



TECNOLÓGICO
NACIONAL DE MÉXICO



TECNOLÓGICO NACIONAL DE MÉXICO

INSTITUTO TECNOLÓGICO DE MILPA ALTA II

ASIGNATURA:

MEAN STACK FOR FRONT – END

TEMA:

PRACTICA FINAL

ELABORA:

POZOS RIVERA ALEJANDRO

NÚMERO DE CONTROL:

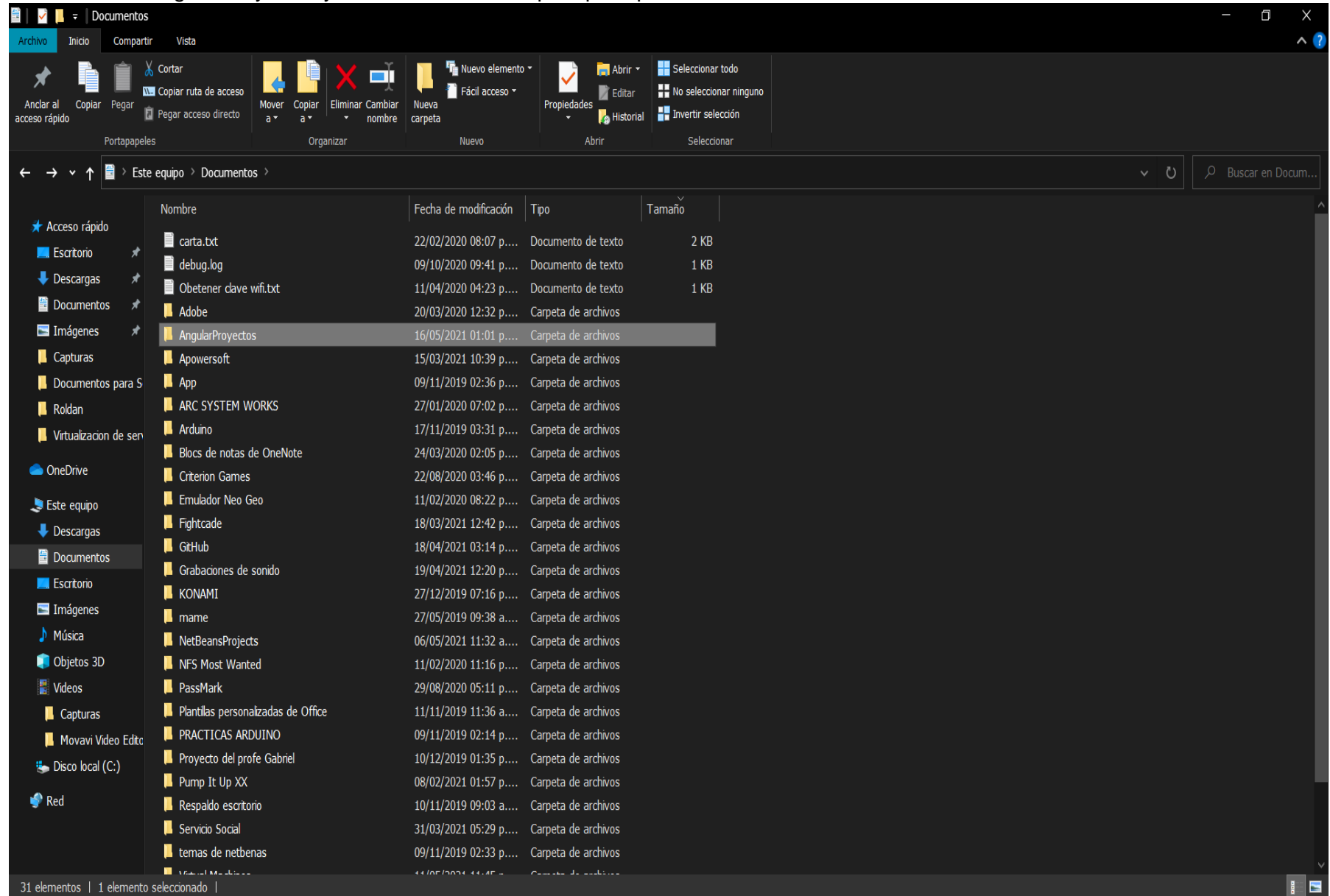
171190025

PROFESOR:

ROLDAN AQUINO SEGURA

23 DE MAYO DE 2021

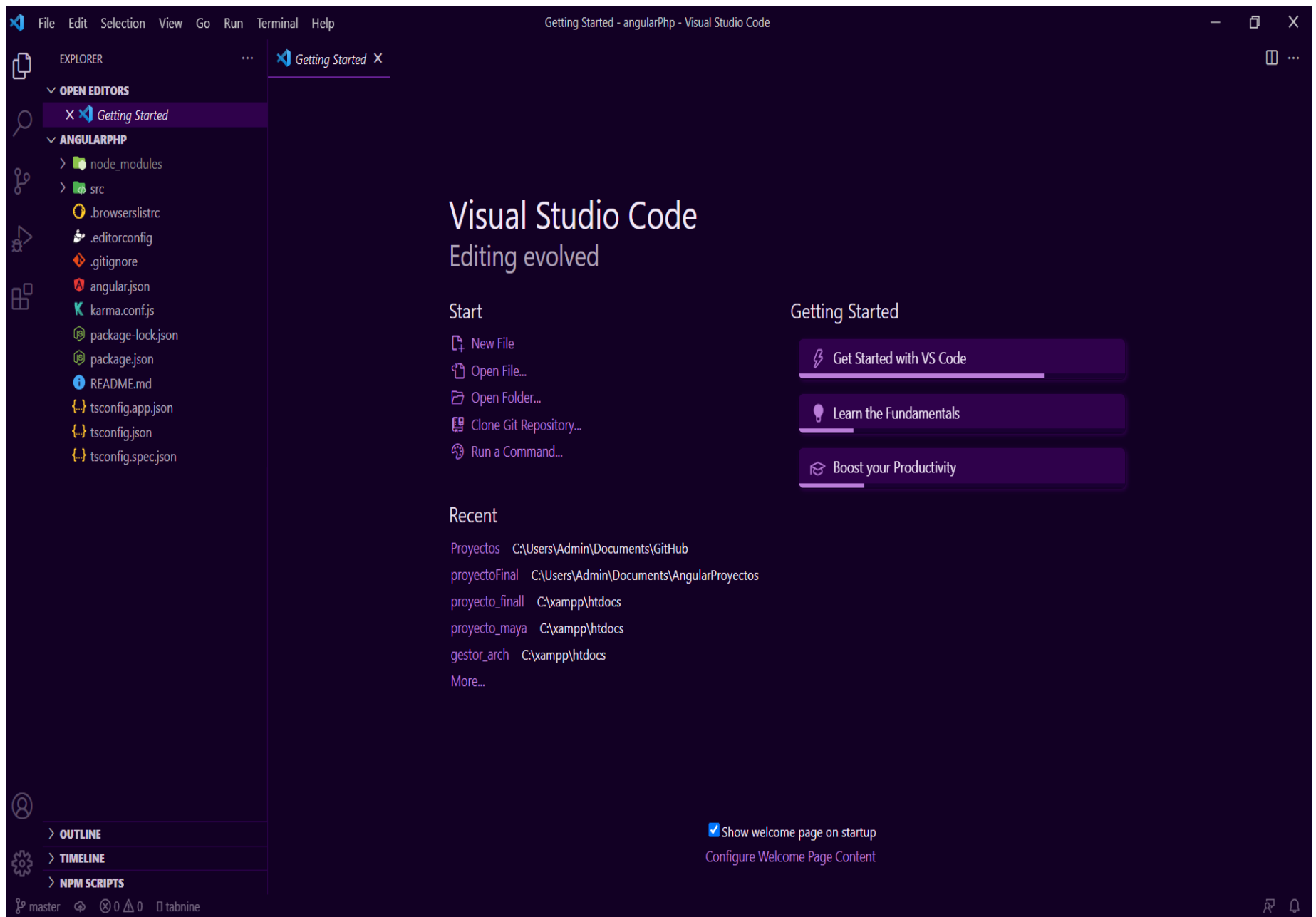
Ahora vamos a crear la carpeta donde se empezarán a alojar los proyectos que se vayan generando. La carpeta que cree lleva como nombre AngularProyectos y está dentro de la carpeta principal de documentos.



