جامعة الأمير سلطان
PRINCE SULTAN
UNIVERSITY

IS311 Web Development

Week 01 - Lecture 01

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IS311 Web Development

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  - Office: Building 101, Floor 2, Room E364
- Phd in Computer Sceicne, University of Grenoble, France
- Laguages: English, French, Punjabi, Urdu
- Research: Machine Learning, Artificial Intelligence
- Experties: Programming, Mobile Dev, Web Dev, Database, …

IS311 Web Development Course

- **Classes**: Sunday, Monday, Tuesday, Wednesday at 11 AM & 1 PM
- **Marks distribution**

• Quiz	5%	Week 5 Wed on Paper
• Assignments		Released in Week 1
• **Assignment 1**	**2%**	**Submission: Week 6**
• **Assignment 2**	**3%**	**Submission: Week 12**
• Project	20%	Release Week 1
• Major 1	10%	Week 7 Wed in Lab
• Major 2	15%	Week 14 Wed in Lab
• Attendance	5%	
• Final Exam	40%	20-May-2026

75% attendance is compulsary to sit in the final exam.

IS311 Web Development Course

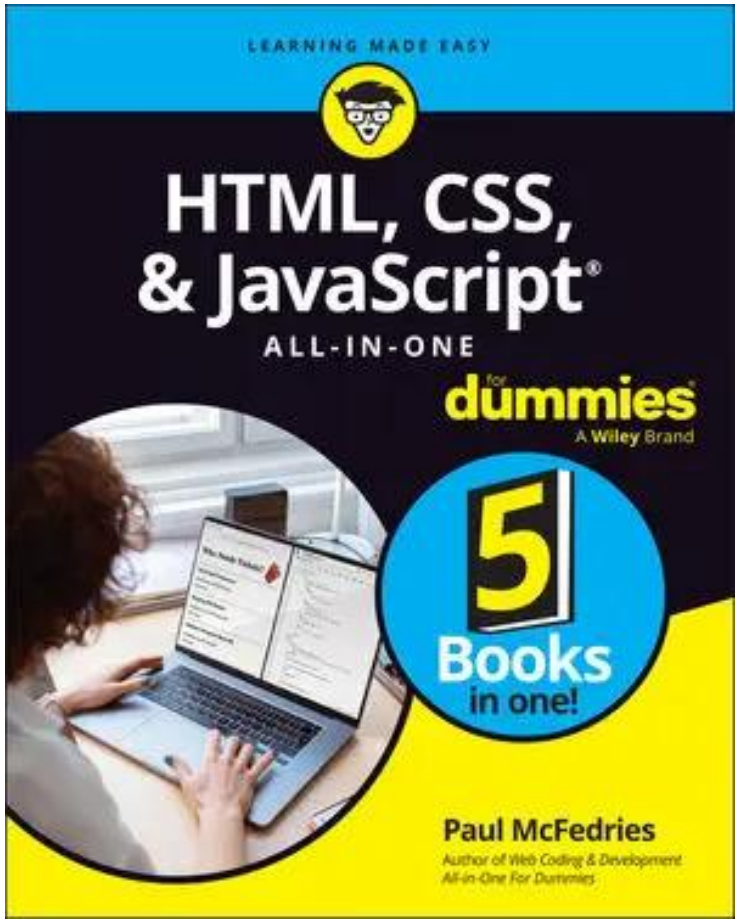
Project

- Agreement of Project and team (Week 4)
- Phase 1 – Wireframe prototyp (Week 7)
- Phase 2 – Webpage desing using HTML, CSS and Bootstrap (Week 10)
- Phase 3 – Table Creation (Week 11)
- Phase 4 – Database connection and query (Week 13)
- Phase 5 – Fully functional website submission (Week 14)
- Demo & Presentation (Week 15)

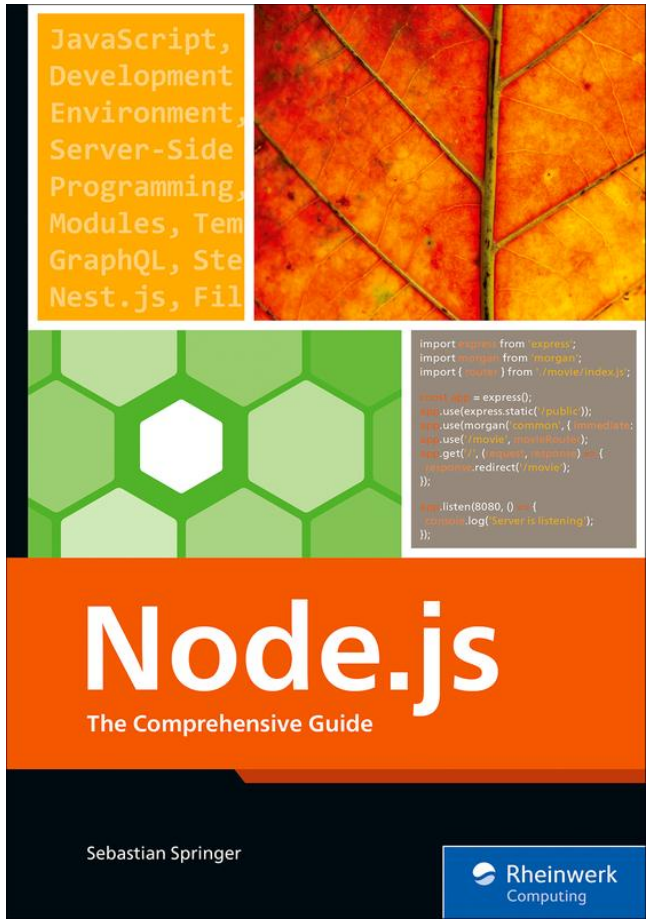
Course Sylabus

Introduction	HTML	CSS	Bootstrap
JavaScript	MySql	Node JS	Project

Course and Helping Books



Download Book online



Download Book

TIME TO START

What and Why is Internet?

