



Lisbon School
of Economics
& Management
Universidade de Lisboa

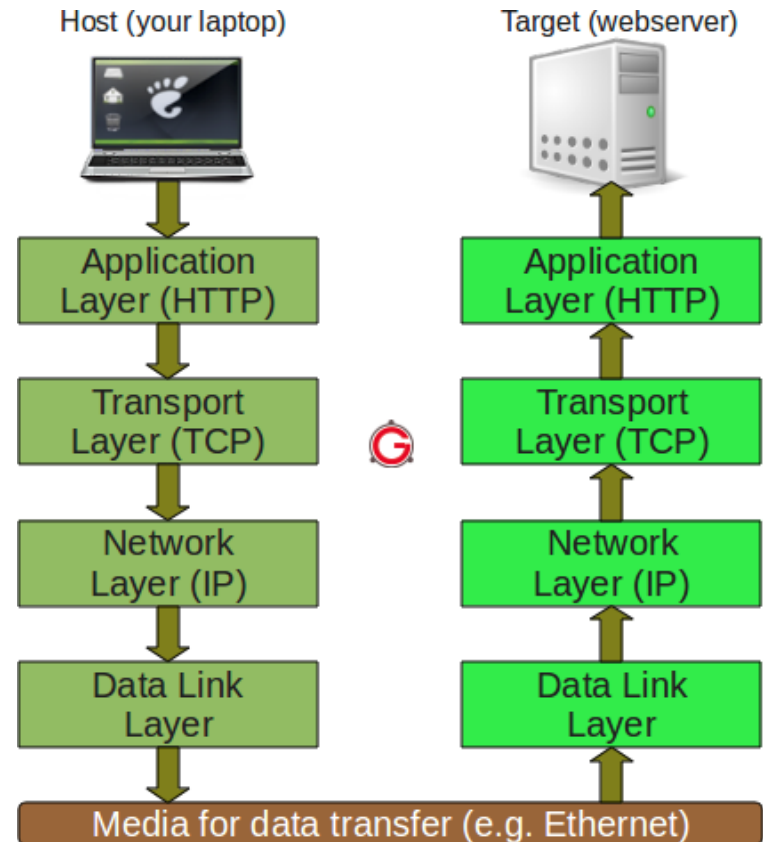


CARLOS J. COSTA

BASE DE DADOS NA WEB

Protocols

- Protocols:
 - HTTP (hipertext Transfer Protocol)
 - TCP (Transmission Control Protocol)
 - IP (Internet Protocol)
 - Ethernet



DHCP

- Servidor de DHCP (Dynamic Host Configuration Protocol)
 - tem por propósito atribuição de IP



DHCP

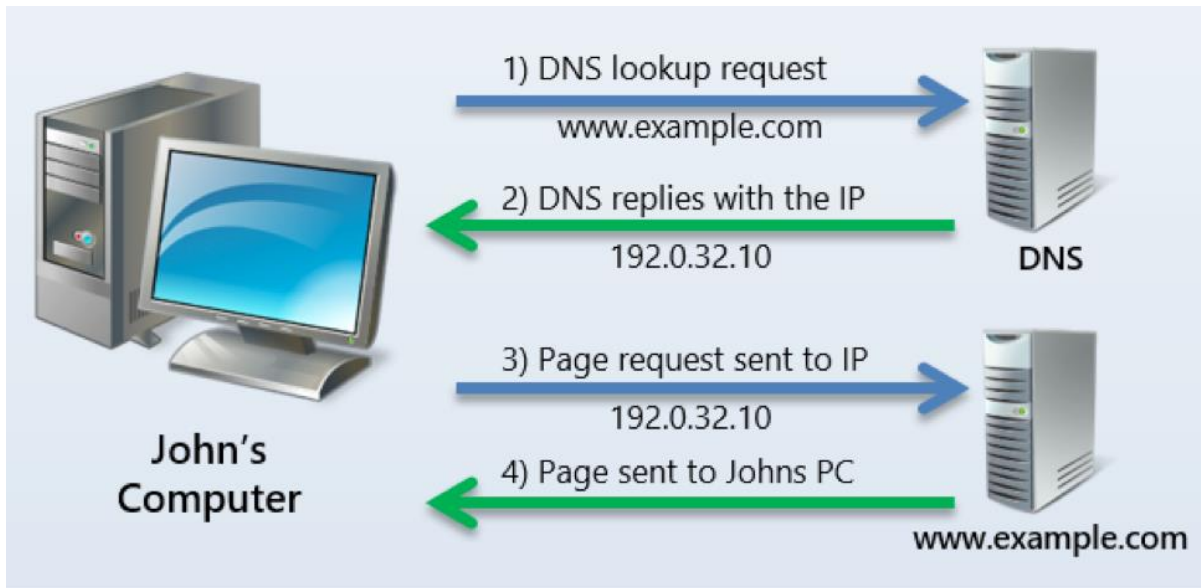
- Comandos para saber o IP do nosso computador
 - No DOS/Windows:
`ipconfig`
 - No Linux/Mac:
`ifconfig`