Creemos un nuevo proyecto, pero debemos ingresar la ruta donde se creó la carpeta, por ejemplo.
C:\Users\Admin\Documents\AngularProyectos.

```
C:\Users\Admin\Documents\AngularProyectos>npm install
C:\Users\Admin\Documents\AngularProyectos>ng new angularPhp
Would you like to add Angular routing? Yes
Which stylesheet format would you like to use? CSS
CREATE angularPhp/angular.json (3063 bytes)
CREATE angularPhp/package.json (1073 bytes)
CREATE angularPhp/README.md (1056 bytes)
CREATE angularPhp/tsconfig.json (783 bytes)
CREATE angularPhp/.editorconfig (274 bytes)
CREATE angularPhp/.gitignore (604 bytes)
CREATE angularPhp/.browserslistrc (703 bytes)
CREATE angularPhp/karma.conf.js (1427 bytes)
CREATE angularPhp/tsconfig.app.json (287 bytes)
CREATE angularPhp/tsconfig.spec.json (333 bytes)
CREATE angularPhp/src/favicon.ico (948 bytes)
CREATE angularPhp/src/index.html (296 bytes)
CREATE angularPhp/src/main.ts (372 bytes)
CREATE angularPhp/src/polyfills.ts (2820 bytes)
CREATE angularPhp/src/styles.css (80 bytes)
CREATE angularPhp/src/test.ts (743 bytes)
CREATE angularPhp/src/assets/.gitkeep (0 bytes)
CREATE angularPhp/src/environments/environment.prod.ts (51 bytes)
CREATE angularPhp/src/environments/environment.ts (658 bytes)
CREATE angularPhp/src/app/app-routing.module.ts (245 bytes)
CREATE angularPhp/src/app/app.module.ts (393 bytes)
CREATE angularPhp/src/app/app.component.html (23809 bytes)
CREATE angularPhp/src/app/app.component.spec.ts (1069 bytes)
CREATE angularPhp/src/app/app.component.ts (214 bytes)
CREATE angularPhp/src/app/app.component.css (0 bytes)
Installing packages (npm)...
```

Abrimos el proyecto en el editor de texto de tu preferencia.



Crearemos el servicio 'articulos' para ello utilizamos Angular CLI:

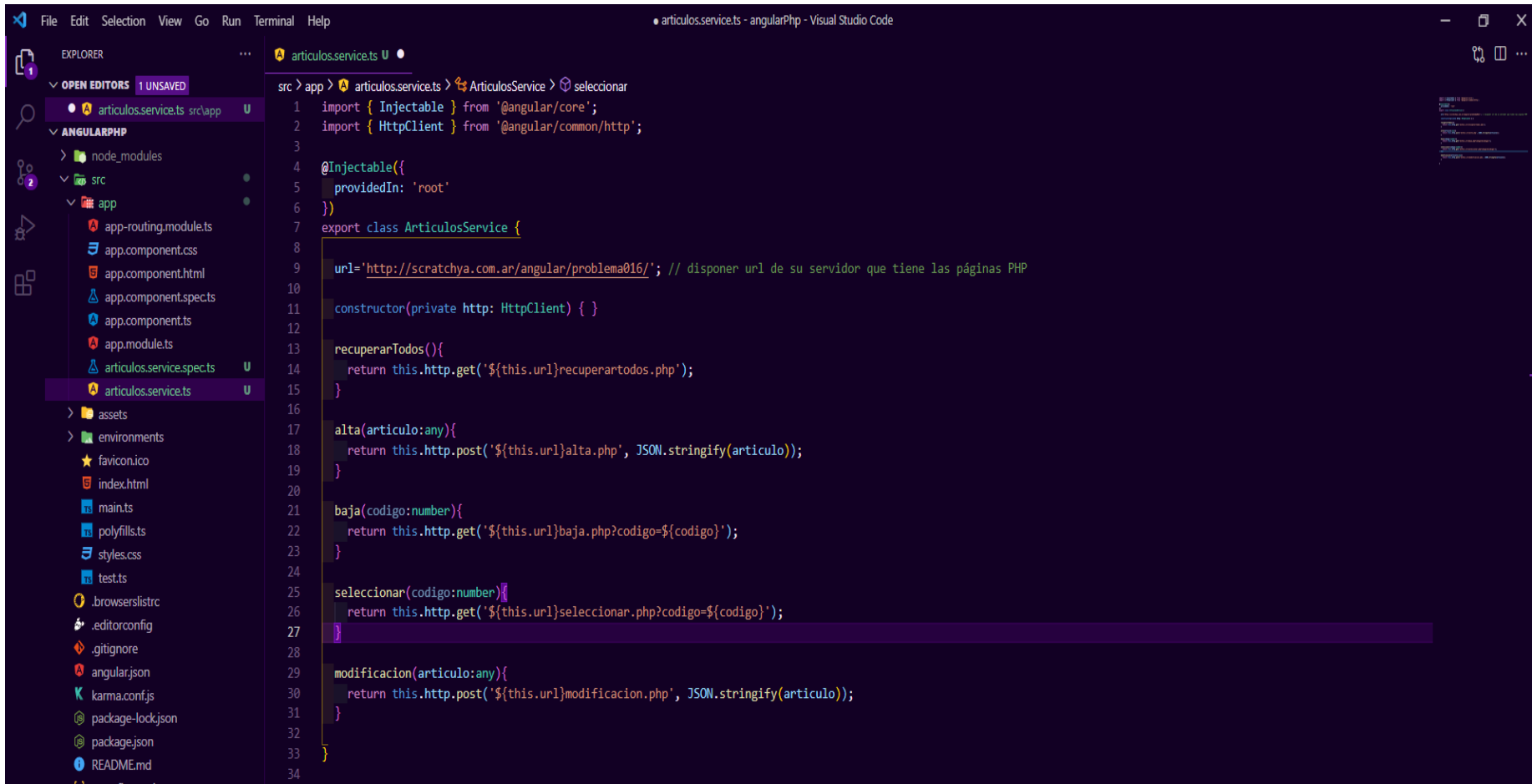
```
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Prueba la nueva tecnología PowerShell multiplataforma https://aka.ms/powershell

PS C:\Users\Admin\Documents\AngularProyectos\angularPhp> ng generate service articulos
CREATE src/app/articulos.service.spec.ts (372 bytes)
CREATE src/app/articulos.service.ts (138 bytes)
PS C:\Users\Admin\Documents\AngularProyectos\angularPhp>
```