- 1960: a way for government researchers to share information
  - Large computers with no mobility

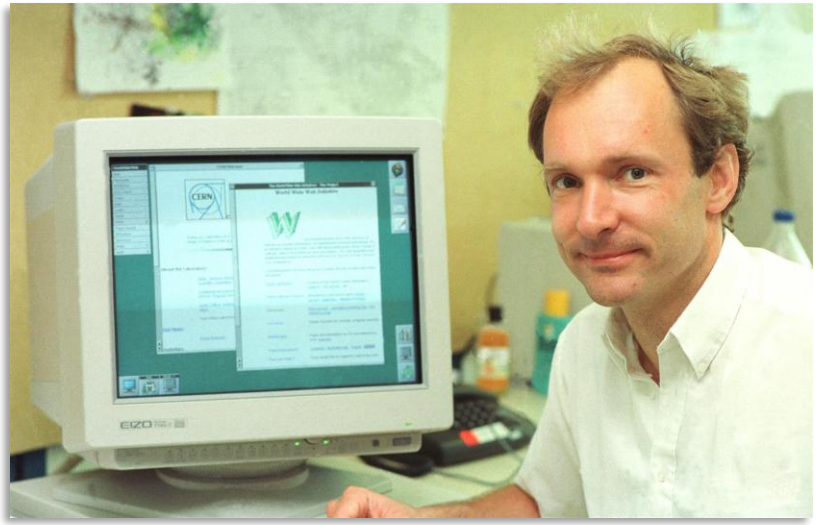
What and Why is Internet?

- Cold War: ARPANET (Advanced Research Projects Agency Network)
- ARPANET → Evolved into what we now know as the Internet.
- **1st January 1983**: Official birth of **Internet**
  - Communication Protocol Transfer Control Protocol/Internetwork Protocol (TCP/IP)

Allowed different computers on different networks to "talk"

Histroy of WWW (World Wide Web)

Invented by Tim Berners-Lee in 1989



CERN DD/OC

Tim Berners-Lee, CERN/DD

Information Management: A Proposal

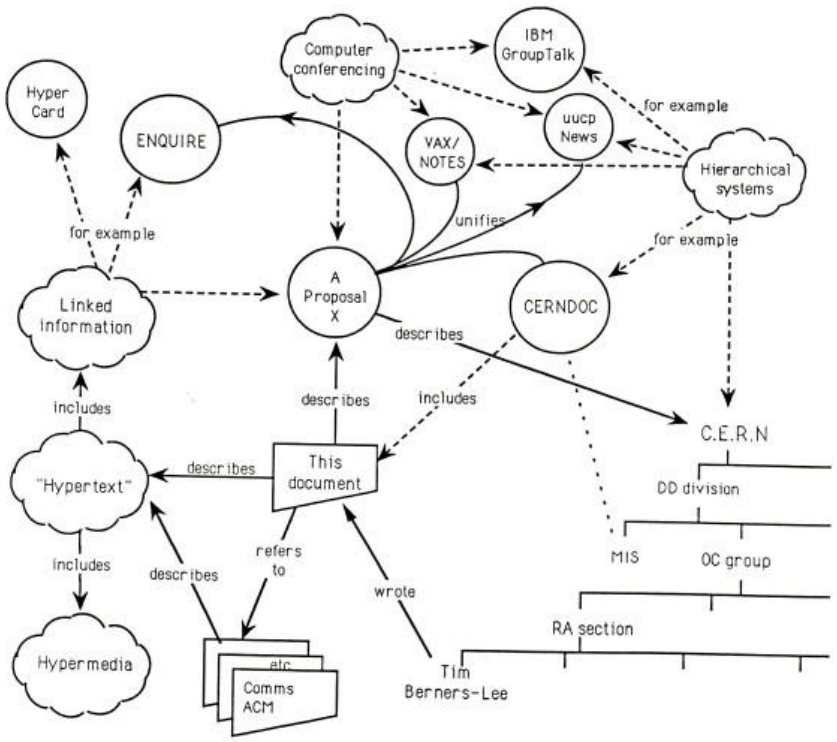
March 1989

Information Management: A Proposal

Abstract

This proposal concerns the management of general information about accelerators and experiments at CERN. It discusses the problems of loss of information about complex evolving systems and derives a solution based on a distributed hypertext sytstem.

Keywords: Hypertext, Computer conferencing, Document retrieval, Information management, Project control



Three Fundamental Technologies

TIM – October 1990

- **HTTP – Hyper Text Transfer Protocol**
  - Allows for the retrieval of linked resources from across the web.
- **URI – Uniform Resource Identifier**
  - A unique address, used to identify each resource on the web. Commonly called a URL
- **HTML – HyperText Markup Language**
  - Markup/formating language for the web

