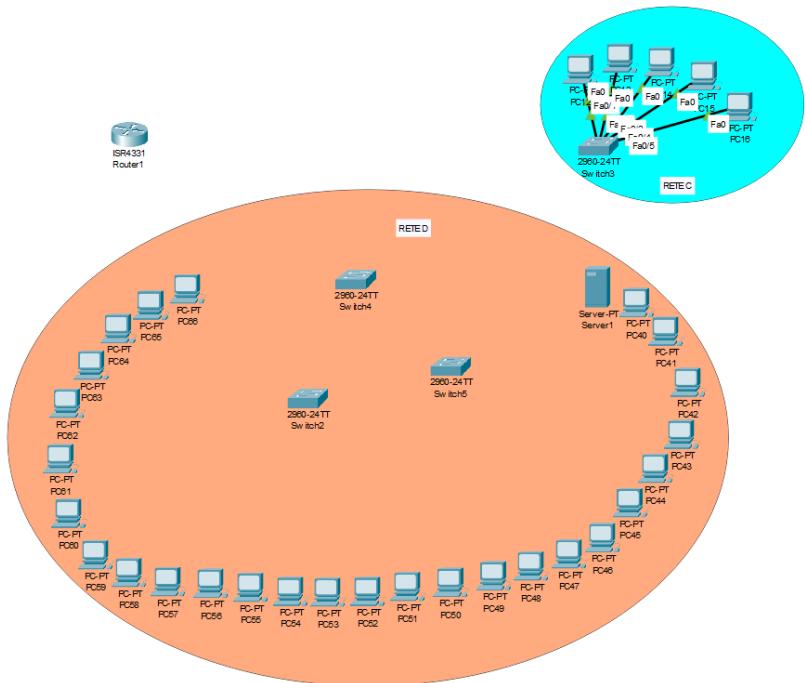
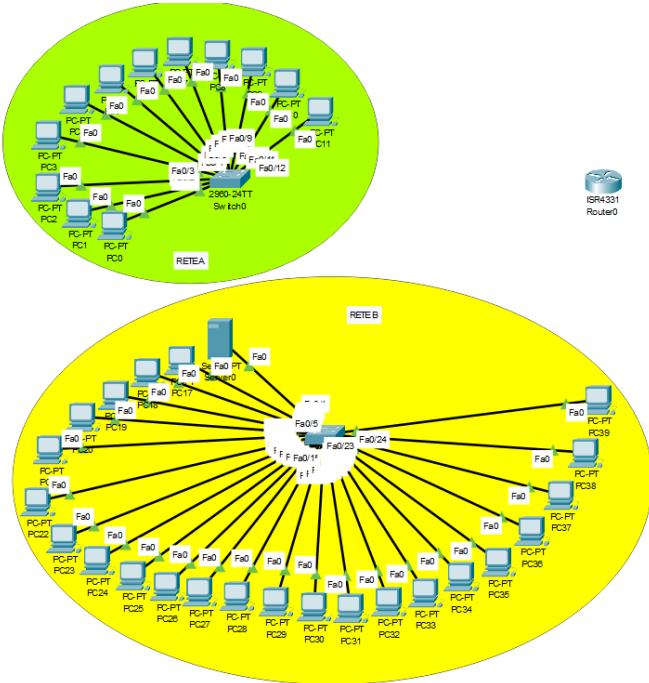


## RETE D:

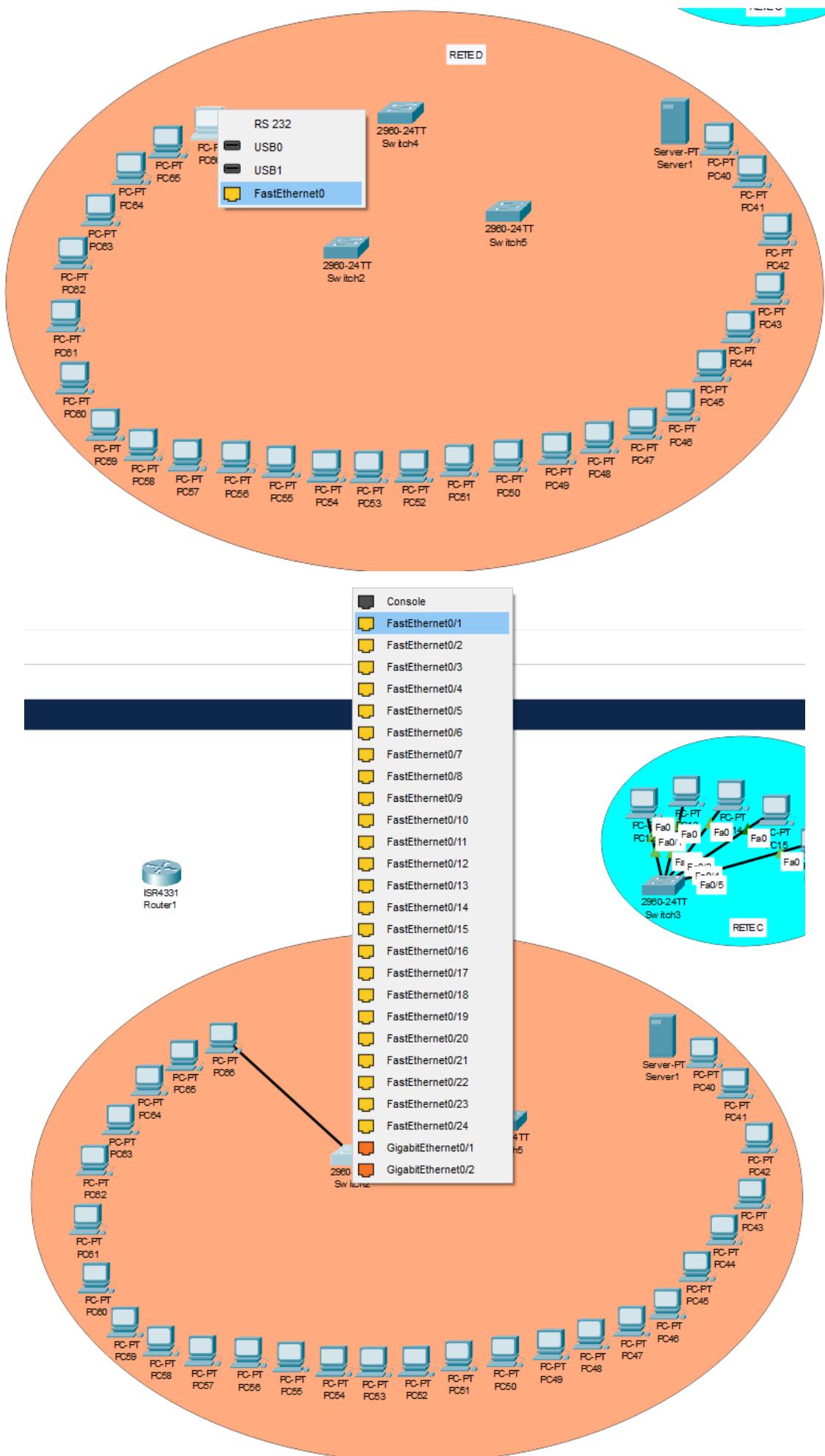
Nella rete D, si presenta una problematica legata al numero di porte disponibili (FastEthernet) sullo switch 2960-24 TT, che offre un totale di 24 porte. La rete richiede il collegamento di 28 dispositivi (Host), di cui 27 PC-PT e 1 Server-PT. Per gestire adeguatamente tutti gli host, è necessario trovare una soluzione che non comporti la creazione di ulteriori sottoreti, mantenendo la struttura semplice ed efficiente.

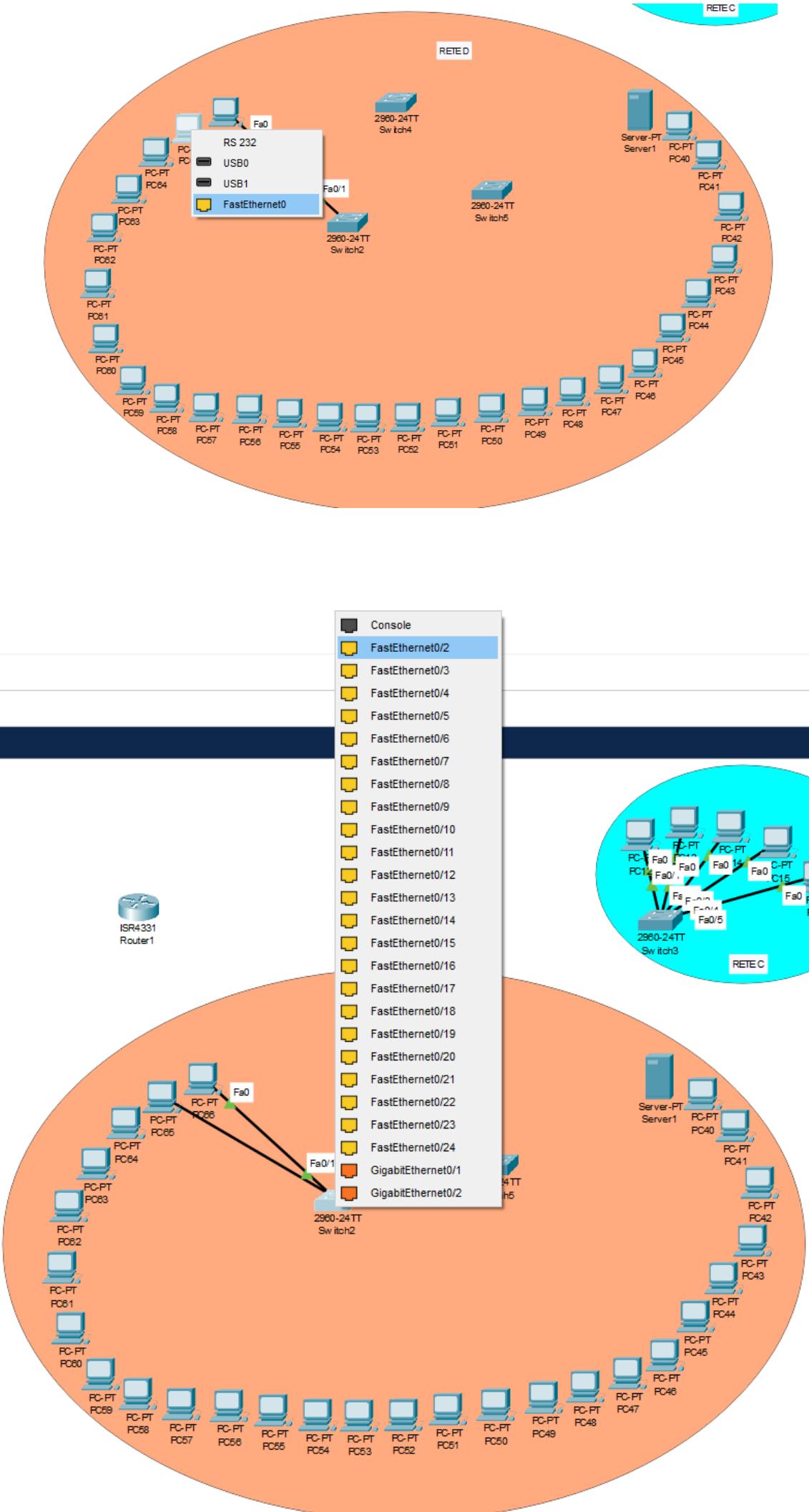
La soluzione prevede uno switch di primo livello (Switch4) collegato al Router1 tramite la porta GigabitEthernet0/0/0. Dallo Switch4 partono due rami che si collegano ai due Switch di secondo livello (Switch2 e Switch5), ciascuno dei quali gestisce 14 host (Switch2 gestisce i PC-PT PC53, PC-PT PC54, PC-PT PC55, PC-PT PC56, PC-PT PC57, PC-PT PC58, PC-PT PC59, PC-PT PC60, PC-PT PC61, PC-PT PC62, PC-PT PC63, PC-PT PC64, PC-PT PC65 e PC-PT PC66 mentre lo Switch5 gestisce i PC-PT PC40, PC-PT PC41, PC-PT PC42, PC-PT PC43, PC-PT PC44, PC-PT PC45, PC-PT PC46, PC-PT PC47, PC-PT PC48, PC-PT PC49, PC-PT PC50, PC-PT PC51 e PC-PT PC52 e il Server1). Questa configurazione permette di distribuire adeguatamente gli host tra i due switch secondari, garantendo una gestione ottimale della rete, con margine per future espansioni.

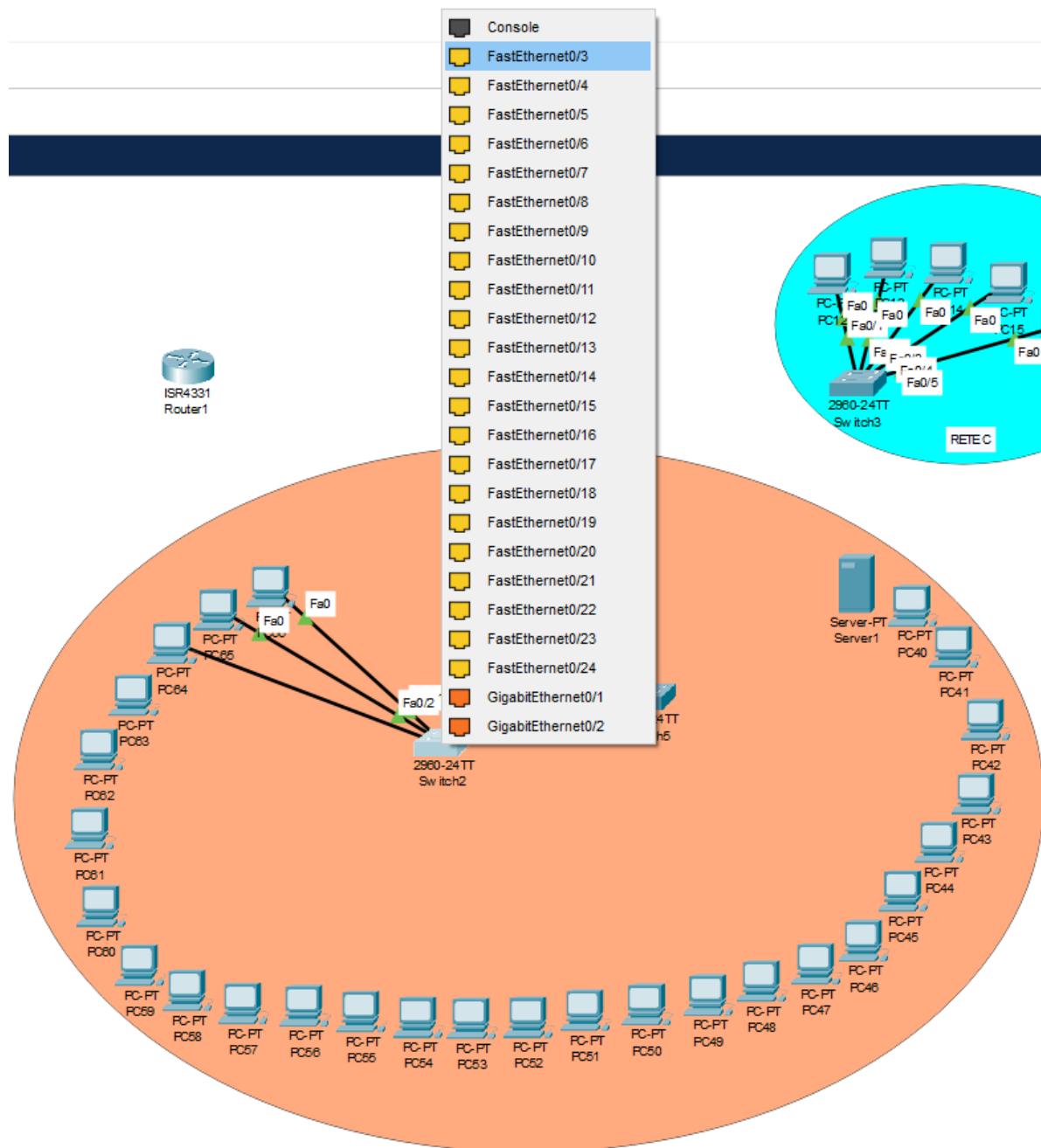
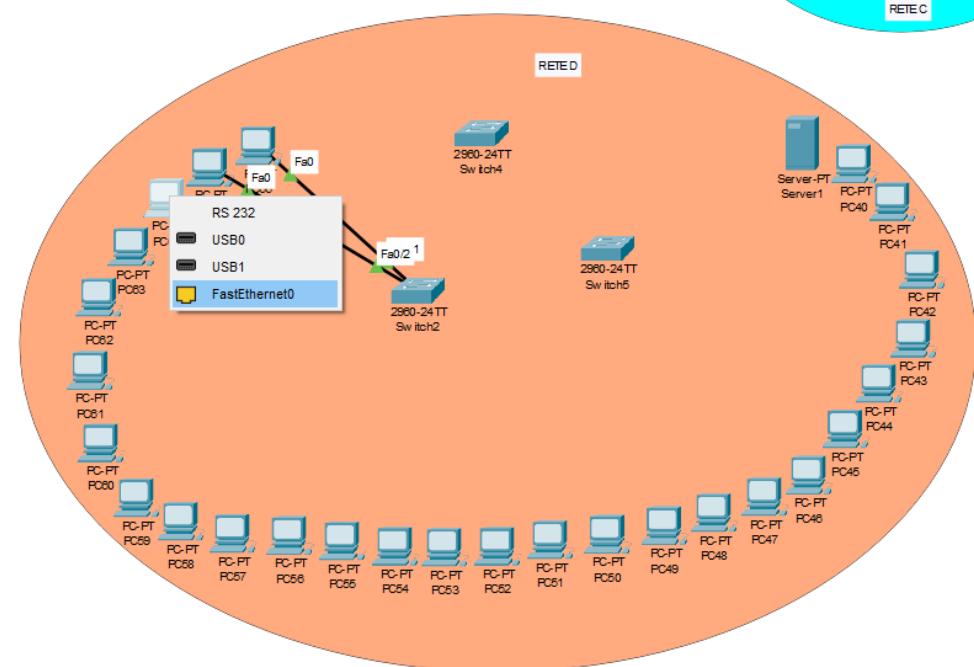
- per lo **Switch2**: Collegare i PC (PC-PT PC53, PC-PT PC54, PC-PT PC55, PC-PT PC56, PC-PT PC57, PC-PT PC58, PC-PT PC59, PC-PT PC60, PC-PT PC61, PC-PT PC62, PC-PT PC63, PC-PT PC64, PC-PT PC65 e PC-PT PC66) allo switch 2960-24TT (Switch2) utilizzando le porte FastEthernet0/1, FastEthernet0/2, FastEthernet0/3, FastEthernet0/4, FastEthernet0/5, FastEthernet0/6, FastEthernet0/7, FastEthernet0/8, FastEthernet0/9, FastEthernet0/10, FastEthernet0/11, FastEthernet0/12, FastEthernet0/13 e FastEthernet0/14 dello switch e le porte FastEthernet0 dei PC utilizzando cavi copper straight-through.
- per lo **Switch5**: Collegare i PC (PC-PT PC40, PC-PT PC41, PC-PT PC42, PC-PT PC43, PC-PT PC44, PC-PT PC45, PC-PT PC46, PC-PT PC47, PC-PT PC48, PC-PT PC49, PC-PT PC50, PC-PT PC51 e PC-PT PC52) e il Server-PT (Server1) allo switch 2960-24TT (Switch5) utilizzando le porte FastEthernet0/1, FastEthernet0/2, FastEthernet0/3, FastEthernet0/4, FastEthernet0/5, FastEthernet0/6, FastEthernet0/7, FastEthernet0/8, FastEthernet0/9, FastEthernet0/10, FastEthernet0/11, FastEthernet0/12, FastEthernet0/13 e FastEthernet0/14 dello switch e le porte FastEthernet0 dei PC e del Server0 con cavi copper straight-through.
- **Collegamenti tra gli Switch**: Collegare gli Switch (Switch2 e Switch5) allo Switch4, utilizzando le porte FastEthernet0/1 e FastEthernet0/2 di Switch4 e le porte FastEthernet0/15 degli altri Switch, con cavi copper cross-over.

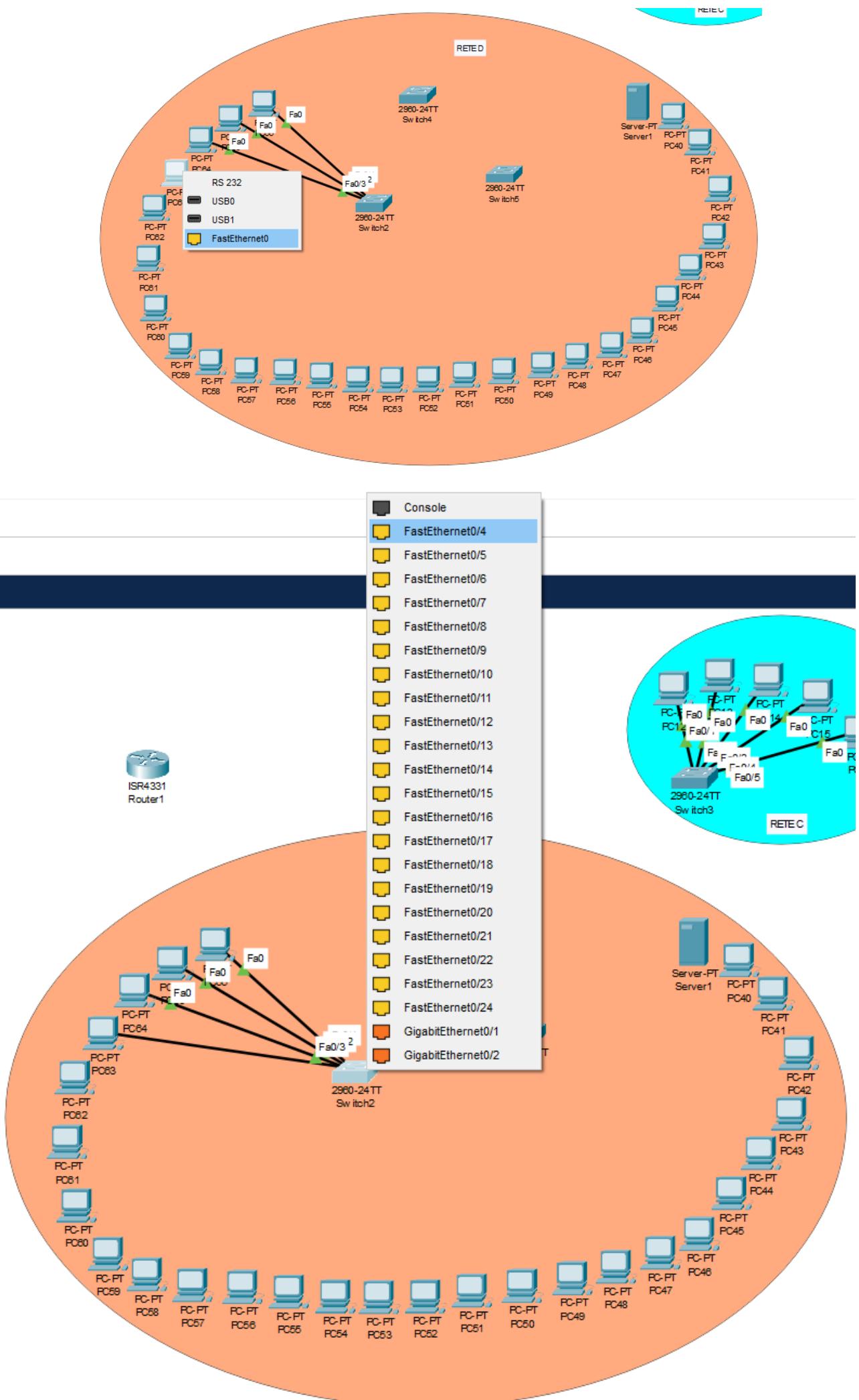


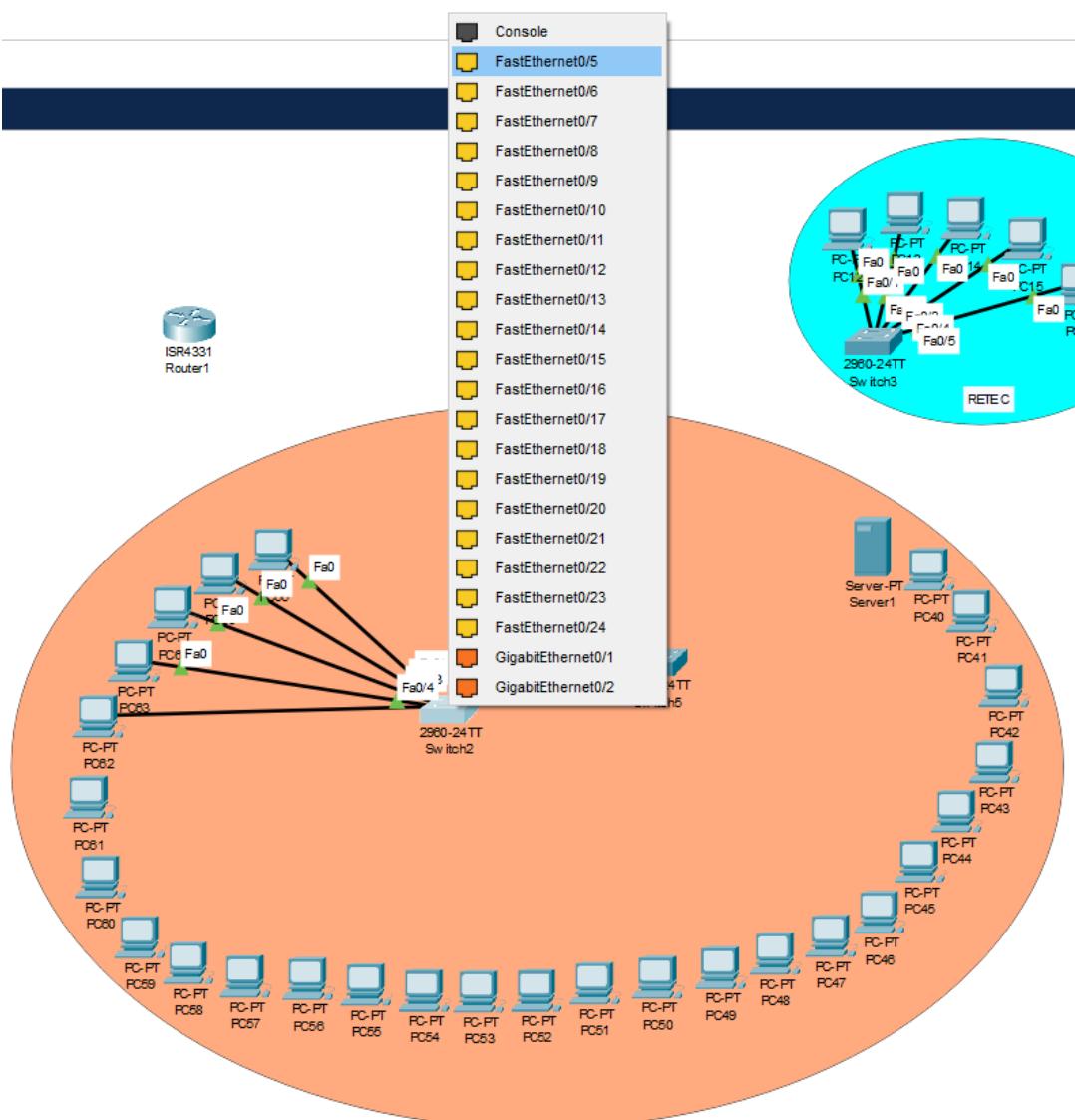
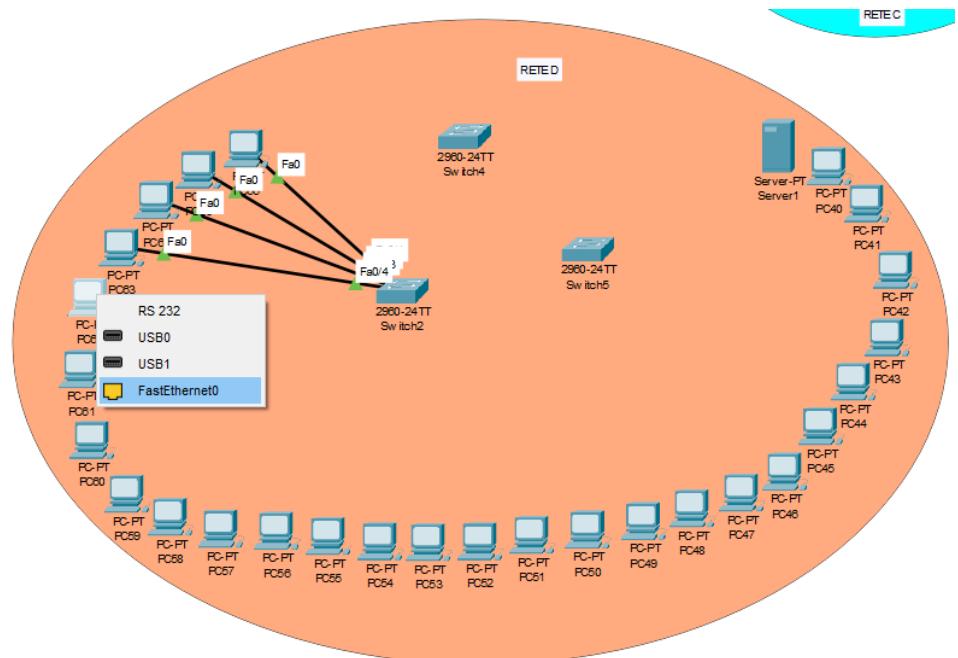
(risultato finale)

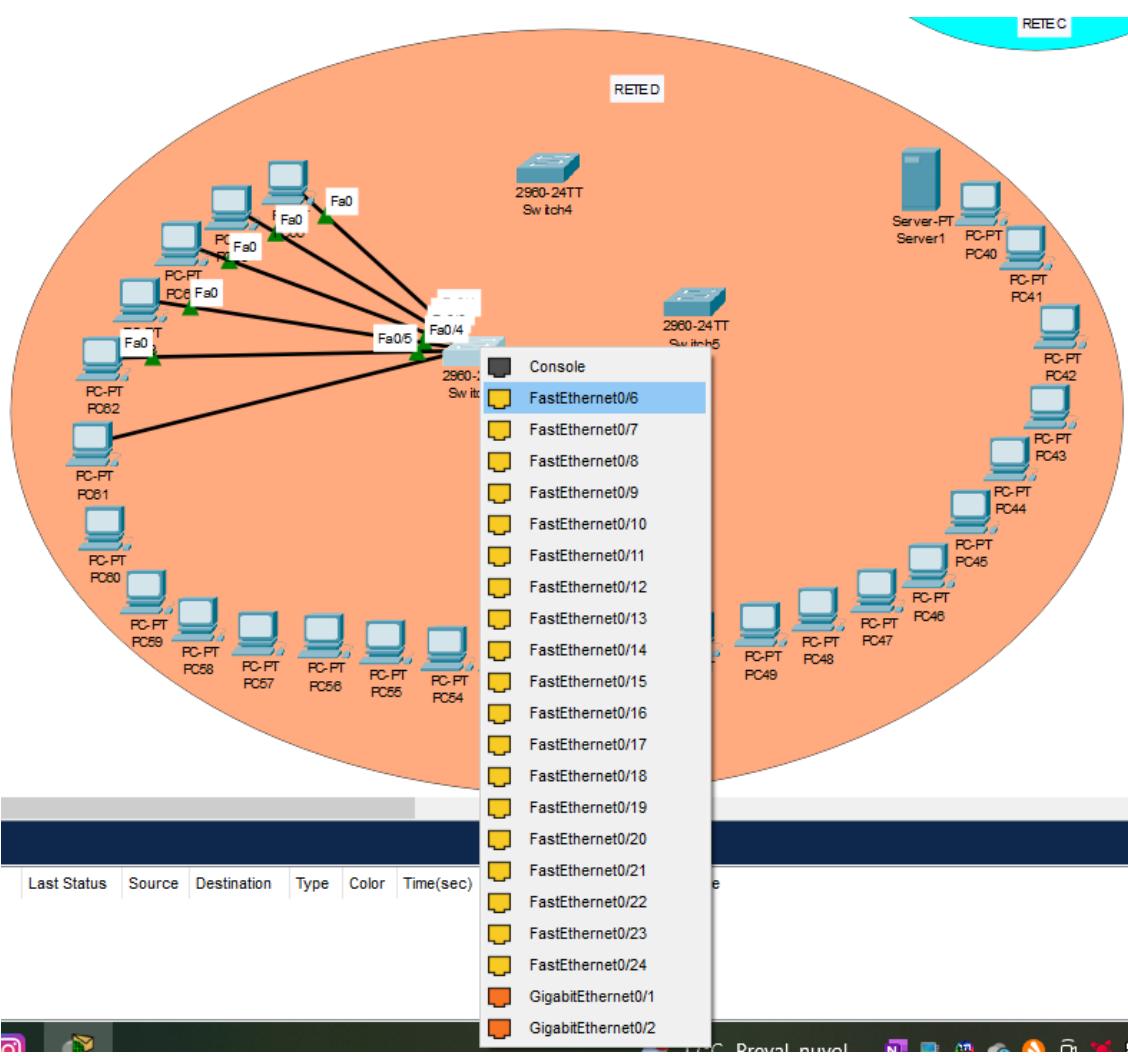
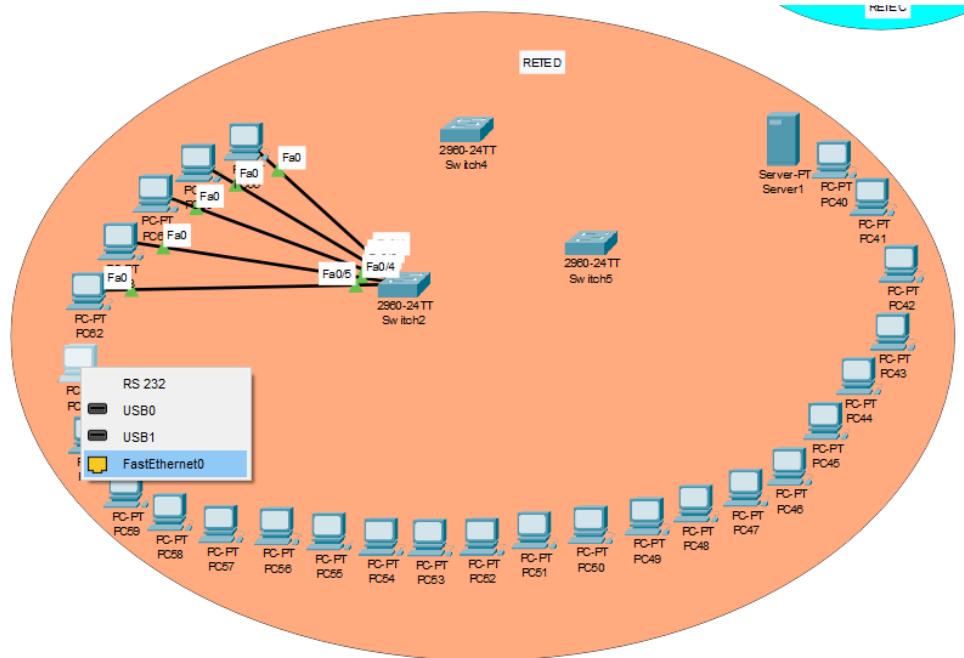


