NOMBRE DE LA MATERIA

Fundamentos de Redes

NOMBRE DEL DOCENTE

Rafael Preciado Gutiérrez

NOMBRE DEL TRABAJO

Practica 5

NOMBRE DEL ALUMNO

Alejandro Guevara de Luna

UNIDAD

FECHA Y LUGAR

21 de octubre del 2022

Instituto Tecnológico de Pabellón de Arteaga

**Actividad**

Realizar una conexión para una empresa en la cual se conectan 5 estados y todos deben de estar conectados simultáneamente. Respetando los dispositivos que la empresa nos encarga.

**Dispositivos Conectados**

Global:

|  |  |
| --- | --- |
| 3 Routers |  |

Aguascalientes:

|  |  |
| --- | --- |
| 3 Routers |  |
| 3 Switch |  |
| 3 Servers |  |
| 5 PC’s |  |

Monterrey:

|  |  |
| --- | --- |
| 1 Router |  |
| 1 Switch |  |
| 1 Server |  |
| 20 PC’s |  |

Guadalajara

|  |  |
| --- | --- |
| 1 Router |  |
| 1 Modem Wireless |  |
| 1 Server |  |
| 10 PC’s |  |

Campeche

|  |  |
| --- | --- |
| 1 Router |  |
| 1 Switch |  |
| 1 Server |  |
| 12 PC’s |  |

Veracruz

|  |  |
| --- | --- |
| 1 Router |  |
| 1 Modem Wireless |  |
| 1 Server |  |
| 10 PC’s |  |

**Tablas IP**

Aguascalientes:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dispositivo | Puerto | IPv4 | Mascara | Gateway |
| R1 | Fa 0/1 | 10.10.3.1 | 255.0.0.0 | NA |
| S 0/0 | 192.168.1.1 | 255.255.255.0 | NA |
| S 0/1 | 192.168.2.1 | 255.255.255.0 | NA |
| S 1/0 | 192.168.0.2 | 255.255.255.0 | NA |
| R2 | Fa 0/1 | 10.10.4.1 | 255.0.0.0 | NA |
| S 0/0 | 192.168.1.2 | 255.255.255.0 | NA |
| S 0/1 | 192.168.3.1 | 255.255.255.0 | NA |
| R3 | Fa 0/1 | 10.10.5.1 | 255.0.0.0 | NA |
| S 0/0 | 192.168.2.2 | 255.255.255.0 | NA |
| S 0/1 | 192.168.3.2 | 255.255.255.0 | NA |
| Server1 | Fa 0/1 | 10.10.3.2 | 255.0.0.0 | 10.10.3.1 |
| Server2 | Fa 0/2 | 10.10.4.2 | 255.0.0.1 | 10.10.4.1 |
| Server3 | Fa 0/3 | 10.10.5.2 | 255.0.0.2 | 10.10.5.1 |
| PC1 | Fa 0/4 | 10.10.3.3 | 255.0.0.3 | 10.10.3.1 |
| PC2 | Fa 0/5 | 10.10.3.4 | 255.0.0.4 | 10.10.3.1 |
| PC3 | Fa 0/6 | 10.10.3.5 | 255.0.0.5 | 10.10.3.1 |
| PC4 | Fa 0/7 | 10.10.3.6 | 255.0.0.6 | 10.10.3.1 |
| PC5 | Fa 0/8 | 10.10.3.7 | 255.0.0.7 | 10.10.3.1 |
| PC6 | Fa 0/9 | 10.10.4.3 | 255.0.0.8 | 10.10.4.1 |
| PC7 | Fa 0/10 | 10.10.4.4 | 255.0.0.9 | 10.10.4.1 |
| PC8 | Fa 0/11 | 10.10.4.5 | 255.0.0.10 | 10.10.4.1 |
| PC9 | Fa 0/12 | 10.10.4.6 | 255.0.0.11 | 10.10.4.1 |
| PC10 | Fa 0/13 | 10.10.4.7 | 255.0.0.12 | 10.10.4.1 |
| PC11 | Fa 0/14 | 10.10.5.2 | 255.0.0.13 | 10.10.5.1 |
| PC12 | Fa 0/15 | 10.10.5.3 | 255.0.0.14 | 10.10.5.1 |
| PC13 | Fa 0/16 | 10.10.5.4 | 255.0.0.15 | 10.10.5.1 |
| PC14 | Fa 0/17 | 10.10.5.5 | 255.0.0.16 | 10.10.5.1 |
| PC15 | Fa 0/18 | 10.10.5.6 | 255.0.0.17 | 10.10.5.1 |

