



DOCUMENTATION

Debugging the LAN problems

Indian Institute of Technology Bombay

(Sept 2019)

Table of Contents

| | |
|---|---|
| 1. Objective and important information | 3 |
| 2. Terms and definitions used in the document | 3 |
| 3. Debugging | 4 |
| - Check for power | 4 |
| - Check for data connectivity | 5 |
| 4 Note for Hostel System Administrators | 6 |
| 5 Queries | 6 |

1. Objective and important information

This document has been developed by ISA's for the sole purpose of reducing the number of LAN problems which can be sorted out by an individual himself and not waste his time waiting for a vendor visit by Computer Centre(CC).

Refer to this document to debug for internet issues on LAN in the hostel area. Please do not mail CC regarding the internet issues directly as it will lead you nowhere. Following the steps will help get your issues get sorted as soon as possible.

2. Terms and definitions used in the document

For the purpose of this documentation, unless there is something repugnant in the context, the following expressions shall have the meaning attached thereto:

- Institute' or I.I.T. means Indian Institute of Technology Bombay, Powai, Mumbai 400076
- CC is the Computer Center, IIT Bombay
- ISA refers to Institute System Administrator, IIT Bombay
- LAN is working fine means intranet & internet works after <https://internet.iitb.ac.in/> login
- GSec refers to General Secretary of the hostel
- System administrator or sysad means Hostel System Administrator
- Vendor means the authorized vendors sent by CC on a pre-decided date and time to fix LAN issues in hostels
- LAN port/ ethernet port and RJ45 Jack are used interchangeably and refer to this:

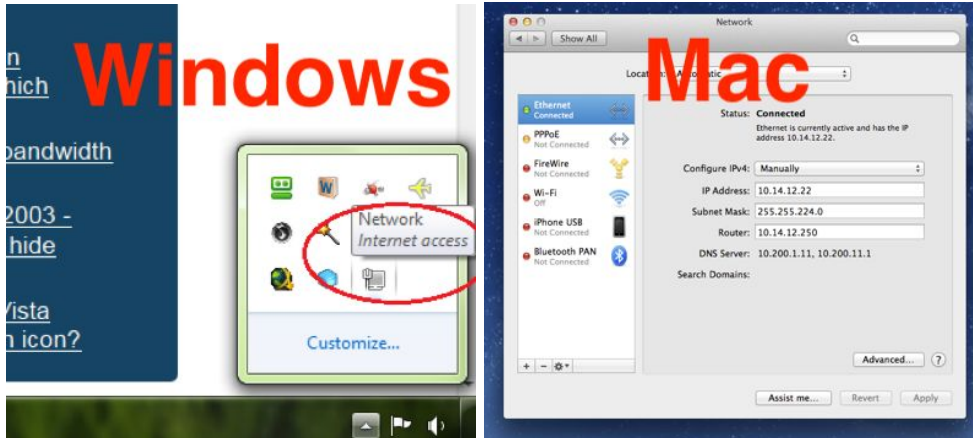


3. Debugging

A LAN connection needs 2 working components for the internet to work - power and data.

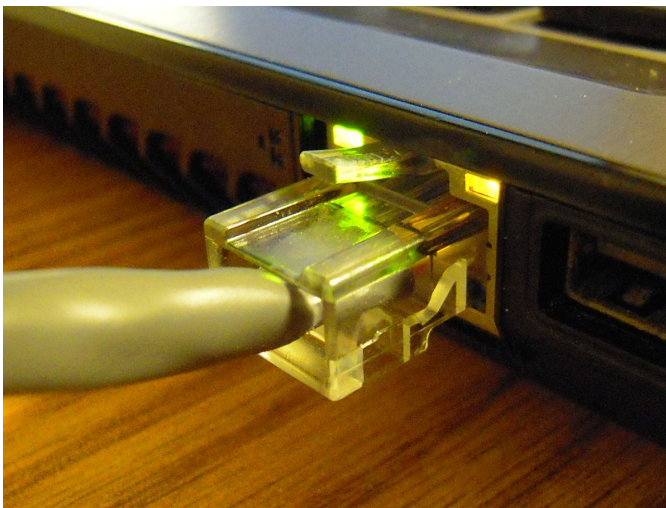
3.1 Check for power:

1. Check for LAN symbol in the taskbar. Note that there might be driver issues in your laptop too. To verify, check the note.