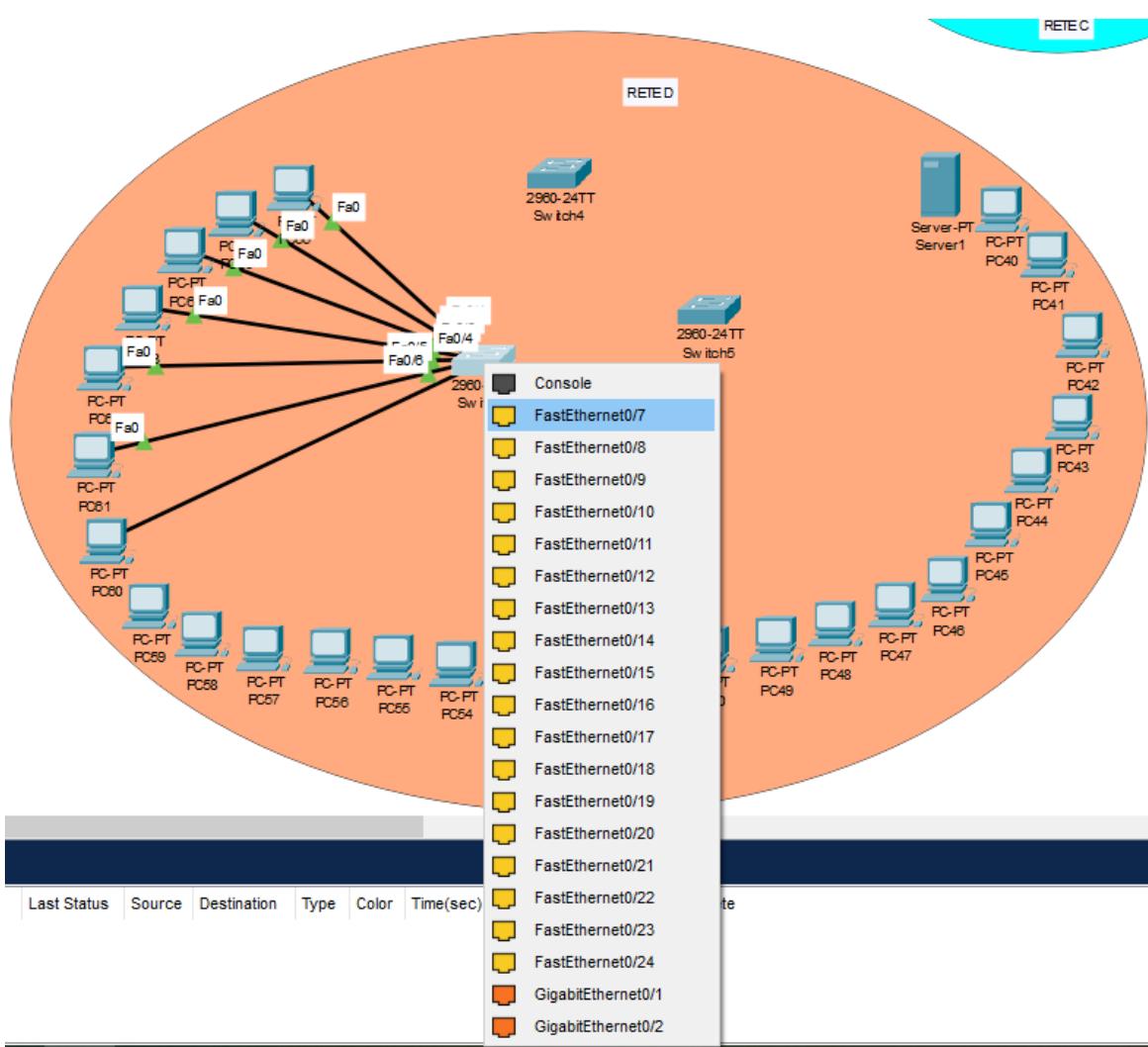
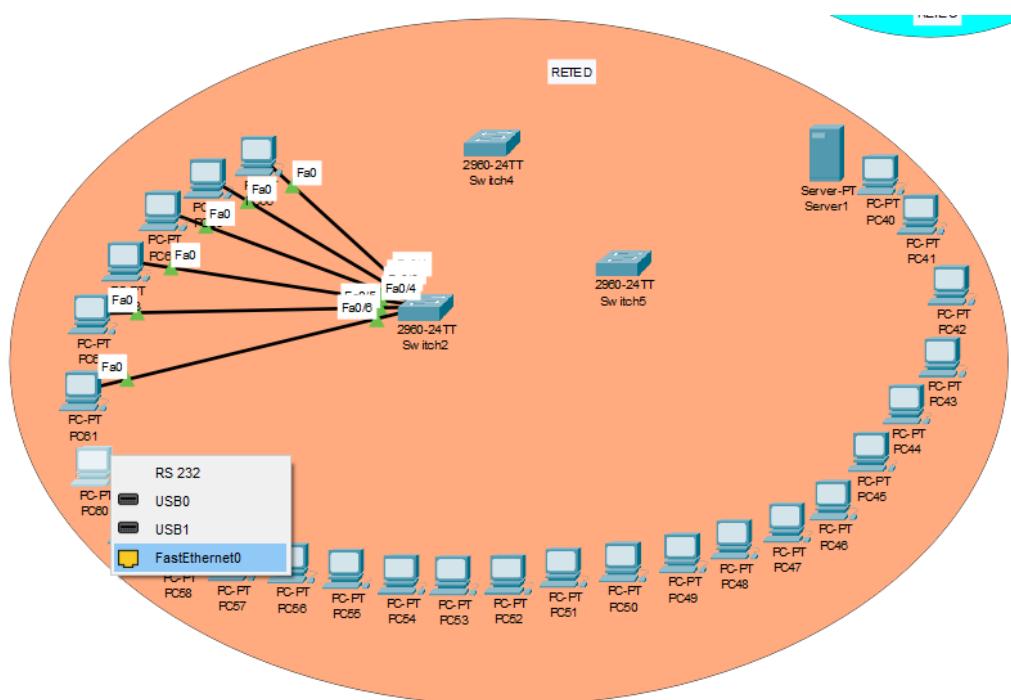


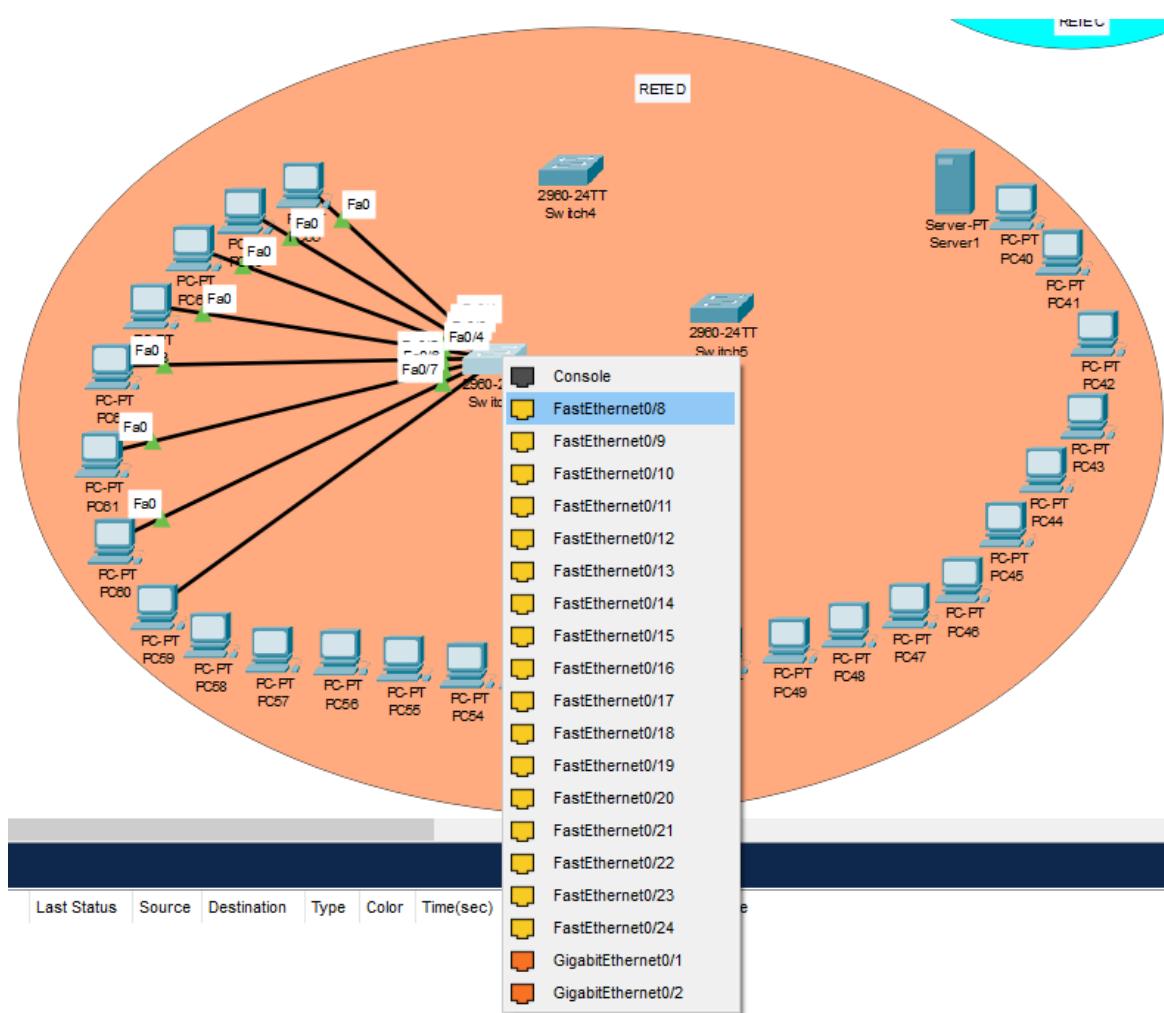
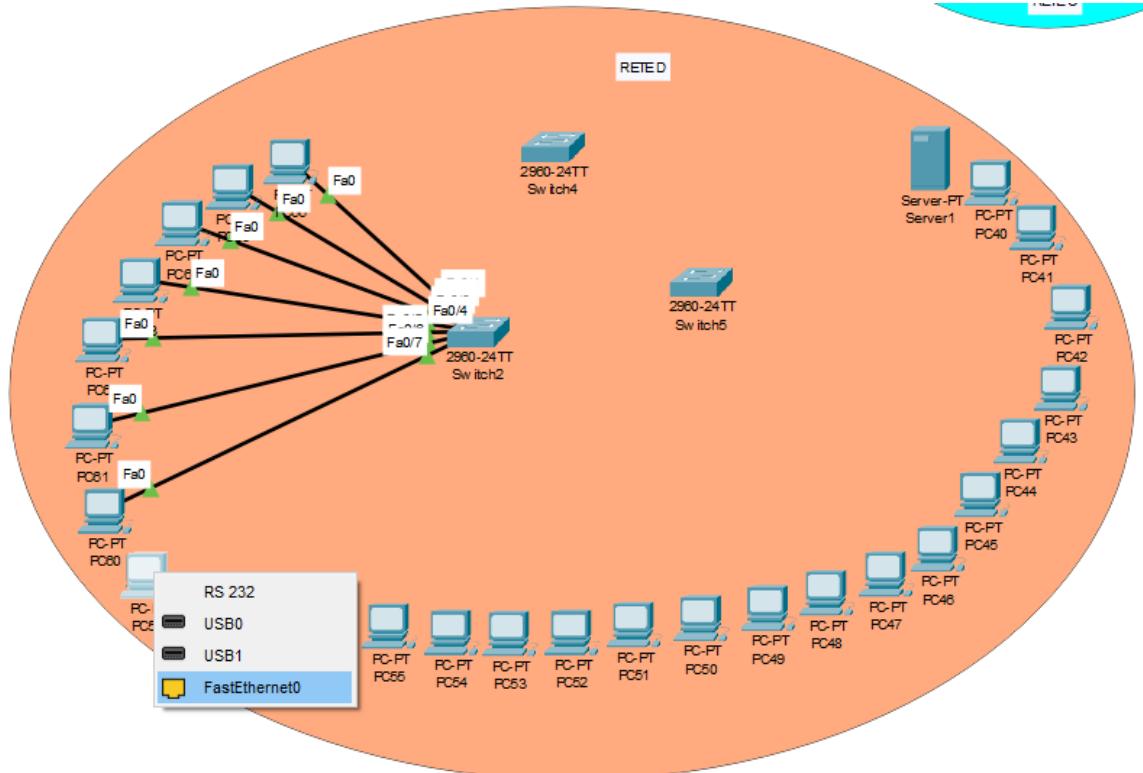


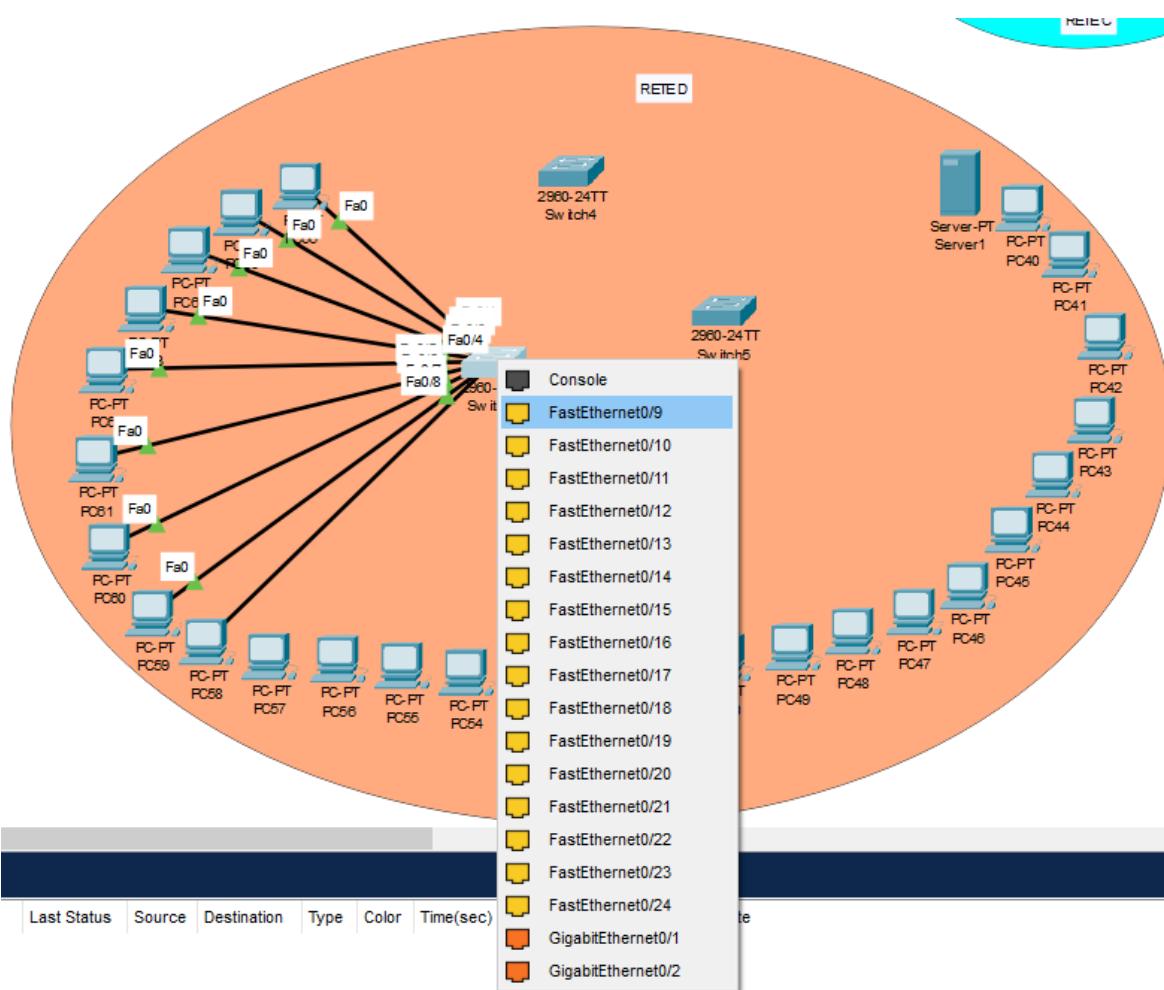
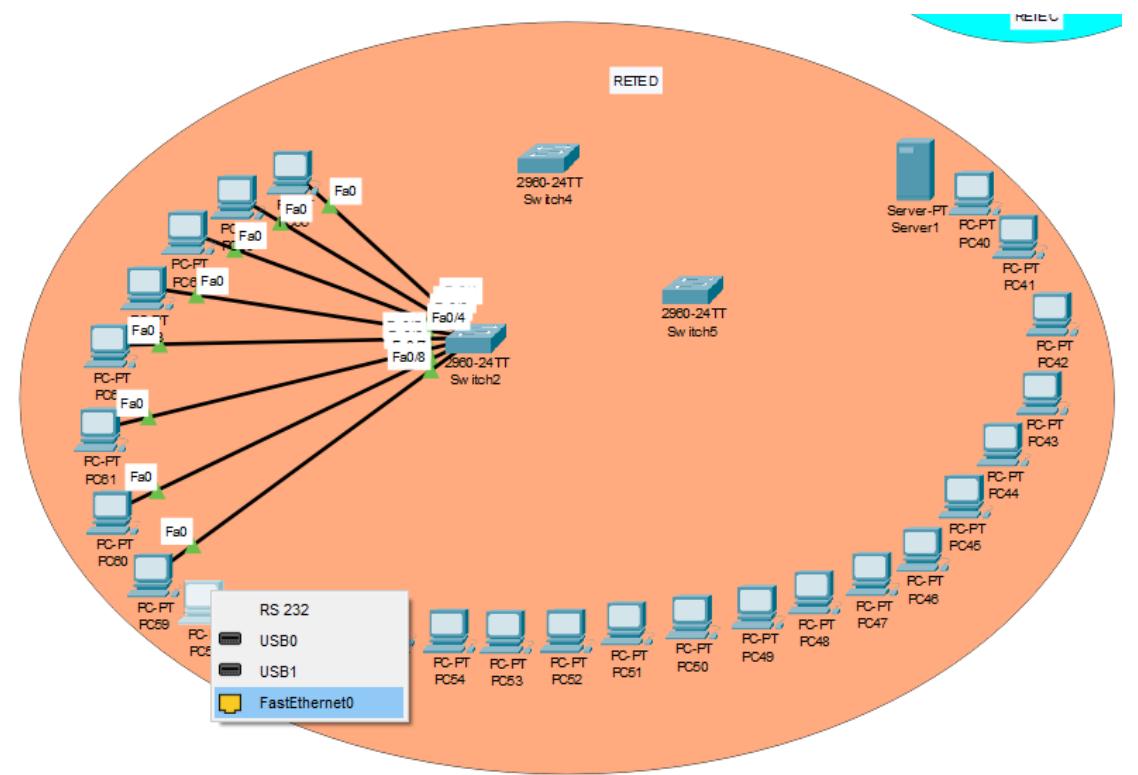


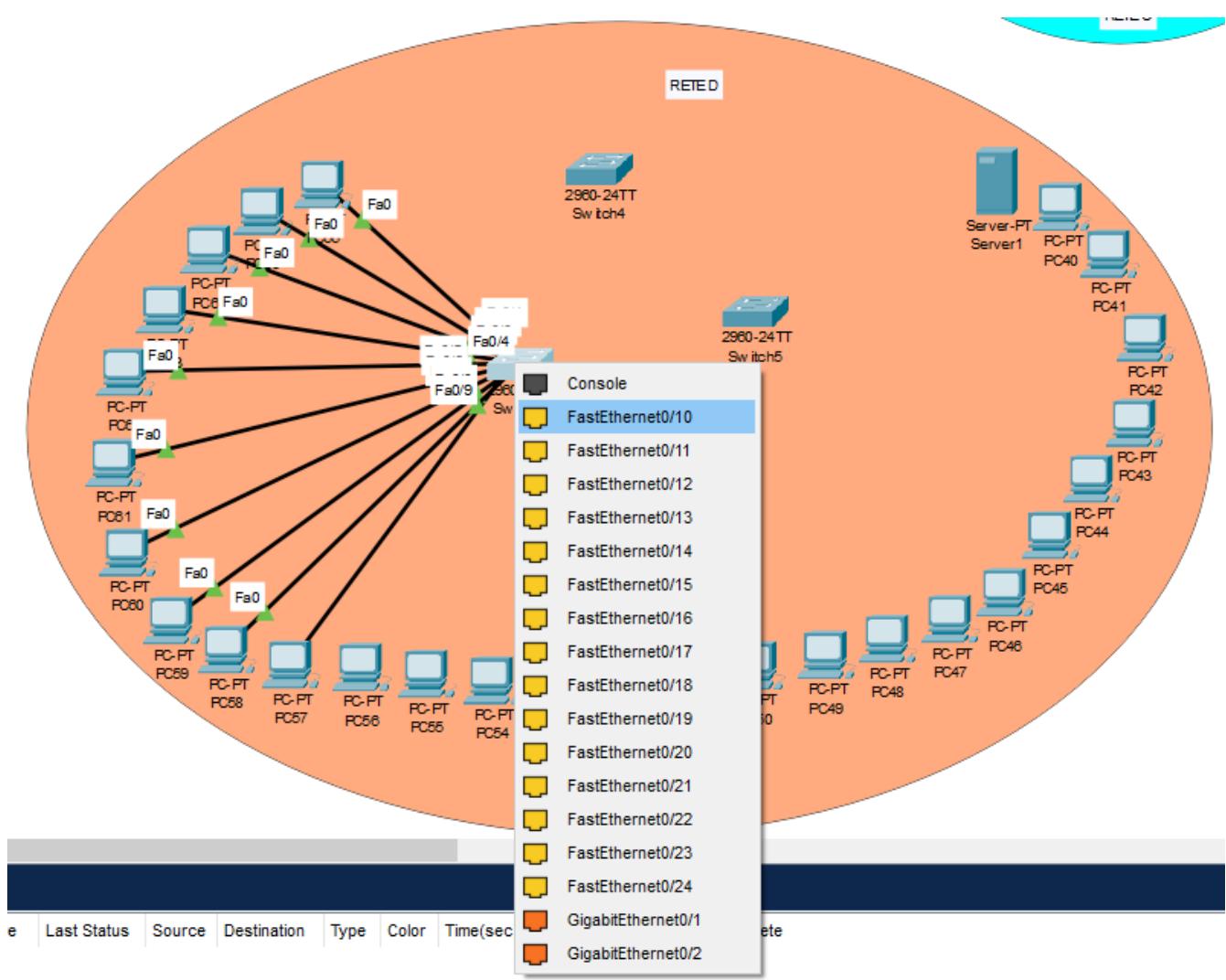
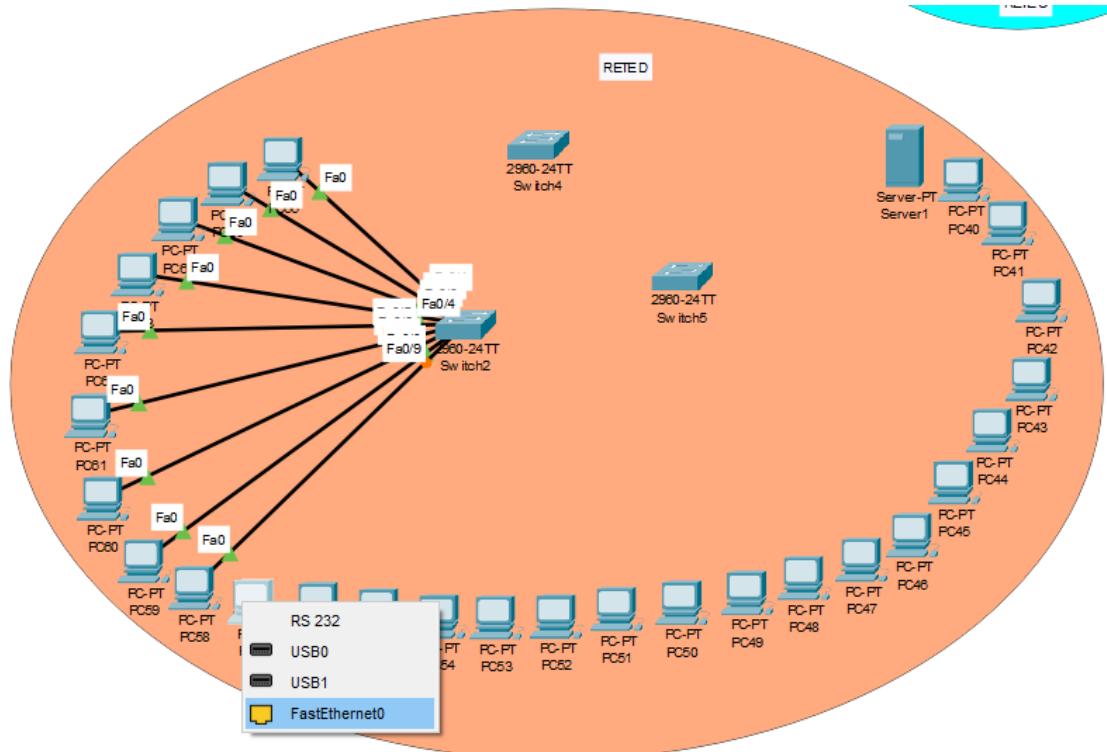


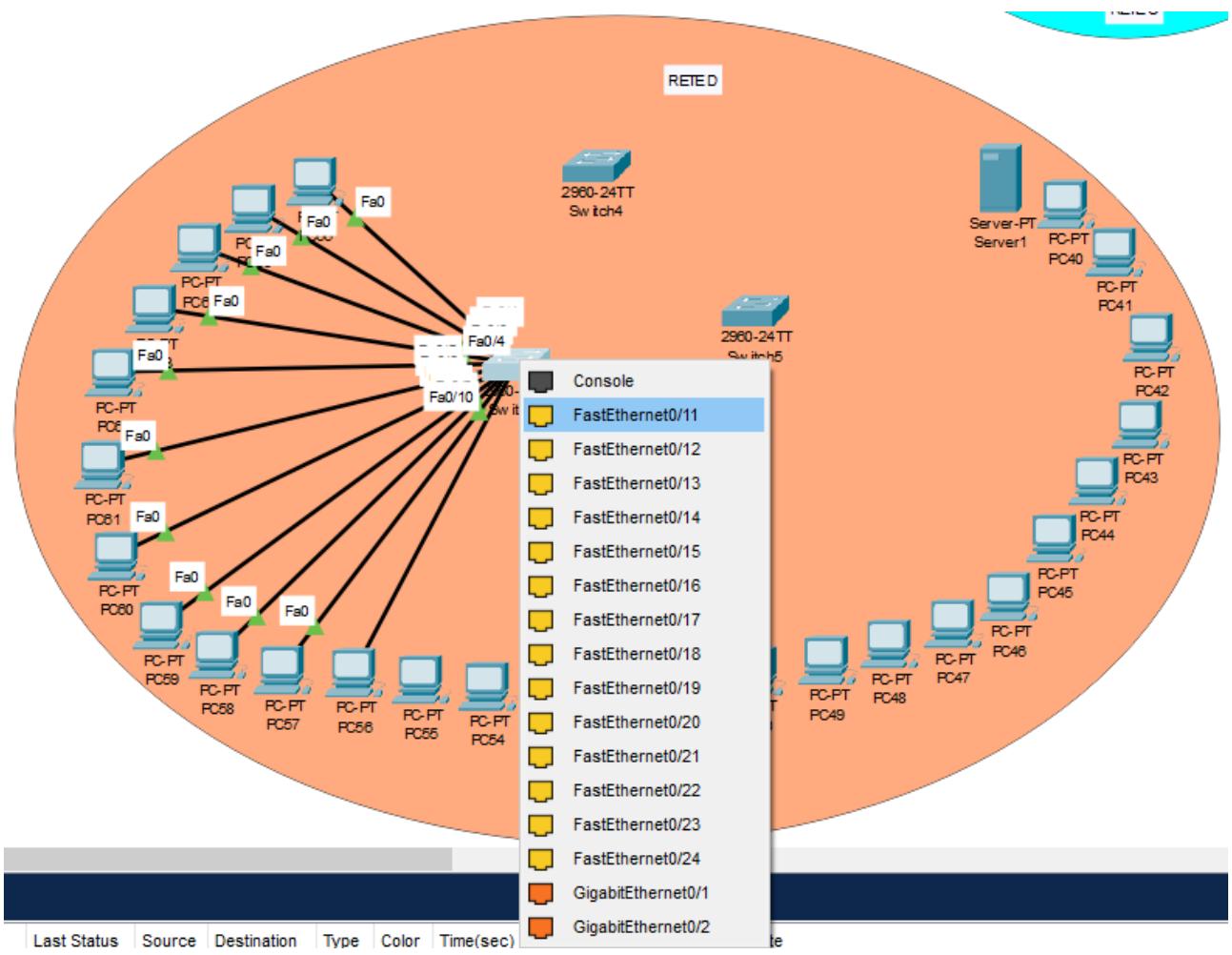
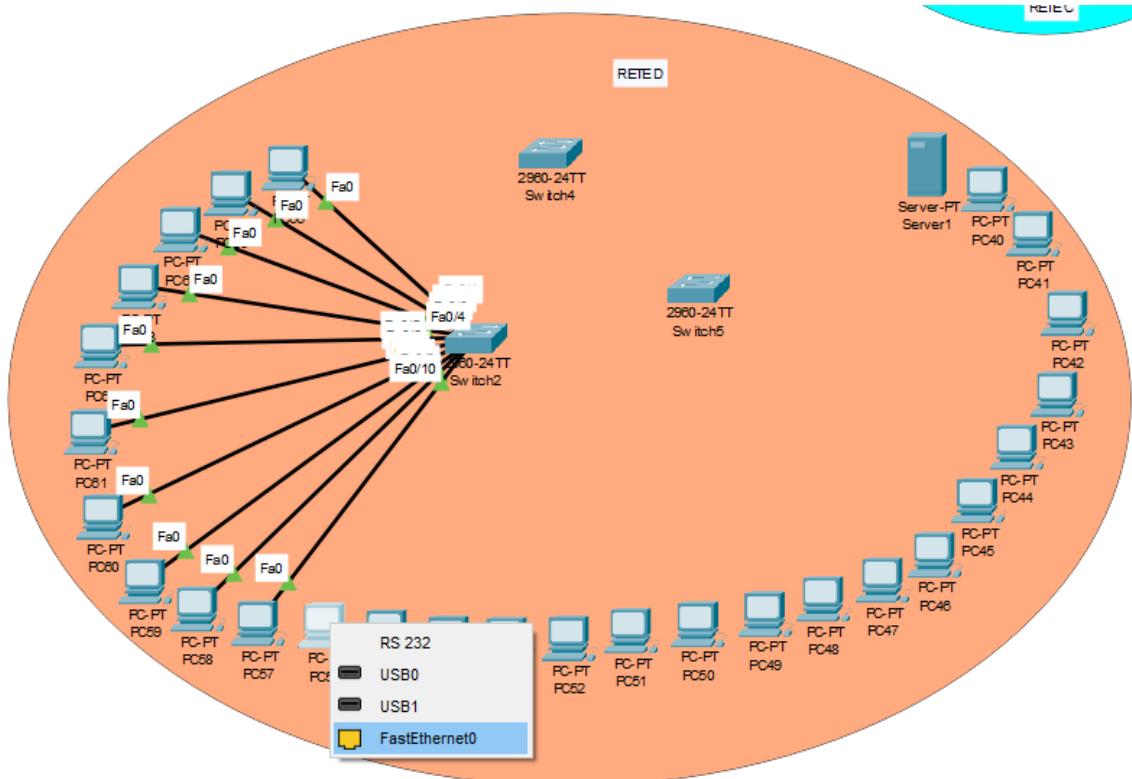