IP

- Computadores têm IP
- IP privado
- IP público
- Servidores também têm IP
 - Exemplo: `http://193.136.144.100/`

DNS

- DNS (Domain Name System)

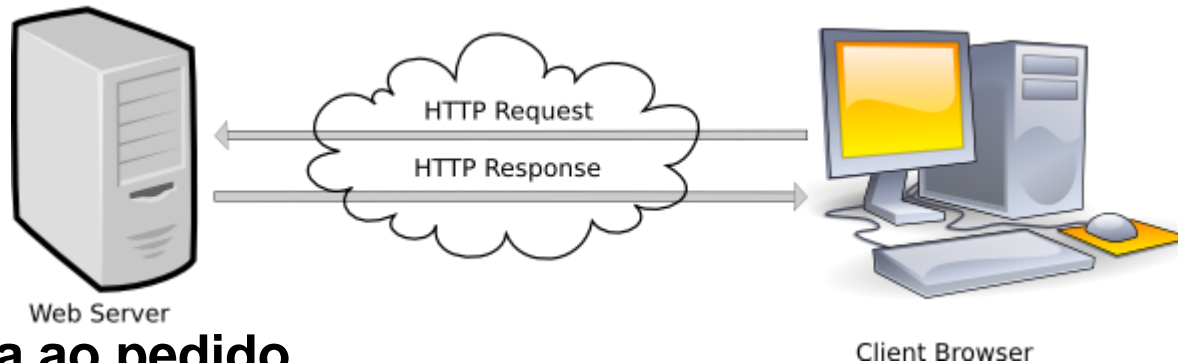


HTTP

2 – Pedido recebido

Pode existir: execução de programas, acesso base de dados...

1 – Pedido HTTP (escrevendo URL na barra de endereço)