Monterrey:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dispositivo | Puerto | IPv4 | Mascara | Gateway |
| R1 | Fa 0/1 | 192.168.4.1 | 255.255.255.0 | NA |
| S 0/0 | 192.168.9.2 | 255.255.255.0 | NA |
| Server1 | Fa 0/1 | 192.168.4.2 | 255.255.255.0 | 192.168.4.1 |
| PC1 | Fa 0/1 | 192.168.4.3 | 255.255.255.0 | 192.168.4.1 |
| PC2 | Fa 0/1 | 192.168.4.4 | 255.255.255.0 | 192.168.4.1 |
| PC3 | Fa 0/1 | 192.168.4.5 | 255.255.255.0 | 192.168.4.1 |
| PC4 | Fa 0/1 | 192.168.4.6 | 255.255.255.0 | 192.168.4.1 |
| PC5 | Fa 0/1 | 192.168.4.7 | 255.255.255.0 | 192.168.4.1 |
| PC6 | Fa 0/1 | 192.168.4.8 | 255.255.255.0 | 192.168.4.1 |
| PC7 | Fa 0/1 | 192.168.4.9 | 255.255.255.0 | 192.168.4.1 |
| PC8 | Fa 0/1 | 192.168.4.10 | 255.255.255.0 | 192.168.4.1 |
| PC9 | Fa 0/1 | 192.168.4.11 | 255.255.255.0 | 192.168.4.1 |
| PC10 | Fa 0/1 | 192.168.4.12 | 255.255.255.0 | 192.168.4.1 |
| PC11 | Fa 0/1 | 192.168.4.13 | 255.255.255.0 | 192.168.4.1 |
| PC12 | Fa 0/1 | 192.168.4.14 | 255.255.255.0 | 192.168.4.1 |
| PC13 | Fa 0/1 | 192.168.4.15 | 255.255.255.0 | 192.168.4.1 |
| PC14 | Fa 0/1 | 192.168.4.16 | 255.255.255.0 | 192.168.4.1 |
| PC15 | Fa 0/1 | 192.168.4.17 | 255.255.255.0 | 192.168.4.1 |
| PC16 | Fa 0/1 | 192.168.4.18 | 255.255.255.0 | 192.168.4.1 |
| PC17 | Fa 0/1 | 192.168.4.19 | 255.255.255.0 | 192.168.4.1 |
| PC18 | Fa 0/1 | 192.168.4.20 | 255.255.255.0 | 192.168.4.1 |
| PC19 | Fa 0/1 | 192.168.4.21 | 255.255.255.0 | 192.168.4.1 |
| PC20 | Fa 0/1 | 192.168.4.22 | 255.255.255.0 | 192.168.4.1 |

Guadalajara:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dispositivo | Puerto | IPv4 | Mascara | Gateway |
| R1 | Fa 0/1 | 192.168.5.1 | 255.255.255.0 | NA |
| S 0/0 | 192.168.15.2 | 255.255.255.0 | NA |
| Server | Fa 0/1 | 192.168.5.2 | 255.255.255.0 | 192.168.5.1 |
| PC1 | Fa 0/1 | 192.168.5.3 | 255.255.255.0 | 192.168.5.1 |
| PC2 | Fa 0/1 | 192.168.5.4 | 255.255.255.0 | 192.168.5.1 |
| PC3 | Fa 0/1 | 192.168.5.5 | 255.255.255.0 | 192.168.5.1 |
| PC4 | Fa 0/1 | 192.168.5.6 | 255.255.255.0 | 192.168.5.1 |
| PC5 | Fa 0/1 | 192.168.5.7 | 255.255.255.0 | 192.168.5.1 |
| PC6 | Fa 0/1 | 192.168.5.8 | 255.255.255.0 | 192.168.5.1 |
| PC7 | Fa 0/1 | 192.168.5.9 | 255.255.255.0 | 192.168.5.1 |
| PC8 | Fa 0/1 | 192.168.5.10 | 255.255.255.0 | 192.168.5.1 |
| PC9 | Fa 0/1 | 192.168.5.11 | 255.255.255.0 | 192.168.5.1 |
| PC10 | Fa 0/1 | 192.168.5.12 | 255.255.255.0 | 192.168.5.1 |