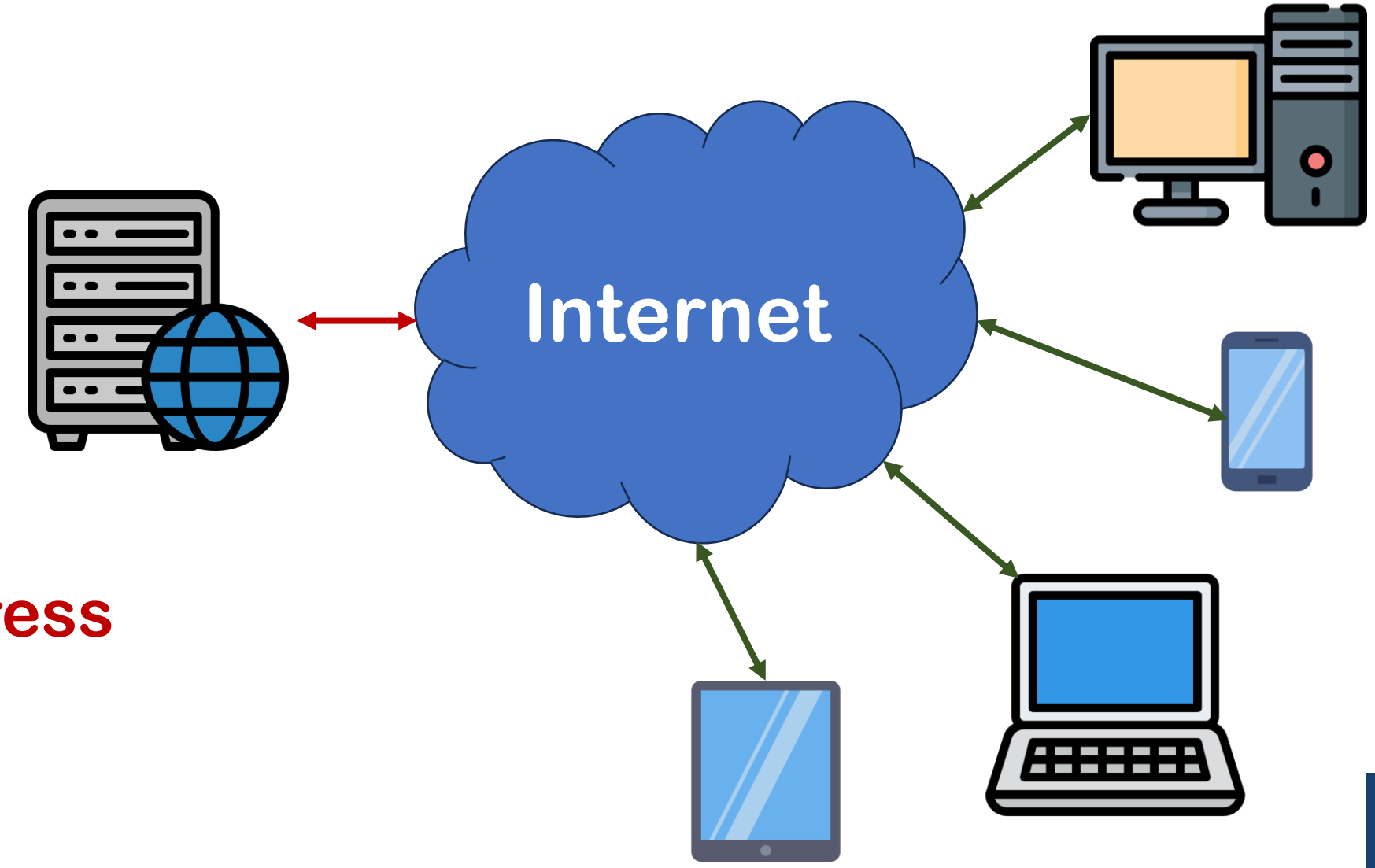
HTML – language of web

- HTML 1: 1990
- HTML 2 (Nov 1995) as RFC 1866
  - Form-based file upload (RFC 1867) Nov 1995
  - Tables (RFC 1942) May 1996
- HTML 3 (Jan 1997) – W3C Recommendation
- HTML 4 (Dec 1997-2000)
- HTML 5 (Oct 2014)