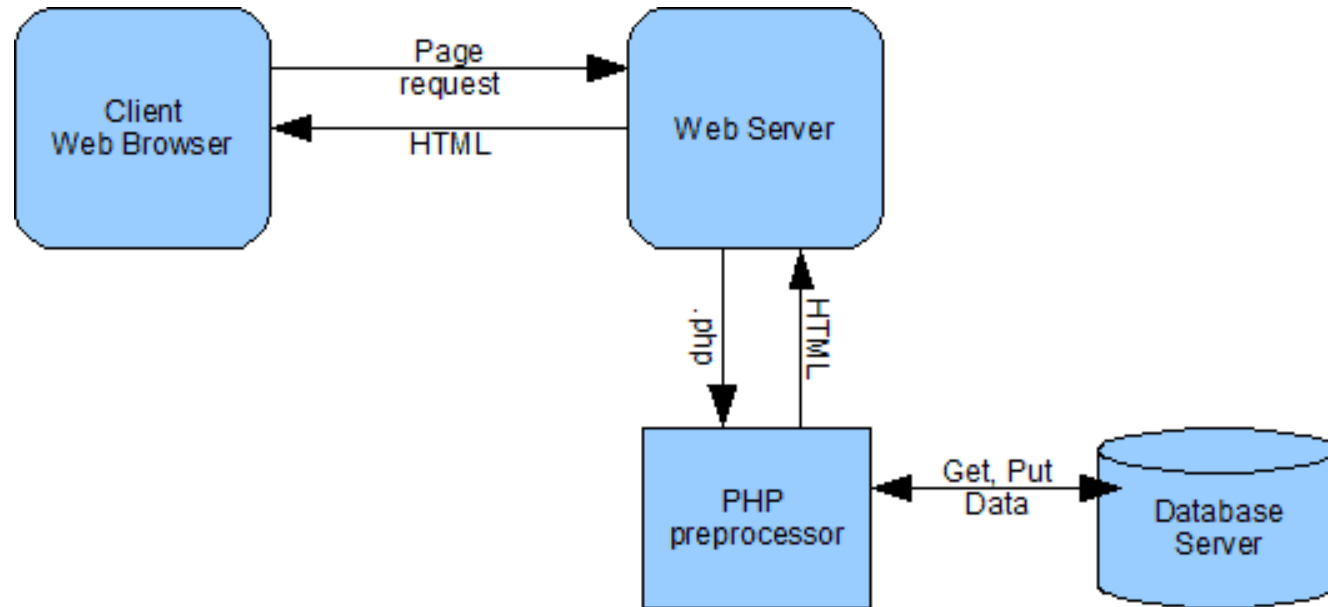


3- Reposta ao pedido

4 – Recebido reposta (ficheiros texto, imagens, etc)

5 – Interpretação do código

Wed Server/DB Server



Browser

- Fazer pedido HTTP
- Interpretar repostas (HTML, CSS, Javascript)
- Renderizar e Mostrar no Ecã
- Também tem ferramentas de desenvolvimento



Solução

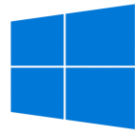


- XAMPP:
- <https://www.apachefriends.org/index.html>
- <https://youtu.be/h6DEDm7C37A>

XAMPP



- XAMPP
- X
- Apache
- MariaDB (ou MySQL)
- PHP
- Perl



XAMPP

XAMPP Control Panel v3.2.2 [Compiled: Nov 12th 2015]

XAMPP Control Panel v3.2.2

| Service | Module | PID(s) | Port(s) | Actions |
|--------------------------|-----------|----------------|---------|-------------------------|
| <input type="checkbox"/> | Apache | 13508 10116 | 80, 443 | Stop Admin Config Logs |
| <input type="checkbox"/> | MySQL | 13432 | 3306 | Stop Admin Config Logs |
| <input type="checkbox"/> | FileZilla | | | Start Admin Config Logs |
| <input type="checkbox"/> | Mercury | | | Start Admin Config Logs |
| <input type="checkbox"/> | Tomcat | | | Start Admin Config Logs |

16:02:55 [main] All prerequisites found
16:02:55 [main] Initializing Modules
16:02:55 [main] Starting Check-Timer
16:02:55 [main] Control Panel Ready
16:03:03 [Apache] Attempting to start Apache app...
16:03:03 [Apache] Status change detected: running
16:03:03 [mysql] Attempting to start MySQL app...
16:03:04 [mysql] Status change detected: running

Config Netstat Shell Explorer Services Help Quit

XAMPP

- Se o XAMPP estiver a correr no nosso computador deve-se colocar no browser:

<http://localhost>

- Se o XAMPP estiver a correr em outro computador, temos que saber o IP desse computador. Se for, por exemplo, 192.168.1.11, então deve escrever-se:

<http://192.168.1.11>

phpmyadmin

The screenshot displays the phpMyAdmin web interface in a browser window. The address bar shows `localhost/phpmyadmin/`. The interface includes a top navigation bar with tabs for Databases, SQL, Status, User accounts, Export, Import, Settings, Replication, Variables, Charsets, Engines, and Plugins. A left sidebar shows a tree view of databases: information_schema, mysql, performance_schema, phpmyadmin, and test. The main content area is divided into several panels:

- General settings:** Server connection collation is set to `utf8mb4_unicode_ci`.
- Appearance settings:** Language is set to English, Theme is `pmahomme`, and Font size is 82%.
- Database server:** Server: 127.0.0.1 via TCP/IP; Server type: MariaDB; Server version: 10.1.28-MariaDB - mariadb.org binary distribution; Protocol version: 10; User: root@localhost; Server charset: UTF-8 Unicode (utf8).
- Web server:** Apache/2.4.29 (Win32) OpenSSL/1.0.2i PHP/7.1.11; Database client version: libmysql - mysqlnd 5.0.12-dev - 20150407 - \$Id: b396954eeb2d1d9ed7902b8bae237b287f21ad9e \$; PHP extension: mysqli, curl, mbstring; PHP version: 7.1.11.
- phpMyAdmin:** Version information: 4.7.4, latest stable version: 4.7.5; links for Documentation, Official Homepage, Contribute, Get support, List of changes, and License.