Campeche:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dispositivo | Puerto | IPv4 | Mascara | Gateway |
| R1 | Fa 0/1 | 192.168.6.1 | 255.255.255.0 | NA |
| S 0/0 | 192.168.10.2 | 255.255.255.0 | NA |
| Server1 | Fa 0/1 | 192.168.6.2 | 255.255.255.0 | 192.168.6.1 |
| PC1 | Fa 0/1 | 192.168.6.3 | 255.255.255.0 | 192.168.6.1 |
| PC2 | Fa 0/1 | 192.168.6.4 | 255.255.255.0 | 192.168.6.1 |
| PC3 | Fa 0/1 | 192.168.6.5 | 255.255.255.0 | 192.168.6.1 |
| PC4 | Fa 0/1 | 192.168.6.6 | 255.255.255.0 | 192.168.6.1 |
| PC5 | Fa 0/1 | 192.168.6.7 | 255.255.255.0 | 192.168.6.1 |
| PC6 | Fa 0/1 | 192.168.6.8 | 255.255.255.0 | 192.168.6.1 |
| PC7 | Fa 0/1 | 192.168.6.9 | 255.255.255.0 | 192.168.6.1 |
| PC8 | Fa 0/1 | 192.168.6.10 | 255.255.255.0 | 192.168.6.1 |
| PC9 | Fa 0/1 | 192.168.6.11 | 255.255.255.0 | 192.168.6.1 |
| PC10 | Fa 0/1 | 192.168.6.12 | 255.255.255.0 | 192.168.6.1 |
| PC11 | Fa 0/1 | 192.168.6.13 | 255.255.255.0 | 192.168.6.1 |
| PC12 | Fa 0/1 | 192.168.6.14 | 255.255.255.0 | 192.168.6.1 |

Veracruz

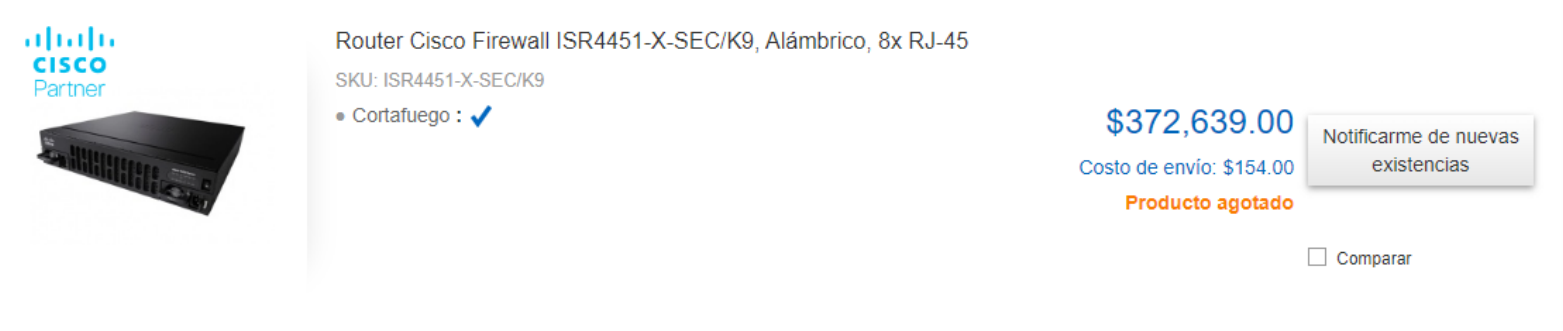
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dispositivo | Puerto | IPv4 | Mascara | Gateway |
| R1 | Fa 0/1 | 192.168.8.1 | 255.255.255.0 | NA |
| S 0/0 | 192.168.11.2 | 255.255.255.0 | NA |
| Server1 | Fa 0/1 | 192.168.8.2 | 255.255.255.0 | 192.168.8.1 |
| PC1 | Fa 0/1 | 192.168.8.3 | 255.255.255.0 | 192.168.8.1 |
| PC2 | Fa 0/1 | 192.168.8.4 | 255.255.255.0 | 192.168.8.1 |
| PC3 | Fa 0/1 | 192.168.8.5 | 255.255.255.0 | 192.168.8.1 |
| PC4 | Fa 0/1 | 192.168.8.6 | 255.255.255.0 | 192.168.8.1 |
| PC5 | Fa 0/1 | 192.168.8.7 | 255.255.255.0 | 192.168.8.1 |
| PC6 | Fa 0/1 | 192.168.8.8 | 255.255.255.0 | 192.168.8.1 |
| PC7 | Fa 0/1 | 192.168.8.9 | 255.255.255.0 | 192.168.8.1 |
| PC8 | Fa 0/1 | 192.168.8.10 | 255.255.255.0 | 192.168.8.1 |
| PC9 | Fa 0/1 | 192.168.8.11 | 255.255.255.0 | 192.168.8.1 |
| PC10 | Fa 0/1 | 192.168.8.12 | 255.255.255.0 | 192.168.8.1 |