https://www.w3.org/

How it works

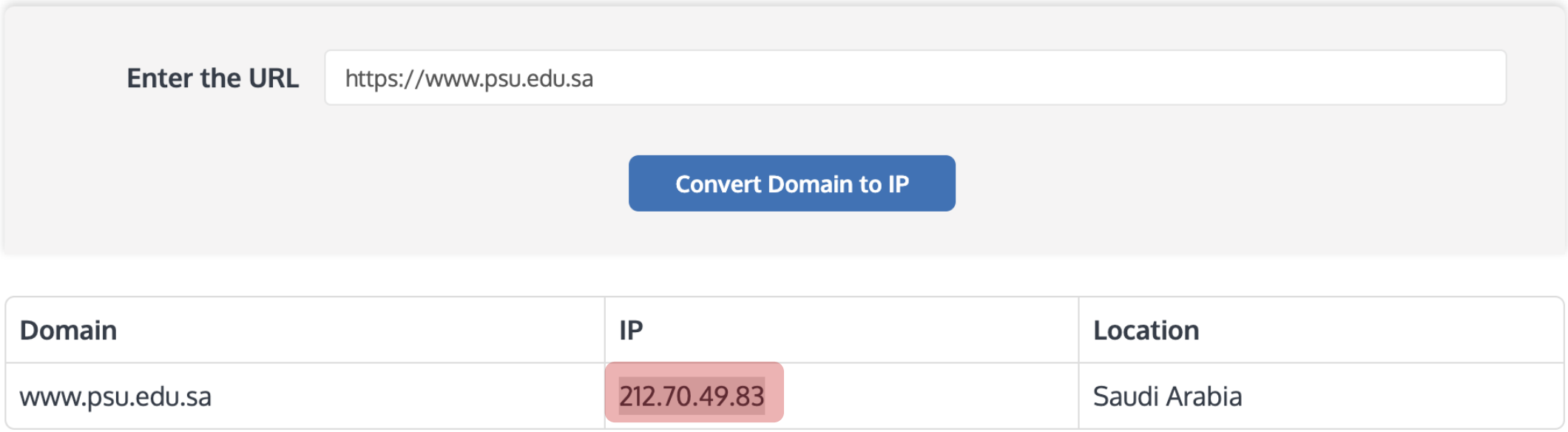
- Internet
- Client
- Server

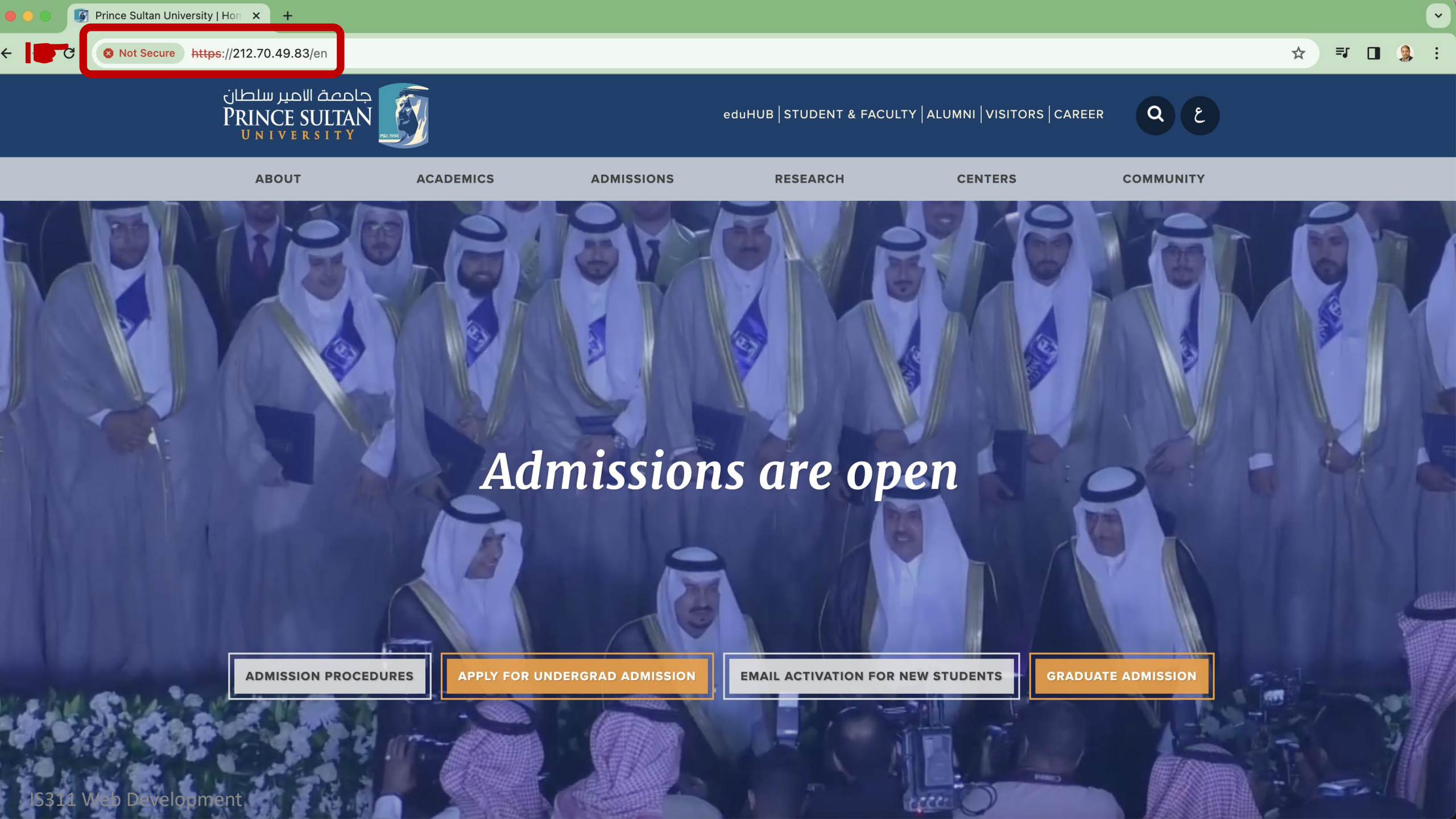


IP Address

IP Address

https://www.rankwatch.com/free-tools/domain-to-iP-converter-tool

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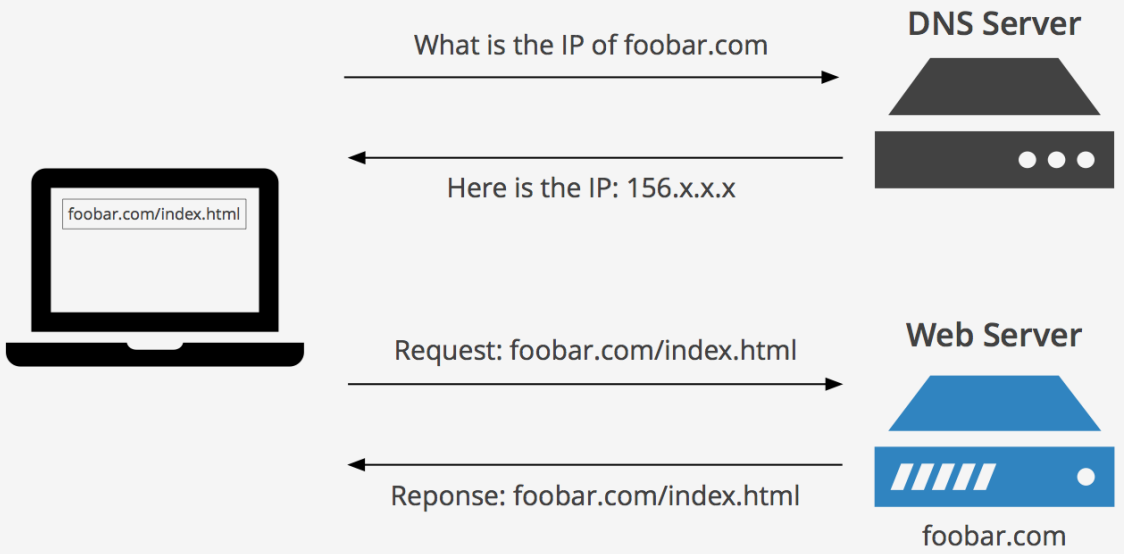
EMAIL ACTIVATION FOR NEW STUDENTS
GRADUATE ADMISSION

