



LISBON
**SCHOOL OF
ECONOMICS &
MANAGEMENT**
UNIVERSIDADE DE LISBOA

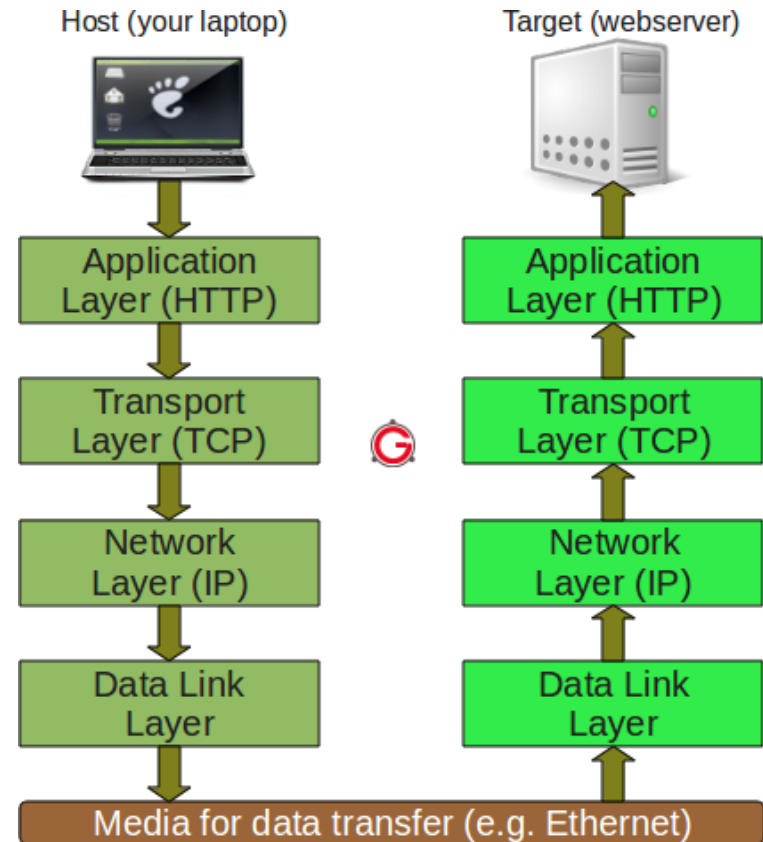
Base de Dados na Web

CARLOS J. COSTA



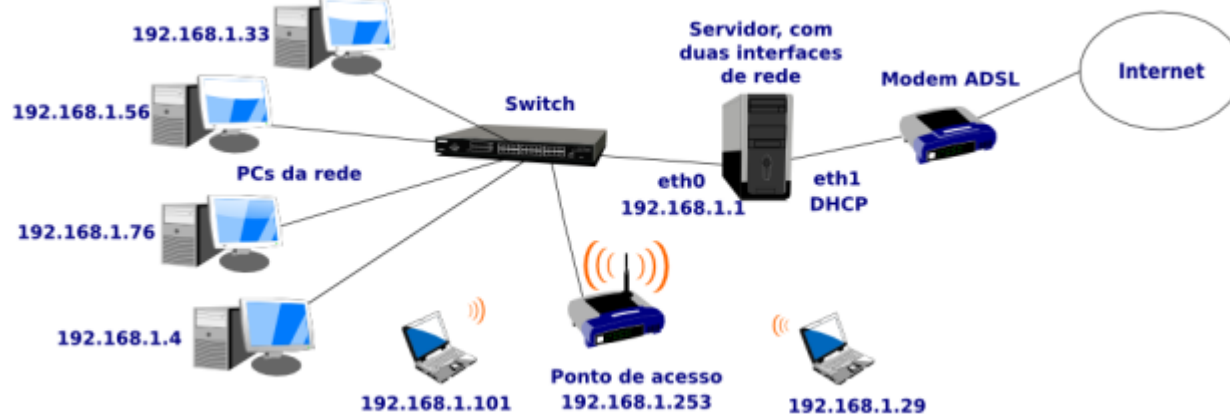
Protocols

- 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

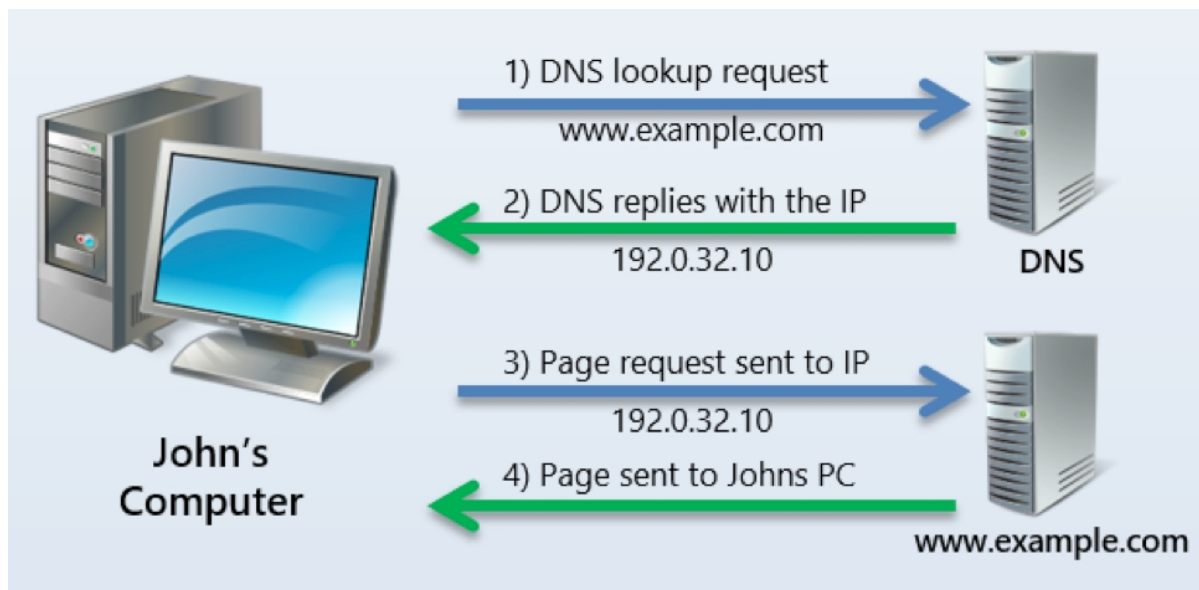
- Comandos para saber o IP do nosso computador
 - No DOS/Windows:
`ipconfig`
 - No Linux/Mac:
`ifconfig`

IP

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

DNS

- DNS (Domain Name System)

