Welcome To
CS 348
Computer Networks

Spring 2020

IIT Goa

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Course Instructor

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Goal of this course

To understand how **Computer Networks** are structured, designed and how they work...

.. using **the Internet** as an example.

A Computer Network

Two or more computers connected together

Purpose: **communication** between **Applications** running on different computers

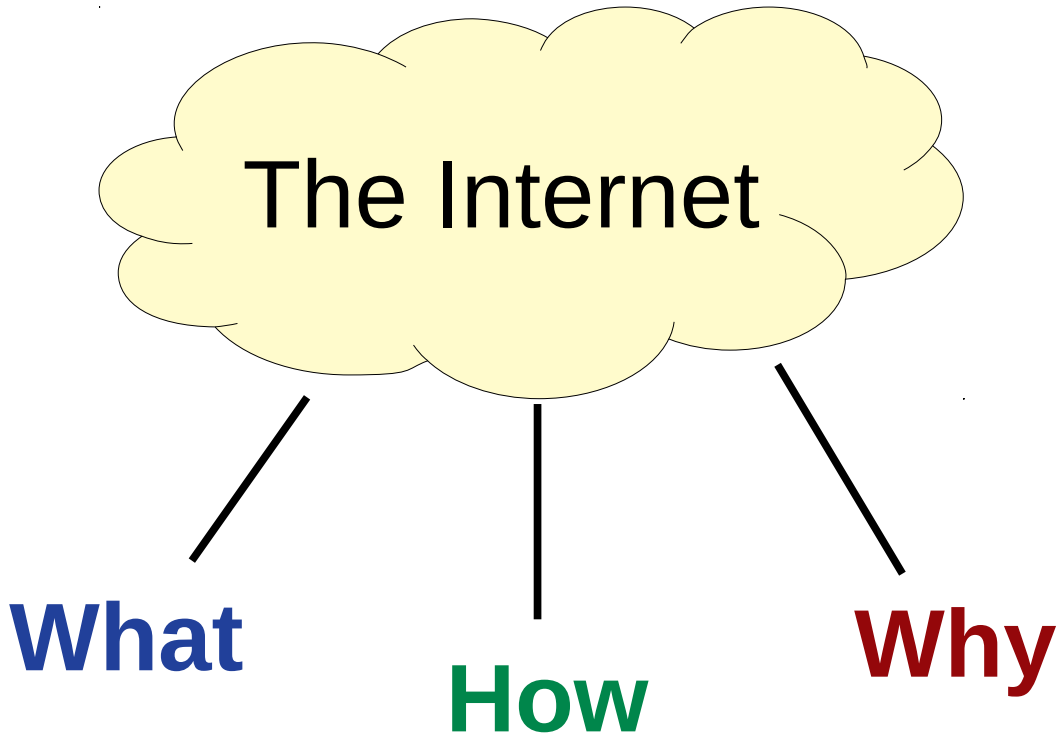
Examples of Applications: Web browser, Skype, Whatsapp, Multiplayer Games, File sharing ....

The Internet

A particular example of computer networks

The largest one, spanning the globe

A network of networks


The Internet
What
How
Why

Guiding Questions (**What**)

- What is the "structure" of the Internet?
- What are its physical components?
- What are the design ideas that make it work?
- What are the services offered by it?
- What is the scale of the Internet?
- .....

Guiding Questions (**How**)

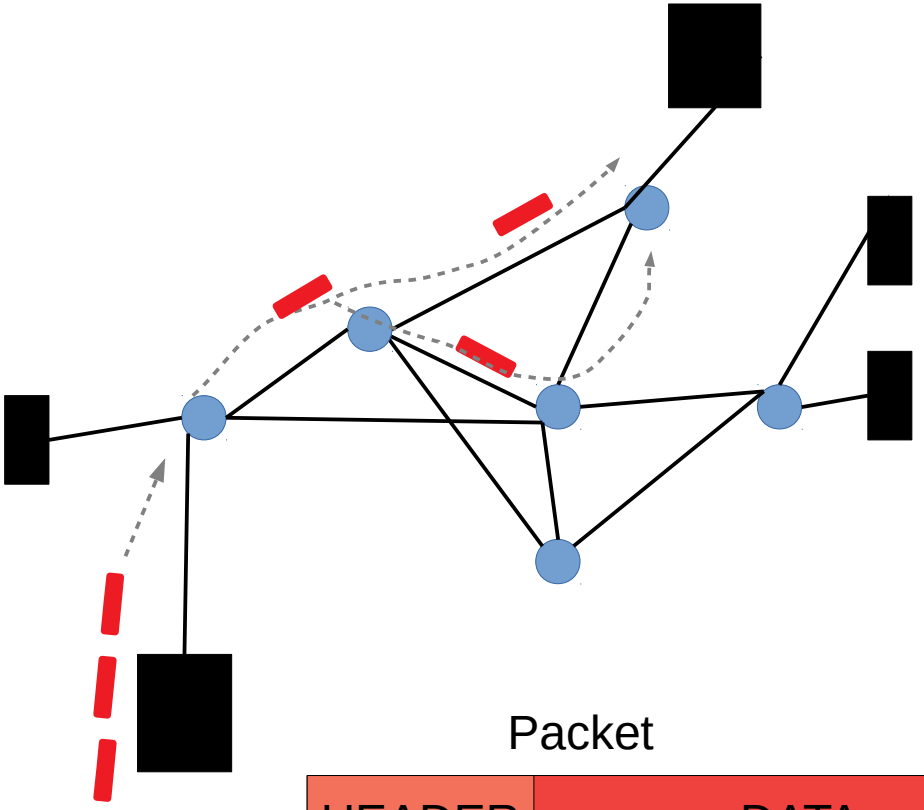
- How does the Internet work?
- How can I use the Internet effectively?
- How can I engineer new networked applications?
- How can I debug, diagnose, trace, visualize and measure performance of networks?
- How can I improve existing designs?
- .....