Domain Name Server (DNS)

Translate web address into IP address

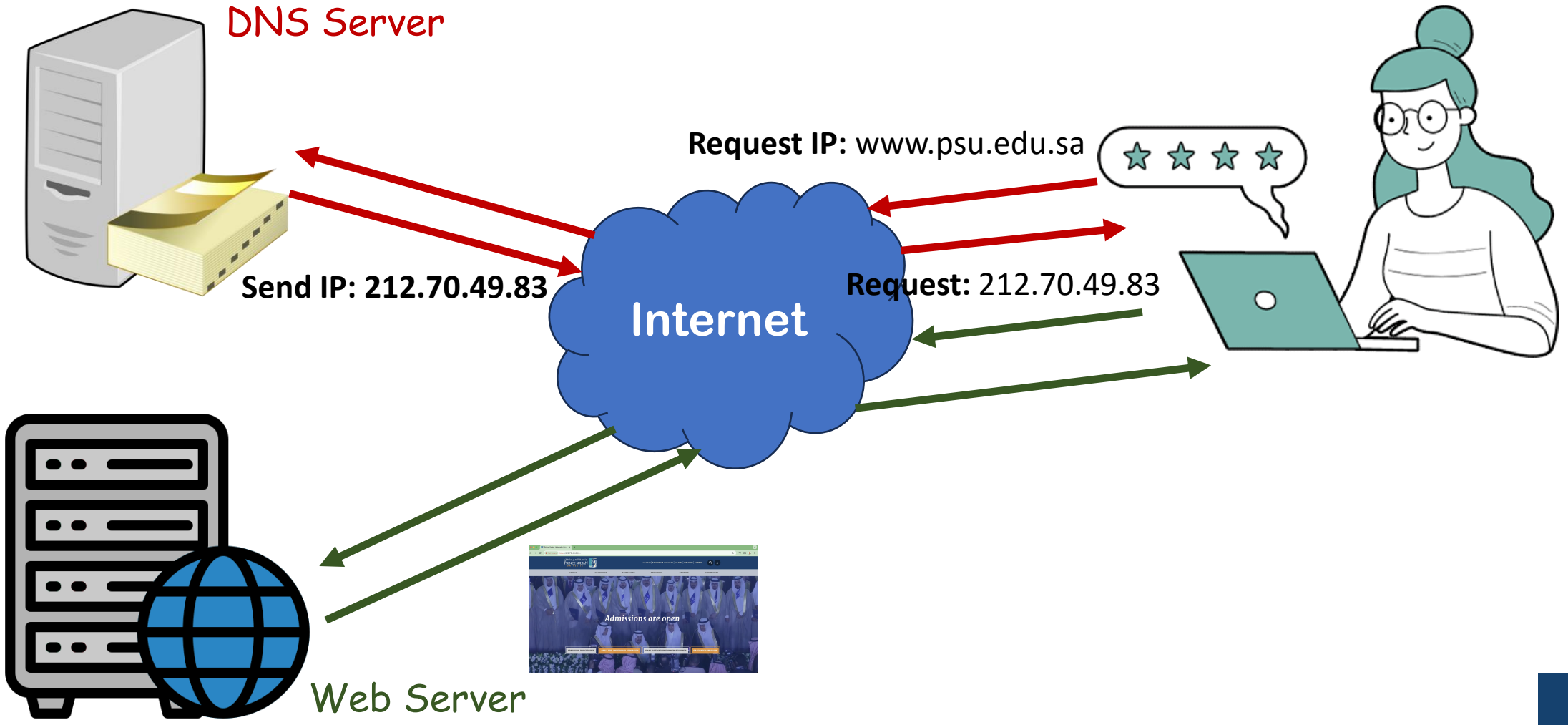


What Is a DNS Server?