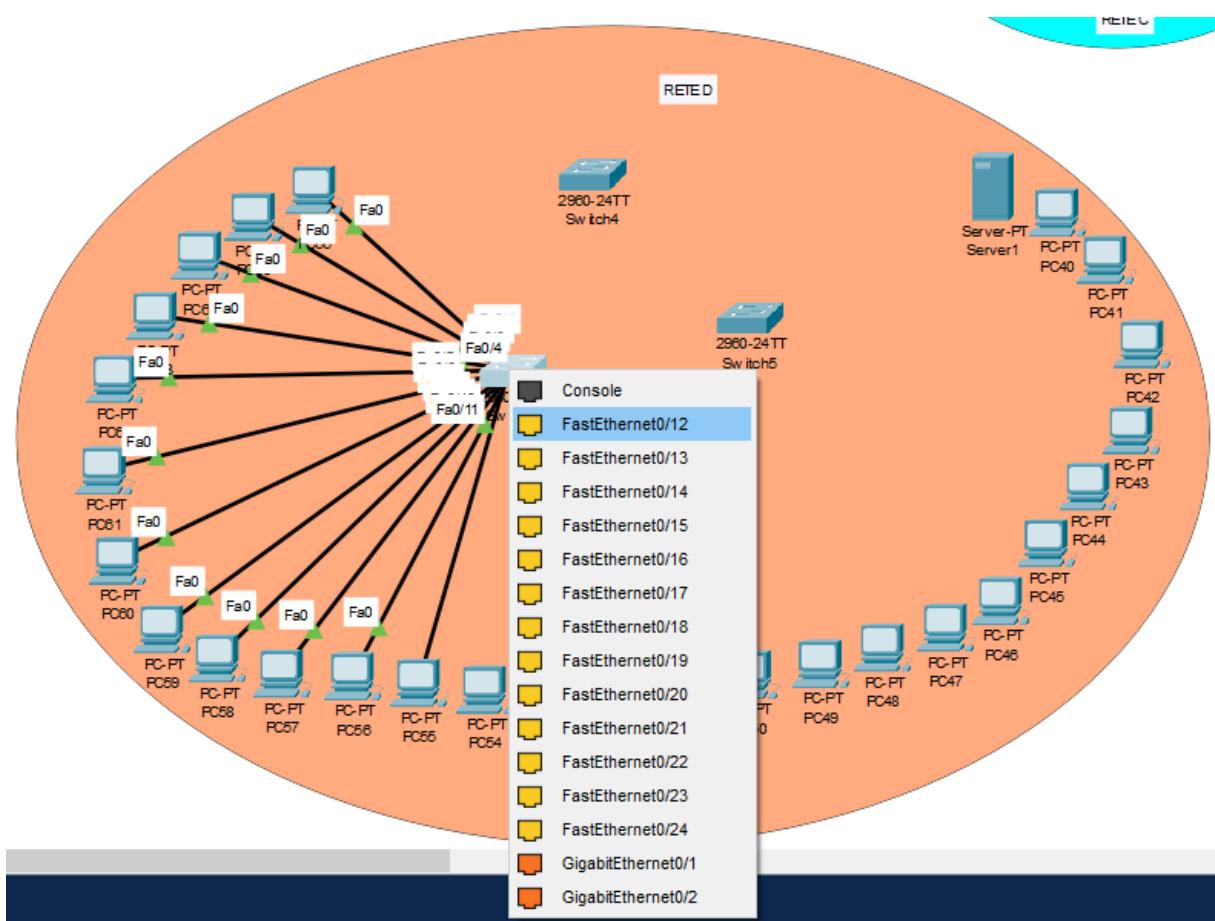
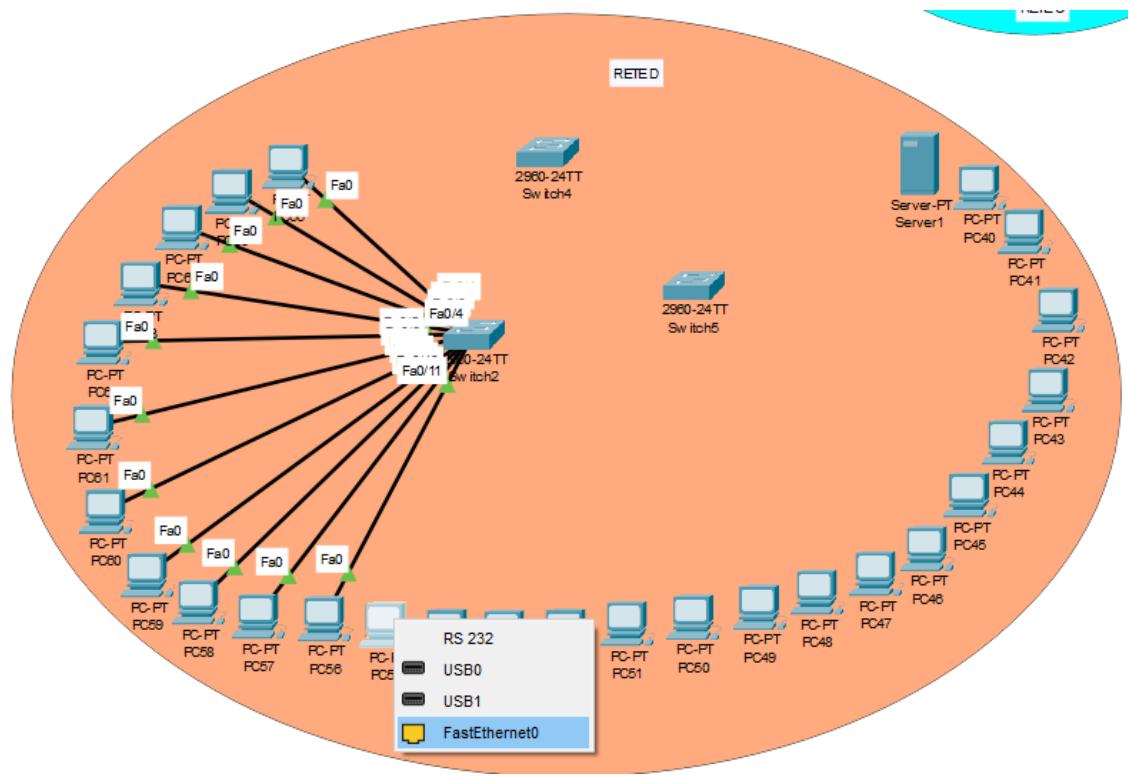


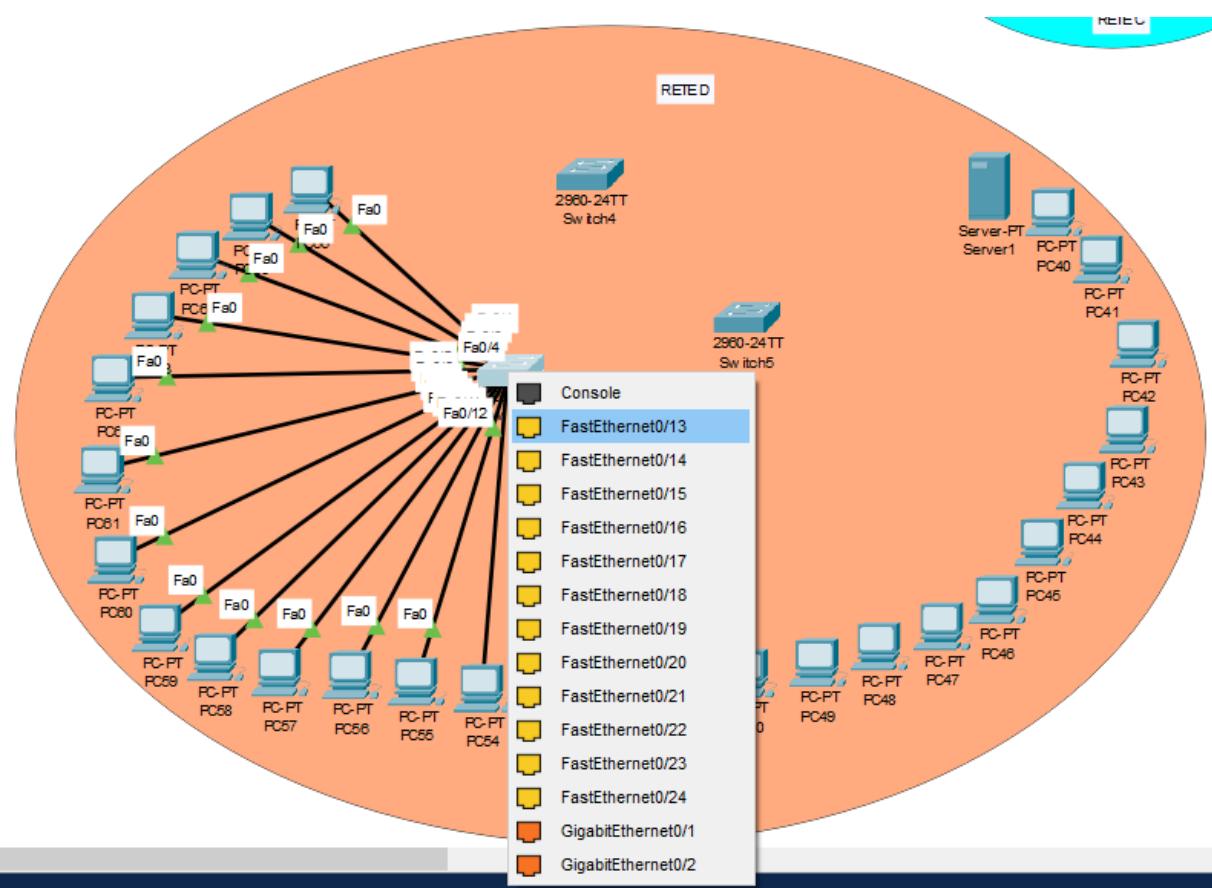
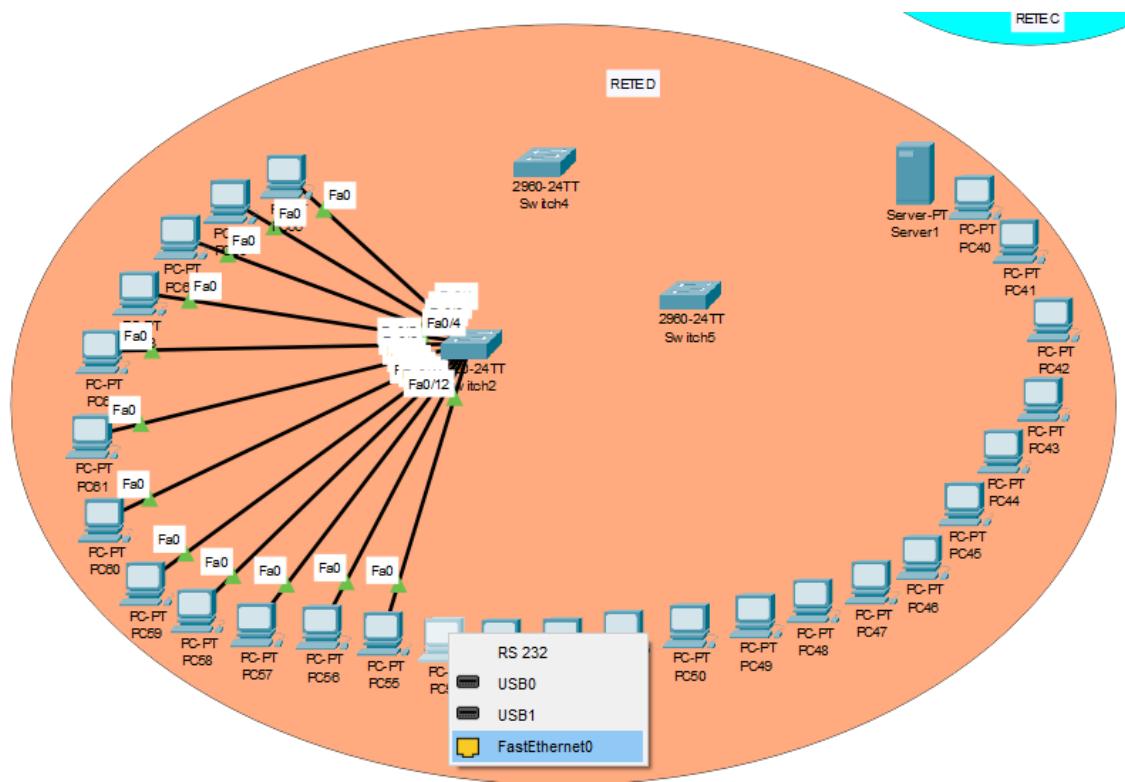


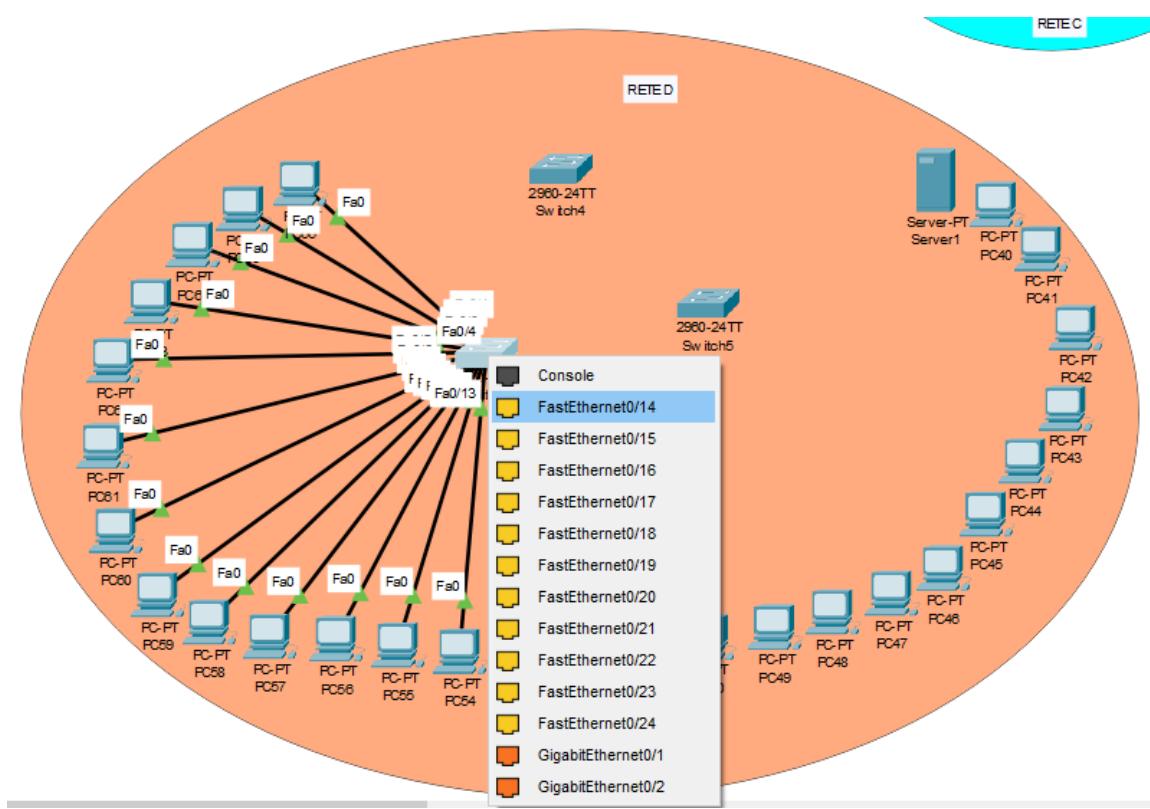
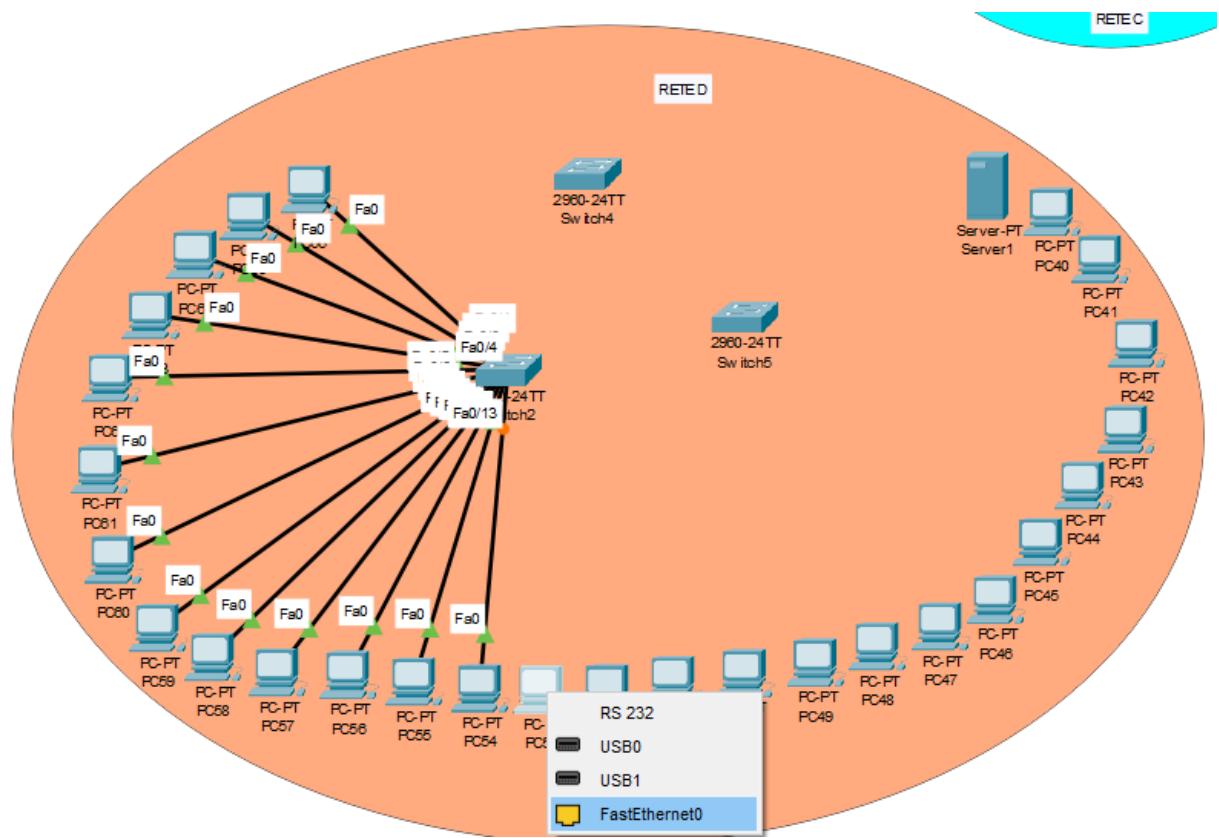


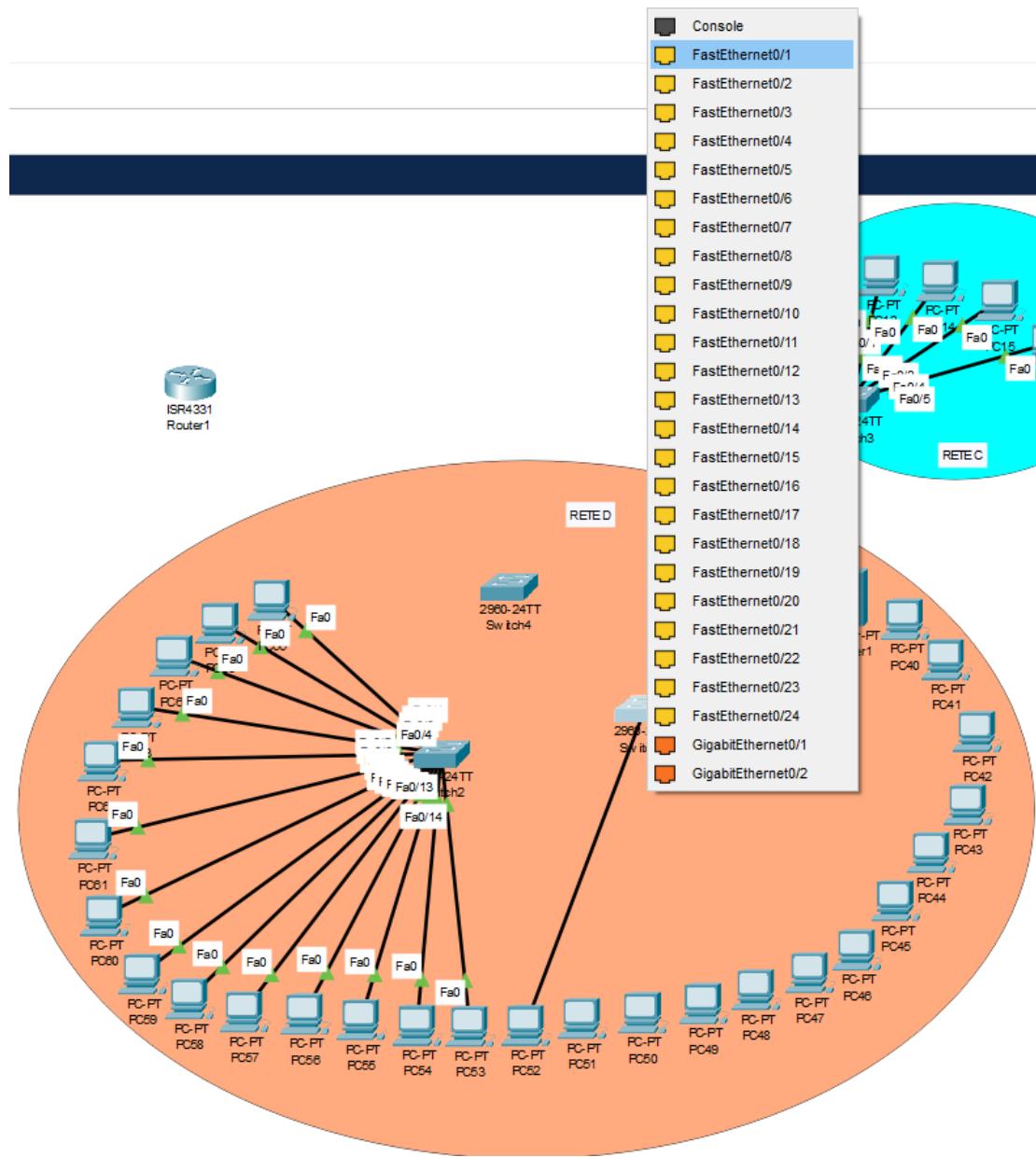
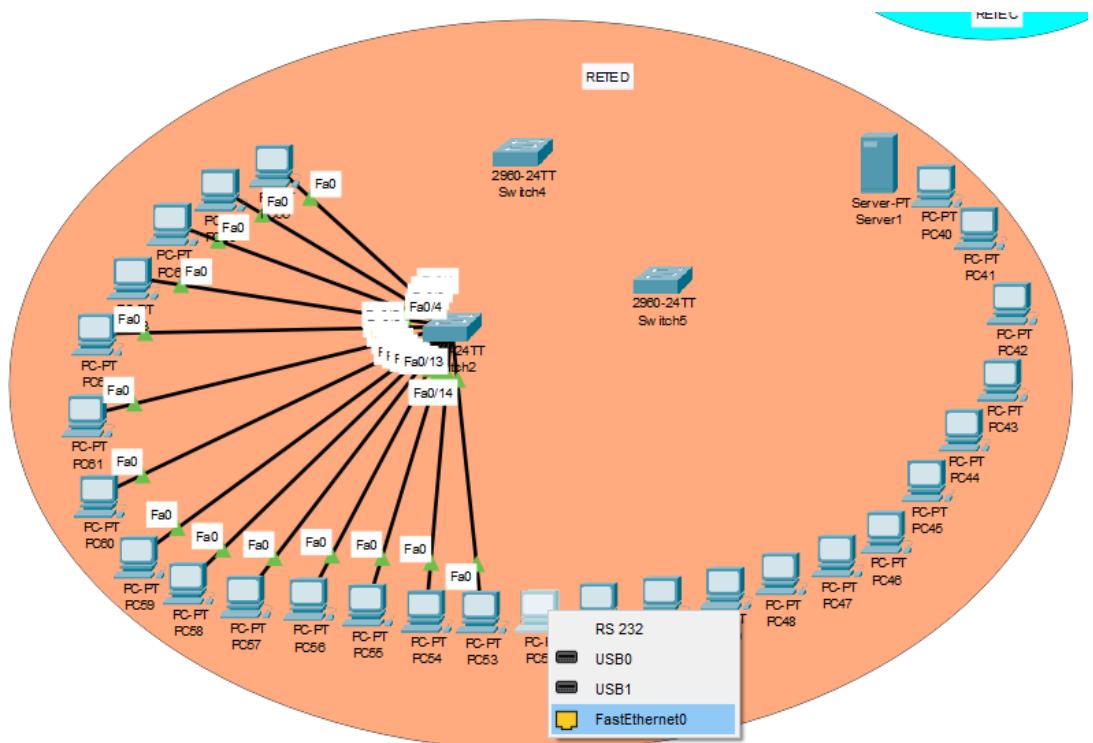


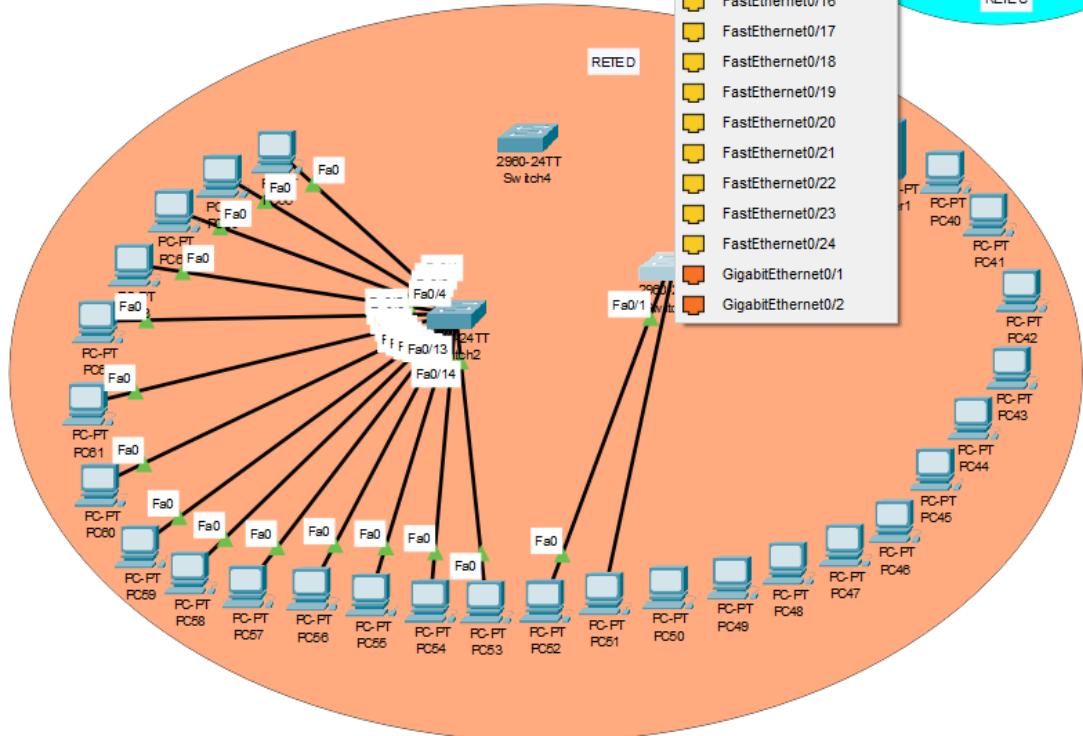
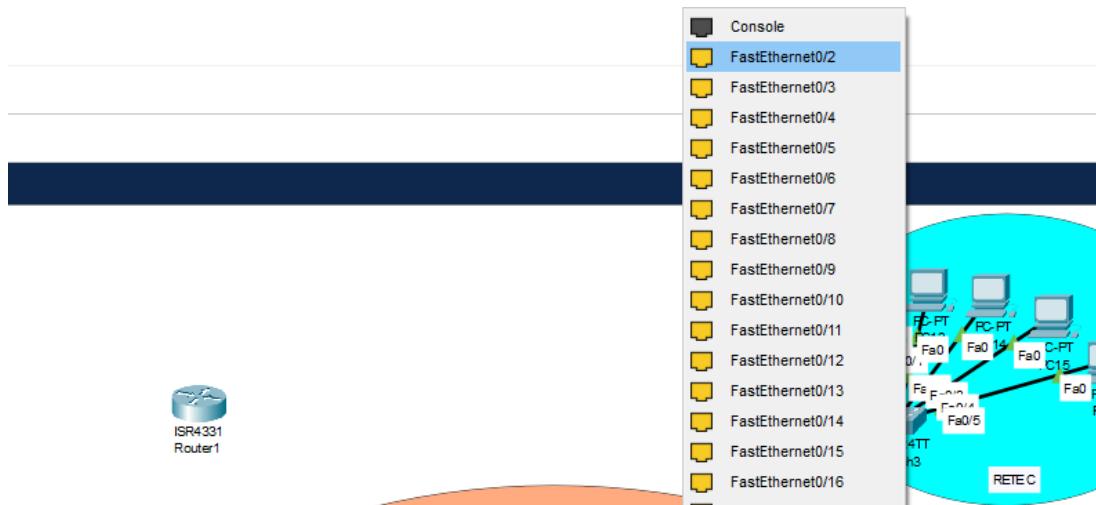
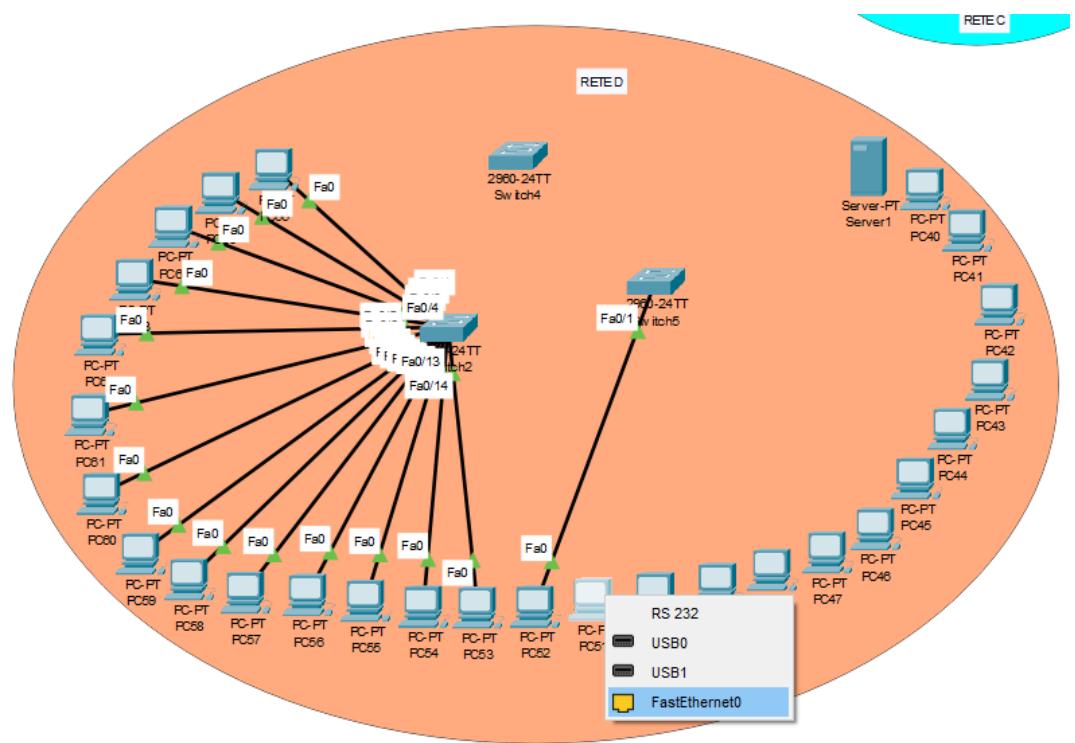


