



LISBON
**SCHOOL OF
ECONOMICS &
MANAGEMENT**

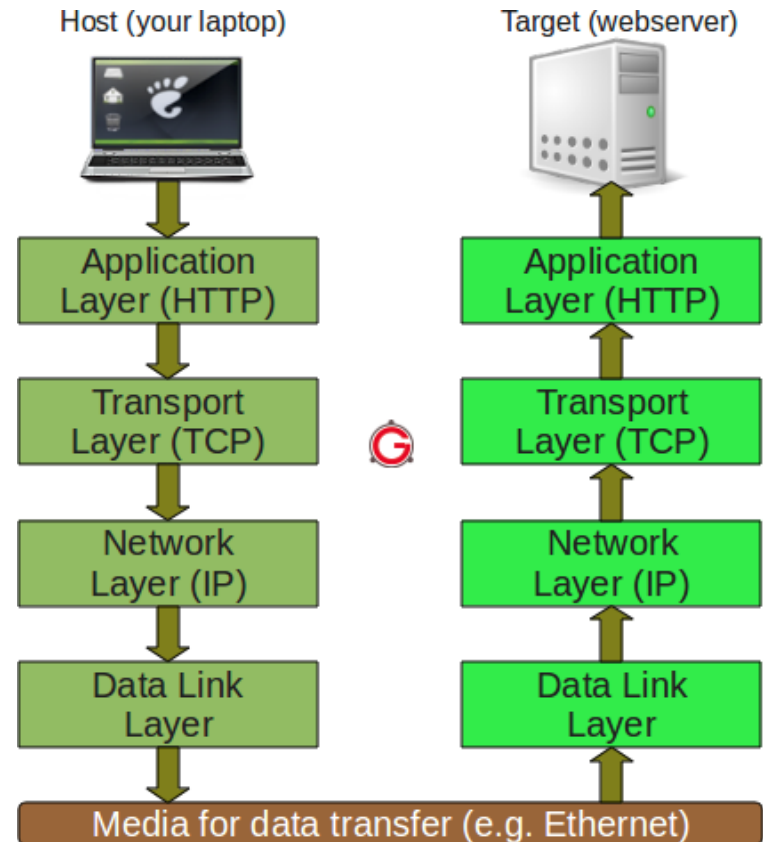
UNIVERSIDADE DE LISBOA

Base de Dados na Web

CARLOS J. COSTA

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

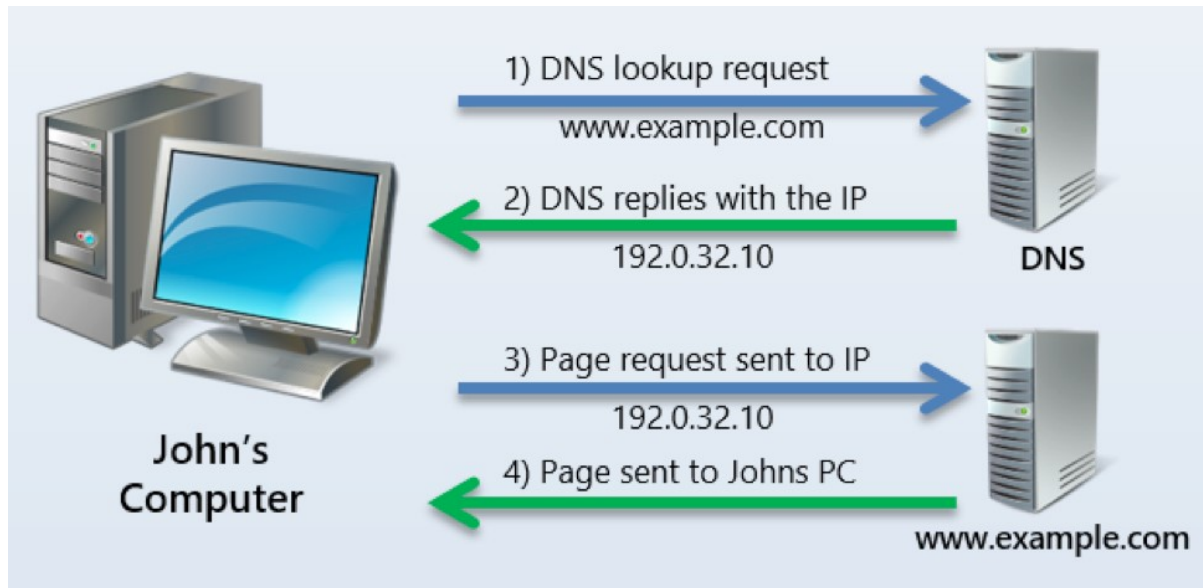
- Comandos para saber o IP do nosso computador
 - No DOS/Windows:
`ipconfig`
 - No Linux/Mac:
`ifconfig`

IP

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

DNS

- DNS (Domain Name System)