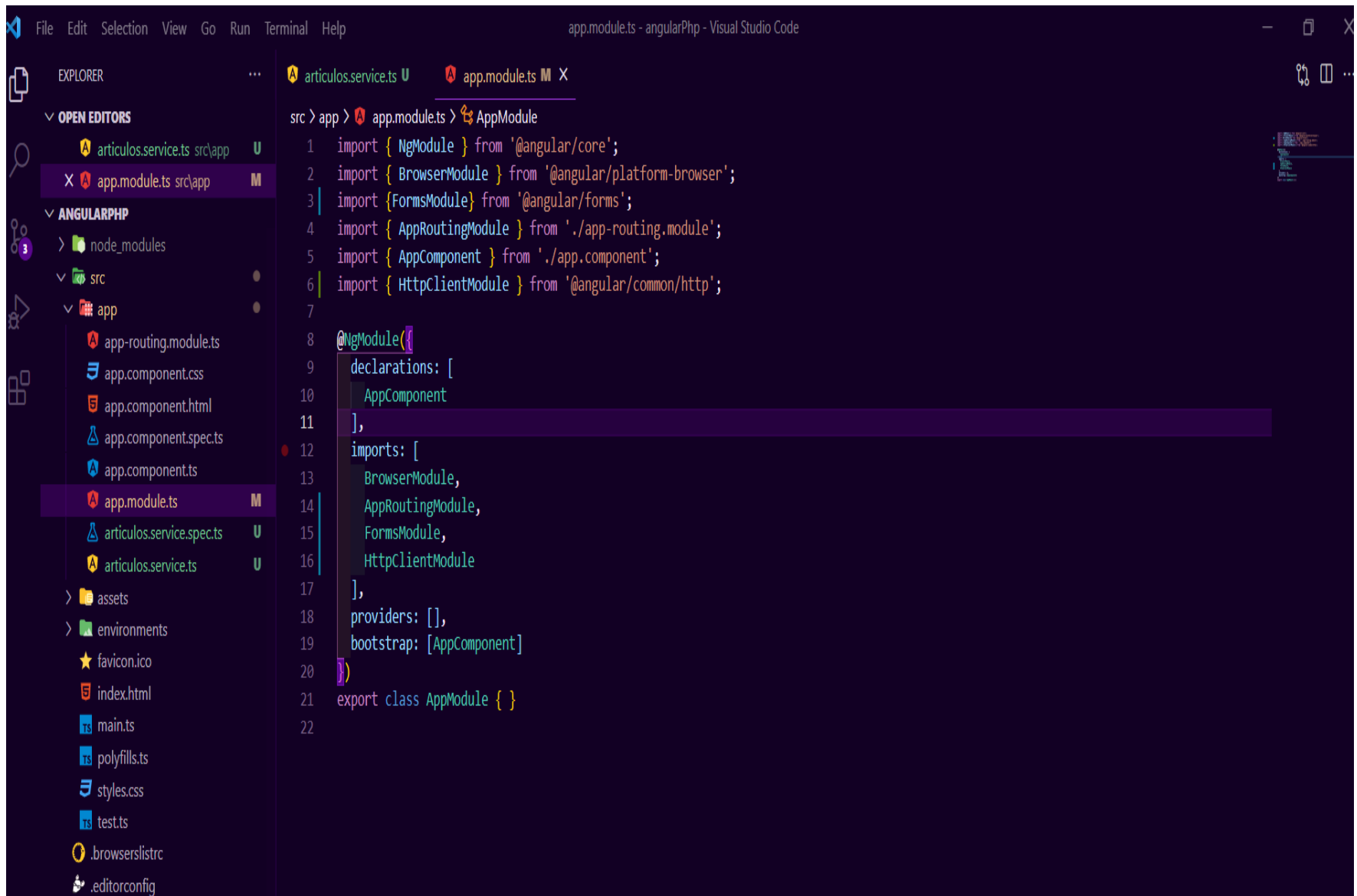
Con el comando anterior estamos creando la clase 'ArticulosService'

El código que debemos guardar en el archivo 'articulos.service.ts' es:



```
src > app > articulos.service.ts > ArticulosService > seleccionar
1 import { Injectable } from '@angular/core';
2 import { HttpClient } from '@angular/common/http';
3
4 @Injectable({
5   providedIn: 'root'
6 })
7 export class ArticulosService {
8
9   url='http://scratchya.com.ar/angular/problema016/'; // disponer url de su servidor que tiene las páginas PHP
10
11   constructor(private http: HttpClient) {}
12
13   recuperarTodos(){
14     return this.http.get(`${this.url}recuperartodos.php`);
15   }
16
17   alta(articulo:any){
18     return this.http.post(`${this.url}alta.php`, JSON.stringify(articulo));
19   }
20
21   baja(codigo:number){
22     return this.http.get(`${this.url}baja.php?codigo=${codigo}`);
23   }
24
25   seleccionar(codigo:number){
26     return this.http.get(`${this.url}seleccionar.php?codigo=${codigo}`);
27   }
28
29   modificacion(articulo:any){
30     return this.http.post(`${this.url}modificacion.php`, JSON.stringify(articulo));
31   }
32
33 }
34
```

El archivo 'app.module.ts' se modifica con el siguiente código:

