Stored Procedure

Stored Procedures are pre compiled queries stored in database and executed whenever called without recompilation. Stored Procedure is compiled only once when it is created or when it is updated by programmer. Here we use above query that returns data from more than one tables and create stored procedure of that query.

```
CREATE PROCEDURE SelectEmployeeDetails (@paramPID1 INT, @paramPID2 INT)
BEGIN
        SELECT  P.PersonID, P. FirstName, P.LastName, E.Designation, E.Salary
        FROM Persons AS P
        INNER JOIN Employees AS E ON E.EmpID = P.PersonID
        WHERE P. PersonID = @ paramPID1 OR P. PersonID = @ paramPID2
END
```

Calling a Stored Procedure

```
CALL SelectEmployeeDetails (1003, 1004)
```

Data Type Used in MySQL	
INTEGER TYPES (EXACT VALUE)	INTEGER, INT, SMALLINT, TINYINT, MEDIUMINT, BIGINT
FIXED-POINT TYPES (EXACT VALUE)	DECIMAL, NUMERIC
FLOATING-POINT TYPES (APPROXIMATE VALUE)	FLOAT, DOUBLE
BIT-VALUE TYPE	BIT

What is URL

URL is an acronym for Uniform Resource Locator and is a reference (an address) to a resource on the Internet. A URL has two main components:

1- Protocol identifier: For the URL http://example.com, the protocol identifier is http.
2- Resource name: For the URL http://example.com, the resource name is example.com.

Note that the protocol identifier and the resource name are separated by a colon and two forward slashes. The protocol identifier indicates the name of the protocol to be used to fetch the resource.

The example uses the Hypertext Transfer Protocol (HTTP), which is typically used to serve up hypertext documents. HTTP is just one of many different protocols used to access different types of resources on the net.

http://ubterex.co.in/NominalRoll.aspx?InstID=10&BranchID=12

- http : Scheme Used or Protocol Used
- ubterex.co.in : Host Name
- File Name : NominalRoll.aspx
- Port Number : 8080 (For http protocol)
- Reference Or Parameters : InstID =10 & BranchID=12

Other protocols include File Transfer Protocol (FTP), Gopher, File, and News. The resource name is the complete address to the resource. The format of the resource name depends entirely on the protocol used, but for many protocols, including HTTP, the resource name contains one or more of the following components:

1- Host Name: The name of the machine on which the resource lives.
2- Filename : The pathname to the file on the machine.
3- Port Number: The port number to which to connect (typically optional).
4- Reference: A reference to a named anchor within a resource that usually identifies a specific location within a file (typically optional).

For many protocols, the host name and the filename are required, while the port number and reference are optional. For example, the resource name for an HTTP URL must specify a server on the network (Host Name) and the path to the document on that machine (Filename); it also can specify a port number and a reference.