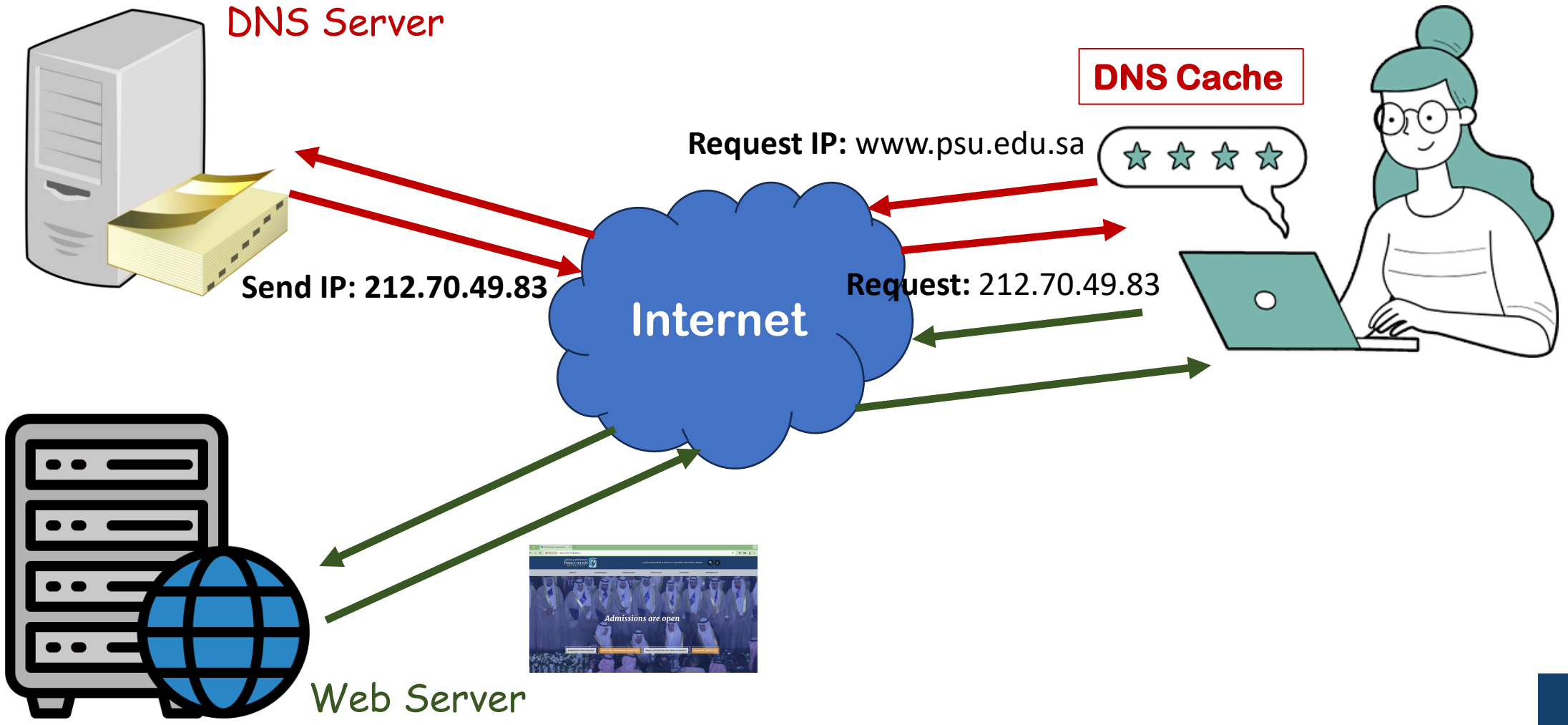
Domain Name Server (DNS)

- **Domain Name** is a unique name for your website
- Maintains the relationship between IP addresses and domain names.
- Associates unique computer IP Addresses with the text-based domain names you type into a web browser