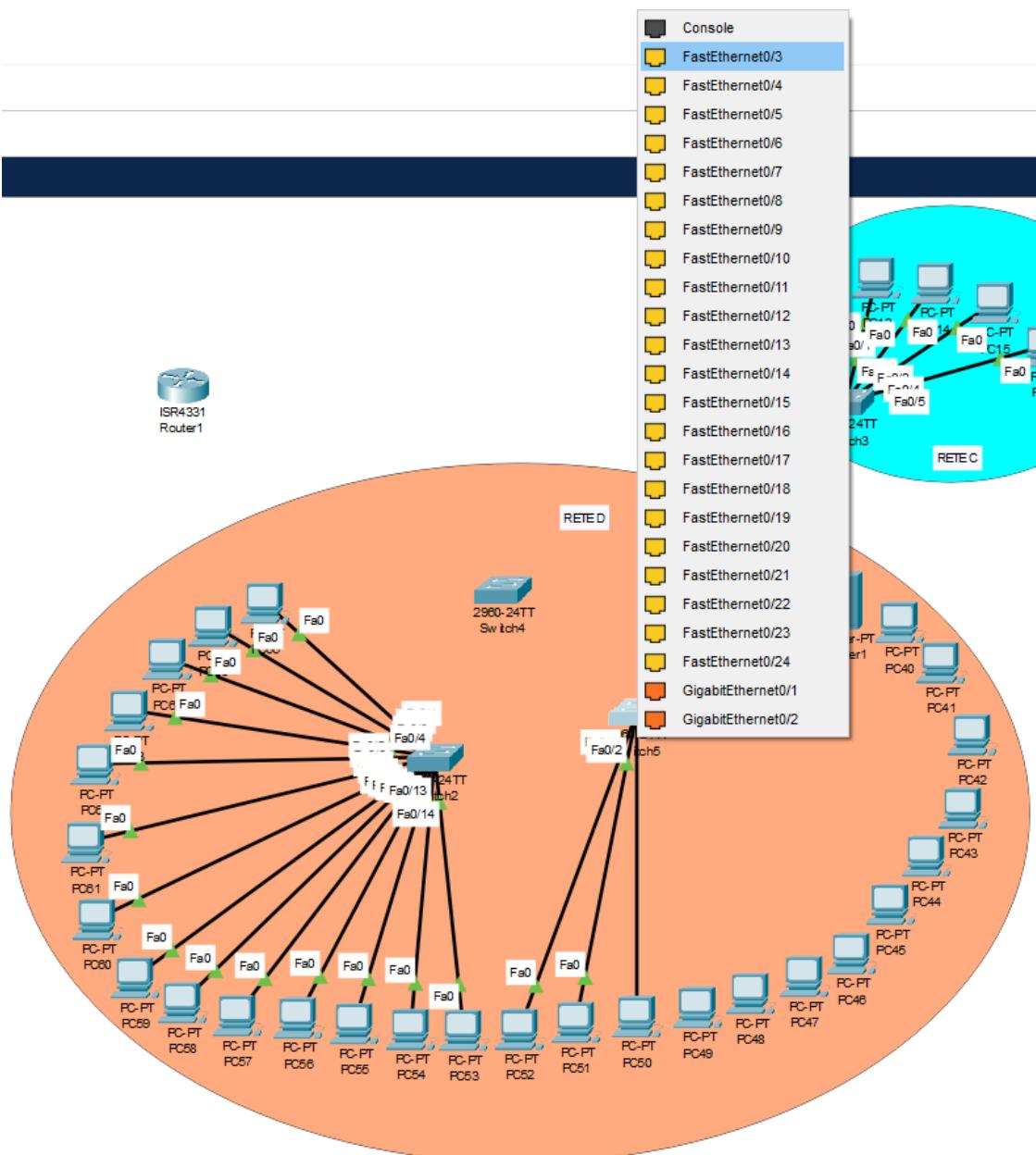
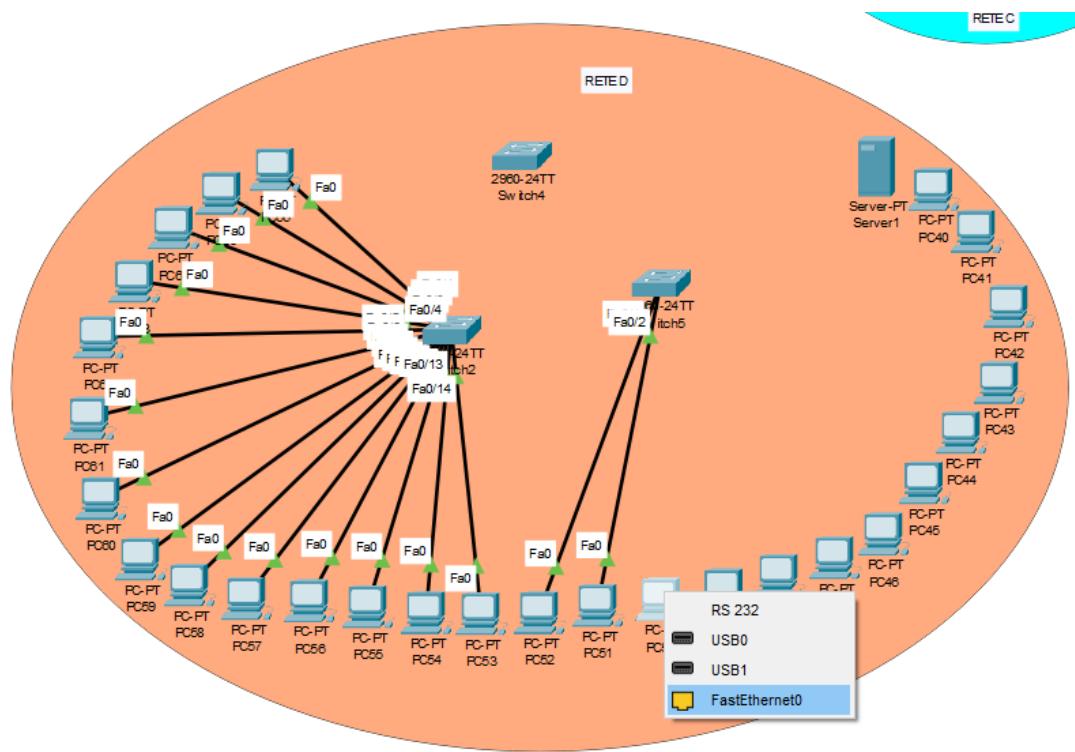


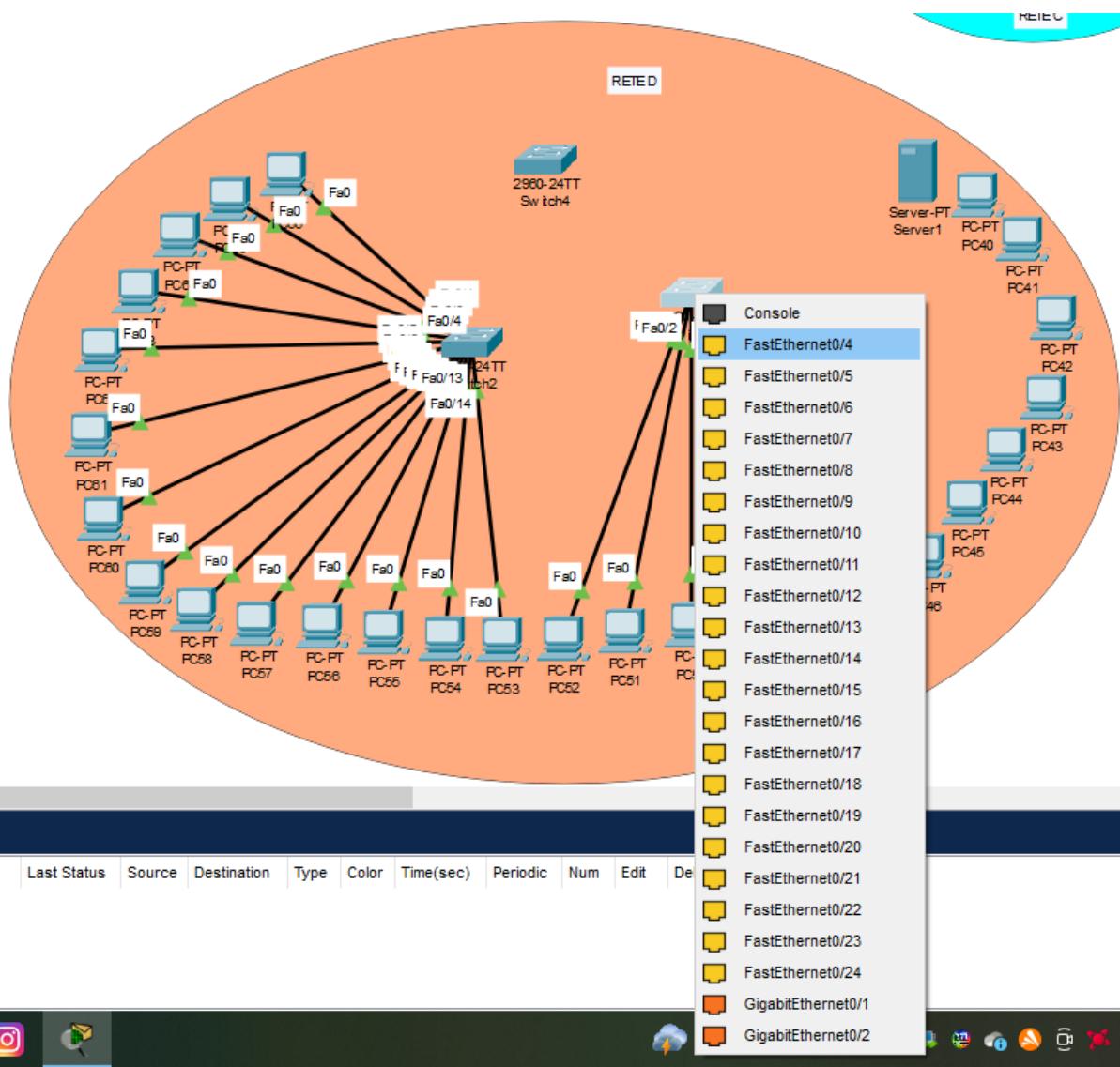
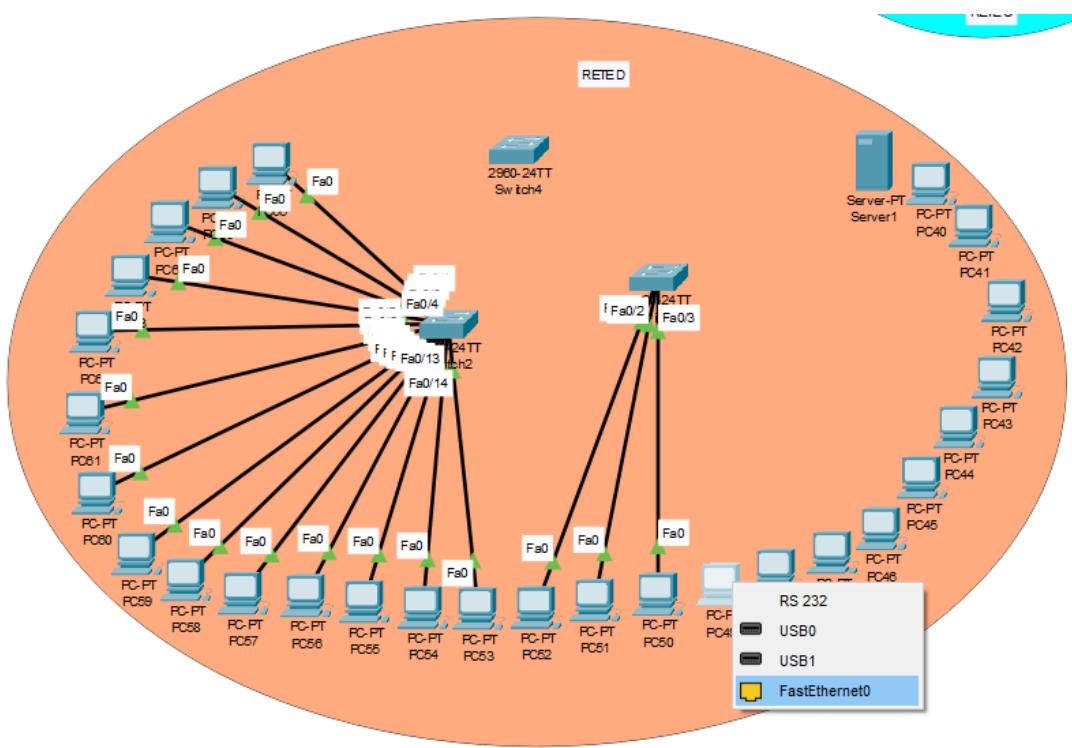


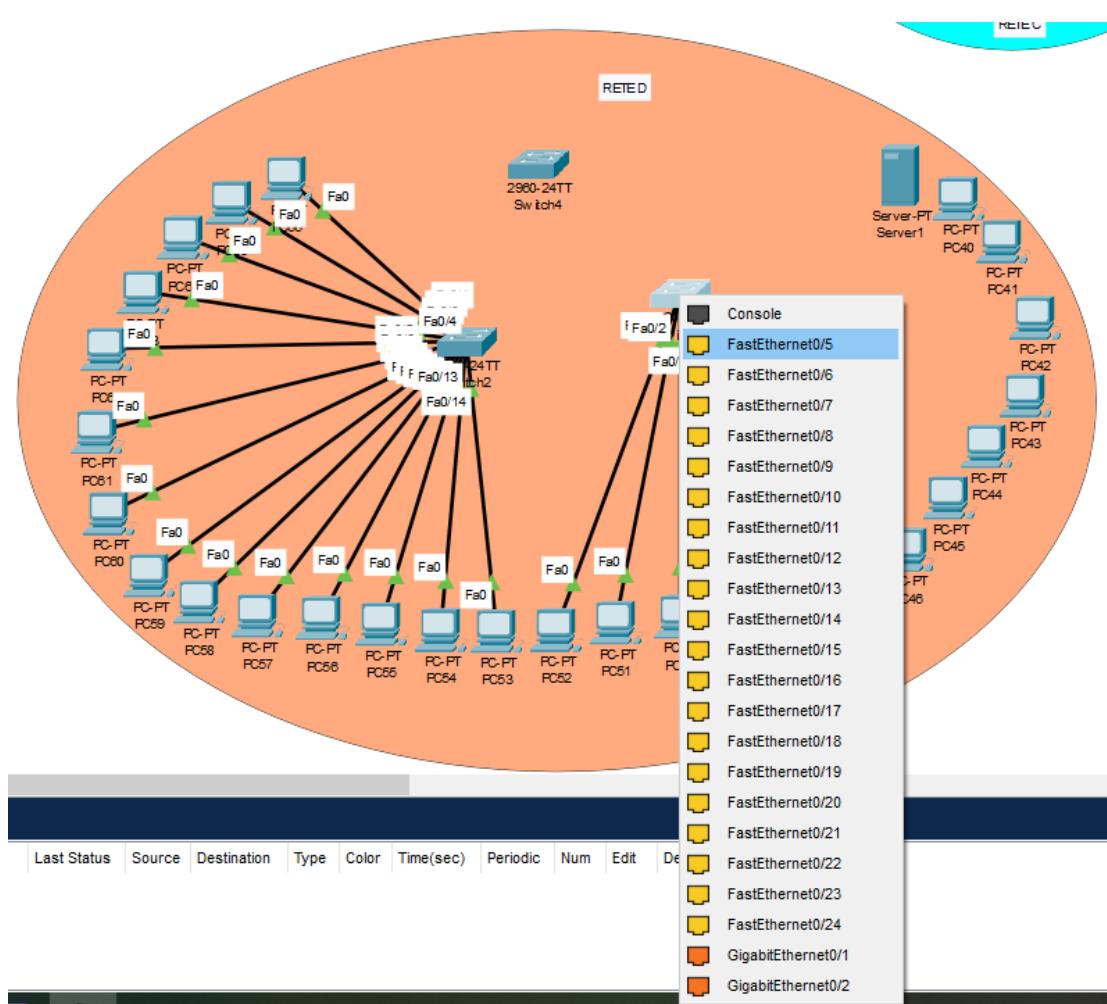
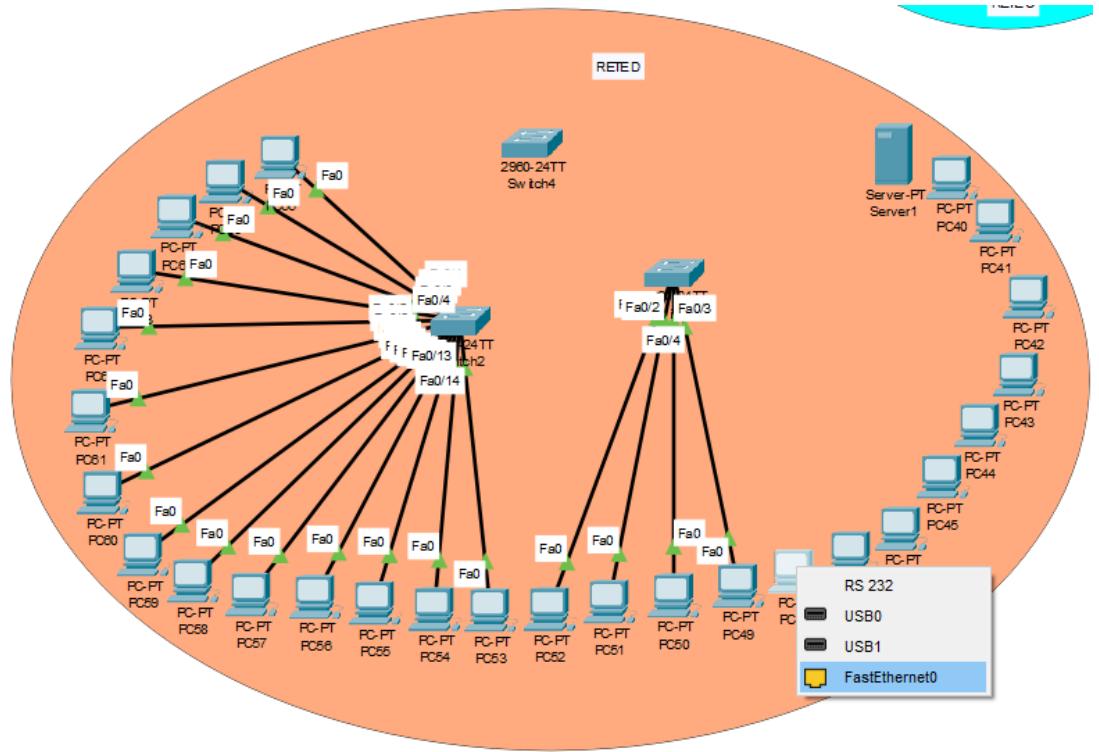


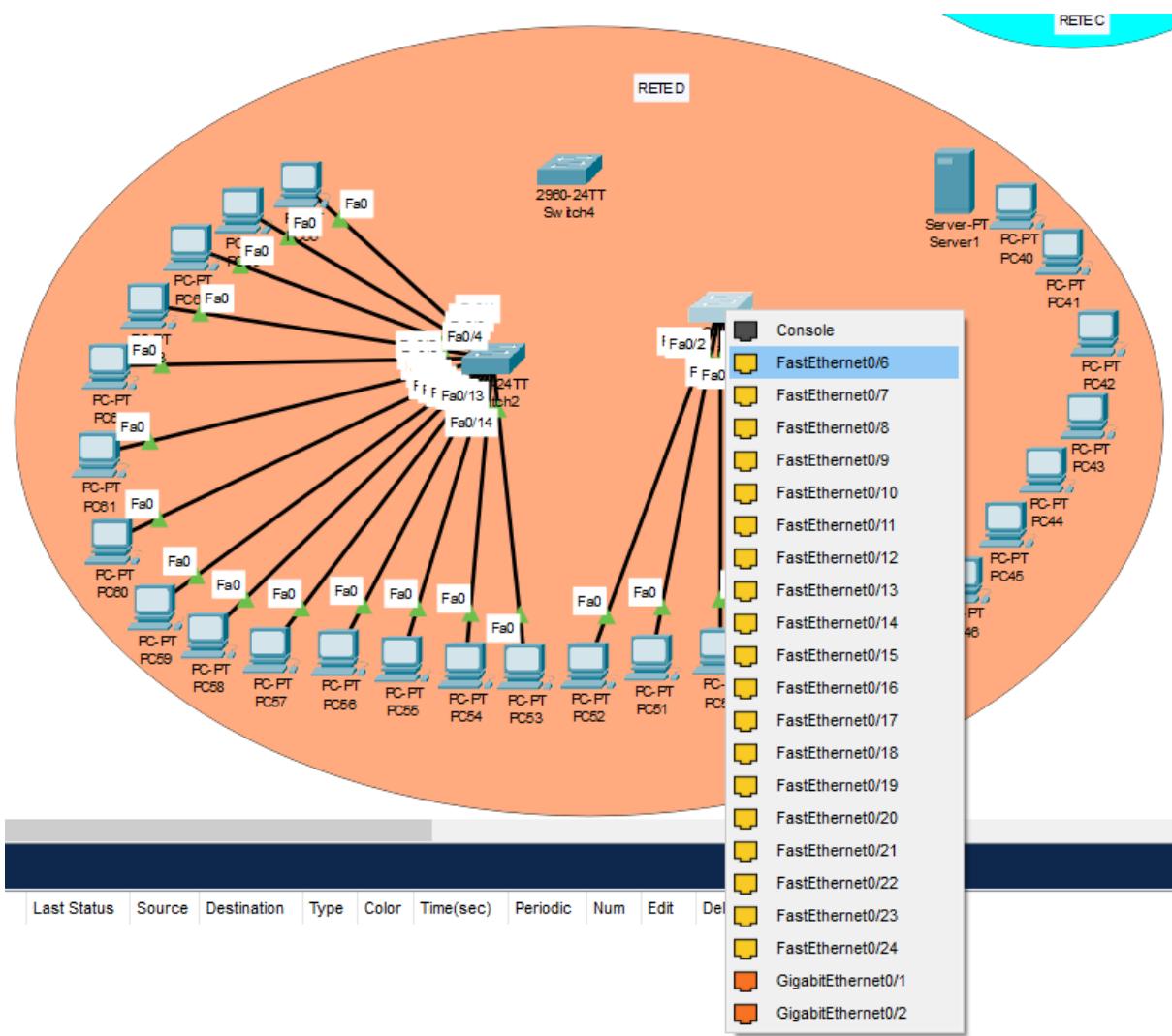
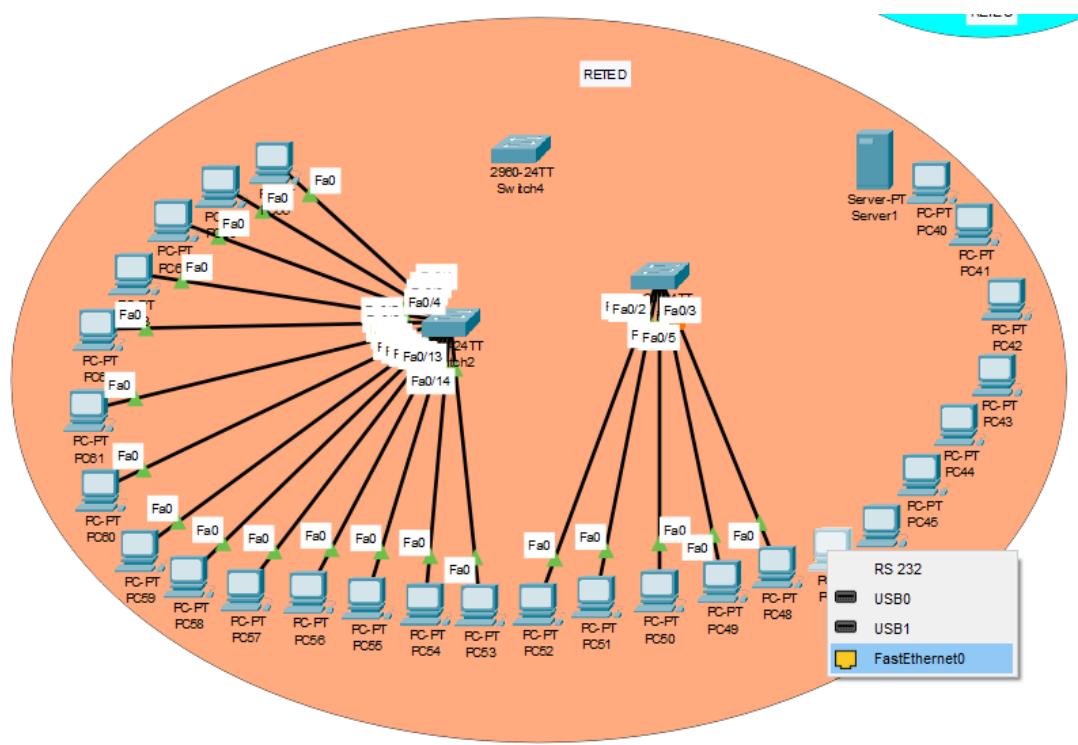


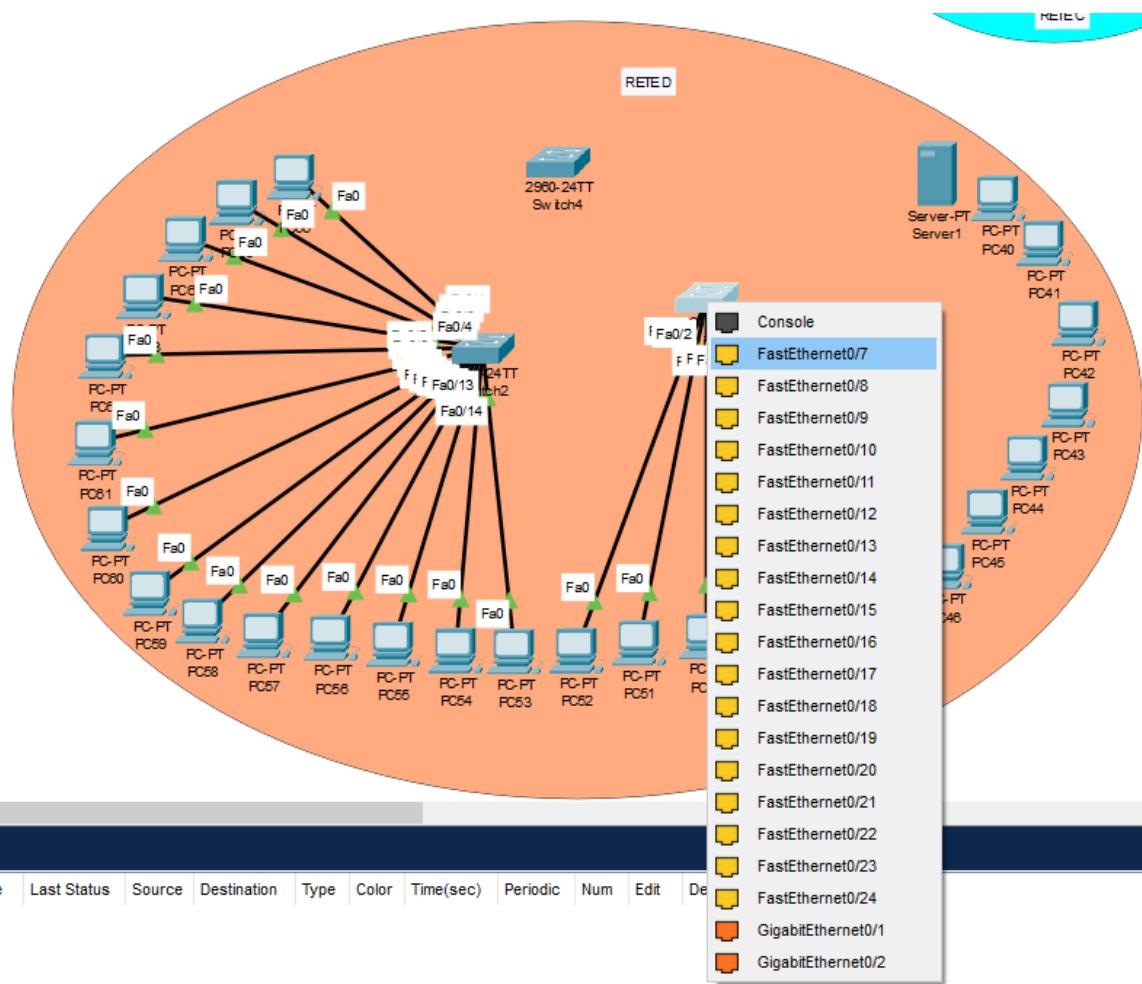
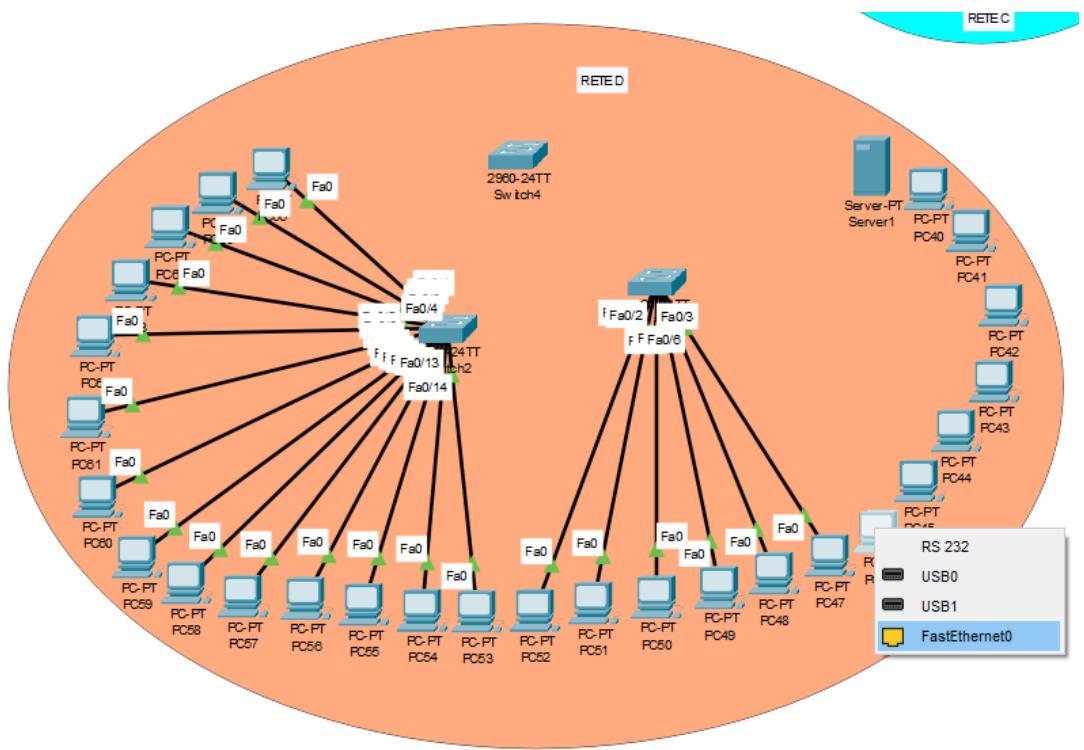