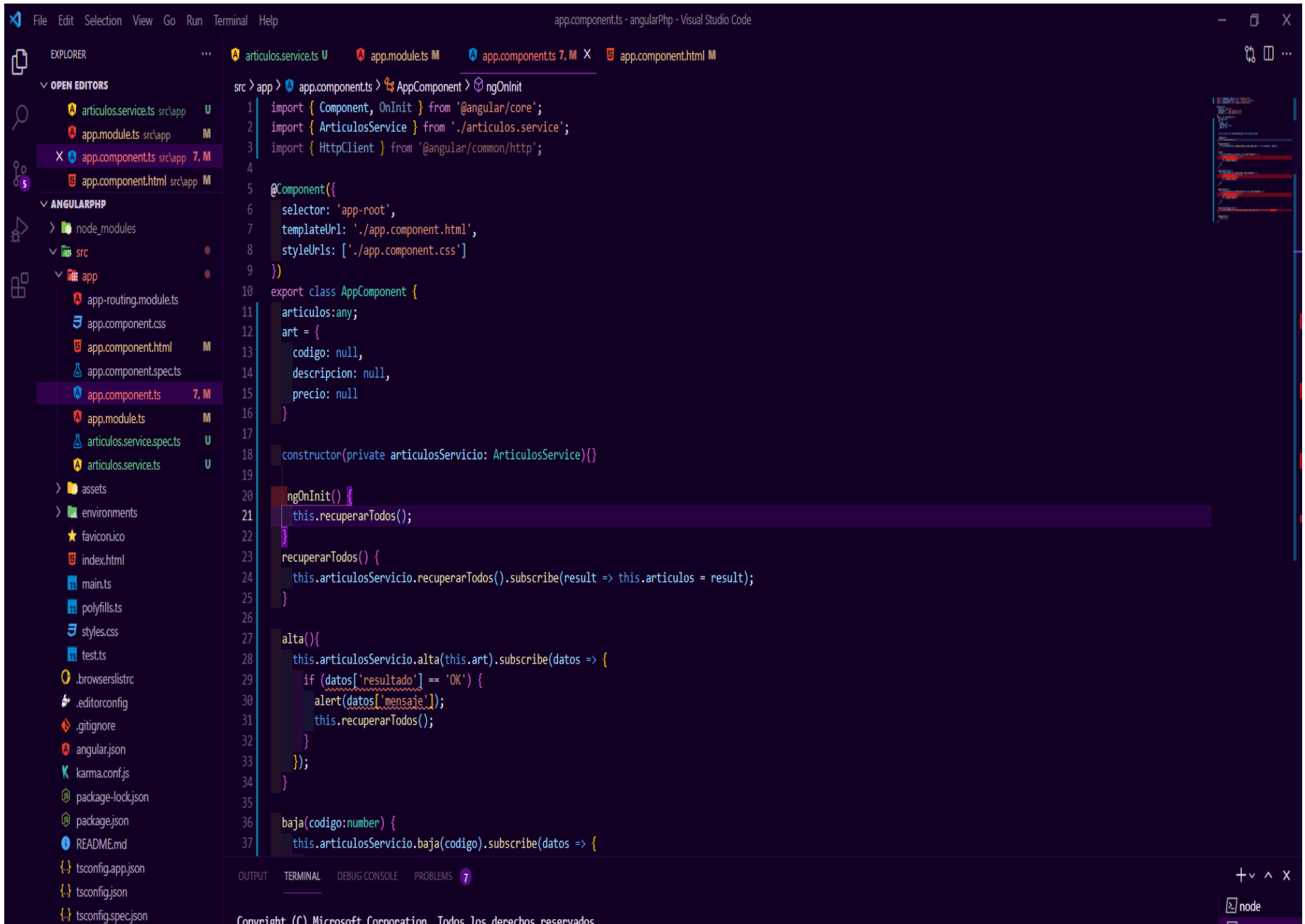


```
File Edit Selection View Go Run Terminal Help
app.module.ts - angularPhp - Visual Studio Code

EXPLORER
OPEN EDITORS
  articulos.service.ts src\app U
  X app.module.ts src\app M
ANGULARPHP
  > node_modules
  > src
    > app
      app-routing.module.ts
      app.component.css
      app.component.html
      app.component.spect.ts
      app.component.ts
      app.module.ts M
      articulos.service.spect.ts U
      articulos.service.ts U
  > assets
  > environments
  ★ favicon.ico
  index.html
  main.ts
  polyfills.ts
  styles.css
  test.ts
  .browserslistrc
  .editorconfig

src > app > app.module.ts > AppModule
1  import { NgModule } from '@angular/core';
2  import { BrowserModule } from '@angular/platform-browser';
3  import { FormsModule } from '@angular/forms';
4  import { AppRoutingModule } from './app-routing.module';
5  import { AppComponent } from './app.component';
6  import { HttpClientModule } from '@angular/common/http';
7
8  @NgModule({
9    declarations: [
10     AppComponent
11   ],
12   imports: [
13     BrowserModule,
14     AppRoutingModule,
15     FormsModule,
16     HttpClientModule
17   ],
18   providers: [],
19   bootstrap: [AppComponent]
20 })
21 export class AppModule { }
22
```

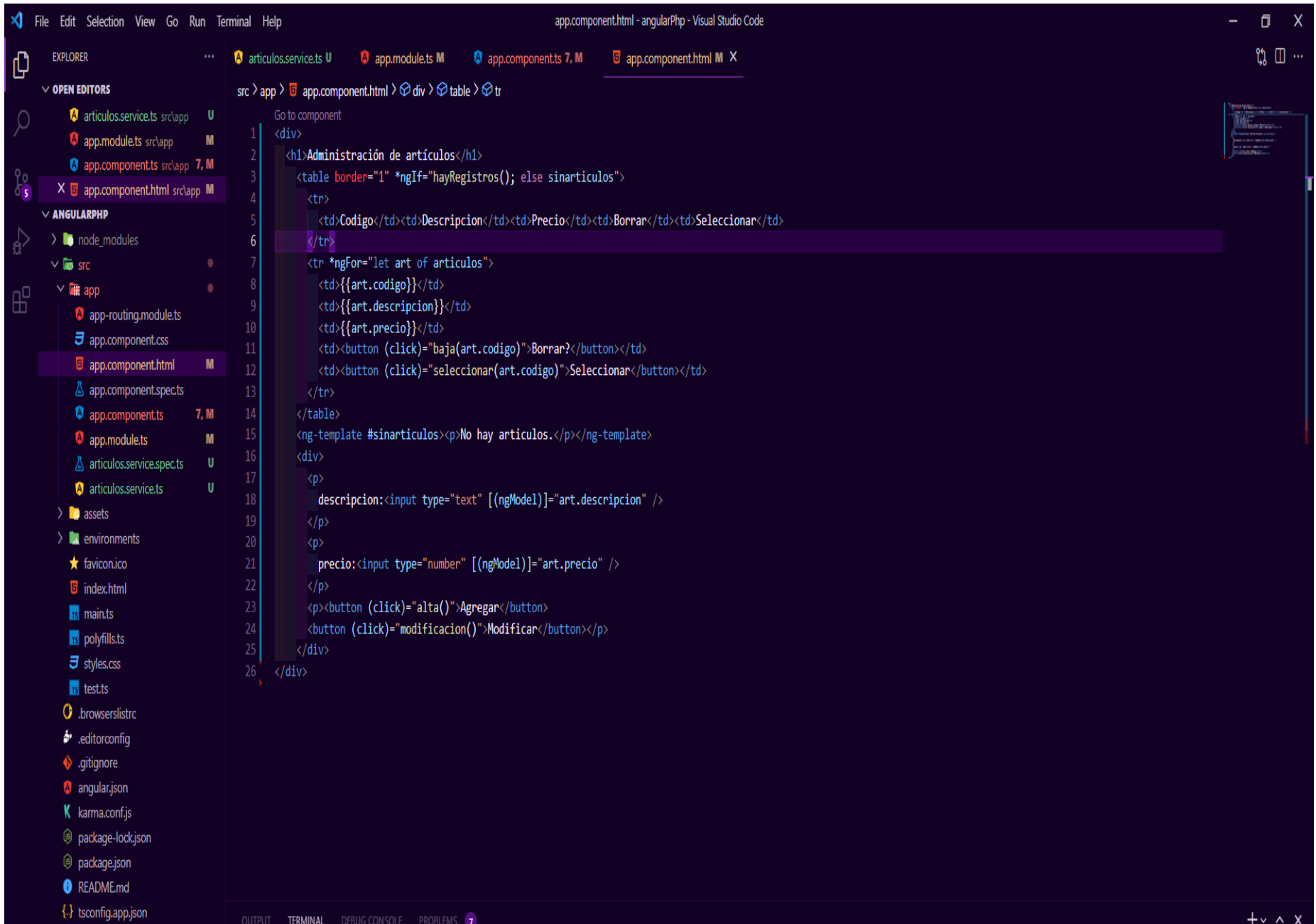
Nuestra única componente debe implementar el siguiente código en el archivo 'app.component.ts':



```
src > app > app.component.ts > AppComponent > ngOnInit
1 import { Component, OnInit } from '@angular/core';
2 import { ArticulosService } from './articulos.service';
3 import { HttpClient } from '@angular/common/http';
4
5 @Component({
6   selector: 'app-root',
7   templateUrl: './app.component.html',
8   styleUrls: ['./app.component.css']
9 })
10 export class AppComponent {
11   articulos:any;
12   art = {
13     codigo: null,
14     descripcion: null,
15     precio: null
16   }
17
18   constructor(private articulosServicio: ArticulosService){}
19
20   ngOnInit() {
21     this.recuperarTodos();
22   }
23   recuperarTodos() {
24     this.articulosServicio.recuperarTodos().subscribe(result => this.articulos = result);
25   }
26
27   alta(){
28     this.articulosServicio.alta(this.art).subscribe(datos => {
29       if (datos['resultado'] == 'OK') {
30         alert(datos['mensaje']);
31         this.recuperarTodos();
32       }
33     });
34   }
35
36   baja(codigo:number) {
37     this.articulosServicio.baja(codigo).subscribe(datos => {
```