Client - Server Model



Client - Server Model



URL

- Uniform resource locator

https://212.70.49.83/en/CCIS/is

Domain Name

Folder on Server

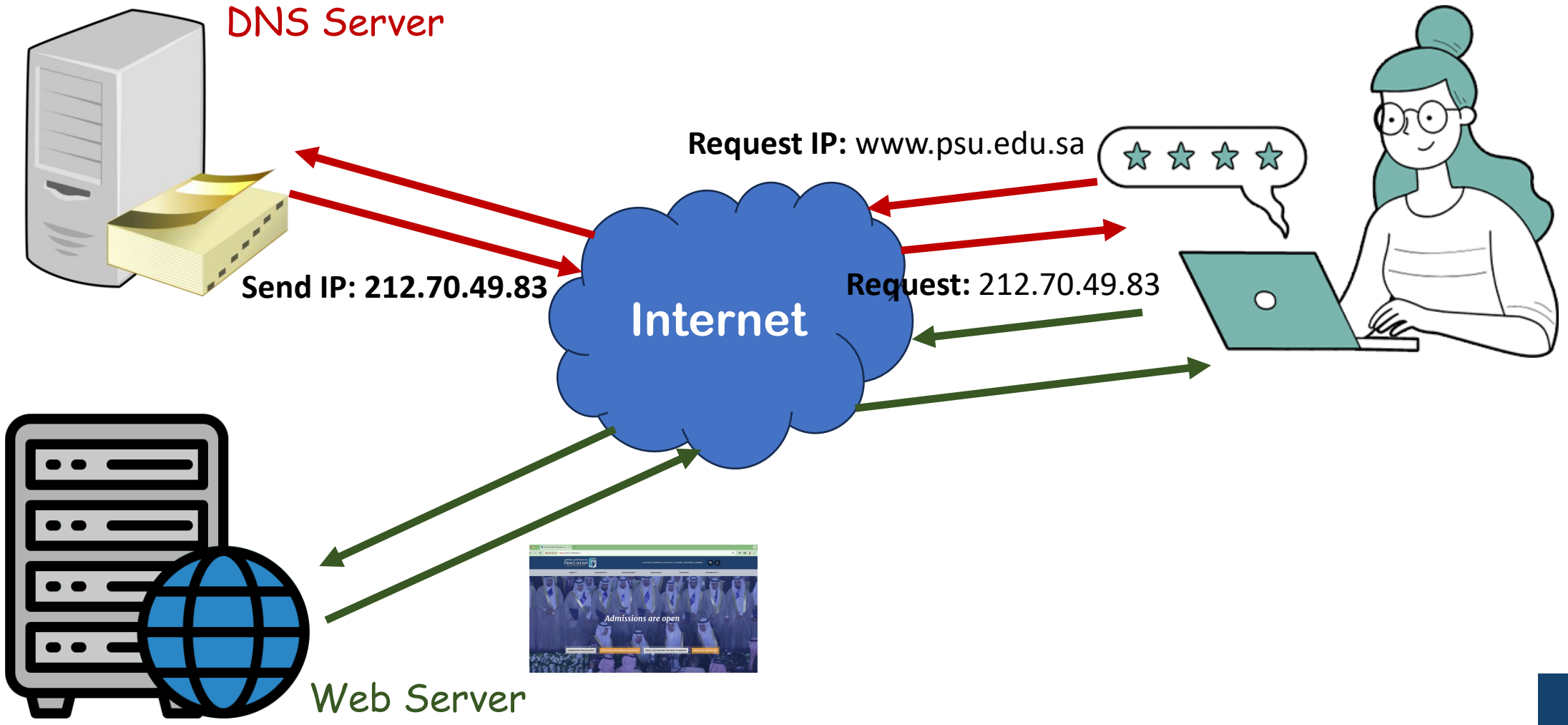
Sub Folder

File Resource

Protocols – Rules of Game

- **TCP** – transmission control protocol: a standard that defines how to establish and maintain a network conversation to exchange data
- **IP** – internet protocol: set of rules for routing and addressing
- **HTTP**: set of rules how hyper text is transferred over Internet

HTTP Request and Response



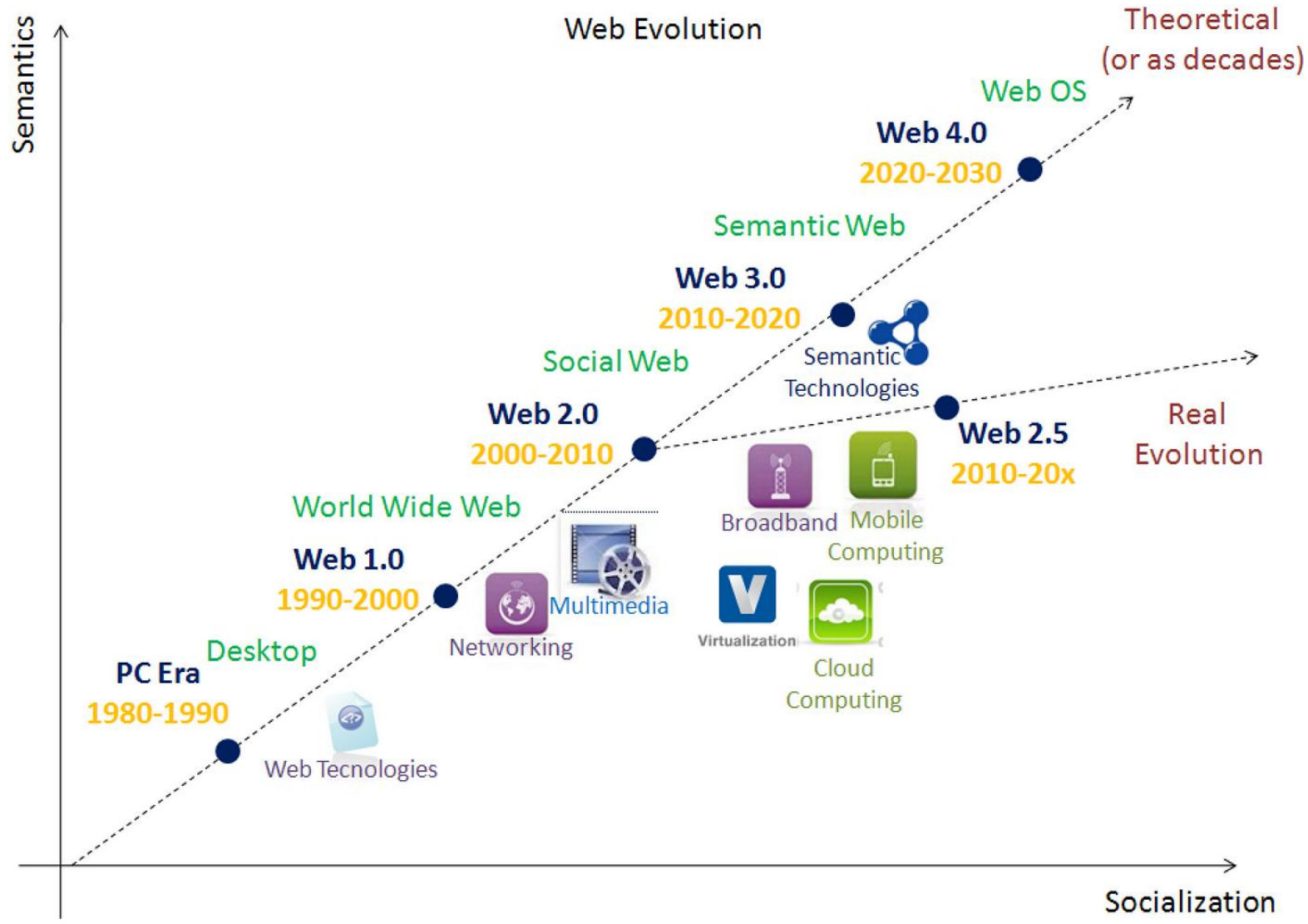
Email and File Protocol

- SMTP – Simple Mail Transfer Protocol
- IMAP – Internet Mail Access Protocol
- POP (POP3) – Post Office Protocol
- FTP – File Transfer Protocol
  - Transfer files from one computer to to other.
  - Helps to transfer whole website from developer computer to web server