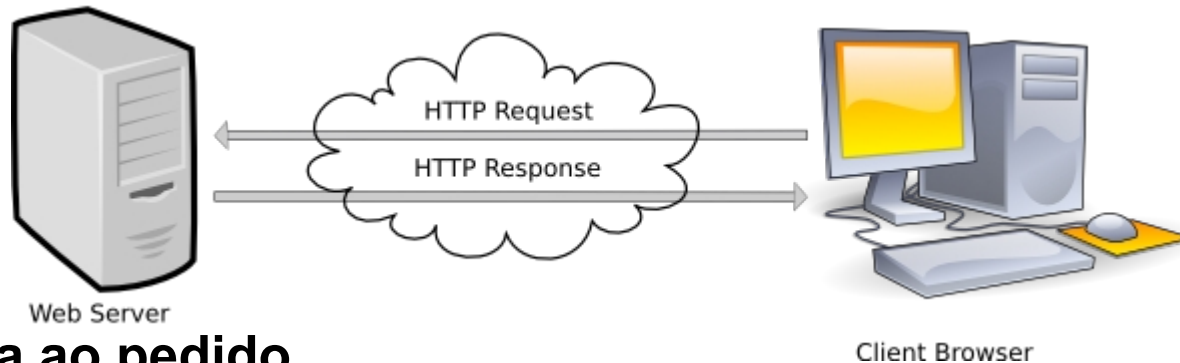


HTTP

2 – Pedido recebido

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

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

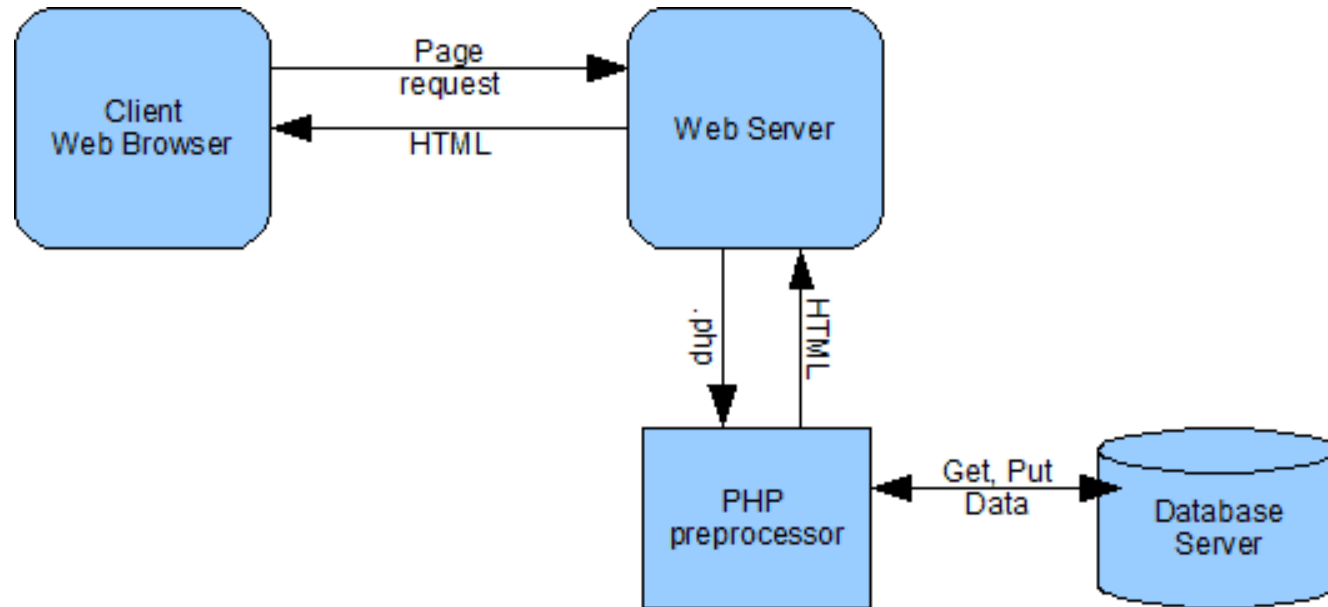


3- Reposta ao pedido

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



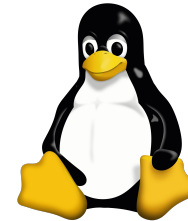
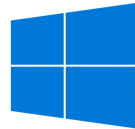
- XAMPP:
- <https://www.apachefriends.org/index.html>
- <https://youtu.be/h6DEDm7C37A>

XAMPP



- XAMPP

- X



- Apache



- MariaDB (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			
☐	Apache	13508 10116	80, 443	Stop	Admin	Config	Logs
☐	MySQL	13432	3306	Stop	Admin	Config	Logs
☐	FileZilla			Start	Admin	Config	Logs
☐	Mercury			Start	Admin	Config	Logs
☐	Tomcat			Start	Admin	Config	Logs

Config Netstat Shell Explorer Services Help Quit

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 top navigation bar with tabs for Databases, SQL, Status, User accounts, Export, Import, Settings (active), 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 three panels: 'General settings' with 'Server connection collation' set to 'utf8mb4_unicode_ci'; 'Appearance settings' with 'Language' set to 'English', 'Theme' set to 'pmahomme', and 'Font size' set to '82%'; and a 'Database server' panel listing server details like 'Server: 127.0.0.1 via TCP/IP' and 'Server version: 10.1.28-MariaDB'. A 'Web server' panel lists 'Apache/2.4.29 (Win32) OpenSSL/1.0.2i PHP/7.1.11'. A 'phpMyAdmin' panel provides version information (4.7.4) and links to documentation, support, and license. A blue 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' tab is visible at the bottom left.

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	A.I.	Comments	Virtual
idCliente	INT		None			☐	PRIMARY	☐		