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Y el archivo 'app.component.html' con:



```
1 <div>
2   <h1>Administración de artículos</h1>
3   <table border="1" *ngIf="hayRegistros(); else sinarticulos">
4     <tr>
5       <td>Codigo</td><td>Descripcion</td><td>Precio</td><td>Borrar</td><td>Seleccionar</td>
6     </tr>
7     <tr *ngFor="let art of articulos">
8       <td>{{art.codigo}}</td>
9       <td>{{art.descripcion}}</td>
10      <td>{{art.precio}}</td>
11      <td><button (click)="baja(art.codigo)">Borrar</button></td>
12      <td><button (click)="seleccionar(art.codigo)">Seleccionar</button></td>
13    </tr>
14  </table>
15  <ng-template #sinarticulos><p>No hay artículos.</p></ng-template>
16  <div>
17    <p>
18      descripcion:<input type="text" [(ngModel)]="art.descripcion" />
19    </p>
20    <p>
21      precio:<input type="number" [(ngModel)]="art.precio" />
22    </p>
23    <p><button (click)="alta()">Agregar</button>
24      <button (click)="modificacion()">Modificar</button></p>
25  </div>
26 </div>
```


Primero debemos crear una base de datos en MySQL llamada 'bd1' y crear la siguiente tabla:

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with a search filter. The 'bd1' database is selected, showing its contents: Tables, Views, Stored Procedures, and Functions. The main editor window shows a SQL query with three statements: creating the database 'bd1', using 'bd1', and creating a table 'articulos' with columns 'codigo' (int, AUTO_INCREMENT), 'descripcion' (varchar(50)), and 'precio' (float), with 'codigo' as the primary key. The bottom panel shows the 'Output' tab with 'Action Output' selected, displaying a log of the executed statements and their results.

MySQL Workbench

Navigator: Filter objects

SCHEMAS

- 1233
- 484564654
- bd1
 - Tables
 - Views
 - Stored Procedures
 - Functions
- dona_chepi
- ecofemme
- eje

Administration Schemas

Information: No object selected

Query 1 SQL File 4* SQL File 5* SQL File 6* t_usuarios SQL File 7* SQL File 8* x

```
1 • create database if not exists bd1;
2
3 • use bd1;
4
5 • CREATE TABLE if not exists articulos (
6     codigo int AUTO_INCREMENT,
7     descripcion varchar(50),
8     precio float,
9     PRIMARY KEY (codigo)
10 )engine = InnoDB;
11
```