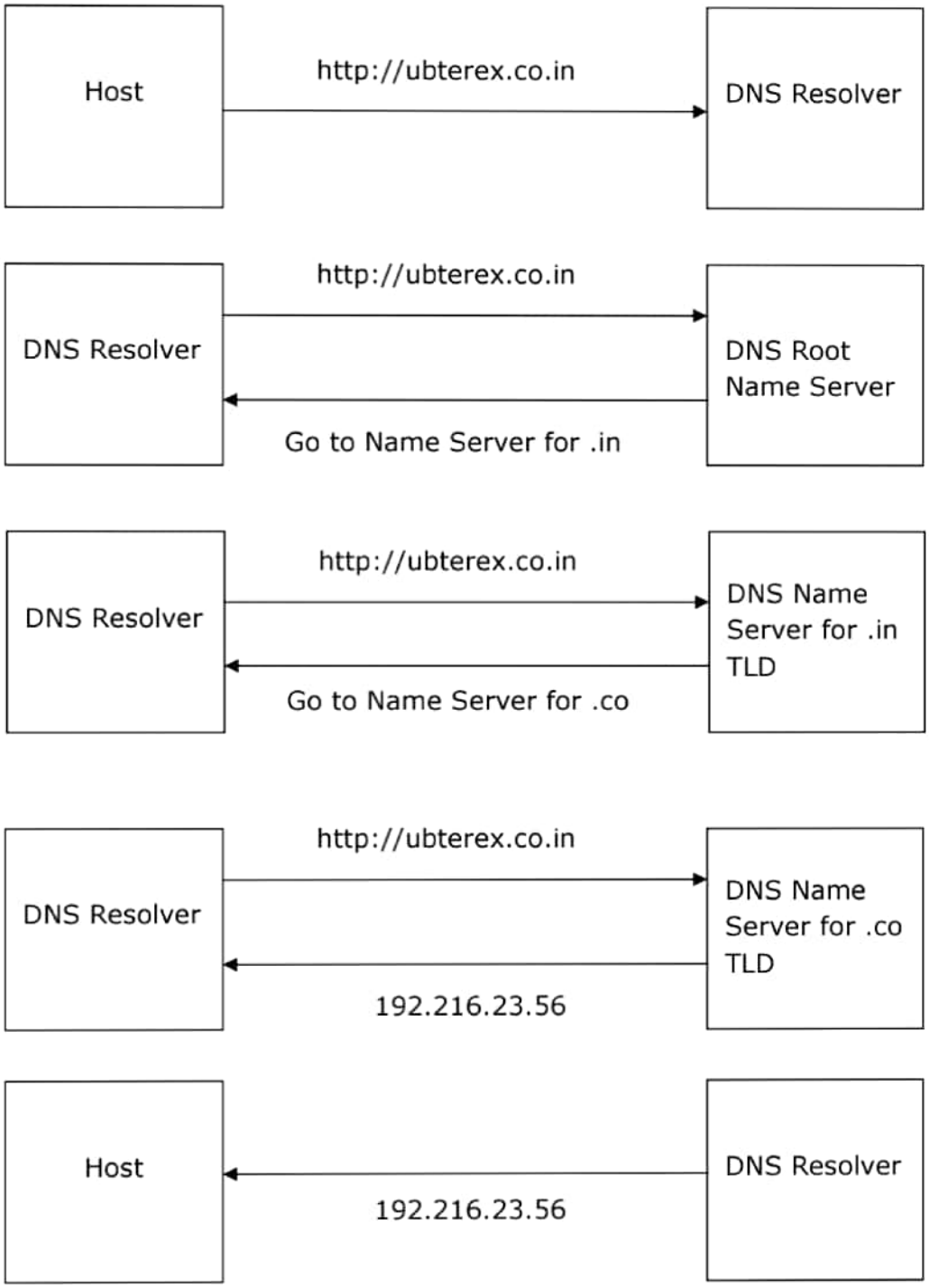
What is DNS?

The Domain Name Systems (DNS) is the address book of the Internet. Humans access information online through domain names, like http://ubterex.co.in or www.espn.com. Web browsers interact through Internet Protocol (IP) addresses. DNS translates domain names to IP addresses so browsers can load Internet resources.

Each device connected to the Internet has a unique IP address which other machines use to find the device. DNS servers eliminate the need for humans to memorize IP addresses such as 192.168.1.1 (in IPv4), or more complex newer alphanumeric IP addresses such as 2400:cb00:2048:1::c629:d7a2 (in IPv6).

How does DNS work?

The process of DNS resolution involves converting a hostname (such as www.example.com) into a computer-friendly IP address (such as 192.168.1.1). An IP address is given to each device on the Internet, and that address is necessary to find the appropriate Internet device - like a street address is used to find a particular home. When a user wants to load a webpage, a translation must occur between what a user types into their web browser (example.com) and the machine-friendly address necessary to locate the example.com webpage.



1- A user opens a web browser, enters http://ubterex.co.in in the address bar, and presses Enter.

2- The request for [http://ubterex.co.in] is routed to a DNS resolver, which is typically managed by the user's Internet service provider (ISP.

3- The DNS resolver for the ISP forwards the request for http://ubterex.co.in to a DNS root name server.

4- The DNS resolver for the ISP forwards the request for http://ubterex.co.in again, this time to one of the TLD (Top Level Domain) name servers for .in domains. The name server for .in domains responds to the request with the names of the .co name servers that are associated with the http://ubterex.co.in domain.