Browser – Application

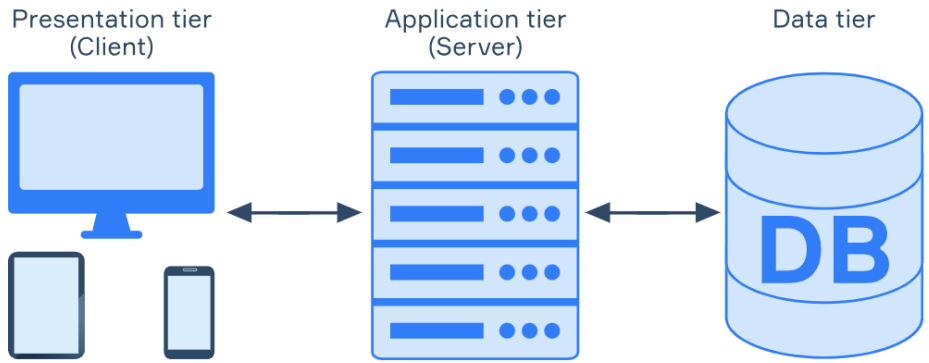
- A computer program to access websites and internet

Web Evolution



Three Tier Architecture

- **Presentation Tier**
  - user interface and communication layer
- **Application Tier**
  - logic tier or middle tier, is the heart of the application
- **Data Tier**
  - data access tier or back-end



Three Tier Architecture

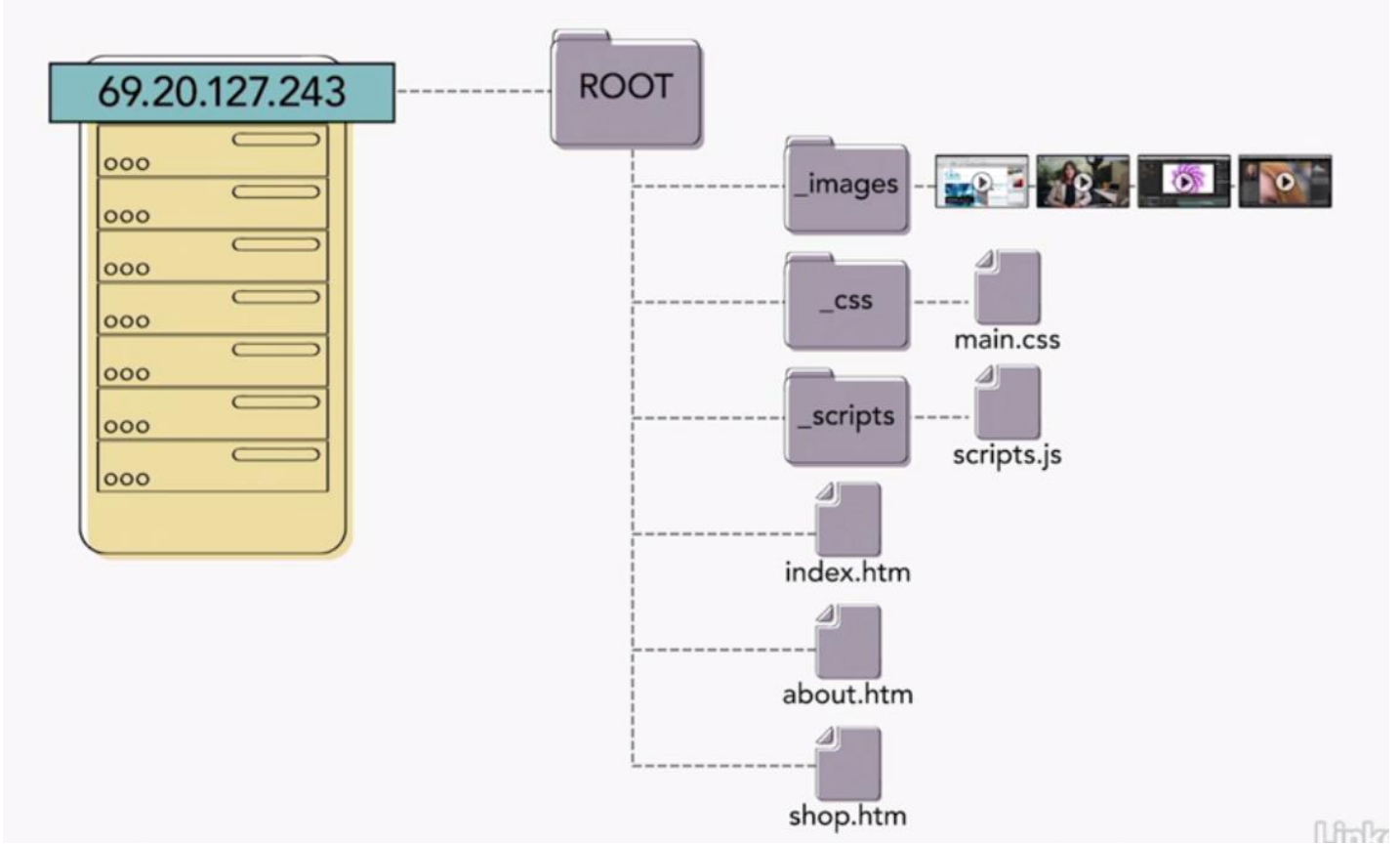
- Faster development
- Improved scalability
- Improved reliability
- Improved security

3-Tiers in Web Development

- **Web Server – Website**
  - Presnetation tier
- **Application Server**
  - housing the business logic used to process user inputs
- **Database Server**
  - backend tier of a web application and provide data

Web Server

A **web server** is a server that hosts websites and serves web pages.



Cloud & Mobile Computing

- New era of Internet, Web, and applications

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