**Troubleshooting**

1. Trouble Shooting Test Tables.

Complete the following tables: Small office /Home Office Wired Network Connectivity tests

|  |  |  |  |
| --- | --- | --- | --- |
| Reference No: 1234 | | | |
| Project Name: Small Office / Home Office (SOHO) wireless and wired Network | | | |
| From Device Name | To Device Name | IP Address Pinged | Ping Result: S=success F=Failure |
| Windows DNS server | PC0 | 192.168.1.50 | S |
| PC0 | PC1 | 192.168.1.51 | S |
| PC7 | Windows DNS server | 192.168.1.2 | S |

Small office /Home Office Wireless Network Connectivity tests.

|  |  |  |  |
| --- | --- | --- | --- |
| From Device Name | To Device Name | IP Address Pinged | Ping Result: S=success F=Failure |
| Laptop 2 | Laptop 3 | 192.168.1.54 | S |
| Laptop 3 | PC7 | 192.168.1.52 | S |

2. To Rectify the problem

|  |  |  |  |
| --- | --- | --- | --- |
| Reference No: 1234 | | | |
| Project Name: Small Office / Home Office wireless and wired Network | | | |
| No | Problem | Possible Reason | Troubleshooting Steps |
| 1. | PC can’t ping another PC | Wrong IP address or subnet mask | 1. 1. Verify the IP address and subnet mask: - Click on the PC, then go to Desktop and select IP Configuration to check the IP and subnet 2. Ensure a straight-through cable is used and connections are secure. 3. Check the physical device view of the PC for a green light, which indicates a proper connection. 4. Use the ping command to test connectivity. |
| 2. | Laptop can’t ping router   |  | | --- | |  | | Laptop not connected to Wi-Fi due to wrong SSID, password or IP misconfiguration | 1. Ensure the laptop is connected to the correct SSID and password. Check SSID and password on the laptop by going to Config tab and selecting Wireless0. 2. Ensure DHCP is enabled on router and Verify laptop is set to DHCP to obtain an IP address automatically via DHCP. 3. To renew the IP address, run the command ipconfig /renew in the command prompt. 4. To test connectivity ping 192.168.1.1 |
| 3. | PC can ping the router but not the DNS server   |  | | --- | |  | | The DNS Server IP may not be configured. | 1. Verify that the DNS IP is configured correctly: - Click on Windows DNS Server → Desktop → IP Configuration → Check the IP settings. 2. Check the cable type and ensure the green light is on for the Windows DNS server. 3. Ping the Windows DNS server to test its connectivity. |

**BrowserSoftwareTest**

Reference No: 1234

Project Name: Small Office / Home Office (SOHO) wireless and wired Network

1. Trouble Shooting Test Tables.

|  |  |  |
| --- | --- | --- |
| **Software** | **Protocol** | **On / off?** |
| CMD prompt-DNS server | Nslookup Ip address (Ipv4) 192.168.1.2 | On |

|  |  |  |  |
| --- | --- | --- | --- |
| **Windows Server** | **IP Address** | **DNS Service on / off** | **Web Page URL** |
| WindowsDNSServer. home.org | 192.168.1.2 | on | www.home.org |

|  |  |  |
| --- | --- | --- |
| **Web Browser on PC** | **Success = S / Failed=F** | **http protocol = off**  **https protocol=off** |
| PC0 | Failed Connection | http protocol = off |
| PC0- | Successful connection | https protocol = on |
| **Web Browser on PC** | **Success = S / Failed=F** | **http protocol = on**  **https protocol=on** |
| PC1 | Failed Connection | http protocol = off |
| PC1 | Successful connection | https protocol = on |

2. To Rectify the problem

|  |  |  |  |
| --- | --- | --- | --- |
| No | Problem | Possible Reason | Troubleshooting Steps |
| **1** | DNS issue- can’t connect to website or URL, using nslookup to home.org | DNS not configured | 1. Check that the PC has the correct DNS server IP 2. Ensure DNS service is ON, on Windows DNS Server 3. Confirm home.org is added as a DNS record with correct IP. 4. Ping the DNS server IP from the PC to confirm connectivity. 5. In Command Prompt, type `nslookup home.org` to ensure it resolves correctly. |
| 2 | HTTPS issue- HTTPS not working in browser | HTTPS service not enabled. | 1. Ensure HTTPS service is ON, click on the Windows DNS server->Services tab. Enable HTTPS. 2. To Verify: Open a PC, go to the Web Browser, and access the website [www.home.org](http://www.home.org) |

**Email Software Test**

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| --- | --- | --- | --- |
| Reference No: 1234 | | | |
| Project Name: Small Office / Home Office (SOHO) wireless and wired Network | | | |
| Software | Email Service on DNS Server  SMTP on/off? POP on/off | | Sent Email Received by PC Yes? / No |
| Email on PC | **off** | **off** | **NO** |
| Email on PC | **On** | **On** | **YES** |

To Rectify the problem

|  |  |  |  |
| --- | --- | --- | --- |
| No | Problem | Possible Reason | Troubleshooting Steps |
| 1 | Emails not sending or receiving | SMTP and /POP3 service is OFF | 1. Click on the Windows DNS Server -> Services tab -> select Email. 2. Turn ON SMTP and POP3 services. |
| 2 | Domain issue- Emails fail to send or receive | Domain name not set or incorrect | 1. Click on the Windows DNS Server -> Services tab -> select Email. 2. Check the domain name, if it is incorrect, correct it and click Set. |
| 3 | Email fails with "user does not exist" error | Recipient email address not found on the server | 1. On the PC, go to Desktop -> Email -> Compose. Check recipient address for errors (e.g. [user123@home.org](mailto:user123@home.org)). 2. On the Windows DNS Server, go to Services -> Email. And check if User123 exists under the domain home.org. 3. If not, add the user with the correct username and domain. 4. Resend the email using the corrected address. |