5- The DNS resolver for the ISP chooses (.co) name server and forwards the request for http://ubterex.co.in to that name server.

6- The .co name server looks in the example.com hosted zone for the www.example.com record, gets the associated value, such as the IP address for a web server, 192.216.23.56, and returns the IP address to the DNS resolver.

7- The DNS resolver for the ISP finally has the IP address that the user needs. The resolver returns that value to the web browser. The DNS resolver also caches (stores) the IP address for http://ubterex.co.in for an amount of time that you specify so that it can respond more quickly the next time someone browses to http://ubterex.co.in.

8- The web browser sends a request for http://ubterex.co.in to the IP address that it got from the DNS resolver.

9- The web server or other resource at 192.0.2.44 returns the web page for http://ubterex.co.in to the web browser, and the web browser displays the page.

File Transfer Protocol (FTP)

File Transfer Protocol (FTP) is an application layer protocol which moves files between local and remote file systems. It runs on the top of TCP, like HTTP. To transfer a file, 2 TCP connections are used by FTP in parallel: control connection and data connection.

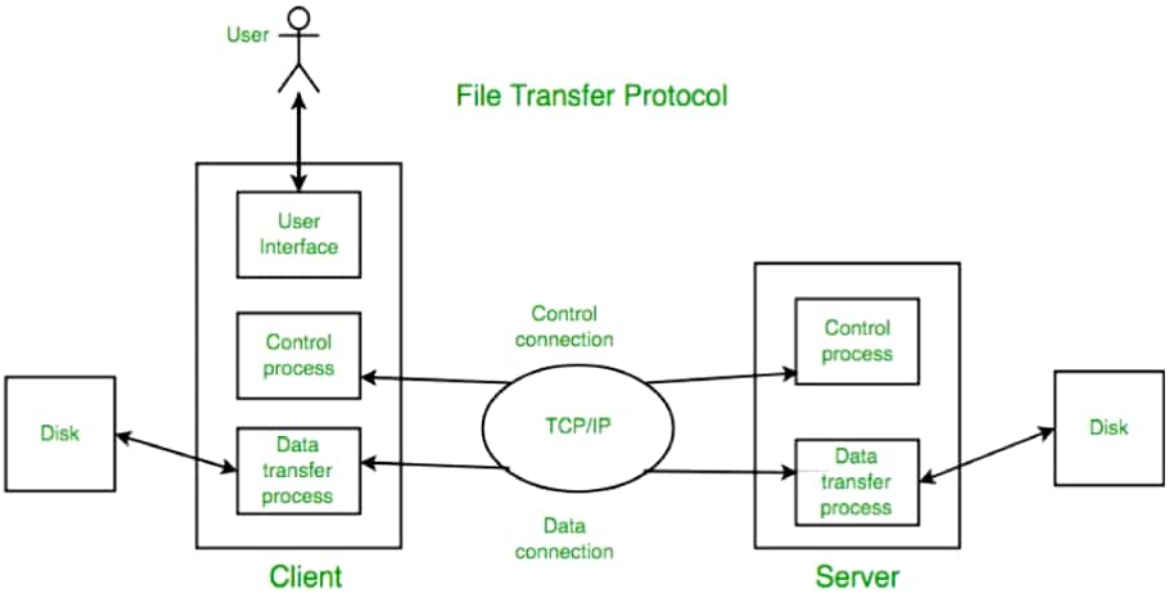
What is control connection?

For sending control information like user identification, password, commands to change the remote directory, commands to retrieve and store files etc., FTP makes use of control connection. Control connection is initiated on port number 21.

What is data connection?

For sending the actual file, FTP makes use of data connection. Data connection is initiated on port number 20. FTP sends the control information out-of-band as it

uses a separate control connection. Some protocols send their control Information in request and response header lines and the data in the same TCP connection. For this reason, they are said to send their control information in-band. HTTP and SMTP are such examples.