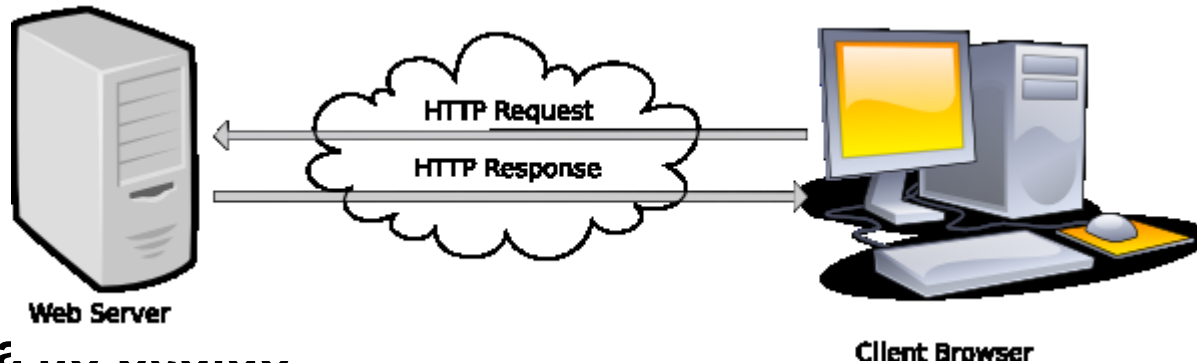


HTTP

2 – Pedido recebido

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

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

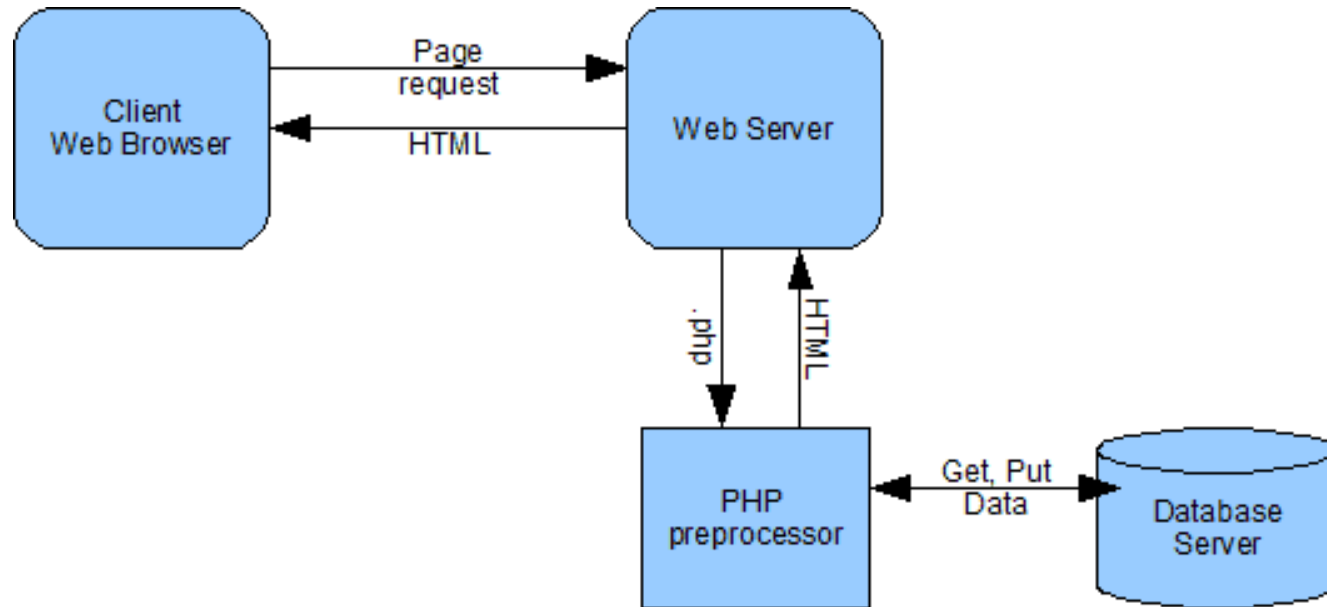


3- Reposta ao pedido

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



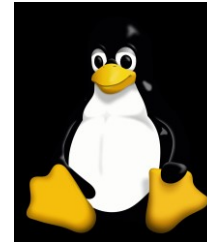
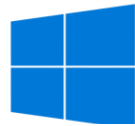
- XAMPP:
- <https://www.apachefriends.org/index.html>
- <https://youtu.be/h6DEDm7C37A>

XAMPP



- XAMPP

- X



- Apache



- MariaDB (fork of MySQL)



- PHP



- Perl



XAMPP

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

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

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 navigation menu on the left with options like 'New', 'information_schema', 'mysql', 'performance_schema', 'phpmyadmin', and 'test'. The main content area is divided into several panels:

- General settings:** Shows 'Server connection collation' set to 'utf8mb4_unicode_ci'.
- Appearance settings:** Shows 'Language' set to 'English', 'Theme' set to 'pmahomme', and 'Font size' set to '82%'. A 'More settings' link is also present.
- Database server:** Lists server details: 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, and Server charset: UTF-8 Unicode (utf8).
- Web server:** Lists web server details: 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, and PHP version: 7.1.11.
- phpMyAdmin:** Lists version information: 4.7.4, latest stable version: 4.7.5, and links to 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.'



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

Table structure

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

```

>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 *

- Show/Hide tables list
- View in fullscreen
- New page
- Open page
- Save page
- Save page as
- Delete pages
- Create table
- 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

dbcliente cliente

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

dbcliente artigo

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

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