eMail	TEXT		None			☐	---	☐		
nome	TEXT		None			☐	---	☐		
	INT		None			☐	---	☐		
	INT		None			☐	---	☐		

Table comments: Collation: Storage Engine: InnoDB

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

Console

```

Press Ctrl+Enter to execute query
>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
☐ 1	idCliente	int(11)			No	None		Primary Unique Index Spatial Fulltext Distinct values	Change Drop
☐ 2	eMail	text	latin1_swedish_ci		No	None		Primary Unique Index Spatial Fulltext Distinct values	Change Drop
☐ 3	nome	text	latin1_swedish_ci		No	None		Primary Unique Index Spatial Fulltext Distinct values	Change Drop

☐ 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;
>

```

localhost/phpmyadmin/tbl_structure.php?server=1&db=dbcliente&table=artigo#

Server: 127.0.0.1 » Database: dbcliente » Table: artigo

Table structure

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	codigoArtigo	int(11)			No	None		Primary Unique Index Spatial Fulltext Distinct values	Change Drop
2	idCliente	int(11)			No	None		Primary Unique Index Spatial Fulltext Distinct values	Change Drop
3	descricao	text	latin1_swedish_ci		No	None		Primary Unique Index Spatial Fulltext Distinct values	Change Drop
4	valorArtigo	float			No	None		Primary Unique Index Spatial Fulltext Distinct values	Change Drop

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 Go

Indexes

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

Create an index on 1 columns Go

Partitions

Console

```

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

```



localhost/phpmyadmin/db_designer.php?db=dbcliente

phpMyAdmin

Recent Favorites

Server: 127.0.0.1 » Database: dbcliente

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

Untitled *

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