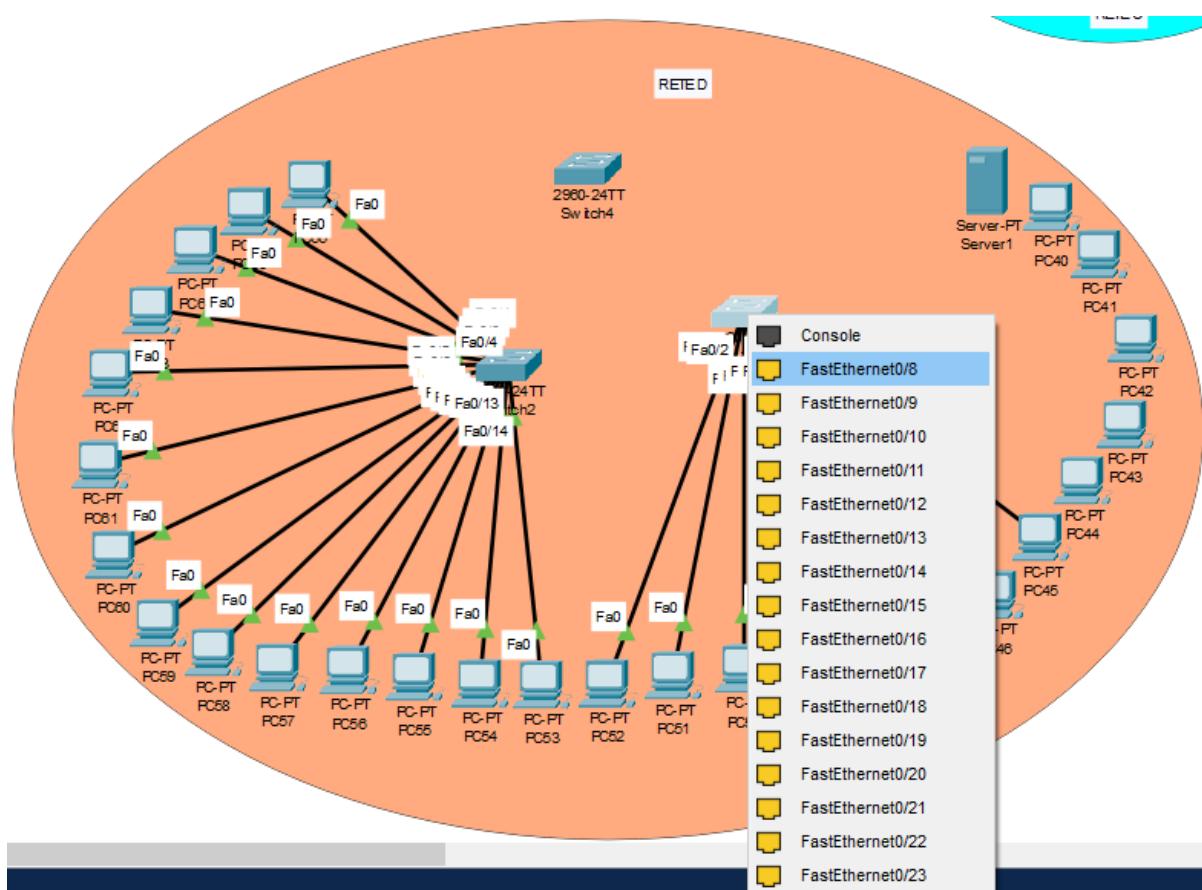
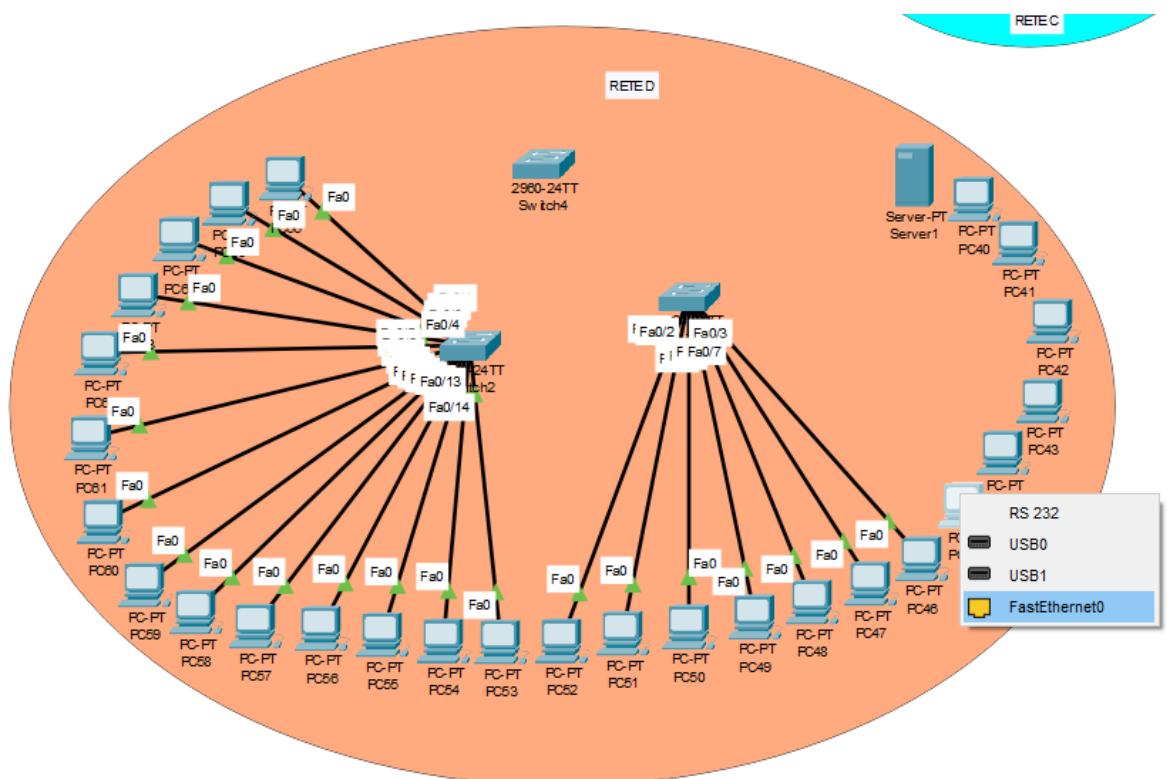




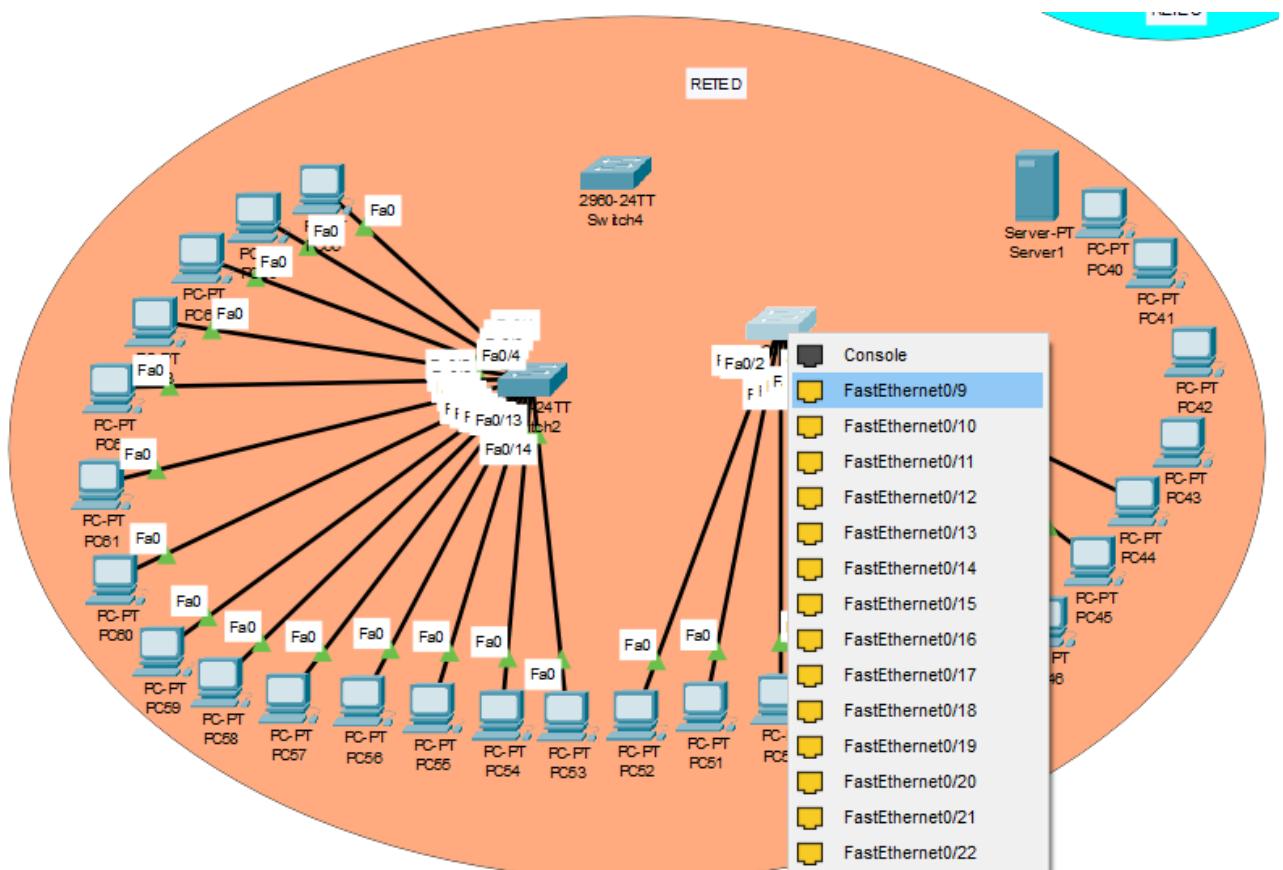
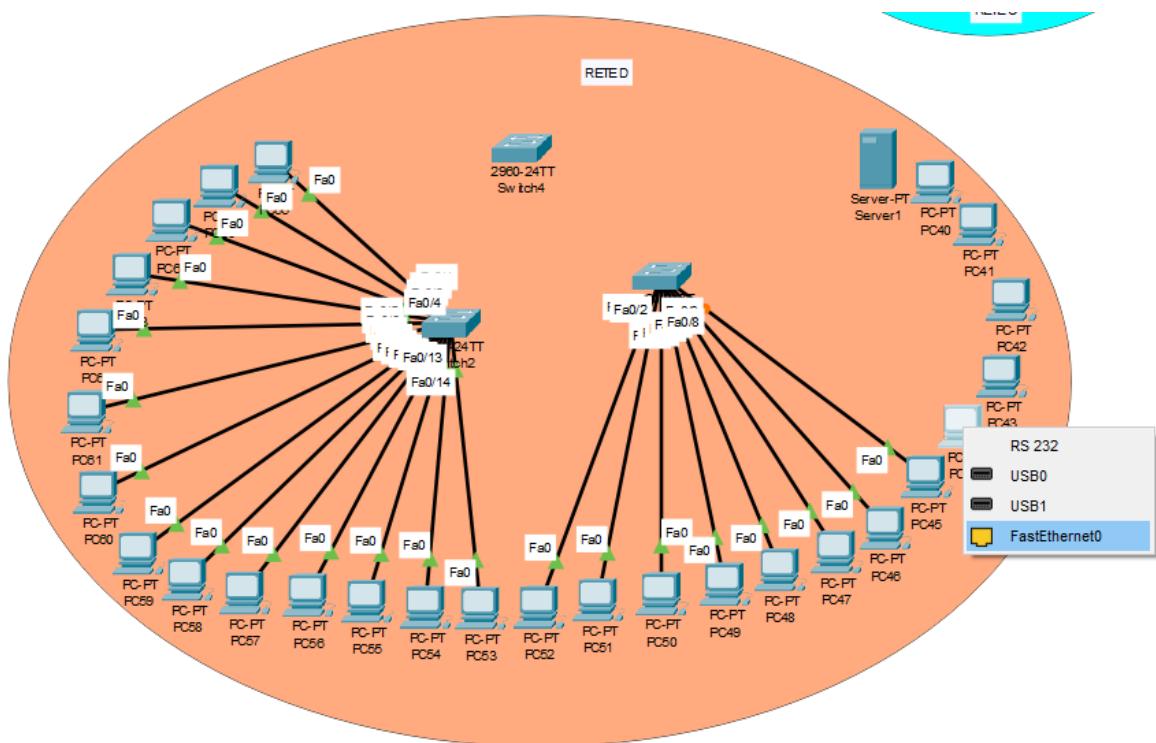




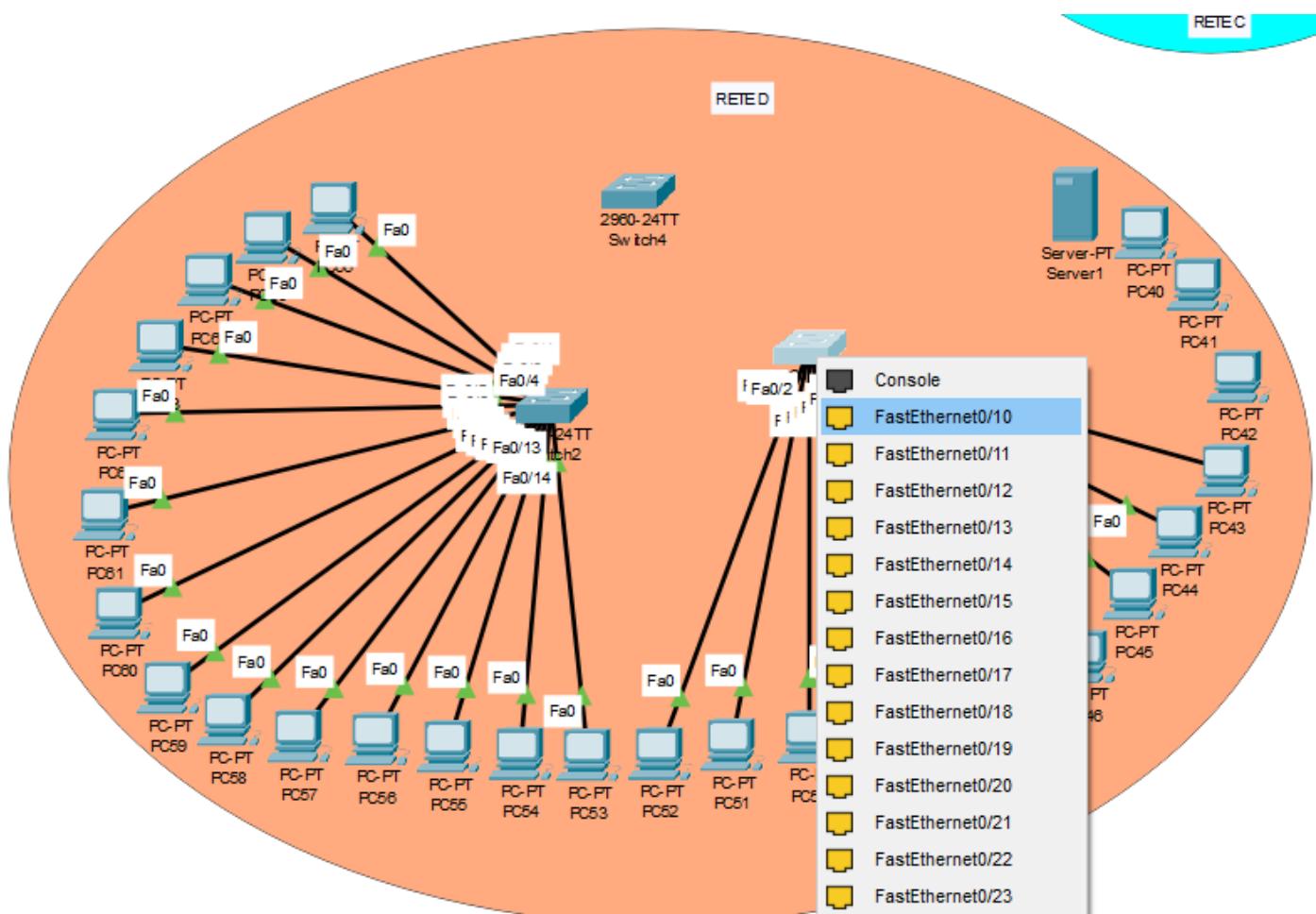
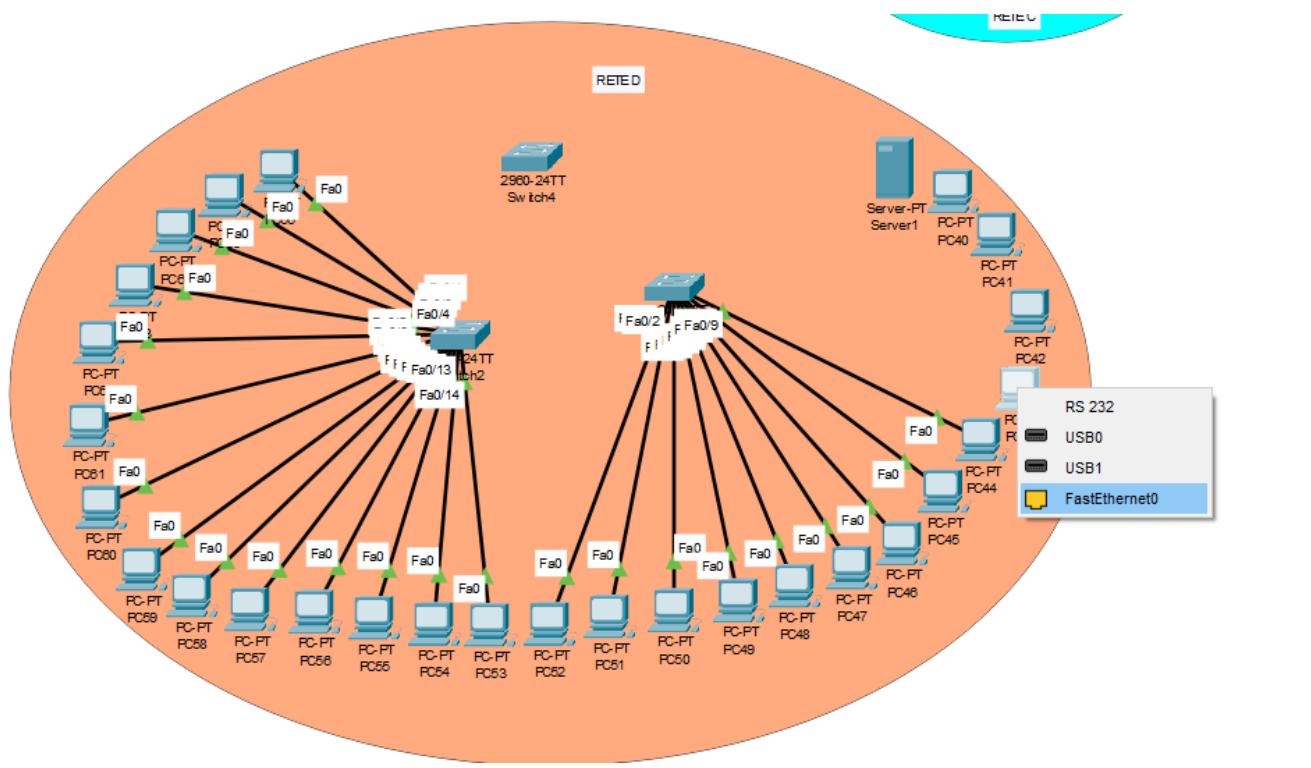




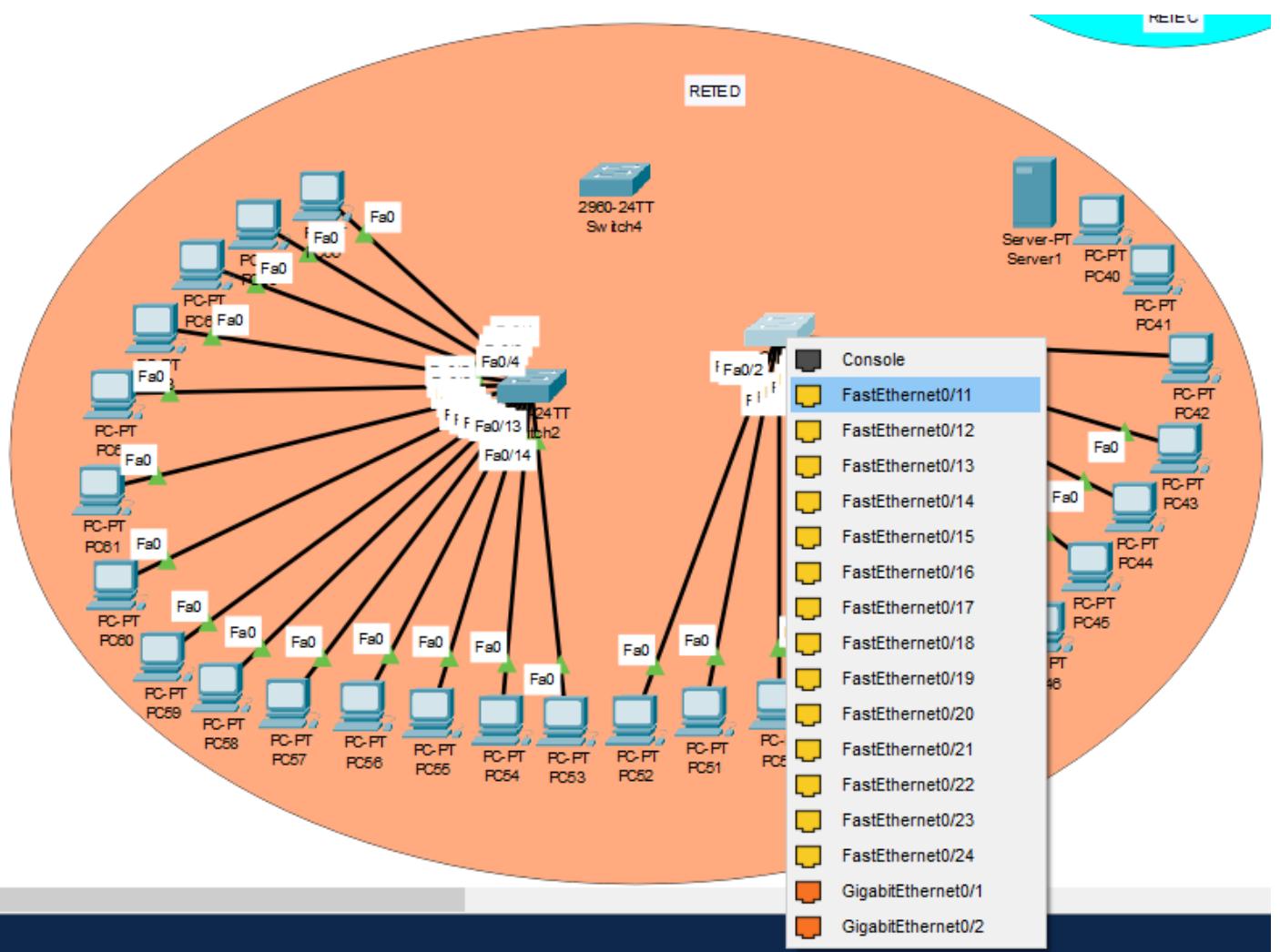
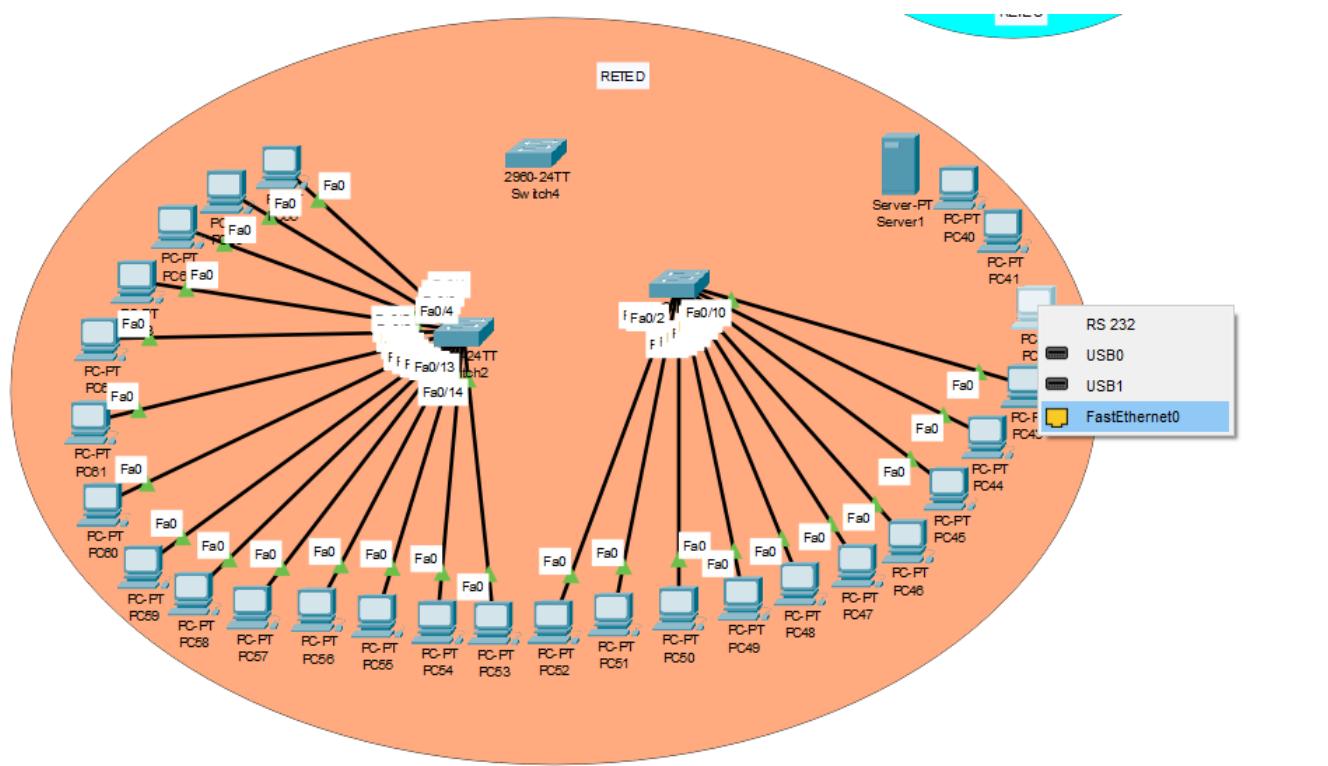
Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	De
-------------	--------	-------------	------	-------	-----------	----------	-----	------	----

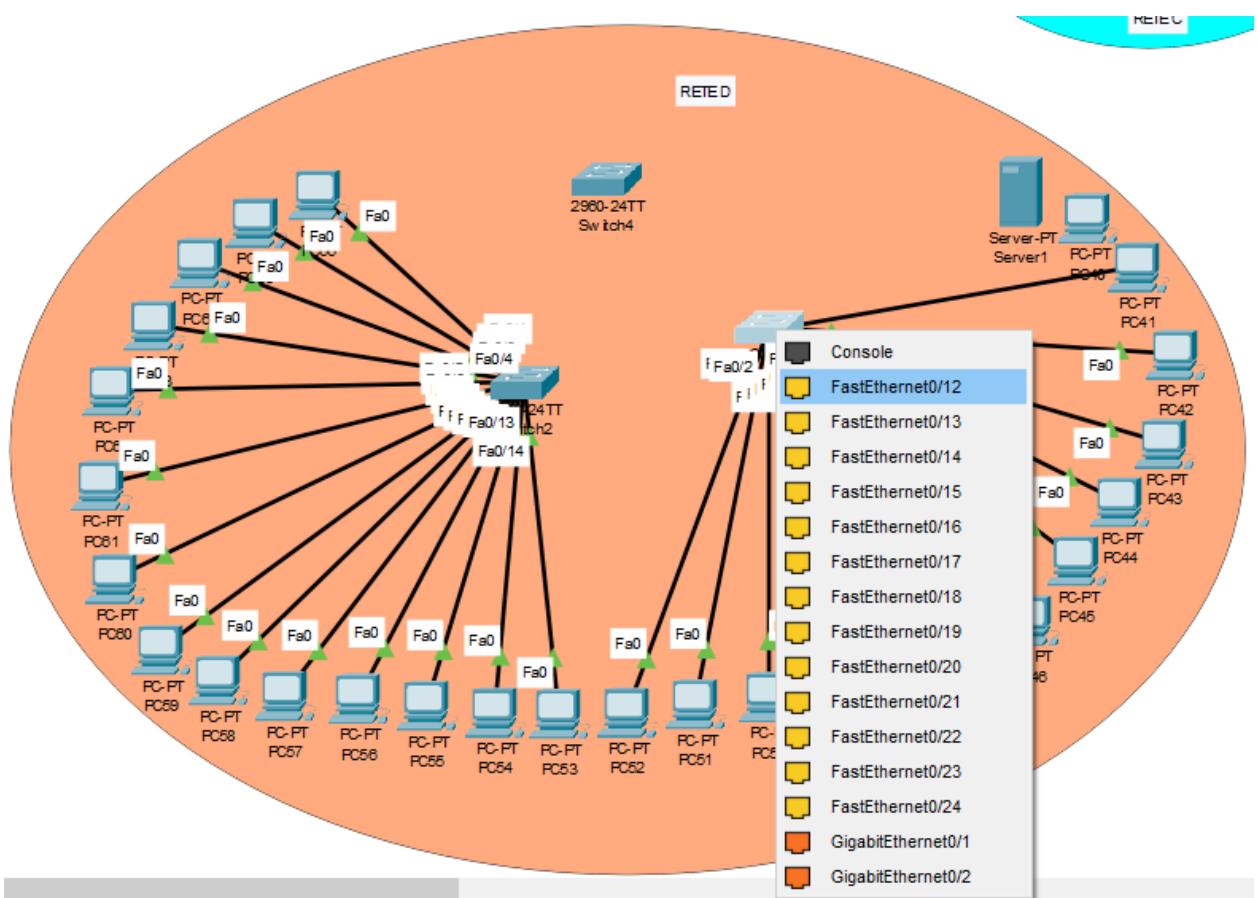
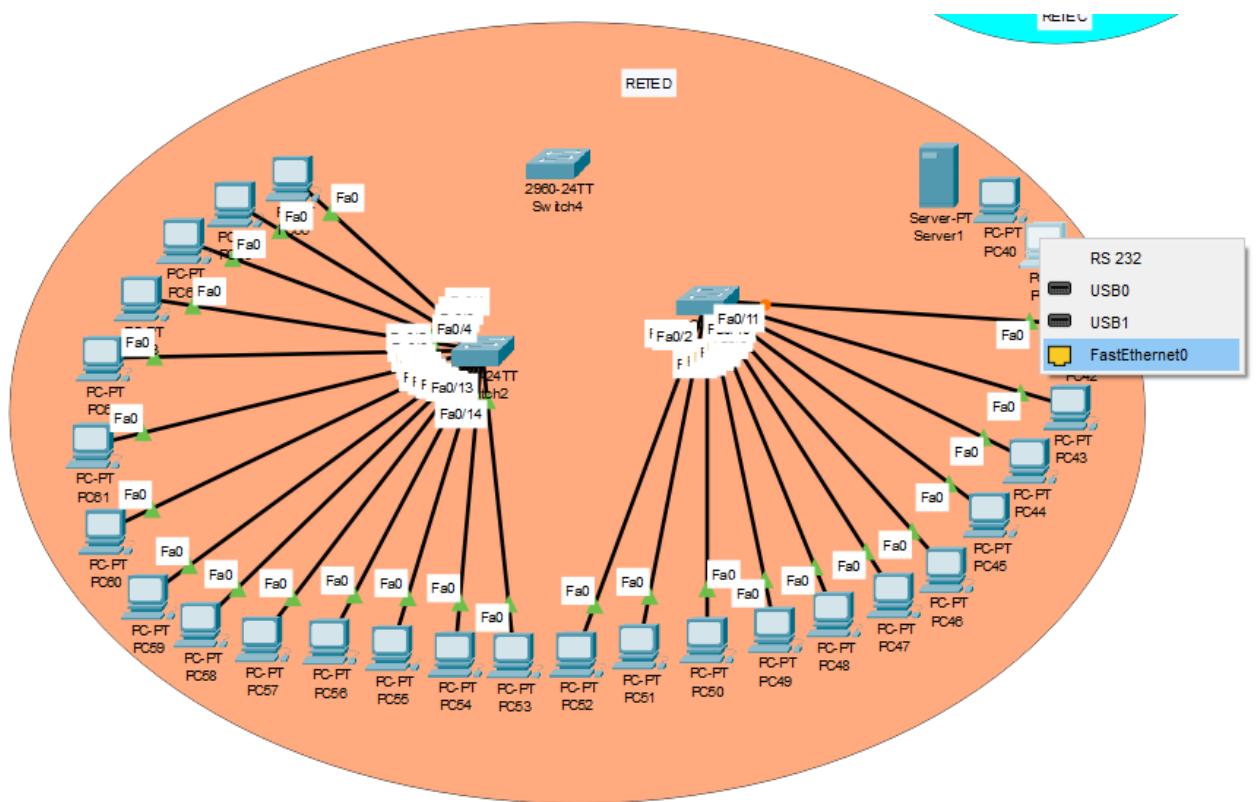