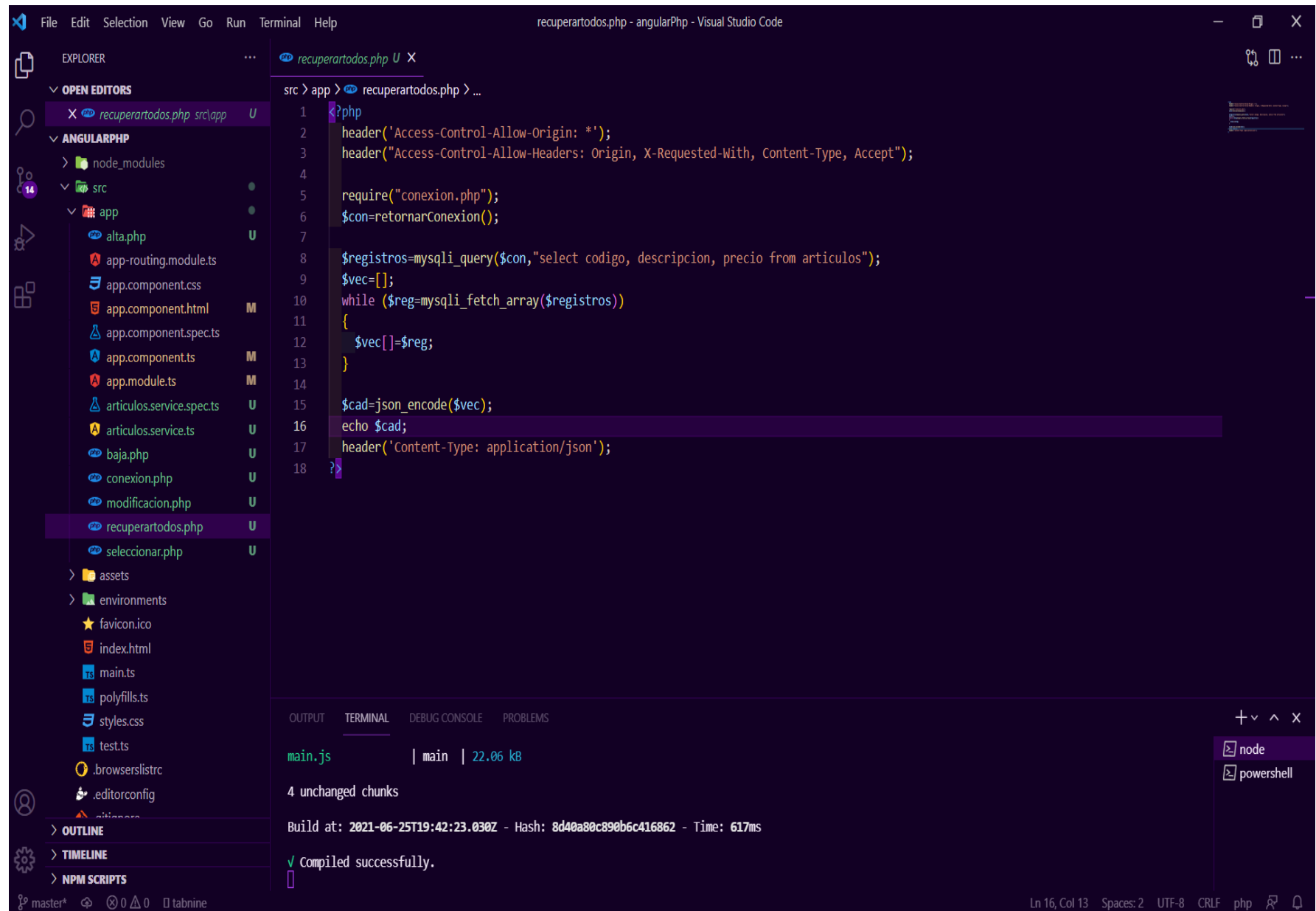
Output: Action Output

#	Time	Action	Message	Duration / Fetch
✓ 1	14:03:55	create database if not exists bd1	1 row(s) affected	0.000 sec
✓ 2	14:04:09	use bd1	0 row(s) affected	0.000 sec
✓ 3	14:05:24	CREATE TABLE if not exists articulos (codigo int AUTO_INCREMENT, descripcion varchar(50), precio float, P...	0 row(s) affected	0.046 sec

Object Info Session

Tenemos una serie de archivos PHP que reciben datos en formato JSON y retornan también un JSON.

El archivo 'recuperartodos.php' retorna en formato JSON todos los artículos:



The screenshot shows the Visual Studio Code interface with the 'recuperartodos.php' file open. The Explorer sidebar on the left shows the project structure, including the 'src/app' directory where 'recuperartodos.php' is located. The main editor displays the PHP code for 'recuperartodos.php', which includes headers, a database connection, a query to fetch all articles, and a JSON response. The bottom panel shows the 'TERMINAL' tab with the output of the command 'ng build', indicating a successful compilation.

```
File Edit Selection View Go Run Terminal Help
recuperartodos.php - angularPhp - Visual Studio Code

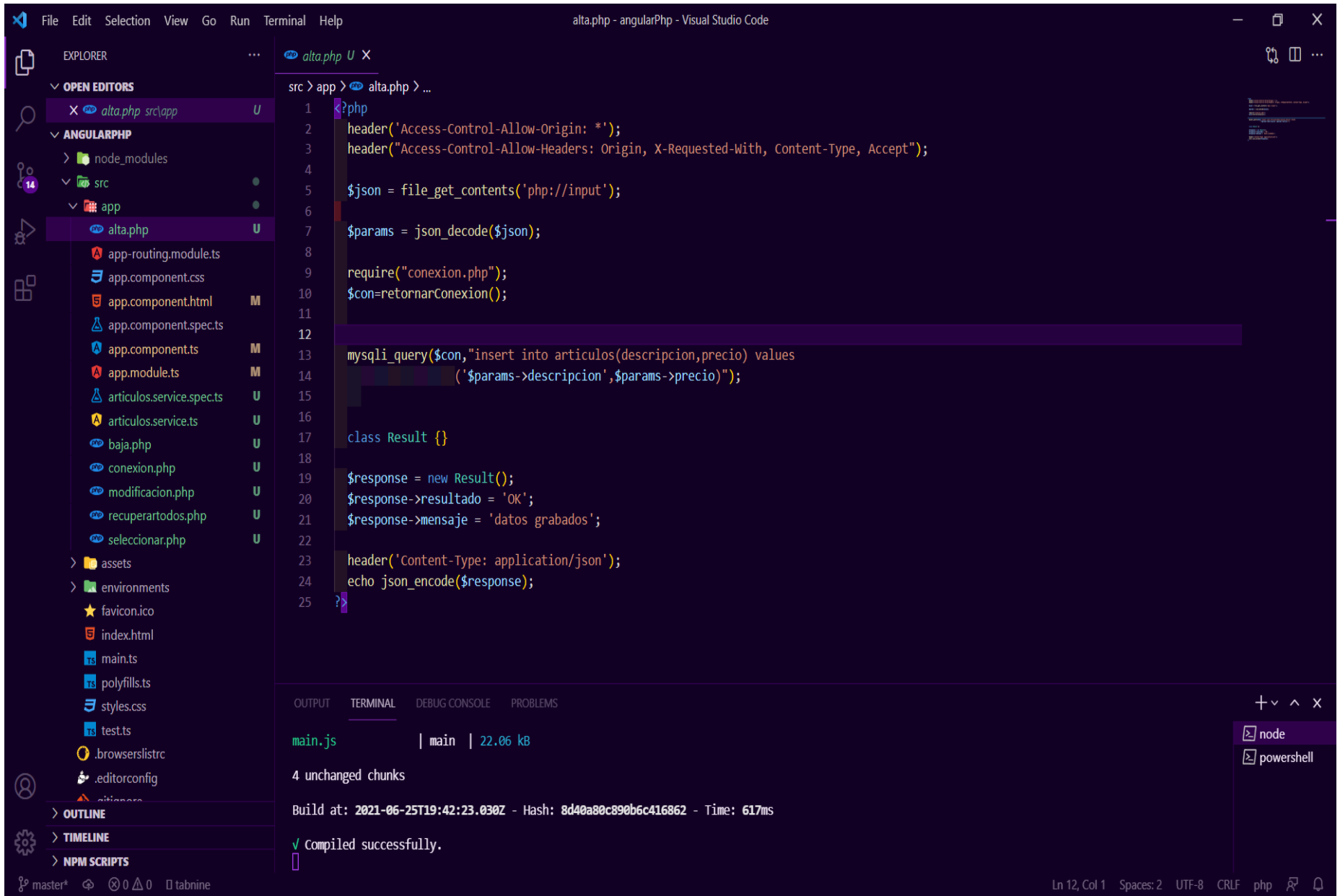
EXPLORER
OPEN EDITORS
  X recuperartodos.php src/app U
ANGULARPHP
  > node_modules
  > src
    > app
      alta.php U
      app-routing.module.ts
      app.component.css
      app.component.html M
      app.component.spec.ts
      app.component.ts M
      app.module.ts M
      articulos.service.spec.ts U
      articulos.service.ts U
      baja.php U
      conexion.php U
      modificacion.php U
      recuperartodos.php U
      seleccionar.php U
    > assets
    > environments
      favicon.ico
      index.html
      main.ts
      polyfills.ts
      styles.css
      test.ts
      .browserslistrc
      .editorconfig
    > OUTLINE
    > TIMELINE
    > NPM SCRIPTS

src > app > recuperartodos.php > ...
1 <?php
2 header('Access-Control-Allow-Origin: *');
3 header("Access-Control-Allow-Headers: Origin, X-Requested-With, Content-Type, Accept");
4
5 require("conexion.php");
6 $con=retornarConexion();
7
8 $registros=mysqli_query($con,"select codigo, descripcion, precio from articulos");
9 $vec=[];
10 while ($reg=mysqli_fetch_array($registros))
11 {
12     $vec[]=$reg;
13 }
14
15 $cad=json_encode($vec);
16 echo $cad;
17 header('Content-Type: application/json');
18 ?>
```

main.js | main | 22.06 kB
4 unchanged chunks
Build at: 2021-06-25T19:42:23.030Z - Hash: 8d40a80c890b6c416862 - Time: 617ms
✓ Compiled successfully.