NOTE: Check for driver issues on your laptop. For this, simply test your laptop on a port where LAN is working fine (Your friend's room?). If you can access the internet without any issues, go to step 2. Else check the drivers for your laptop and troubleshoot your laptop hardware.

2. Check for light in laptops/PC's ethernet port to (not every pc gives out this feature, perhaps you can borrow someone's with this feature included.)



3. If both tests fail, call in the hostel system administrator and mention about the possible power failure in LAN port.

3.2 Check for data connectivity:

1. If you see something like the image below, try switching to Static IP instead of DHCP. If you're already using Static IP, check if you have configured your laptop correctly according to the IP allocation at <https://www.cc.iitb.ac.in/>.



Note: For setting static IP on your laptop, check out these instructions.

Use an IP address from the DHCP IP Pool. Try visiting <https://internet.iitb.ac.in>. If the IP doesn't work, try using another IP address as the IP might already be in use. In case of any queries with IP allocation, contact the hostel system administrator.

- **Windows:**
<https://www.howtogeek.com/howto/19249/how-to-assign-a-static-ip-address-in-xp-vista-or-windows-7/>
- **Linux:**
<https://linuxize.com/post/how-to-configure-static-ip-address-on-ubuntu-18-04/#configuring-static-ip-address-on-ubuntu-desktop>
- **MAC:**
<http://www.macinstruct.com/node/550>

2. If even Static IP doesn't work, try pinging the hops giving on the same page and contact the hostel system administrator. Mention him the extent of IP hops you can ping up to.

Getting Started CC Services Network Monitoring **IP Allocation** Policies How To's

Home
Hostel IP/HOP Search
Hostel IP Allocation
Departmental IP Allocation
Residential IP/HOP Search
Residential IP Allocation

Hostel IP/HOP Search

Hostel: Wing/ Floor:

| Field | Value |
|-----------------|-------------------------|
| Hostel No. | Hostel 16 |
| Wing/Floor | Wing A-Floor-03 |
| DHCP IP Pool | 10.16.13.1-10.16.13.249 |
| Subnet Mask | 255.255.255.0 |
| Default Gateway | 10.16.13.250 |
| DNS Server | 10.200.1.11 |

| Field | Value |
|-------------------|-----------------------------|
| HOP 1 (Switch IP) | 10.16.13.251 |
| HOP 2 (Gateway) | 10.16.13.250 or 10.250.16.2 |
| HOP 3 | 10.250.16.1 |
| HOP 4 (CC) | 10.250.3.1 |
| HOP 5 (Kaksha) | 10.100.1.250 |

FAQ: How do I ping to a HOP?

- <https://www.wikihow.com/Ping-an-IP-Address>.

4. Note for Hostel System Administrators

- In case of a power failure of LAN port, check if the wing switch has a proper electricity supply.
- If the wing switch itself is not receiving power, report to Hall manager and ensure the electric supply is functioning correctly.
- If the entire wing switch is down, check if the optic cable connecting the wing switch is working correctly.
- If the entire hostel LAN is not working, contact ISA.
- If a vendor visit is scheduled, please be available for getting your LAN ports repaired. Do not ask the vendor to configure the static IP for your device as vendor doesn't know the IP's allocated inside the institute and outside his scope of work.

5. Queries

In case of any general queries: Please fill out this form at <http://bit.ly/lanqueries>. Do **not** fill complains in the form. Complaints are managed by the hostel system administrators.

In case the hostel sysad or the web secy has not been made yet, please reach out to the hostel GSec. In case GSec also isn't appointed, contact the Hall Manager to appoint a council as CC isn't sending vendors without appointing hostel council.

If you find any problem or have any recommendations in context with this documentation, contact Nautatava Navlakha at nautatva@iitb.ac.in or nnautatva@gmail.com