Global:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dispositivo | Puerto | IPv4 | Mascara | Gateway |
| R1 | S 0/0 | 192.168.0.1 | 255.255.255.0 | NA |
| S 0/1 | 192.168.12.1 | 255.255.255.0 | NA |
| S 1/0 | 192.168.13.1 | 255.255.255.0 | NA |
| R2 | S 0/0 | 192.168.12.2 | 255.255.255.0 | NA |
| S 0/1 | 192.168.7.1 | 255.255.255.0 | NA |
| S 1/0 | 192.168.9.1 | 255.255.255.0 | NA |
| S 1/1 | 192.168.15.1 | 255.255.255.0 | NA |
| R3 | S 0/0 | 192.168.13.2 | 255.255.255.0 | NA |
| S 0/1 | 192.168.7.2 | 255.255.255.0 | NA |
| S 1/0 | 192.168.10.1 | 255.255.255.0 | NA |
| S 1/1 | 192.168.11.1 | 255.255.255.0 | NA |

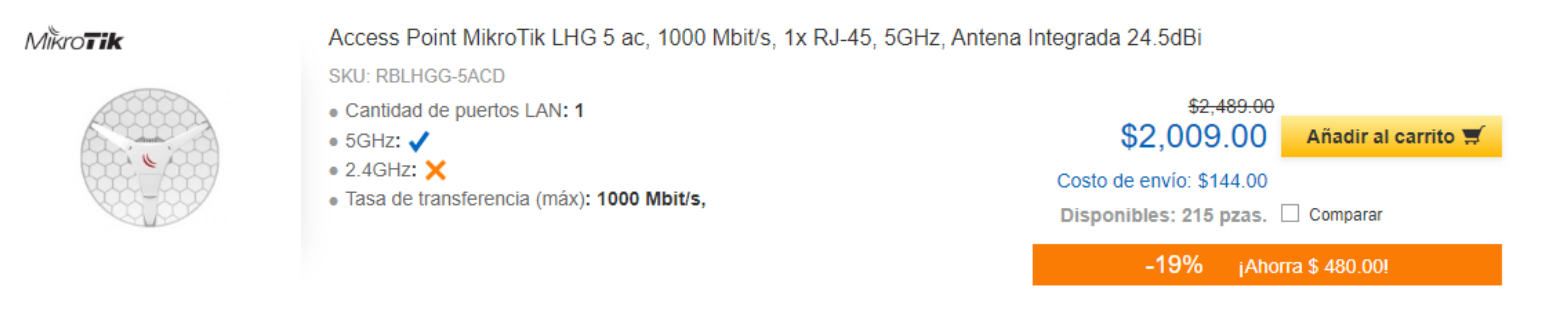
**Precio de cada dispositivo:**

Router: $372,639.00



Switch: $19,529.00



Wireless Router: $2009.00

**Costo de la instalación**

|  |  |
| --- | --- |
| Estado: | Precio |
| Conexión Global:   * 3 Routers | $ 1,117,917 |
| Aguascalientes   * 3 Routers * 3 Switch | $ 1,176,504 |
| Monterrey   * 1 Router * 1 Switch | $392,168 |
| Guadalajara   * 1 Router * 1 Wireless Modem | $374,648 |
| Campeche   * 1 Router * 1 Switch | $392,168 |
| Veracruz   * 1 Router * 1 Wireless Modem | $374,648 |
| Total   * 10 Router * 5 Switch * 2 Wireless Modem | **$3,828,053** |