A notification banner at the bottom states: "A newer version of phpMyAdmin is available and you should consider upgrading. The newest version is 4.7.5, released on 2017-10-23." A console window is visible at the very bottom.

phpmyadmin

- Criar base de dados
- Criar tabelas

Cliente (idCliente, nome, eMail)

Artigo (codigoArtigo, idCliente, descricao, valor)

localhost/phpmyadmin/db_structure.php?db=dbcliente

Server: 127.0.0.1 » Database: dbcliente » Table: cliente

Table name: cliente Add 1 column(s) Go

| Name | Type | Length/Values | Default | Collation | Attributes | Null | Index | Comments | Virtual |
|-----------|------|---------------|---------|-----------|------------|--------------------------|---------|----------|--------------------------|
| idCliente | INT | | None | | | <input type="checkbox"/> | PRIMARY | | <input type="checkbox"/> |
| eMail | TEXT | | None | | | <input type="checkbox"/> | --- | | <input type="checkbox"/> |
| nome | TEXT | | None | | | <input type="checkbox"/> | --- | | <input type="checkbox"/> |
| | INT | | None | | | <input type="checkbox"/> | --- | | <input type="checkbox"/> |
| | INT | | None | | | <input type="checkbox"/> | --- | | <input type="checkbox"/> |

Table comments: Collation: Storage Engine: InnoDB

PARTITION definition: Partition by: (Expression or column list)

```

>CREATE TABLE `dbcliente`.`cliente` ( `idCliente` INT NOT NULL , `eMail` TEXT NOT NULL , PRIMARY KEY (`idCliente`)) ENGINE = InnoDB;

```


localhost/phpmyadmin/db_structure.php?server=1&db=dbcliente&table=cliente

Server: 127.0.0.1 » Database: dbcliente » Table: cliente

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Table structure Relation view

| # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|--------------------------|------|------------------|------------------------|------------|------|---------|----------|-------|--|
| <input type="checkbox"/> | 1 | idCliente | int(11) | | No | None | | | Change Drop Primary Unique Index Spatial Fulltext Distinct values More |
| <input type="checkbox"/> | 2 | eMail | text latin1_swedish_ci | | No | None | | | Change Drop Primary Unique Index Spatial Fulltext Distinct values More |
| <input type="checkbox"/> | 3 | nome | text latin1_swedish_ci | | No | None | | | Change Drop Primary Unique Index Spatial Fulltext Distinct values More |

Check all With selected: Browse Change Drop Primary Unique Index Add to central columns Remove from central columns

Print Propose table structure Track table Move columns Improve table structure

Add 1 column(s) after nome Go

Indexes

| Action | Keyname | Type | Unique | Packed | Column | Cardinality | Collation | Null | Comment |
|-----------|---------|-------|--------|--------|-----------|-------------|-----------|------|---------|
| Edit Drop | PRIMARY | BTREE | Yes | No | idCliente | 0 | A | No | |

Create an index on 1 columns Go

Partitions

No partitioning defined!

Console

```

Press Ctrl+Enter to execute query
>CREATE TABLE `dbcliente`.`cliente` ( `idCliente` INT NOT NULL , `eMail` TEXT NOT NULL , `nome` TEXT NOT NULL , PRIMARY KEY (`idCliente`)) ENGINE = InnoDB;
>CREATE TABLE `dbcliente`.`cliente` ( `idCliente` INT NOT NULL , `eMail` TEXT NOT NULL , `nome` TEXT NOT NULL , PRIMARY KEY (`idCliente`)) ENGINE = InnoDB;
>