Ln 16, Col 13 Spaces: 2 UTF-8 CRLF php

El archivo 'alta.php' recibe los datos en formato JSON y los almacena en la tabla:



```
File Edit Selection View Go Run Terminal Help
alta.php - angularPhp - Visual Studio Code

EXPLORER
OPEN EDITORS
X alta.php src/app U
ANGULARPHP
node_modules
src
app
alta.php U
app-routing.module.ts
app.component.css
app.component.html M
app.component.spec.ts
app.component.ts M
app.module.ts M
articulos.service.spec.ts U
articulos.service.ts U
baja.php U
conexion.php U
modificacion.php U
recuperartodos.php U
seleccionar.php U
assets
environments
favicon.ico
index.html
main.ts
polyfills.ts
styles.css
test.ts
.browserslistrc
.editorconfig
OUTLINE
TIMELINE
NPM SCRIPTS
master* 0 0 tabnine

src > app > alta.php > ...
1 <?php
2 header('Access-Control-Allow-Origin: *');
3 header("Access-Control-Allow-Headers: Origin, X-Requested-With, Content-Type, Accept");
4
5 $json = file_get_contents('php://input');
6
7 $params = json_decode($json);
8
9 require("conexion.php");
10 $con=retornarConexion();
11
12
13 mysqli_query($con,"insert into articulos(descripcion,precio) values
14 ('$params->descripcion','$params->precio)");
15
16
17 class Result {}
18
19 $response = new Result();
20 $response->resultado = 'OK';
21 $response->mensaje = 'datos grabados';
22
23 header('Content-Type: application/json');
24 echo json_encode($response);
25 ?>
```

main.js | main | 22.06 kB

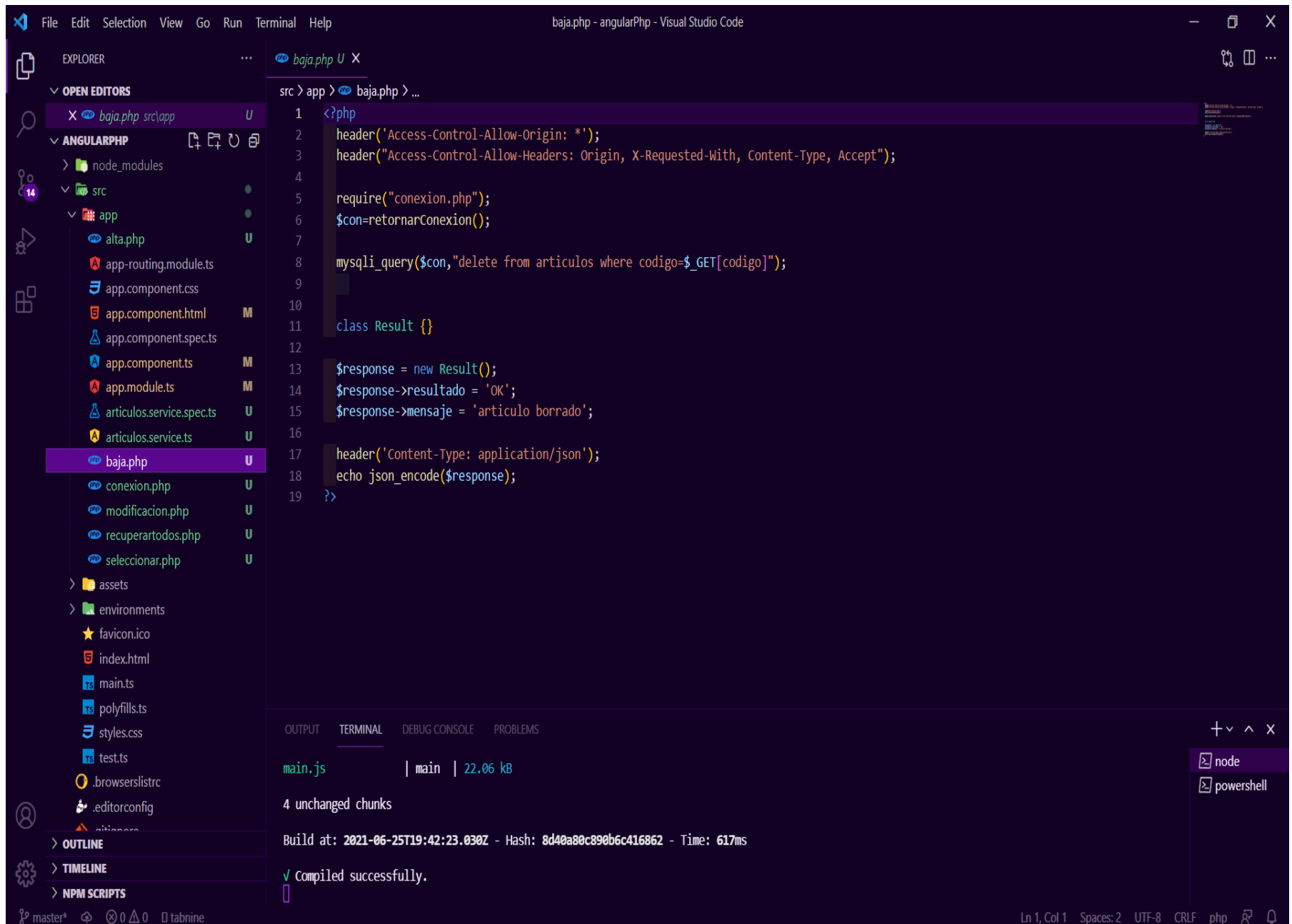
4 unchanged chunks

Build at: 2021-06-25T19:42:23.030Z - Hash: 8d40a80c890b6c416862 - Time: 617ms

✓ Compiled successfully.