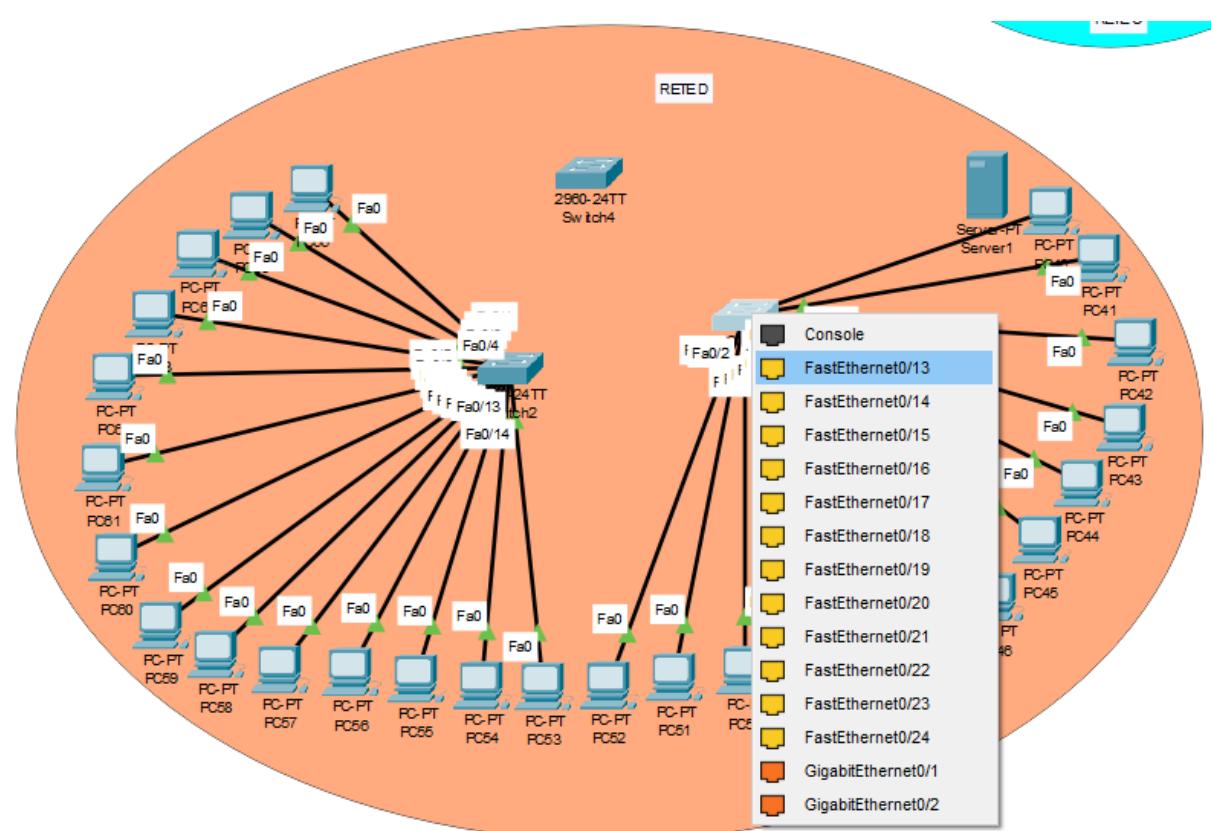
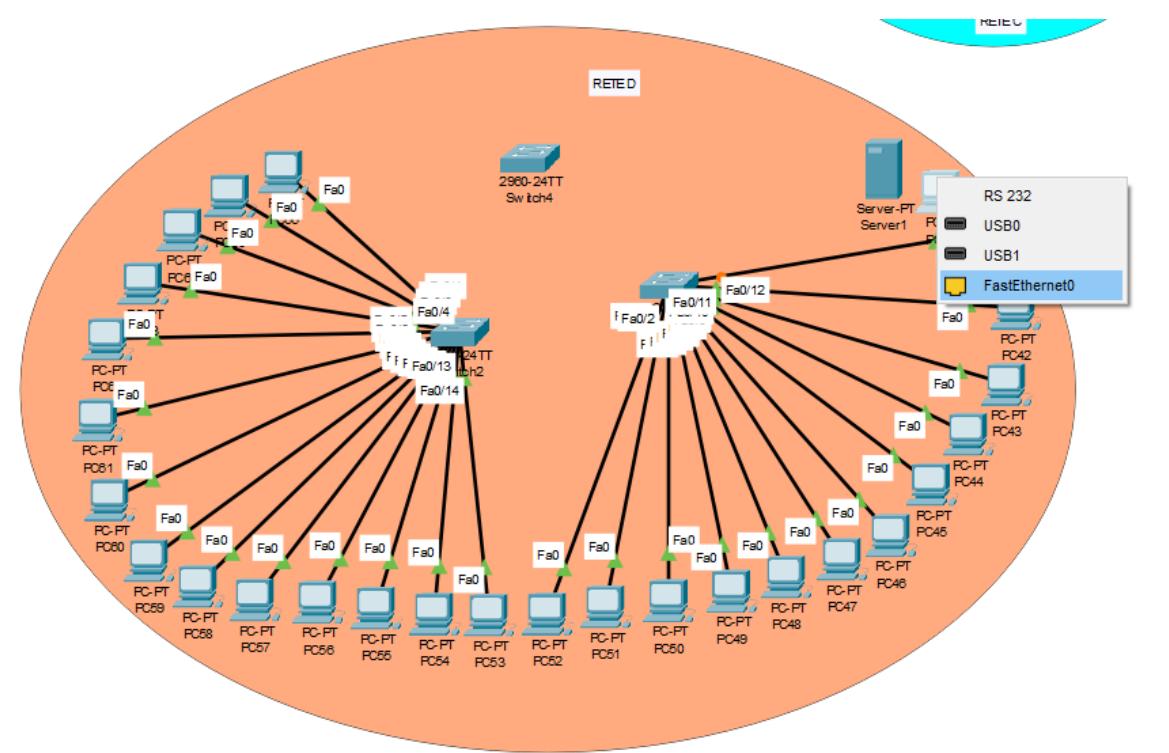
Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Del
Up	192.168.1.1	192.168.1.2	Unicast	Yellow	10	Yes	1		
Up	192.168.1.1	192.168.1.3	Unicast	Yellow	10	Yes	1		
Up	192.168.1.1	192.168.1.4	Unicast	Orange	10	Yes	1		
Up	192.168.1.1	192.168.1.5	Unicast	Orange	10	Yes	1		

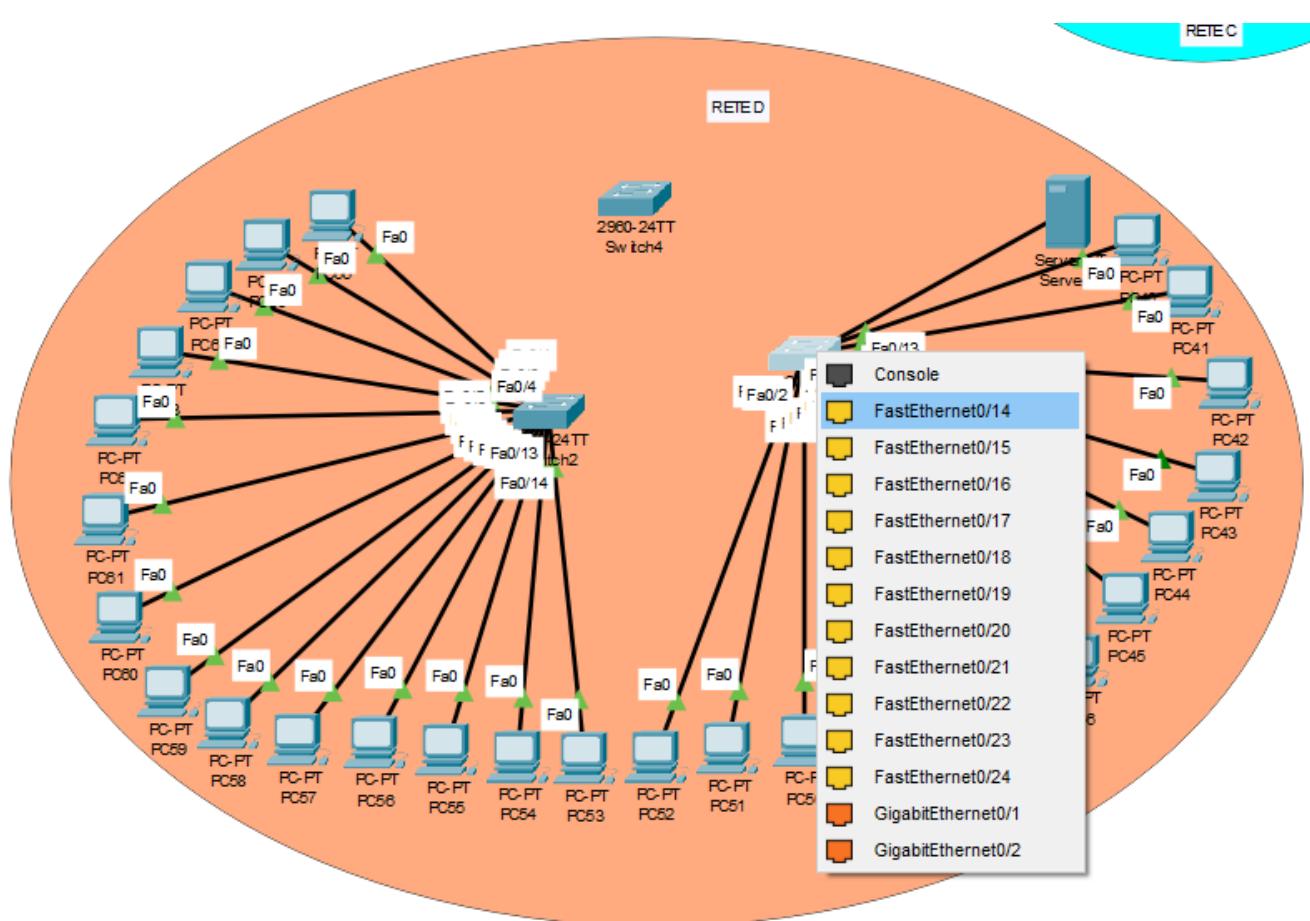
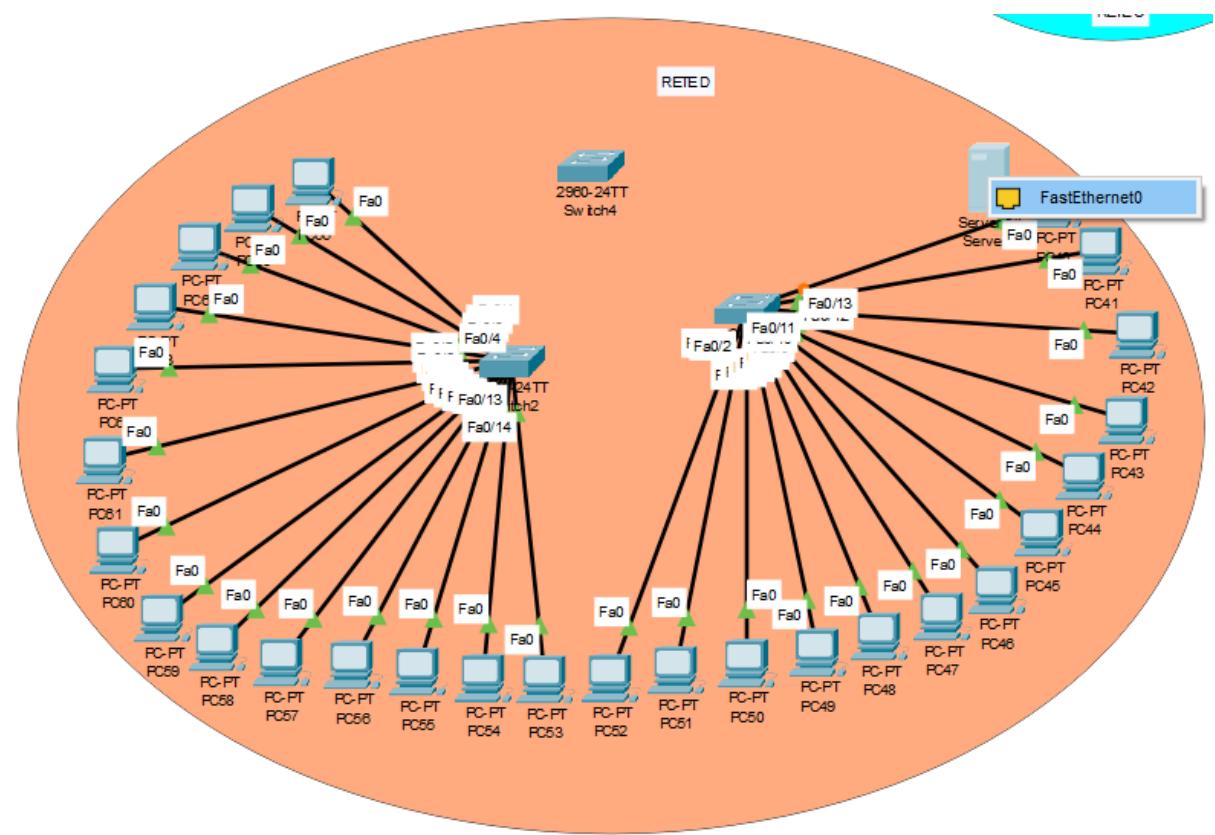


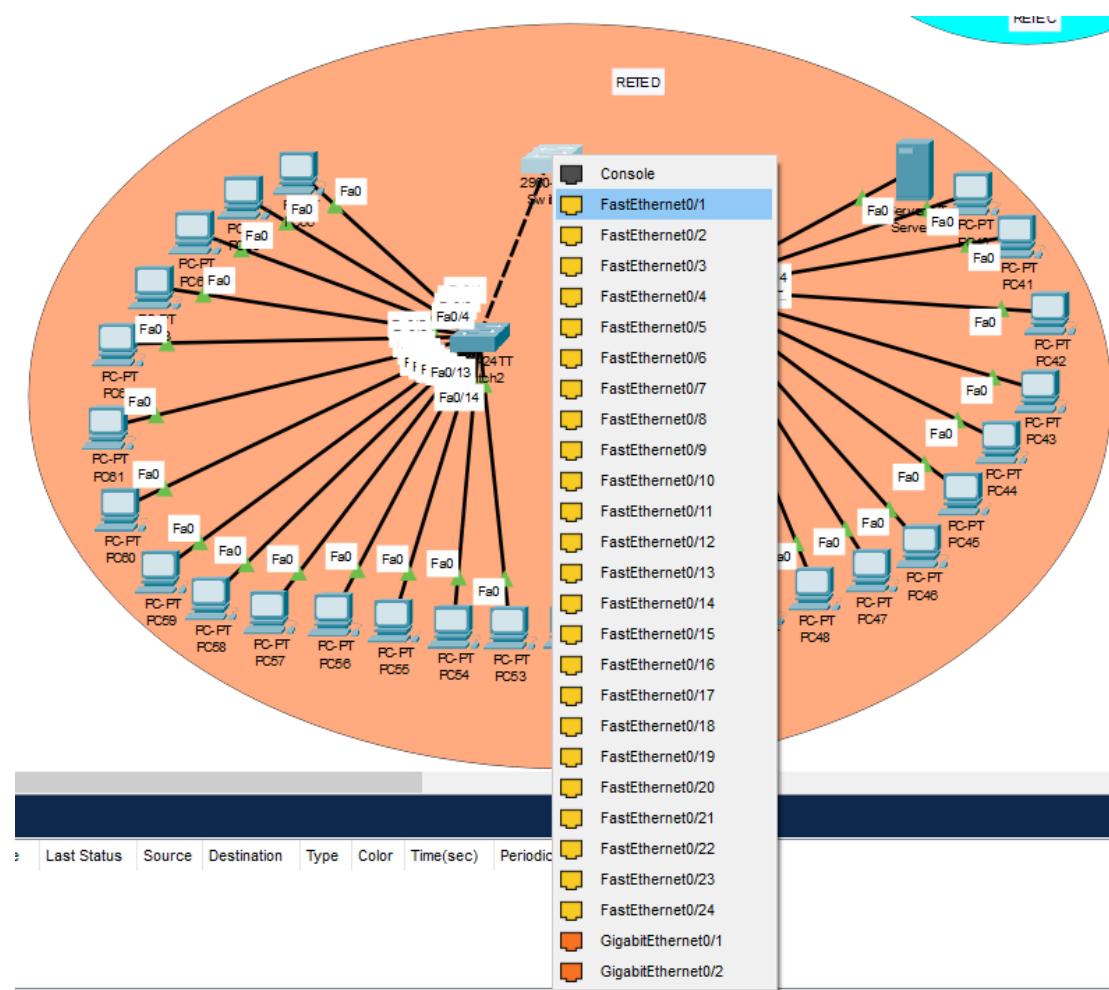
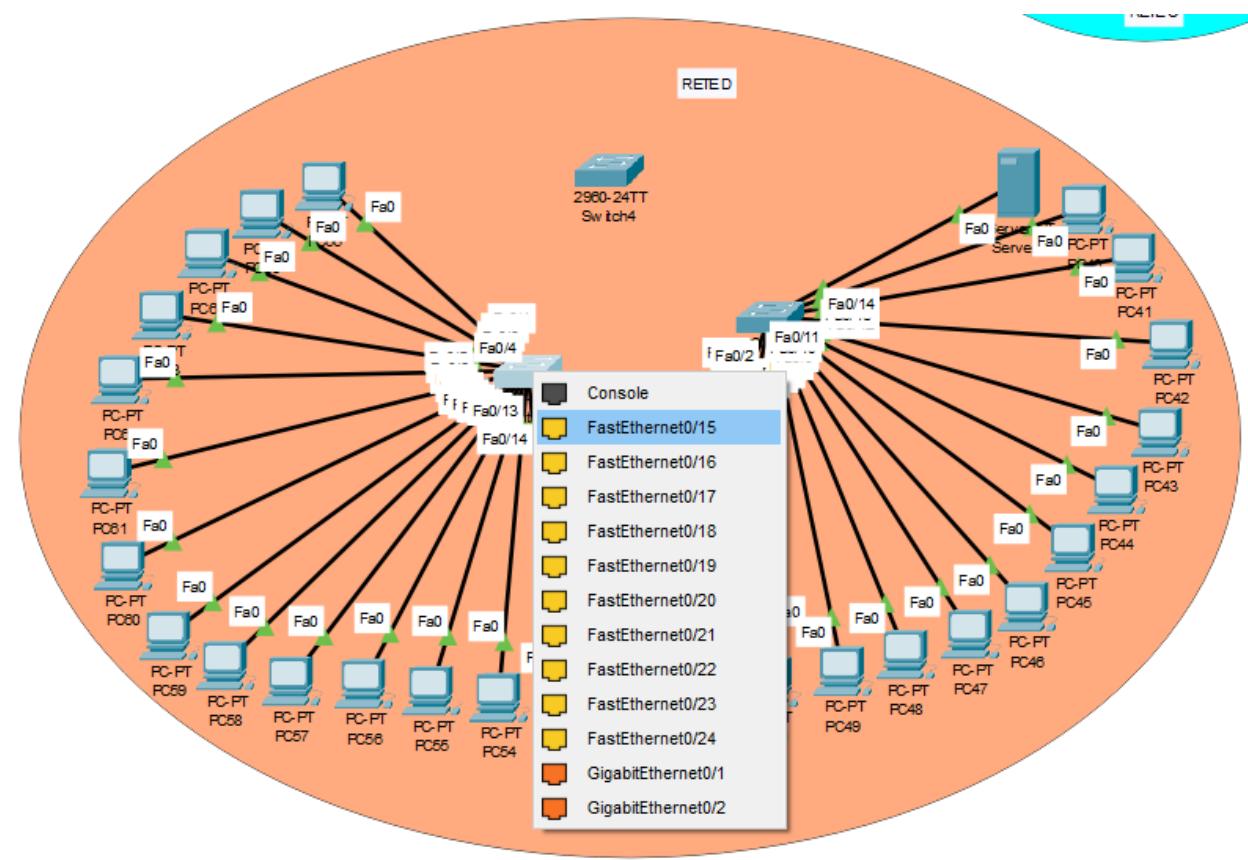
Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
-------------	--------	-------------	------	-------	-----------	----------	-----	------	--------

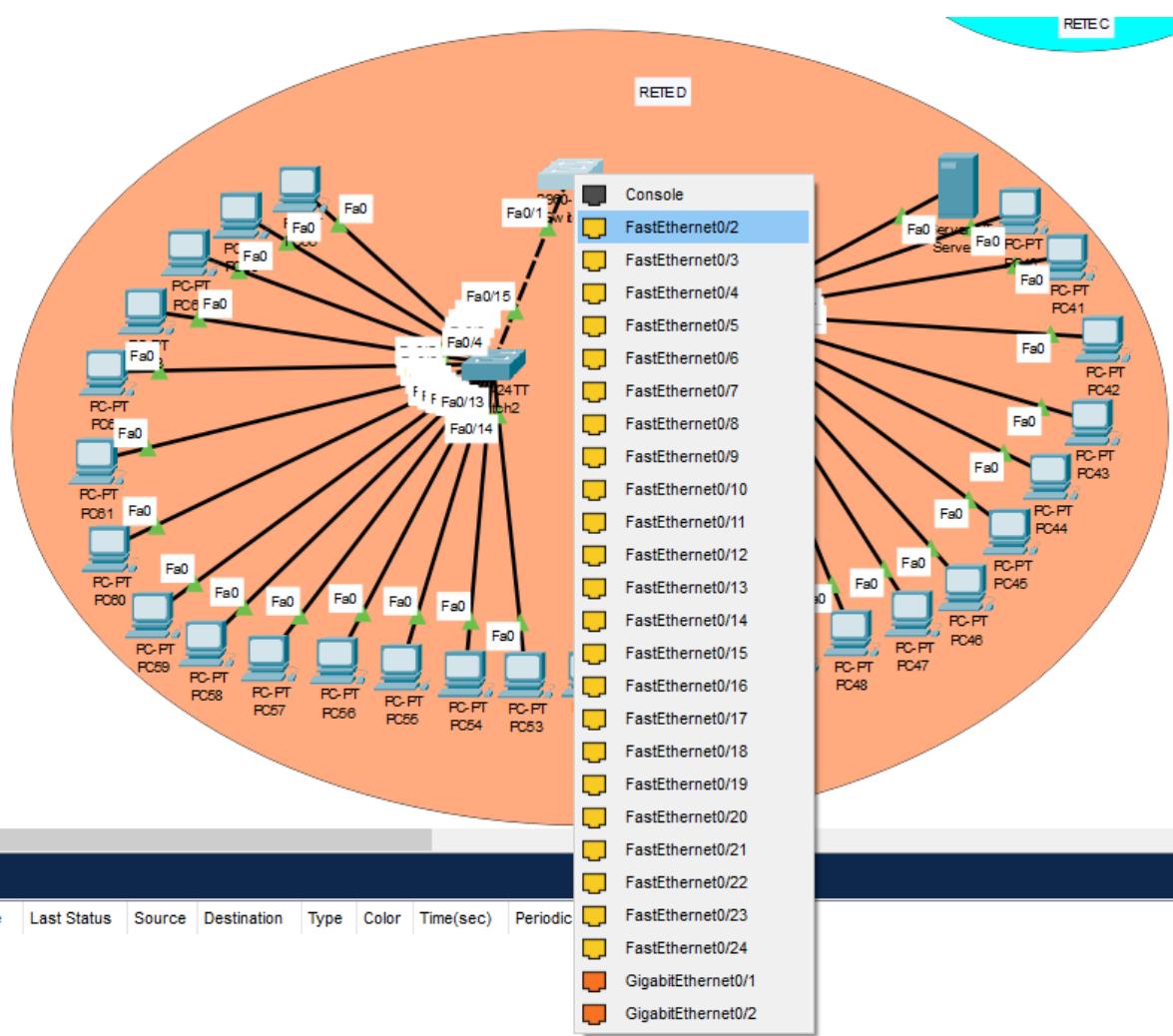
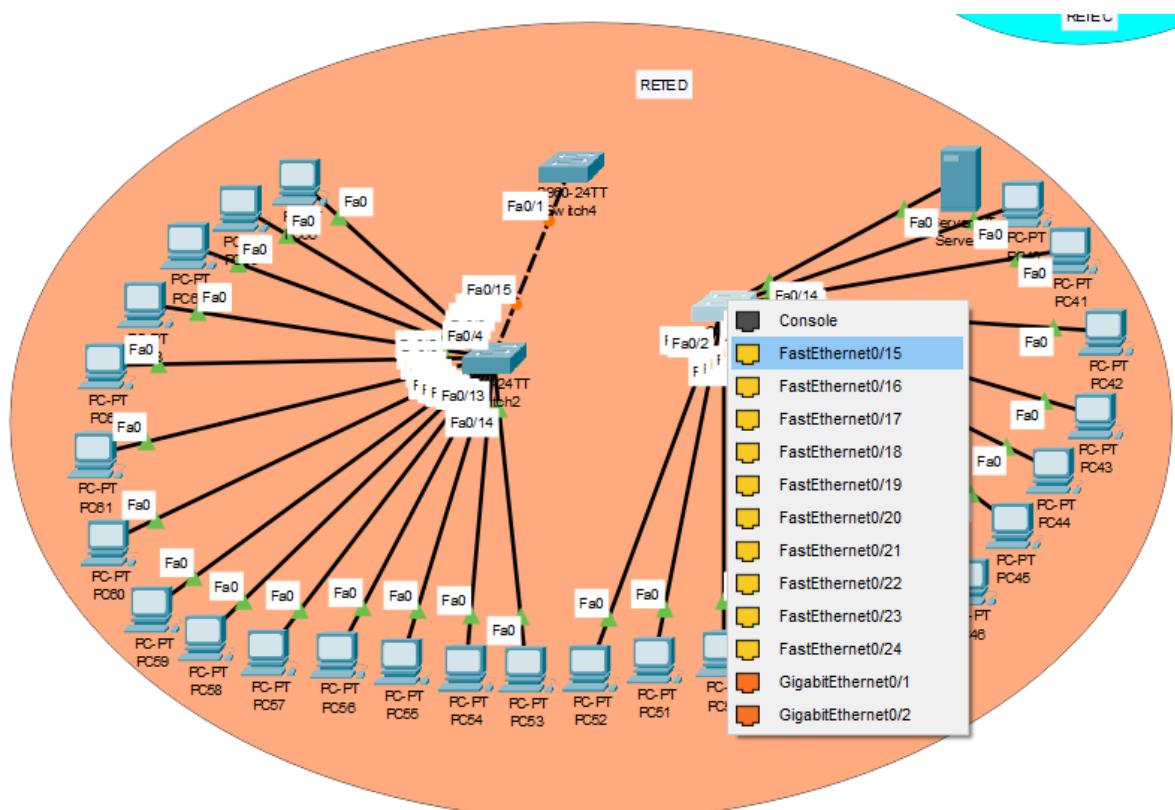






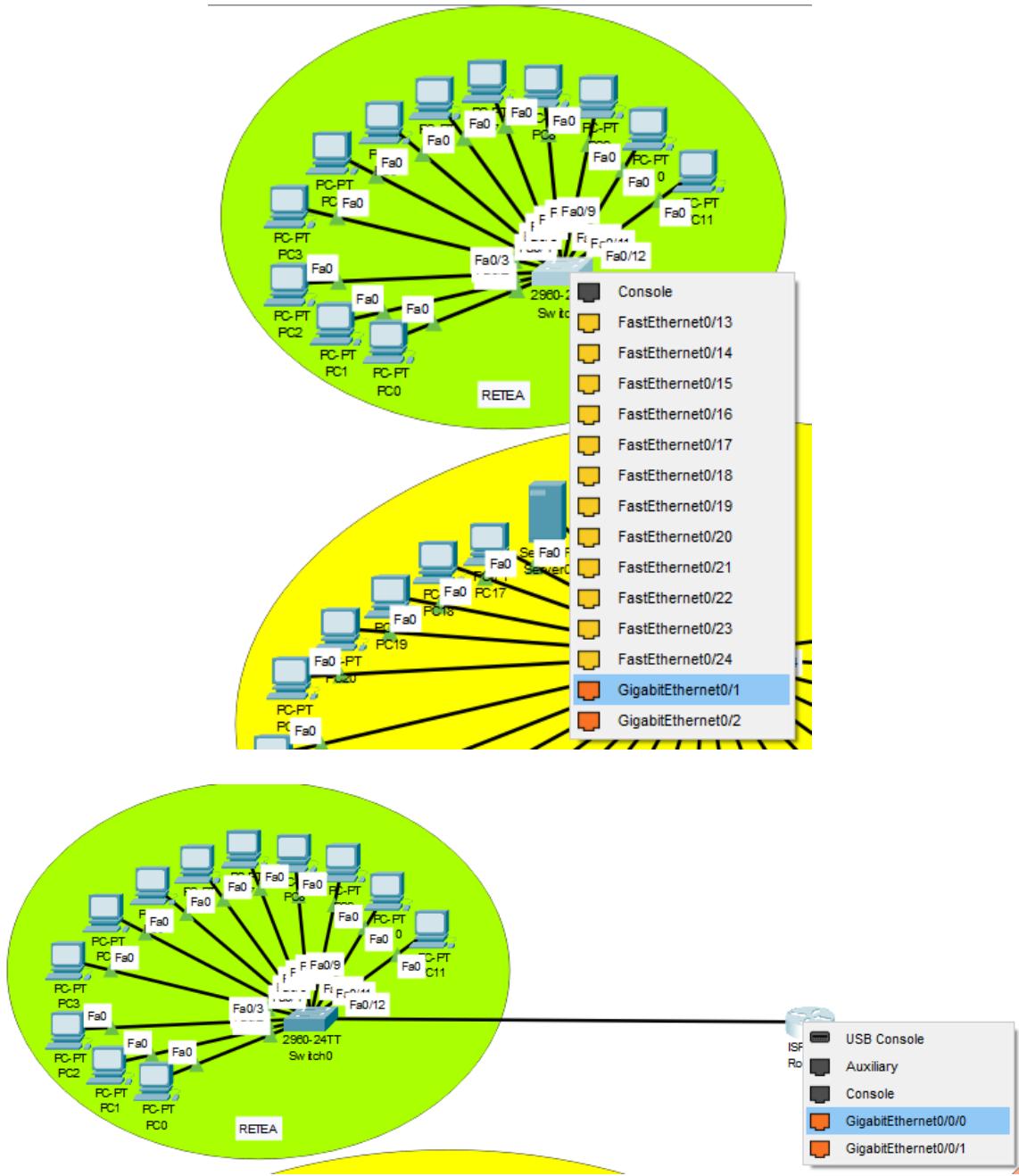






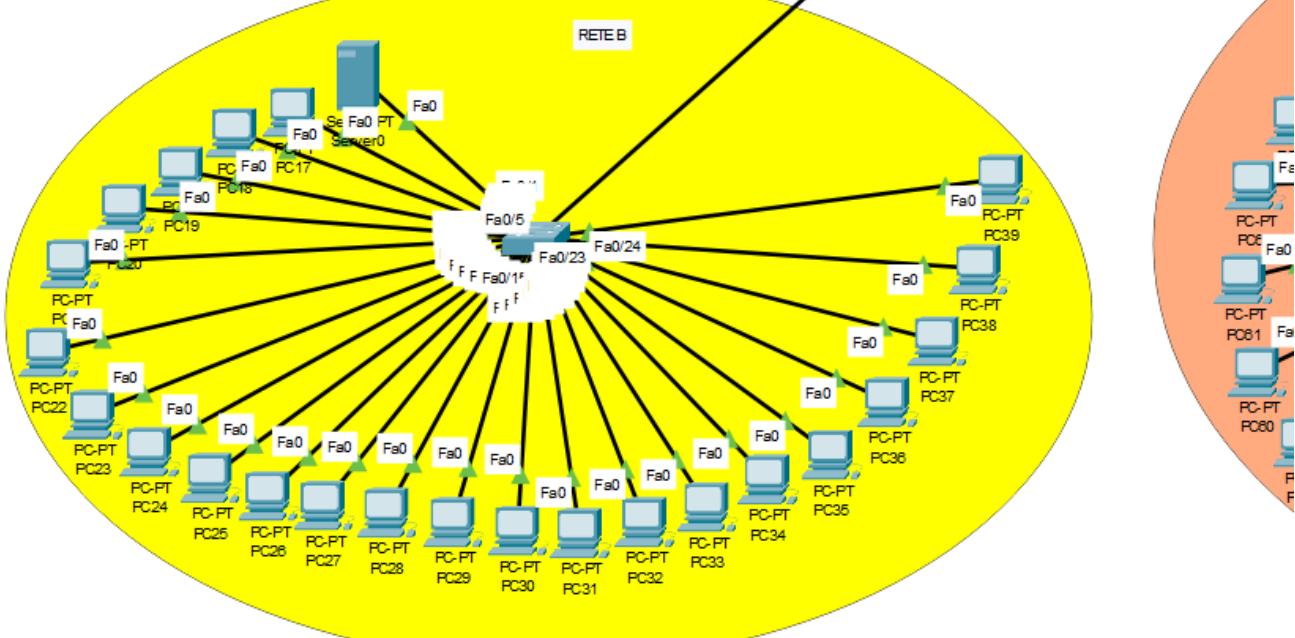
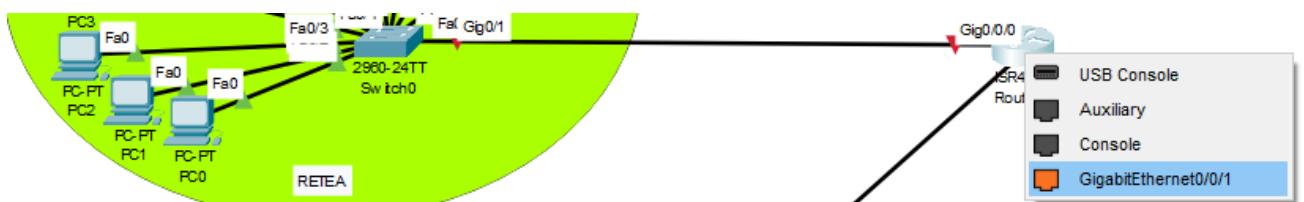
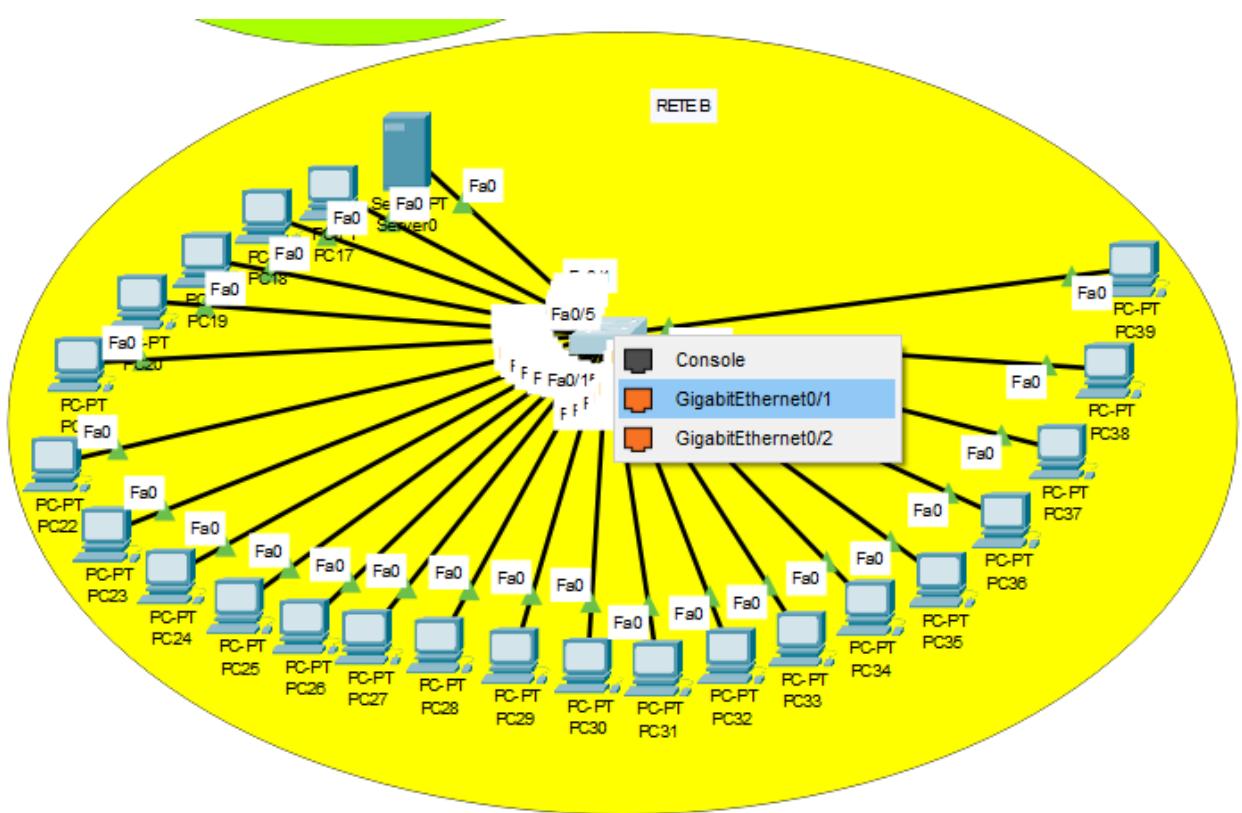
## SWITCH0 E ROUTERO:

- Collegare lo switch 2960-24TT (Switch0) al ISR4331 (Router0) utilizzando la porta GigabitEthernet0/1 dello switch e la porta GigabitEthernet0/0/0 del router con cavi copper straight-through.