Guiding Questions (**Why**)

- Why is the design of the Internet the way it is?
- Why has it evolved this way?
- .....

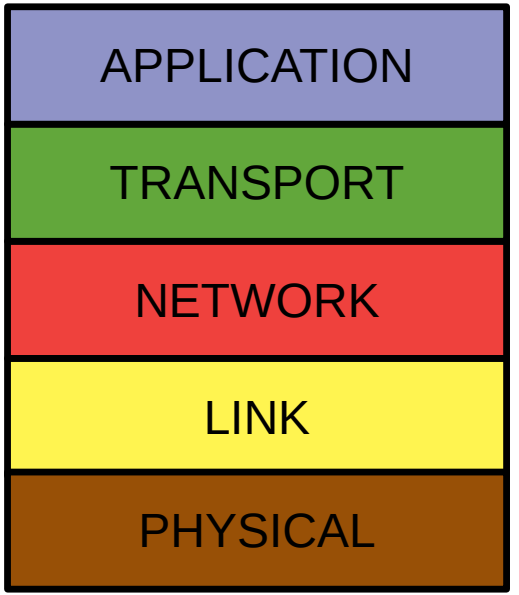
Key Ideas in this Course

- Packet Switching



Key Ideas in this Course

- Packet Switching
- The Layered Model
- Addressing
- Protocols

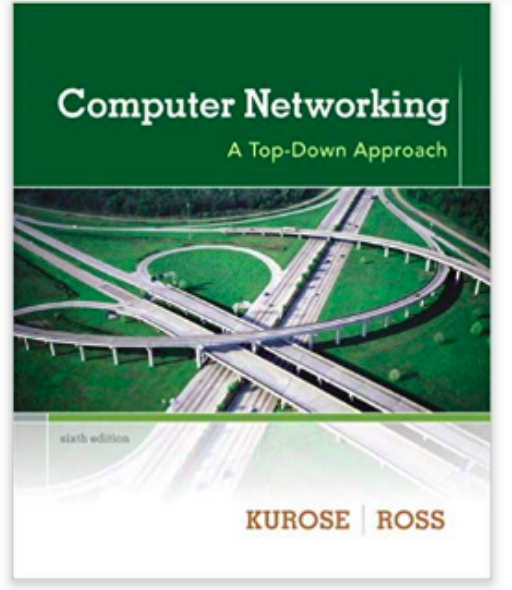


The 5-layer TCP/IP model

Textbook

- Kurose and Ross

  Computer Networks: a Top-down Approach (6th ed)



Lectures and Lab

- Lectures: Mon, Tue, Thu **9:30 - 10:25** in **LT1**

- Lab: Thu **2 pm - 5 pm** (Beginning 16th January)

  You will need to bring your own laptops

  - Install a Linux-based distro (such as Ubuntu)

Attendence is mandatory

Grading (6 credits)

- End-semester Exam: 50%
- Mid-semester Exam: 30%
- Assignment: 5%
- Quiz 1: 5%
- Quiz 2: 5%
- Student Presentations: 5%

Grading for LAB (3 credits)

- Assignments: 50%
- Lab Exam: 50%

Important Dates (Tentative)

- Assignment 1: 20-27 Jan (No lectures in this week)
- Quiz 1: 4 Feb
- Mid-semester Exam: 27 Feb - 6 Mar
- Quiz 2: 31 Mar
- Student Presentations: 18, 19 Apr (Weekend)
- End-semester Exam: 29 Apr - 8 May

Assignments, Lecture slides, Important Notifications etc. will be posted on **Google Classroom**.

Slides ≠ Notes

Students are expected to take notes during class.

“No Mercy” policy for Plagiarism

- Zero marks in Assignment/Exam + 1 Grade Penalty for all persons involved
- Case forwarded to disciplinary actions committee

Can’t solve a question? Running out of time?

Simple Decision: Don’t submit

For doing well in this course

- Have an engineer’s curiosity about how the Internet works
- Attend lectures, participate, **ask questions**
- Read the assigned material in time