Video Conference

A video conference is a live, visual connection between two or more people residing in separate locations for the purpose of communication. At its simplest, video conferencing provides transmission of static images and text between two locations. At its most sophisticated, it provides transmission of full-motion video images and high-quality audio between multiple locations.

The Hypertext Transfer Protocol (HTTP)

The Hypertext Transfer Protocol (HTTP) is an application layer protocol for distributed, collaborative, hypermedia information systems. HTTP is a generic and stateless protocol which can be used for other purposes as well using extensions of its request methods, error codes, and headers.

Basically, HTTP is a TCP/IP based communication protocol, that is used to deliver data (HTML files, image files, query results, etc.) on the World Wide Web. The default port is TCP 80, but other ports can be used as well. It provides a standardized way for computers to communicate with each other.

Communication between clients and servers is done by requests and responses:

1. A client (a browser) sends an HTTP request to the web.
2. A web server receives the request.
3. The server runs an application to process the request.
4. The server returns an HTTP response (output) to the browser.
5. The client (the browser) receives the response.

Basic Features
There are three basic features that make HTTP a simple but powerful protocol:

HTTP is connectionless: The HTTP client (a browser) initiates an HTTP request and after a request is made, the client waits for the response. The server processes the request and sends a response back after which client disconnect the connection. So client and server know about each other during current request and response only. Further requests are made on new connection like client and server are new to each other.

HTTP is media independent: It means, any type of data can be sent by HTTP as long as both the client and the server know how to handle the data content. It is required for the client as well as the server to specify the content type using appropriate MIME-type.

HTTP is stateless: As mentioned above, HTTP is connectionless and it is a direct result of HTTP being a stateless protocol. The server and client are aware of each other only during a current request. Afterwards, both of them forget about each other. Due to this nature of the protocol, neither the client nor the browser can retain information between different requests across the web pages.

What is Ecommerce?

Ecommerce, also known as electronic commerce or internet commerce, refers to the buying and selling of goods or services using the internet, and the transfer of money and data to execute these transactions. Ecommerce is often used to refer to the sale of physical products online, but it can also describe any kind of commercial transaction that is facilitated through the internet.

Types of Ecommerce Models: There are four main types of ecommerce models that can describe almost every transaction that takes place between consumers and businesses.

1. Business to Consumer (B2C): When a business sells a good or service to an individual consumer (e.g. You buy a pair of shoes from an online retailer).

2. Business to Business (B2B): When a business sells a good or service to another business (e.g. A business sells software-as-a-service for other businesses to use)

3. Consumer to Consumer (C2C): When a consumer sells a good or service to another consumer (e.g. You sell your old furniture on OLX to another consumer).

4. Consumer to Business (C2B): When a consumer sells their own products or services to a business or organization (e.g. An influencer offers exposure to their online audience in exchange for a fee, or a photographer licenses their photo for a business to use).

Examples of Ecommerce

Ecommerce can take on a variety of forms involving different transactional relationships between businesses and consumers, as well as different objects being exchanged as part of these transactions.

Retail: The sale of a product by a business directly to a customer without any intermediary.

Wholesale: The sale of products in bulk, often to a retailer that then sells them directly to consumers.

Email (Electronic Mail)

Email Short for electronic mail, email (or e-mail) is defined as the transmission of messages over communications networks via three protocols SMTP (Simple Mail Transfer Protocol), POP (Post Office Protocol) and IMAP (Internet Message Access Protocol) respectively. Typically the messages are notes entered from the keyboard or electronic files stored on disk.
Some electronic mail systems are confined to a single computer system or network, but others have gateways to other computer systems, enabling users to send electronic mail anywhere in the world.
Most email systems include a rudimentary text editor for composing messages, but many allow you to edit your messages using any editor you want. You can use the program to send the message to a recipient by specifying the recipient's address. You can also send the same message to several users at once. This is called broadcasting.
Sent messages are stored in electronic mailboxes until the recipient fetches them. To see if you have any mail, you may have to check your electronic mailbox periodically, although many systems alert you when mail is received. After reading your mail, you can store it in a text file, forward it to other users, or delete it. Copies of memos can be printed out on a printer if you want a paper copy.