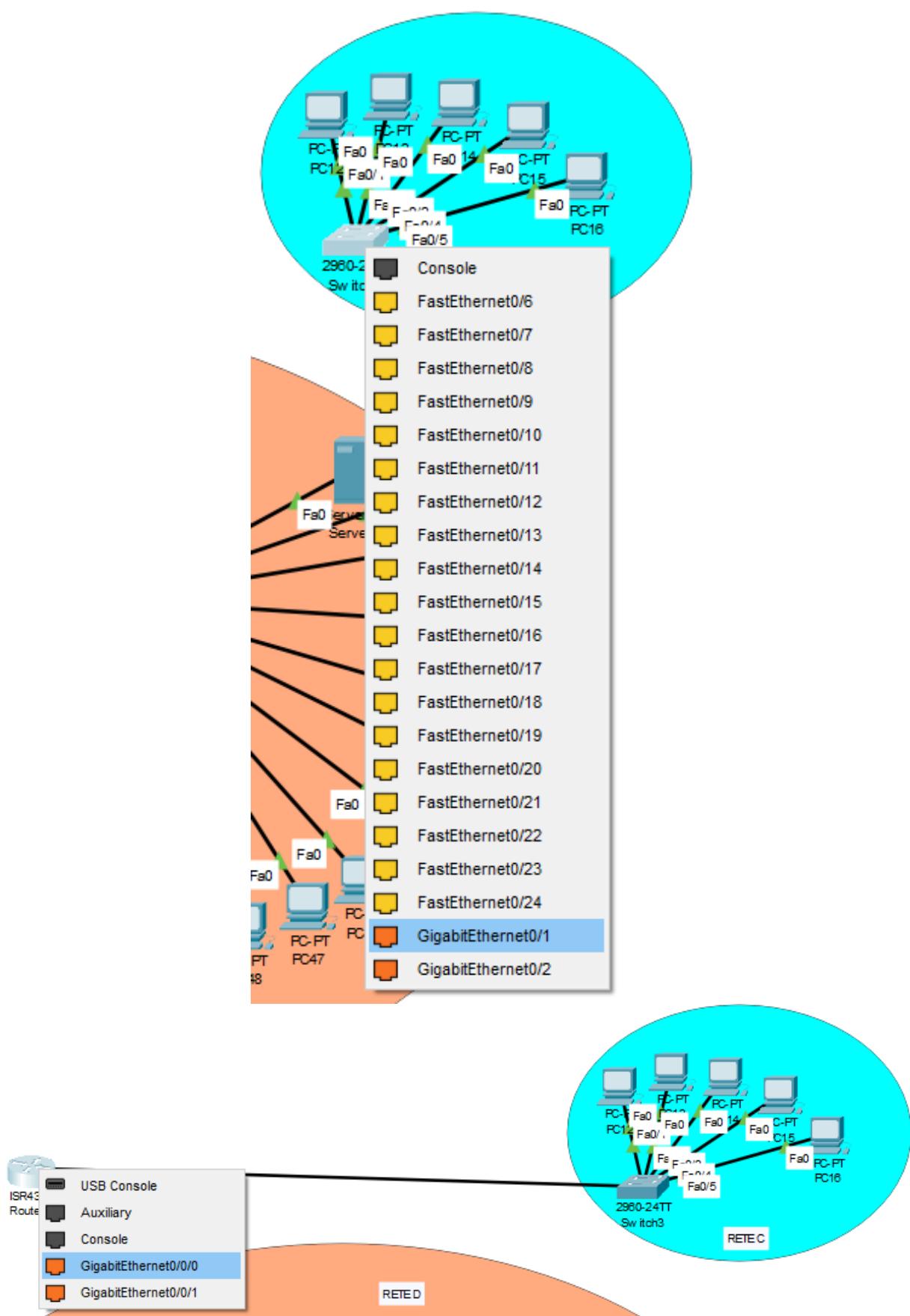
## SWITCH1 E ROUTERO:

- Collegare lo switch 2960-24TT (Switch1) al ISR4331 (Router0) utilizzando la porta GigabitEthernet0/1 dello switch e la porta GigabitEthernet0/0/1 del router con cavi copper straight-through.



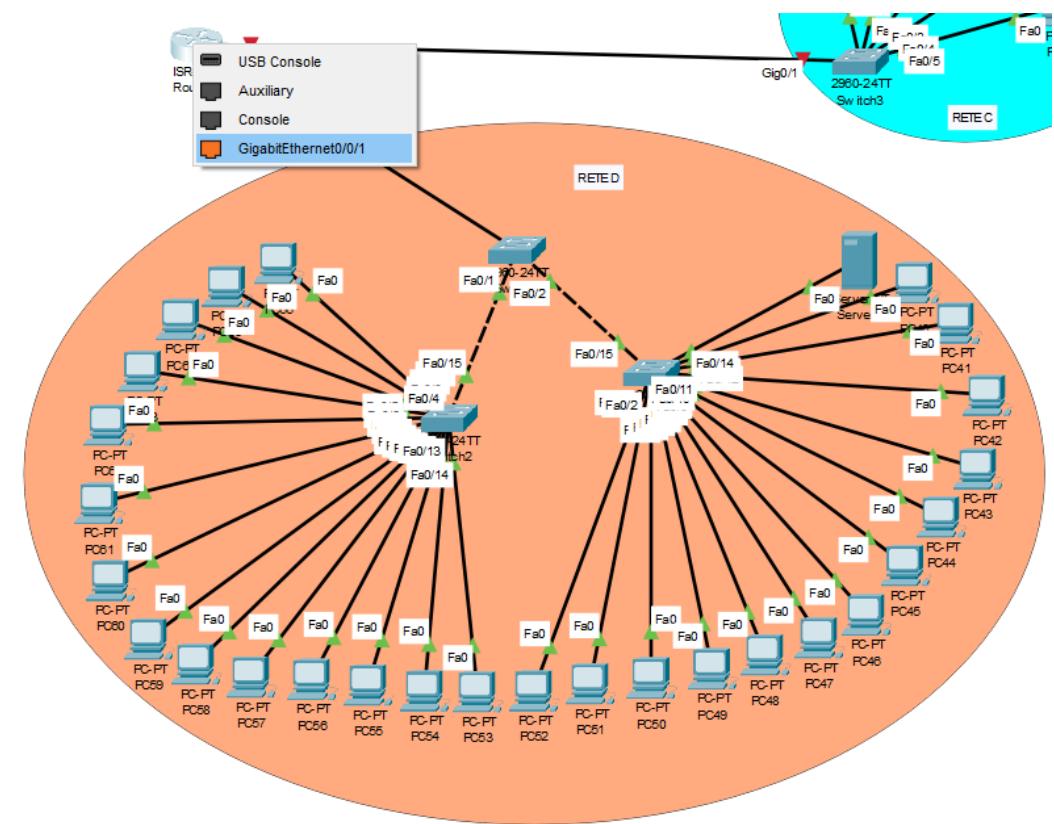
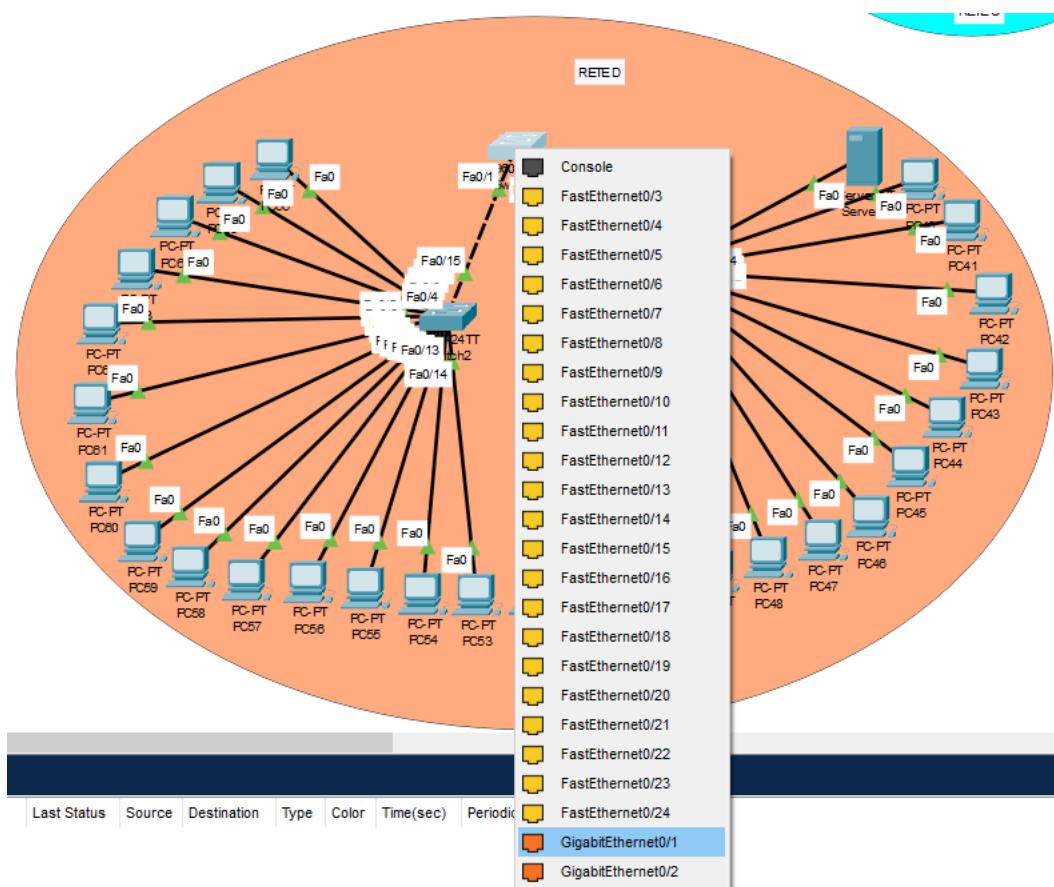
### SWITCH3 E ROUTER1:

- Collegare lo switch 2960-24TT (Switch3) al ISR4331 (Router1) utilizzando la porta GigabitEthernet0/1 dello switch e la porta GigabitEthernet0/0/0 del router con cavi copper straight-through.



## SWITCH4 E ROUTER1:

- Collegare lo switch 2960-24TT (Switch4) al ISR4331 (Router1) utilizzando la porta GigabitEthernet0/1 dello switch e la porta GigabitEthernet0/0/1 del router con cavi copper straight-through.

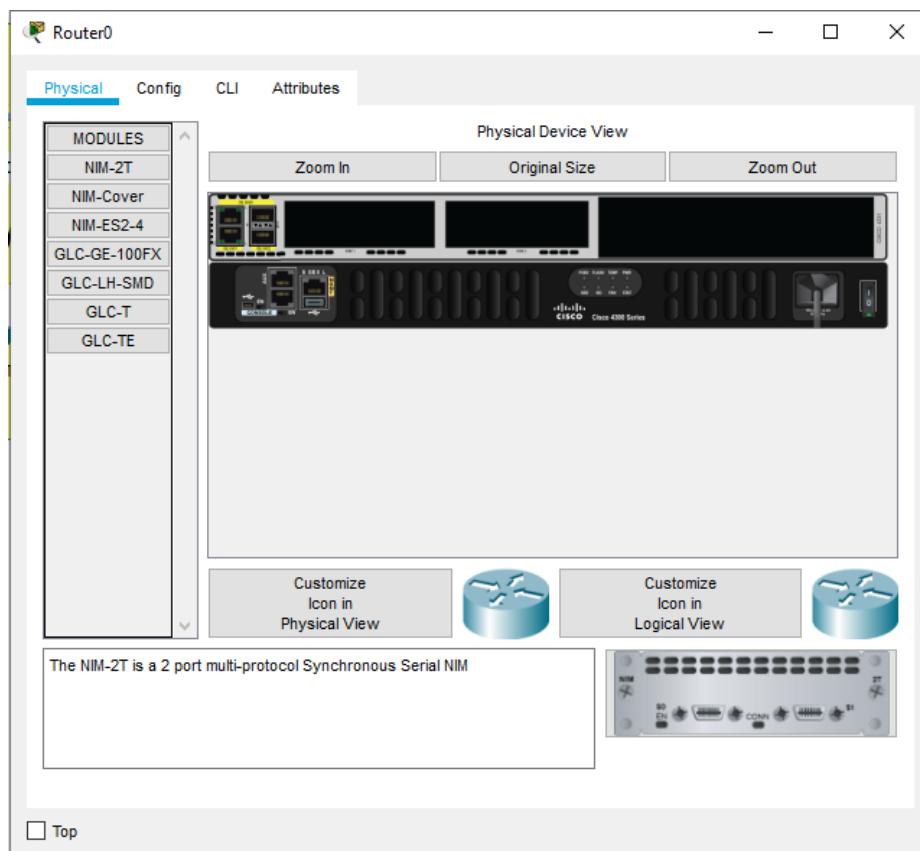


## ROUTER0 E ROUTER1:

- Collegare il Router0 (ISR4331) utilizzando la porta seriale DCE del Router0 e la porta DTE del router1 (ISR4331) con cavi Seriali DCE/DTE (prima di fare questo bisogna aggiungere le porte seriali ai Router).

### Aggiunta di una nuova porta Seriale:

Il router 4331 di base non dispone di porte seriali. È necessario aggiungere un modulo con porte seriali per migliorare la capacità di connettività e supportare configurazioni di rete avanzate.



## Procedura:

### 1. Spegnere il router 4331.

- Questo passaggio è essenziale per garantire la sicurezza durante l'installazione del nuovo modulo.

(acceso)

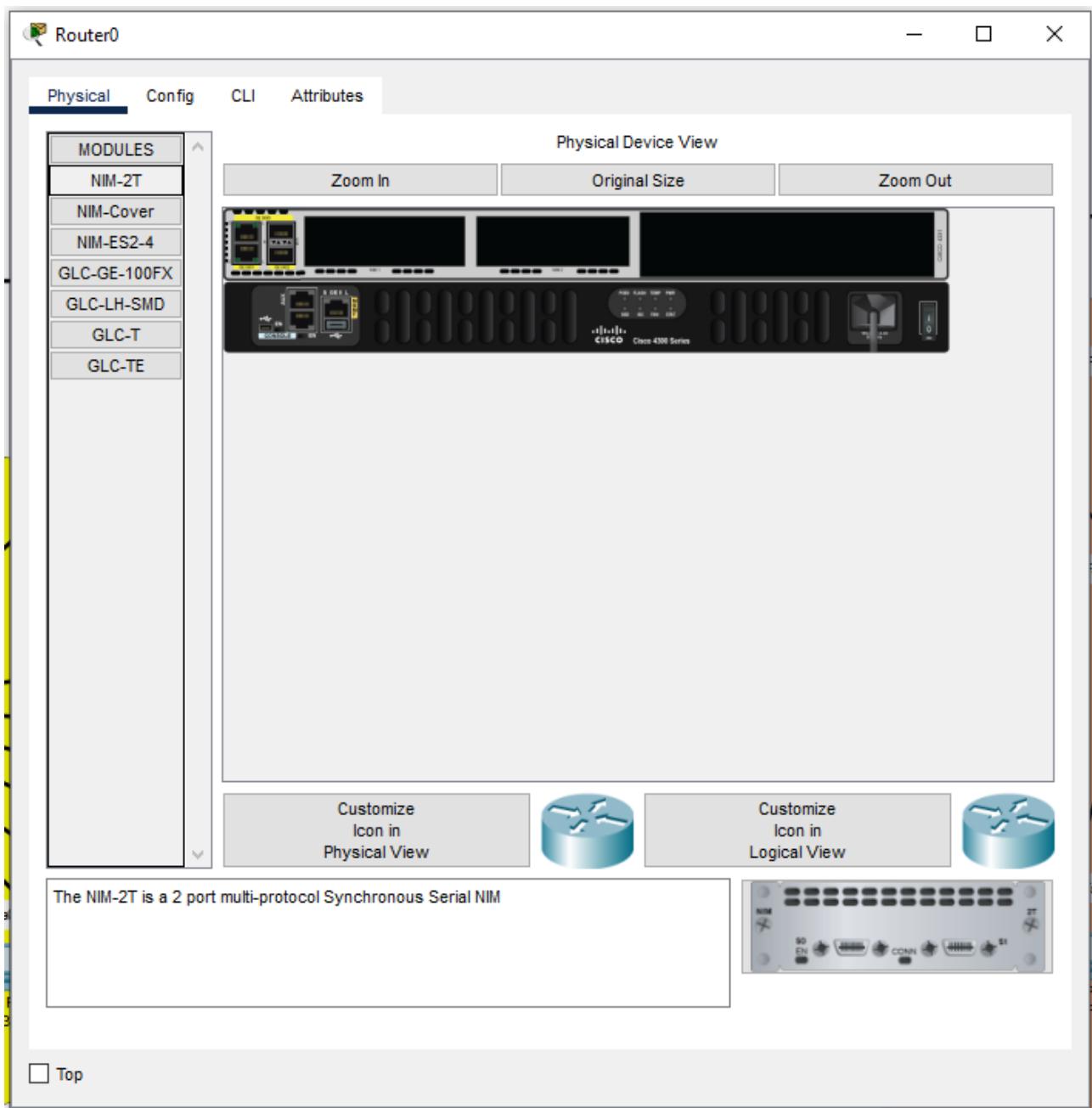


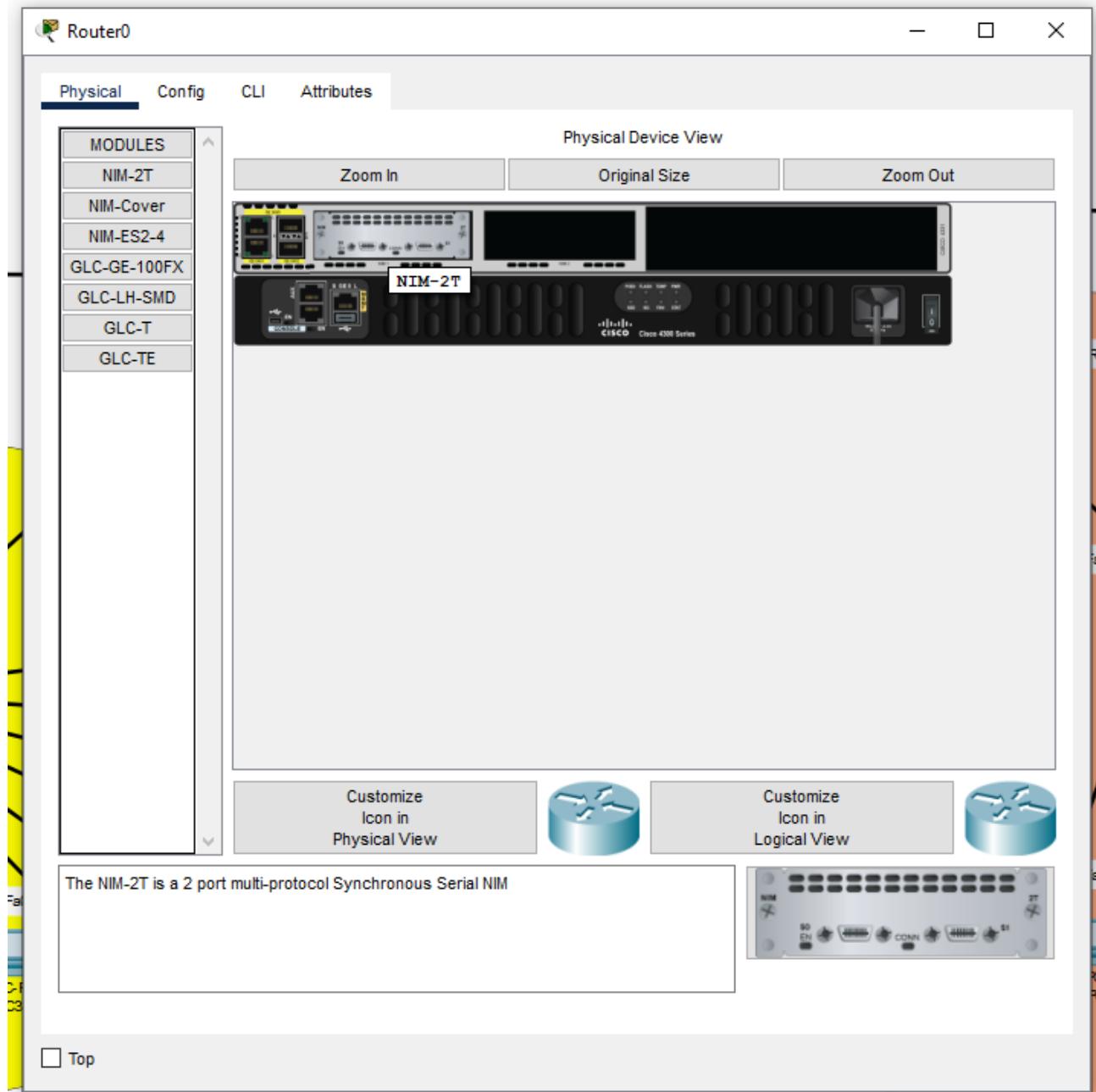
(spento)



## 2. Inserire il modulo NIM-2T nello slot libero.

- Il modulo NIM-2T fornirà due nuove porte seriali, aumentando così la capacità di connessione del router. Inserire il modulo nello slot con attenzione.

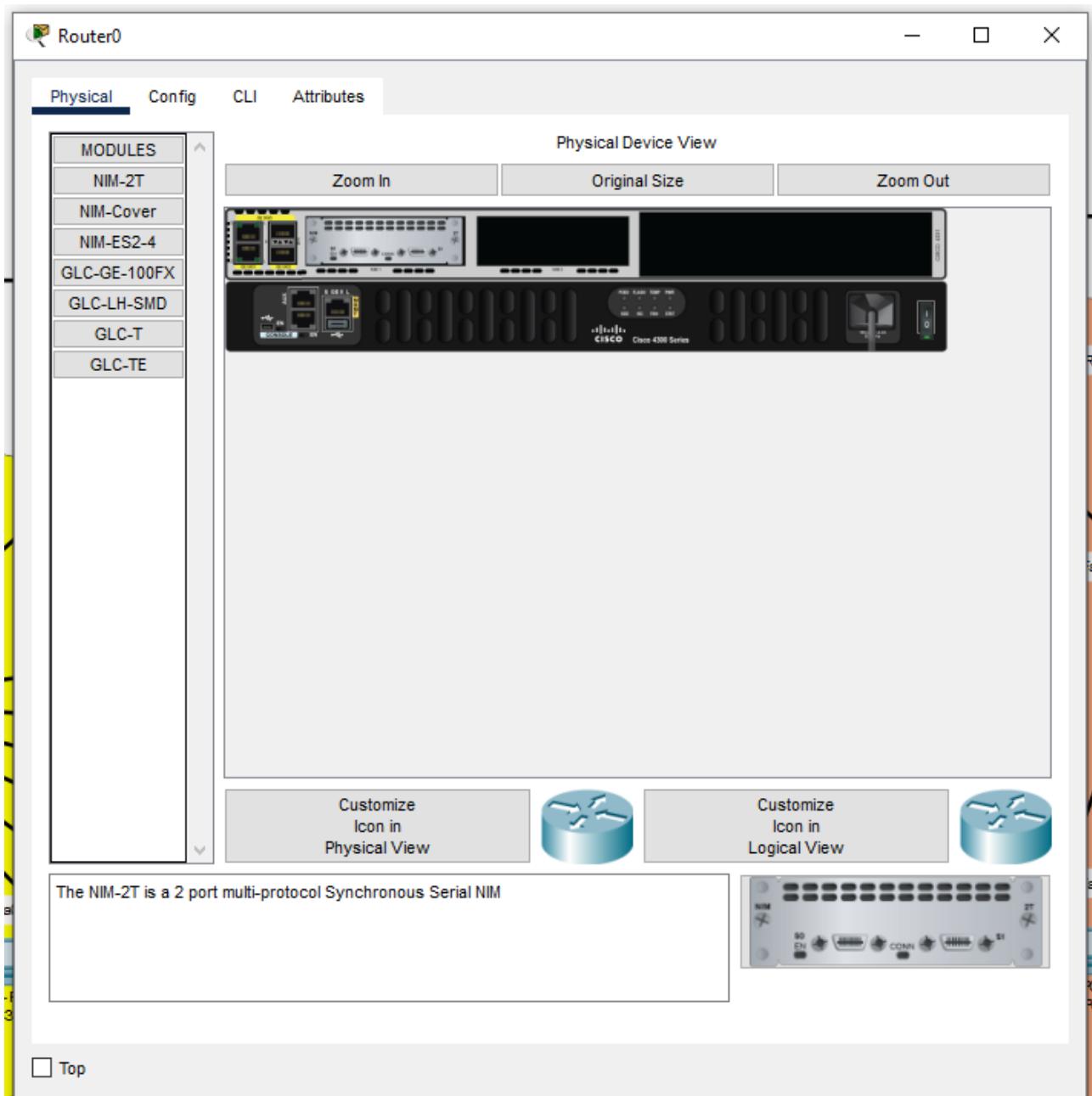




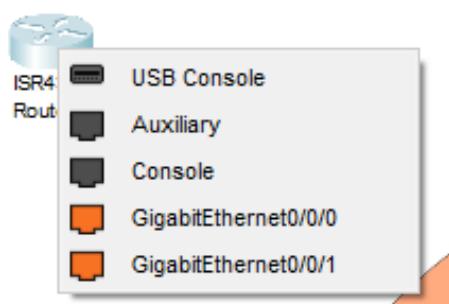
(controllare sempre l'interruttore per verificare se è spento)

### 3. Riaccendere il router.

- Questo passaggio finale consente al router di riconoscere e utilizzare le nuove porte seriali.

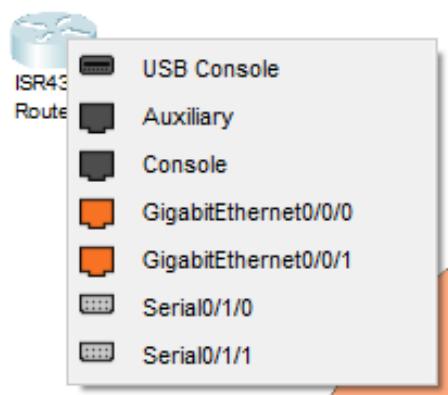


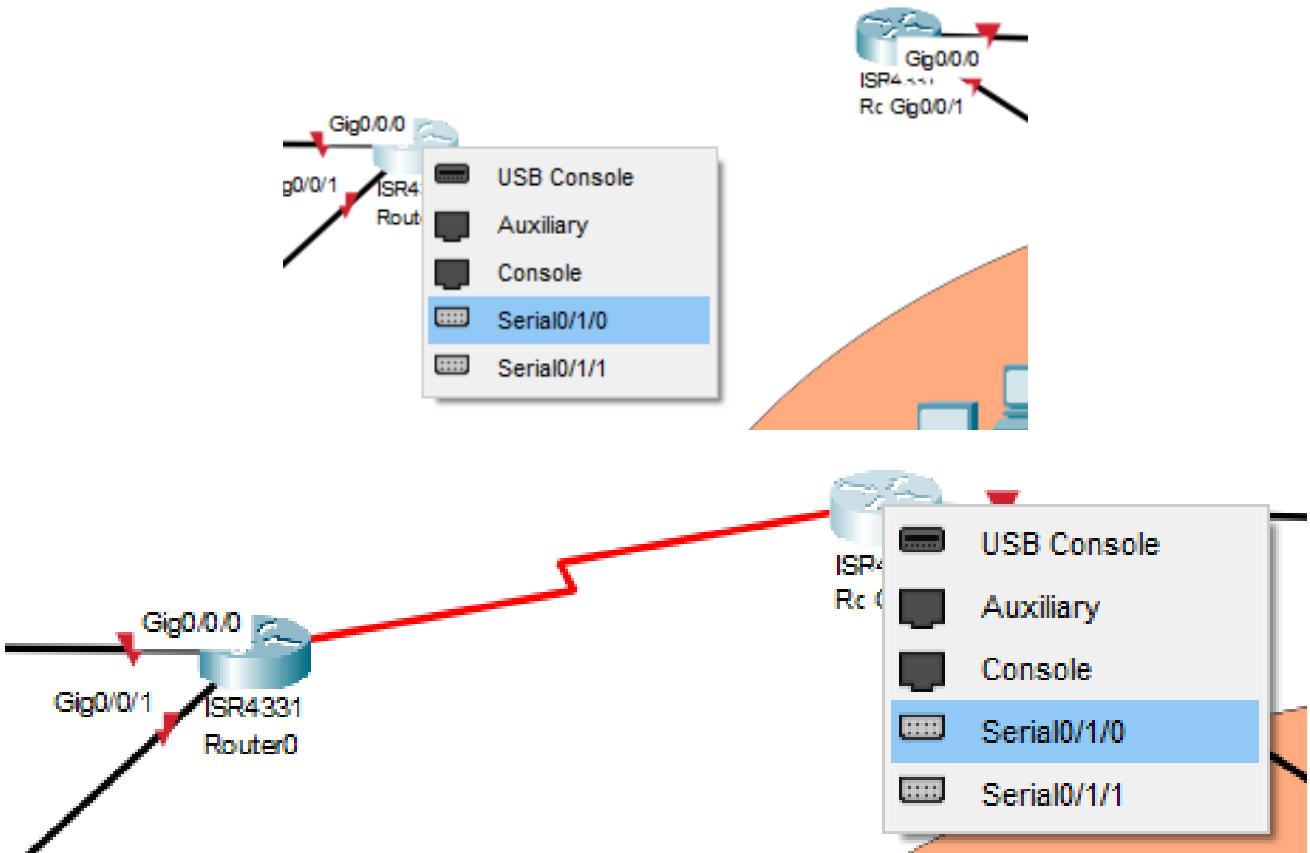
(l'interruttore torna verde)



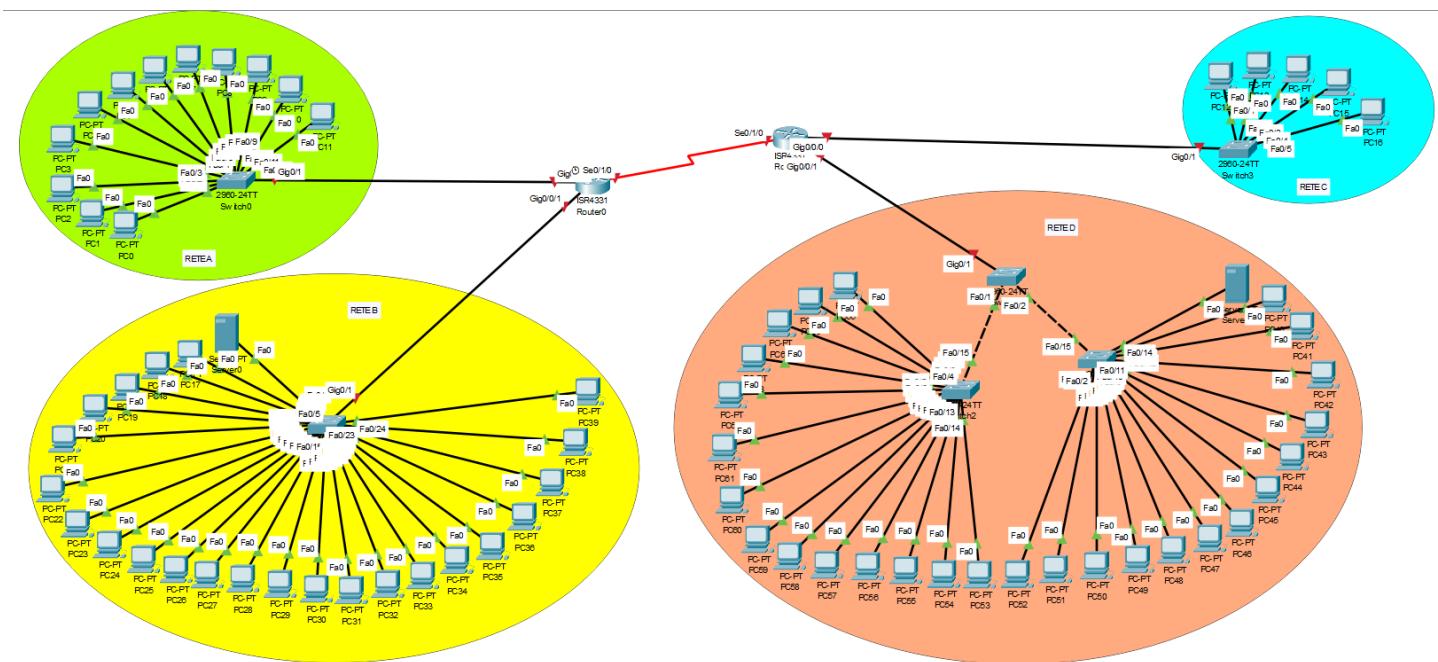
(notare che ora si hanno 2 porte seriali)

(Ripetere il procedimento per il Router1)





(il Router0 ha il cavo DTE e il Router1 il cavo DCE)



(risultato finale)

Nella rete scolastica progettata, ho scelto di utilizzare i cavi seriali per collegare i due router per diversi fattori tra cui:

- **La stabilità della connessione:** I cavi seriali garantiscono una trasmissione dati costante e affidabile, riducendo significativamente il rischio di interruzioni o interferenze, a differenza delle connessioni wireless che possono essere più vulnerabili a disturbi esterni.
- **La rapidità nella comunicazione:** Essendo connessioni dirette punto-punto, i cavi seriali offrono tempi di risposta più rapidi ed una fluidità nel trasferimento dei dati (è più facile l'invio dei dati da un punto all'altro), ideale per il coordinamento tra i router che gestiscono i diversi livelli dell'edificio.
- **L'adattabilità alla struttura:** Per una rete relativamente compatta come questa, i cavi seriali risultano particolarmente efficaci, fornendo una soluzione pratica e funzionale per il collegamento dei dispositivi principali della scuola.
- **La compatibilità tecnica:** Le porte seriali, comunemente disponibili sui router per connessioni WAN, permettono di sfruttare appieno le potenzialità di questi cavi senza richiedere modifiche aggiuntive all'hardware.
- **L'economicità:** I cavi seriali rappresentano un'alternativa conveniente rispetto ad altre tecnologie più avanzate come la fibra ottica, consentendo di mantenere un buon rapporto qualità-prezzo senza compromettere le prestazioni della rete.