```

phpMyAdmin

Recent Favorites

- New
- dbcliente
 - New
 - artigo
 - Columns
 - Indexes
 - cliente
 - Columns
 - Indexes
- information_schema
- mysql
- performance_schema
- phpmyadmin
- test

Server: 127.0.0.1 » Database: dbcliente » Table: artigo

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Table structure Relation view

| # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|--------------------------|------|--------------|------------------------|------------|------|---------|----------|-------|--|
| <input type="checkbox"/> | 1 | codigoArtigo | int(11) | | No | None | | | Change Drop Primary Unique Index Spatial Fulltext Distinct values More |
| <input type="checkbox"/> | 2 | idCliente | int(11) | | No | None | | | Change Drop Primary Unique Index Spatial Fulltext Distinct values More |
| <input type="checkbox"/> | 3 | descricao | text latin1_swedish_ci | | No | None | | | Change Drop Primary Unique Index Spatial Fulltext Distinct values More |
| <input type="checkbox"/> | 4 | valorArtigo | float | | No | None | | | Change Drop Primary Unique Index Spatial Fulltext Distinct values More |

Check all With selected: Browse Change Drop Primary Unique Index Add to central columns Remove from central columns

Print Propose table structure Track table Move columns Improve table structure Index

Add 1 column(s) after valorArtigo

Indexes

| Action | Keyname | Type | Unique | Packed | Column | Cardinality | Collation | Null | Comment |
|---|-----------|-------|--------|--------|--------------|-------------|-----------|------|---------|
| <input type="button" value="Edit"/> <input type="button" value="Drop"/> | PRIMARY | BTREE | Yes | No | codigoArtigo | 0 | A | No | |
| <input type="button" value="Edit"/> <input type="button" value="Drop"/> | idCliente | BTREE | No | No | idCliente | 0 | A | No | |

Create an index on 1 columns

Partitions

Console

```

>SELECT * FROM `artigo`
>SELECT * FROM `artigo`
>SELECT * FROM `cliente`
>
    
```

localhost/phpmyadmin/db_designer.php?db=dbcliente

phpMyAdmin

Server: 127.0.0.1 » Database: dbcliente

Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers Tracking More

Untitled *

Recent Favorites

- New
- dbcliente
 - New
 - artigo
 - cliente
- information_schema
- mysql
- performance_schema
- phpmyadmin
- test

dbcliente cliente

- idCliente : int(11)
- eMail : text
- nome : text

dbcliente artigo

- codigoArtigo : int(11)
- idCliente : int(11)
- descricao : text
- valorArtigo : float

Create relationship

Choose column to display

Reload

Help

Angular links / Direct links

Snap to grid

Small/Big All

Toggle small/big

Toggle relationship lines

Export schema

Move Menu

Pin text

Console

```
>ALTER TABLE `artigo` ADD INDEX(`idCliente`);
>ALTER TABLE `artigo` ADD INDEX(`idCliente`);
>SELECT * FROM `artigo`
>SELECT * FROM `artigo`
```

localhost/phpmyadmin/db_designer.php?db=dbcliente#

```
CREATE TABLE `artigo` (  
  `codigoArtigo` int(11) NOT NULL,  
  `idCliente` int(11) NOT NULL,  
  `descricao` text NOT NULL,  
  `valorArtigo` float NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
CREATE TABLE `cliente` (  
  `idCliente` int(11) NOT NULL,  
  `eMail` text NOT NULL,  
  `nome` text NOT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

```
ALTER TABLE `artigo`  
  ADD PRIMARY KEY (`codigoArtigo`),  
  ADD KEY `idCliente` (`idCliente`);
```

```
ALTER TABLE `cliente`  
  ADD PRIMARY KEY (`idCliente`);
```

```
ALTER TABLE `artigo`  
  ADD CONSTRAINT `artigo_ibfk_1` FOREIGN KEY (`idCliente`) REFERENCES `cliente` (`idCliente`);
```

Exercicio

1. Criar a seguinte base de dados:

Participante (codParticipante, nome, sexo, email)

Participa (codParticipante, codigoFesta)

Festa (codFesta, data, descricao)

Patrocinio (idPatocinio, codFesta, codPatrocinador, valor)

Patrocinador (codPatrocinador, firma, morada, sector)

2. Inserir dados

3. Gerar SQL