## Configurare le Porte Seriali dei due Router (Router0 e Router1):

### 1. Accedere al terminale del router:

- a. Selezionare il router.
- b. Andare alla scheda "CLI".

The screenshot shows a window titled "Router0" with a tab bar at the top containing "Physical", "Config", "CLI" (which is selected), and "Attributes". Below the tabs is a header "IOS Command Line Interface". The main area displays the following text:

```
Press RETURN to get started!
Router>
Router>exit

Router con0 is now available

Press RETURN to get started.

Router>
```

At the bottom right of the main window are "Copy" and "Paste" buttons. At the bottom left is a "Top" button.

## 2. Accedere alla Modalità Privilegiata:

- a. Digitare il comando enable e premere Invio.
- b. Il prompt cambia da Router> a Router#.

Router0

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router>
Router>exit

Router con0 is now available

Press RETURN to get started.

Router>enable
Router#
```

Top

**3. Accedere alla Modalità di Configurazione Globale:**

- a. Digitare il comando configure terminal e premere Invio.
- b. Il prompt cambia da Router# a Router(config)#.

The screenshot shows the Router0 CLI interface. The title bar says "Router0". The menu bar has tabs: Physical, Config, CLI (which is selected), and Attributes. The main window is titled "IOS Command Line Interface". The command history and output area shows:

```
Router>
Router>exit
Router con0 is now available
Press RETURN to get started.

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#[
```

At the bottom right of the main window are "Copy" and "Paste" buttons. At the bottom left is a "Top" button.

#### 4. Configurare le Interfacce Seriali:

- Configurare l'interfaccia Serial0/1/0 del **Router0 (DCE)**:
  - a) interface Serial0/1/0
  - b) ip address 200.20.5.1 255.255.255.252
  - c) Impostare il clock rate: clock rate 64000
  - d) no shutdown
  - e) exit

Router0

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Router con0 is now available

Press RETURN to get started.

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 200.20.5.1 255.255.255.252
Router(config-if)#clock rate 64000
Router(config-if)#no shutdown

Router(config-if)#
*LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

*LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up
exit
Router(config)#

```

Top

Copy Paste

- Configurare l'interfaccia Serial0/1/0 del **Router1 (DTE)**:
  - f) interface Serial0/1/0
  - g) ip address 200.20.5.2 255.255.255.252
  - h) no shutdown
  - i) exit

The screenshot shows a window titled "Router1" with a tab bar containing "Physical", "Config", "CLI" (which is selected), and "Attributes". Below the tab bar is a header "IOS Command Line Interface". The main area of the window displays the following text:

```
Router con0 is now available

Press RETURN to get started.

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 200.20.5.2 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#

```

At the bottom right of the window are "Copy" and "Paste" buttons. At the bottom left is a checkbox labeled "Top" with a checked mark.

## 5. Salvare la Configurazione:

- Digitare il comando write memory per salvare le modifiche.

## Assegnazione degli indirizzi IP tramite la schermata “Config”:

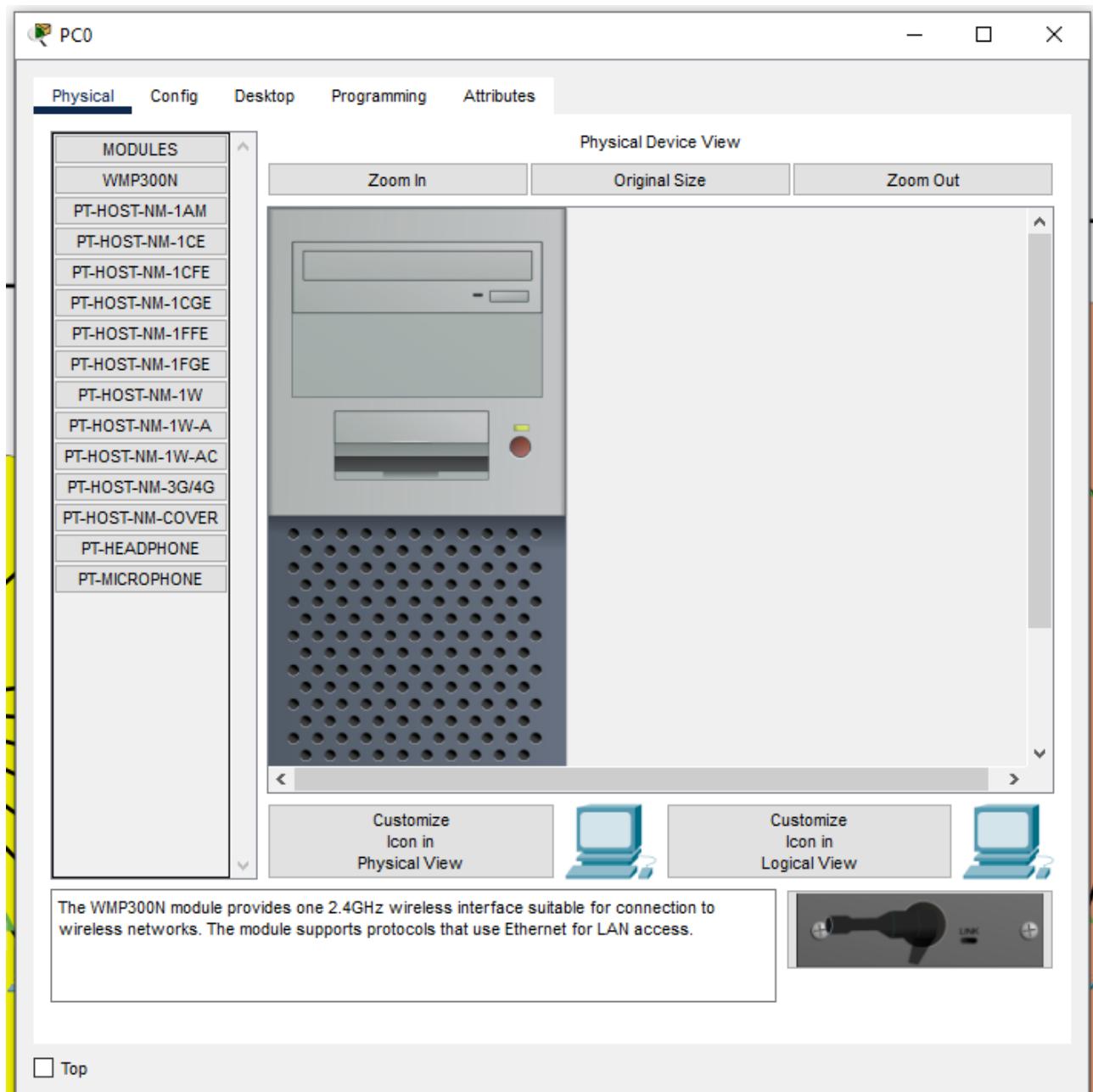
### Piano di Indirizzamento:

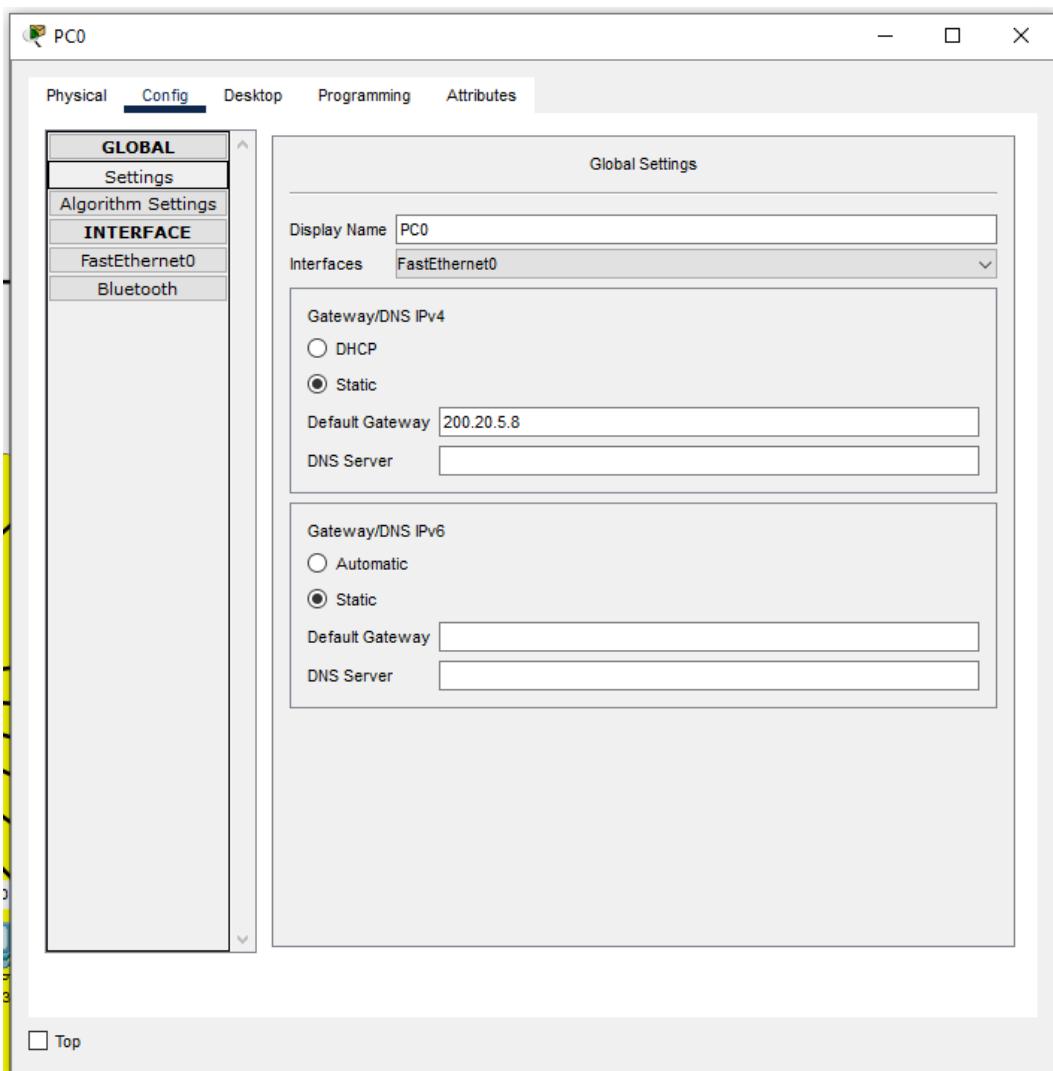
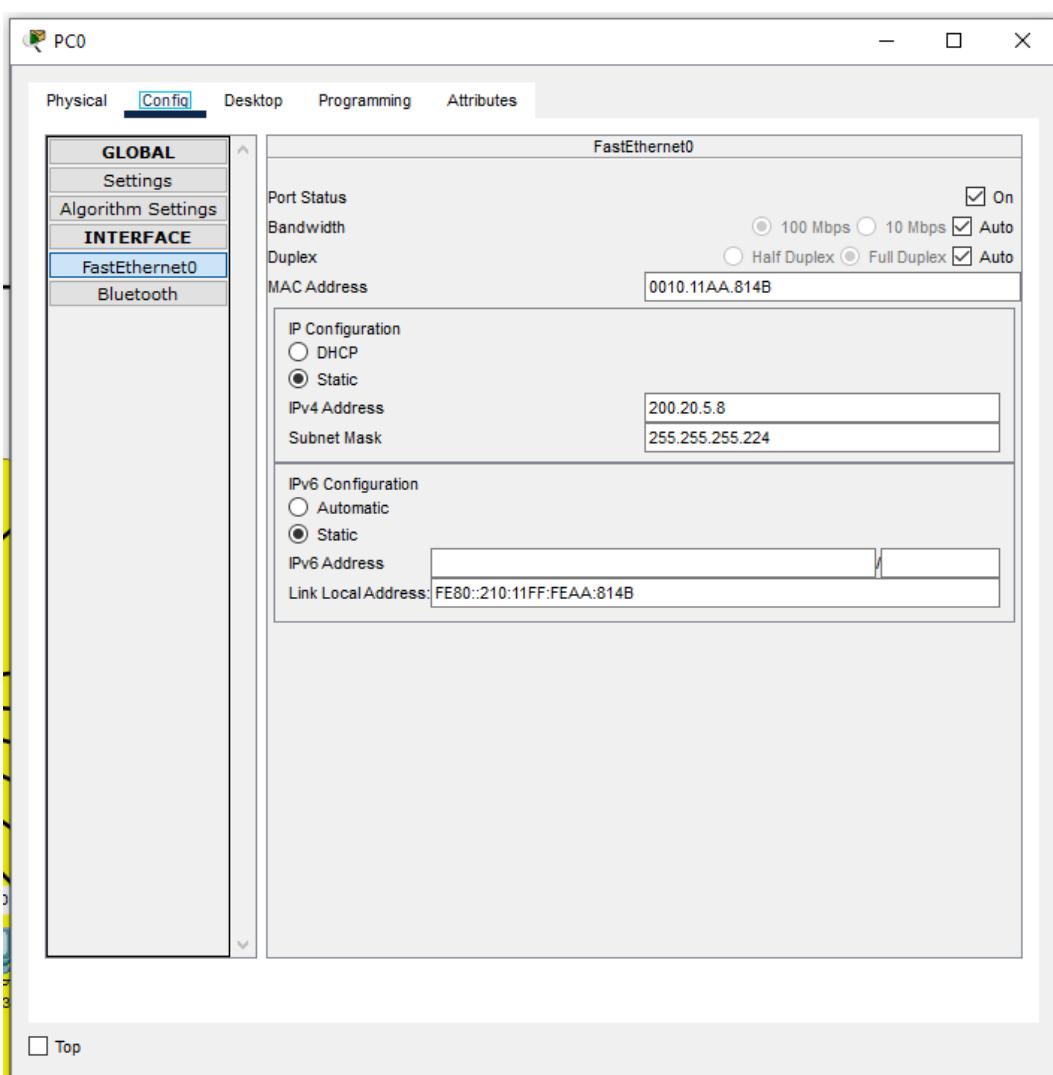
- 1. Rete A (12 host):**
  - **Subnet Mask: 255.255.255.224 (/27)**
  - **Indirizzo di rete: 200.20.5.8**
  - **Indirizzo di broadcast: 200.20.5.39**
  - **Indirizzi utilizzabili: da 200.20.5.9 a 200.20.5.38 (totale 30 indirizzi, 28 utilizzabili)**
  - **Gateway: 200.20.5.9**
- 2. Rete B (24 host e server):**
  - **Subnet Mask: 255.255.255.224 (/27)**
  - **Indirizzo di rete: 200.20.5.36**
  - **Indirizzo di broadcast: 200.20.5.67**
  - **Indirizzi utilizzabili: da 200.20.5.37 a 200.20.5.66 (totale 30 indirizzi, 28 utilizzabili)**
  - **Server: 200.20.5.37**
  - **Gateway: 200.20.5.38**
- 3. Rete C (5 host):**
  - **Subnet Mask: 255.255.255.248 (/29)**
  - **Indirizzo di rete: 200.20.5.52**
  - **Indirizzo di broadcast: 200.20.5.59**
  - **Indirizzi utilizzabili: da 200.20.5.53 a 200.20.5.58 (totale 8 indirizzi, 6 utilizzabili)**
  - **Gateway: 200.20.5.53**
- 4. Rete D (28 host e server):**
  - **Subnet Mask: 255.255.255.224 (/27)**
  - **Indirizzo di rete: 200.20.5.76**
  - **Indirizzo di broadcast: 200.20.5.107**
  - **Indirizzi utilizzabili: da 200.20.5.77 a 200.20.5.106 (totale 30 indirizzi, 28 utilizzabili)**
  - **Server: 200.20.5.77**
  - **Gateway: 200.20.5.78**
- 5. Rete E (Punto-punto tra Router0 e Router1):**
  - **Subnet Mask: 255.255.255.252 (/30)**
  - **Indirizzo di rete: 200.20.5.0**
  - **Indirizzo di broadcast: 200.20.5.3**
  - **Indirizzi assegnati:**

- Router0 (DCE): 200.20.5.1
- Router1 (DTE): 200.20.5.2

## RETE A:

1. Fare clic sul PC (PC-PT PC0 nel primo caso).
2. Nella finestra che si apre, andare alla scheda "Config".  
Fare clic su "FastEthernet0".
3. Inserire i seguenti dettagli:
  - a. **IPv4 Address:** 200.20.5.8
  - b. **Subnet Mask:** 255.255.255.224
4. Andare poi su “settings” e nel riquadro del Default Gateway inserire il seguente dettaglio:  
a. **Default Gateway:** 200.20.5.9





(replicarlo per gli altri PC-PT della RETE Acambiando l'IP e mantenendo la Subnet Mask 255.255.255.224 e il Gateway 200.20.5.9)

#### RETE B:

1. Fare clic sul PC (PC-PT PC17 nel primo caso).
2. Nella finestra che si apre, andare alla scheda "Config".  
Fare clic su "FastEthernet0".
3. Inserire i seguenti dettagli:
  - a. **IPv4 Address:** 200.20.5.37
  - b. **Subnet Mask:** 255.255.255.224
4. **Andare poi su “settings” e nel riquadro del Default Gateway inserire il seguente dettaglio:**
  - a. **Default Gateway:** 200.20.5.38

(stesso procedimento è valido per gli altri PC-PT della RETE 2 cambiando l'IP e mantenendo la Subnet Mask 255.255.255.224 e il Gateway 200.20.5.38)

Per il Server della RETE B:

1. Fare clic sul server (Server-PT Server0).
2. Nella finestra che si apre, andare alla scheda "Config".
3. Fare clic su "FastEthernet0".
4. Inserire i seguenti dettagli:
  - a. **IPv4 Address:** 200.20.5.37
  - b. **Subnet Mask:** 255.255.255.224
5. Andare poi su "Settings" e nel riquadro del Default Gateway inserire il seguente dettaglio:
  - a. **Default Gateway:** 200.20.5.38

Server0

Physical Config Services Desktop Programming Attributes

MODULES

- WMP300N
- PT-HOST-NM-1CE
- PT-HOST-NM-1CFE
- PT-HOST-NM-1CGE
- PT-HOST-NM-1FFE
- PT-HOST-NM-1FGE
- PT-HOST-NM-1W
- PT-HOST-NM-1W-A
- PT-HOST-NM-1W-AC
- PT-HOST-NM-3G/4G
- PT-HOST-NM-COVER

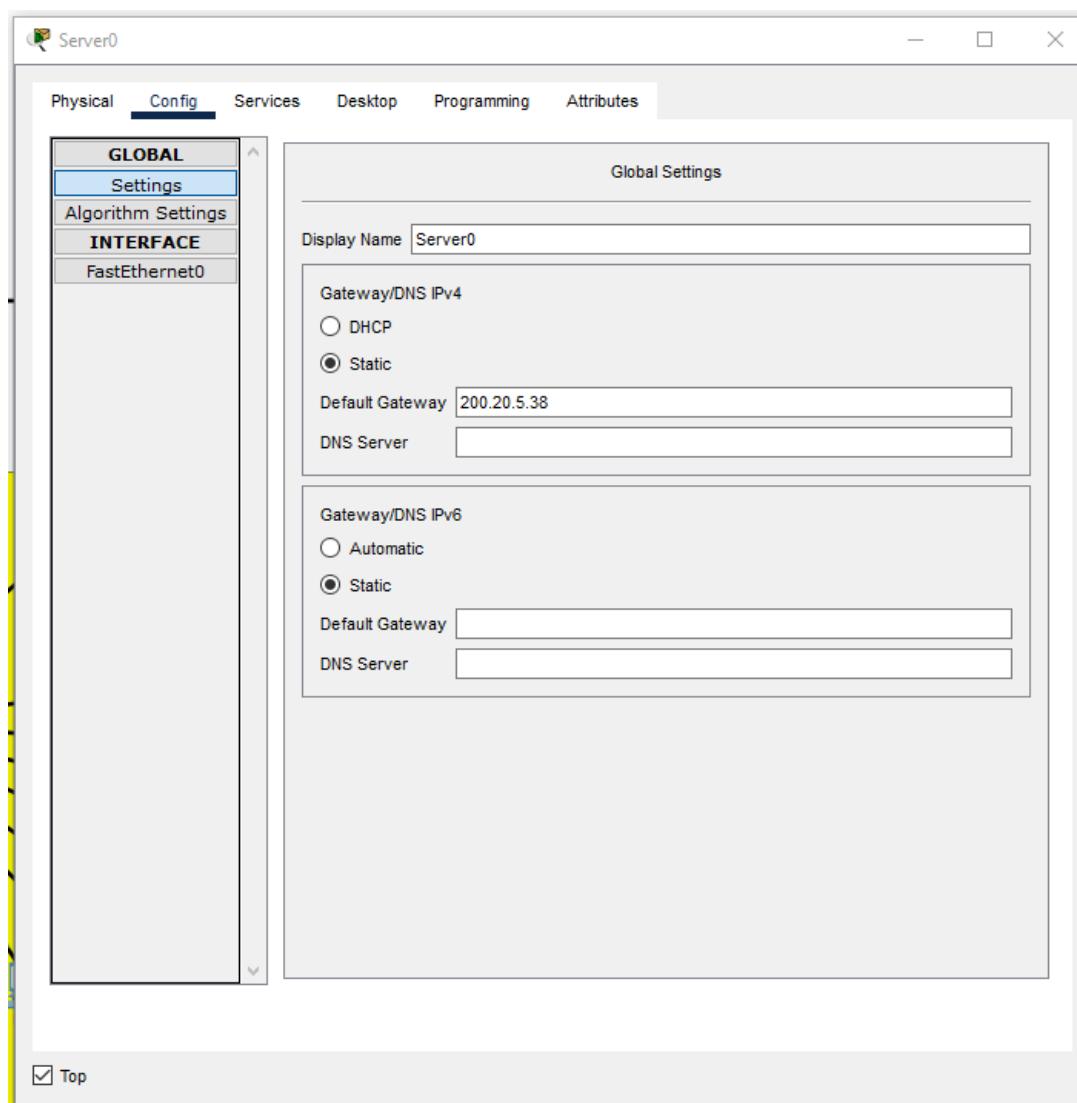
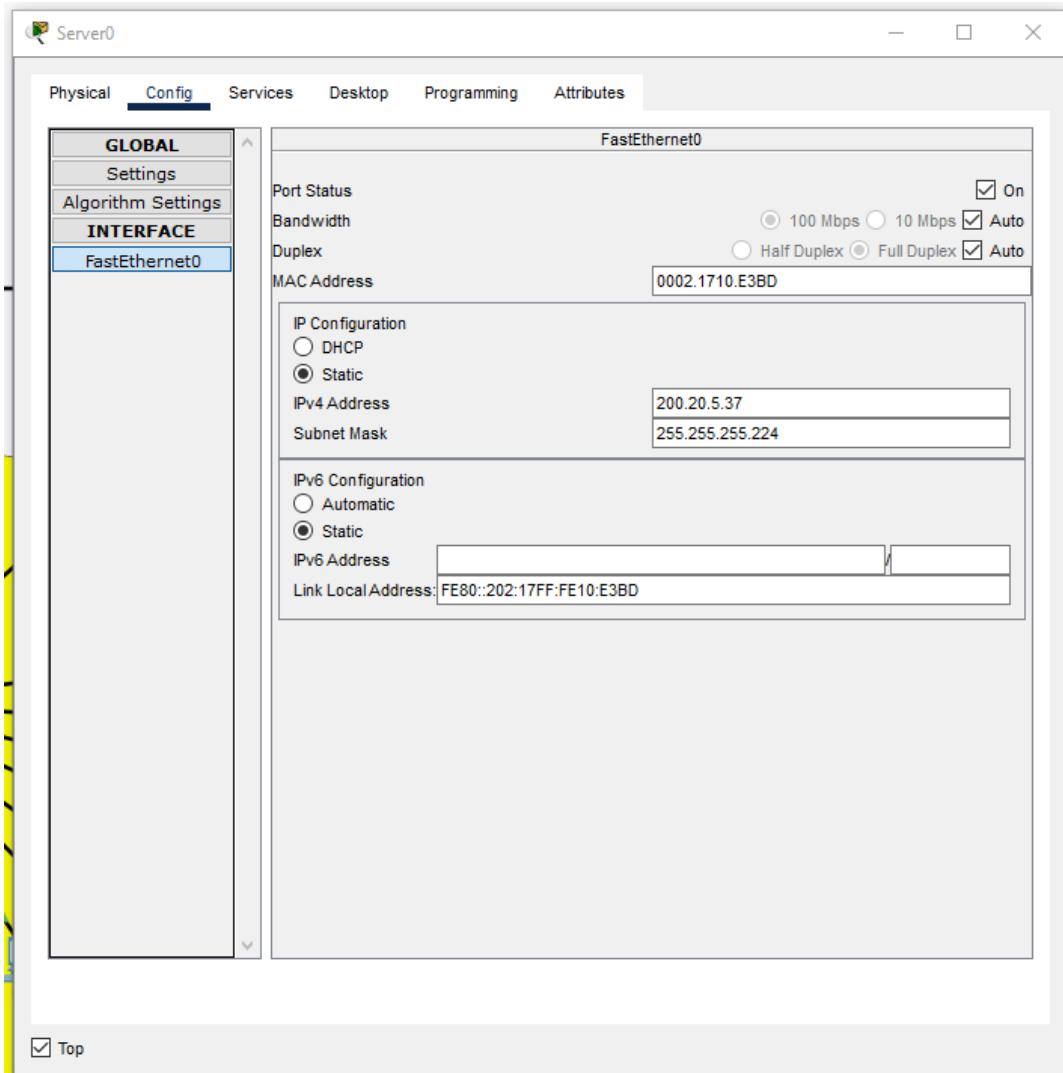
Physical Device View

Zoom In Original Size Zoom Out

Customize Icon in Physical View

Customize Icon in Logical View

The WMP300N module provides one 2.4GHz wireless interface suitable for connection to wireless networks. The module supports protocols that use Ethernet for LAN access.



## **RETE C:**

1. Fare clic sul PC (PC-PT PC12 nel primo caso).
2. Nella finestra che si apre, andare alla scheda "Config".  
Fare clic su "FastEthernet0".
3. Inserire i seguenti dettagli:
  - a. **IPv4 Address:** 200.20.5.69
  - b. **Subnet Mask:** 255.255.255.248
4. **Andare poi su “settings” e nel riquadro del Default Gateway inserire il seguente dettaglio:**
  - a. **Default Gateway:** 200.20.5.69

(stesso procedimento è valido per gli altri PC-PT della RETE C cambiando l'IP e mantenendo la Subnet Mask 255.255.255.248 e il Gateway 200.20.5.69)

## **RETE D:**

1. Fare clic sul PC (PC-PT PC40 nel primo caso).
2. Nella finestra che si apre, andare alla scheda "Config".  
Fare clic su "FastEthernet0".
3. Inserire i seguenti dettagli:
  - a. **IPv4 Address:** 200.20.5.77
  - b. **Subnet Mask:** 255.255.255.224
4. **Andare poi su “settings” e nel riquadro del Default Gateway inserire il seguente dettaglio:**
  - a. **Default Gateway:** 200.20.5.78

(stesso procedimento è valido per gli altri PC-PT della RETE 2 cambiando l'IP e mantenendo la Subnet Mask 255.255.255.224 e il Gateway 200.20.5.78)

## **Configurazione degli Indirizzi IP sulle Interfacce del Router 4331:**

1. **Accedere al terminale del router:**
  - a. Selezionare il router.
  - b. Andare alla scheda "CLI".

The screenshot shows a window titled "Router0" with a tab bar containing "Physical", "Config", "CLI" (which is selected), and "Attributes". Below the tabs is a title "IOS Command Line Interface". The main area displays the following CLI session:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/1/0
Router(config-if)#

Router con0 is now available

Press RETURN to get started.

Router>
```

At the bottom right of the main window are "Copy" and "Paste" buttons. At the bottom left is a checkbox labeled "Top".

## 2. Accedere alla Modalità Privilegiata:

- Digitare il comando enable e premere Invio.
- Il prompt cambia da Router> a Router#.

The screenshot shows a window titled "Router0" with a tab bar containing "Physical", "Config", "CLI" (which is selected), and "Attributes". The main area is labeled "IOS Command Line Interface". The CLI session output is as follows:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/1/0
Router(config-if)#

Router con0 is now available

Press RETURN to get started.

Router>enable
Router#
```

At the bottom right of the window are "Copy" and "Paste" buttons. At the bottom left is a checkbox labeled "Top".

### 3. Accedere alla Modalità di Configurazione Globale:

- Digitare il comando `configure terminal` e premere Invio.
- Il prompt cambia da `Router#` a `Router(config)#`.

The screenshot shows a Windows application window titled "Router0". The tab bar at the top has four tabs: "Physical", "Config", "CLI" (which is highlighted in blue), and "Attributes". Below the tabs is a title bar "IOS Command Line Interface". The main area contains the following text:

```
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/1/0
Router(config-if)#
Router con0 is now available

Press RETURN to get started.

Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#[
```

At the bottom right of the terminal window are two buttons: "Copy" and "Paste". At the bottom left of the window is a checkbox labeled "Top".

#### 4. Configurare le Interfacce del Router:

Configurare l'interfaccia GigabitEthernet0/0/0 (RETE A):

- a) interface GigabitEthernet0/0/0
- b) ip address 200.20.5.9 255.255.255.224
- c) no shutdown
- d) Exit