Ln 12, Col 1 Spaces: 2 UTF-8 CRLF php

El archivo 'baja.php':



The screenshot displays the Visual Studio Code interface with the 'baja.php' file open in the Editor. The Explorer on the left shows the project structure, with 'baja.php' selected under the 'app' directory. The Editor shows the following PHP code:

```
1 <?php
2 header('Access-Control-Allow-Origin: *');
3 header('Access-Control-Allow-Headers: Origin, X-Requested-With, Content-Type, Accept');
4
5 require("conexion.php");
6 $con=retornarConexion();
7
8 mysqli_query($con,"delete from articulos where codigo=$_GET[codigo]");
9
10
11 class Result {}
12
13 $response = new Result();
14 $response->resultado = 'OK';
15 $response->mensaje = 'articulo borrado';
16
17 header('Content-Type: application/json');
18 echo json_encode($response);
19 ?>
```

The Terminal at the bottom shows the output of the build process:

```
main.js | main | 22.06 kB
4 unchanged chunks
Build at: 2021-06-25T19:42:23.030Z - Hash: 8d40a80c890b6c416862 - Time: 617ms
✓ Compiled successfully.
```

El archivo 'modificacion.php':

The screenshot shows the Visual Studio Code interface with the following components:

- EXPLORER:** Displays the project structure. The 'src/app' directory is expanded, showing files like 'alta.php', 'app-routing.module.ts', 'app.component.css', 'app.component.html', 'app.component.spec.ts', 'app.component.ts', 'app.module.ts', 'articulos.service.spec.ts', 'articulos.service.ts', 'baja.php', 'conexion.php', 'modificacion.php', 'recuperartodos.php', and 'seleccionar.php'. 'baja.php' is selected.
- EDITOR:** Displays the content of 'baja.php'. The code is as follows:

```
1 <?php
2 header('Access-Control-Allow-Origin: *');
3 header("Access-Control-Allow-Headers: Origin, X-Requested-With, Content-Type, Accept");
4
5 require("conexion.php");
6 $con=retornarConexion();
7
8 mysqli_query($con,"delete from articulos where codigo=$_GET[codigo]");
9
10
11 class Result {}
12
13 $response = new Result();
14 $response->resultado = 'OK';
15 $response->mensaje = 'articulo borrado';
16
17 header('Content-Type: application/json');
18 echo json_encode($response);
19 ?>
```
- TERMINAL:** Shows the output of a command. It indicates that 'main.js' is 22.06 kB, there are 4 unchanged chunks, and the build was successful. The build timestamp is 2021-06-25T19:42:23.030Z, the hash is 8d40a80c890b6c416862, and the time taken was 617ms.

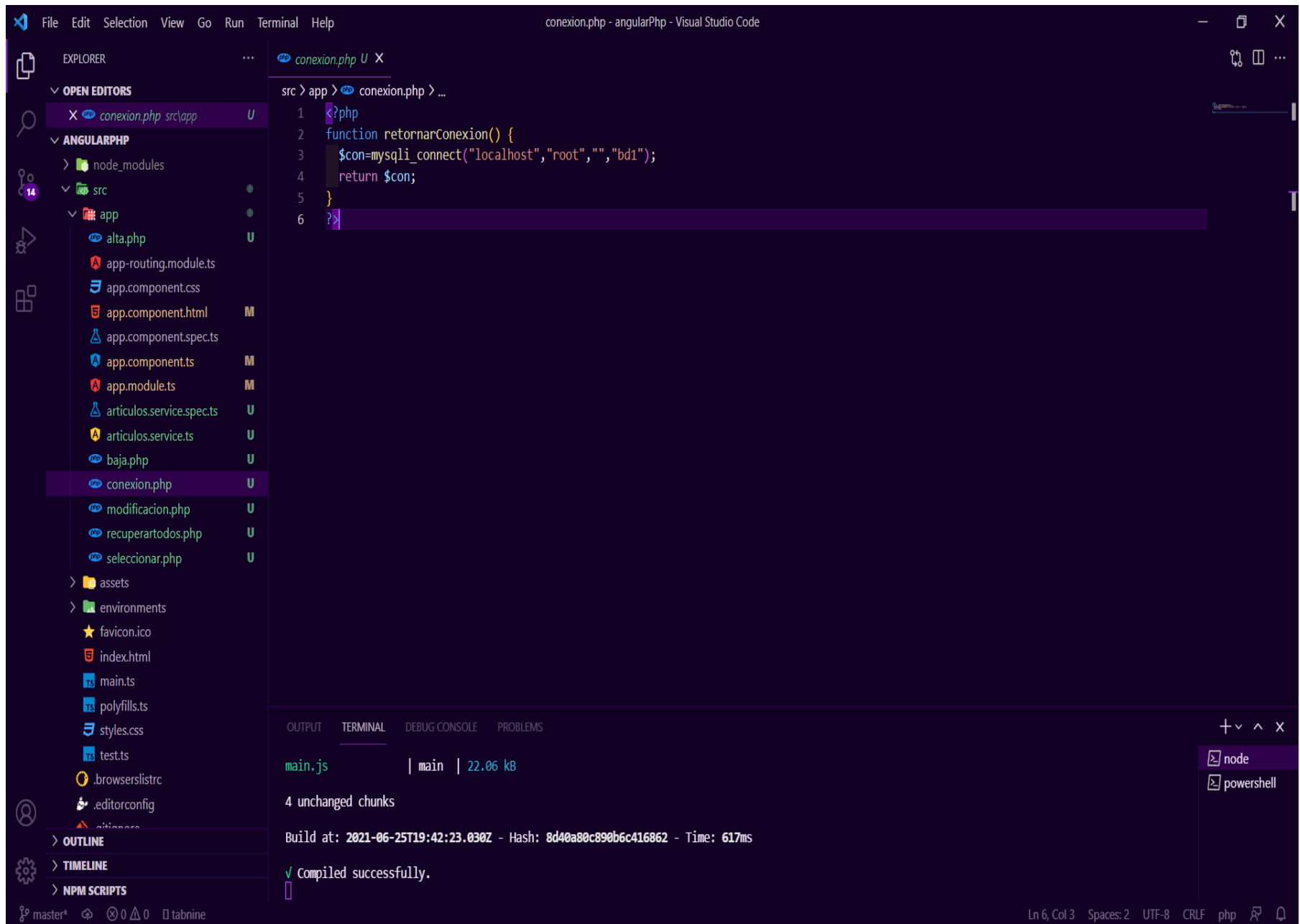
El archivo 'seleccionar.php':

The image shows a Visual Studio Code window with the file 'seleccionar.php' open in the Editor. The Explorer on the left shows the project structure, including the 'src' folder and the 'app' subfolder. The Editor displays the following PHP code:

```
1 <?php
2 header('Access-Control-Allow-Origin: *');
3 header("Access-Control-Allow-Headers: Origin, X-Requested-With, Content-Type, Accept");
4
5 require("conexion.php");
6 $con=retornarConexion();
7
8 $registros=mysqli_query($con,"select codigo, descripcion, precio from articulos where codigo=$_GET[codigo]");
9
10 if ($reg=mysqli_fetch_array($registros))
11 {
12     $vec[]=$reg;
13 }
14
15 $cad=json_encode($vec);
16 echo $cad;
17 header('Content-Type: application/json');
18 ?>
```

The status bar at the bottom indicates the file is in 'UTF-8' encoding and is located at 'Ln 1, Col 1'.

El archivo 'conexion.php':



Visual Studio Code interface showing the file 'conexion.php' in the Explorer and Editor. The Explorer shows the project structure with 'conexion.php' selected. The Editor shows the code for 'conexion.php' with a function 'retornarConexion()' that connects to a MySQL database. The Terminal shows the output of the build process, indicating a successful compilation.

```
1 ?php
2 function retornarConexion() {
3     $con=mysqli_connect("localhost","root","","bd1");
4     return $con;
5 }
6 ?>
```

main.js | main | 22.06 kB

4 unchanged chunks

Build at: 2021-06-25T19:42:23.030Z - Hash: 8d40a80c890b6c416862 - Time: 617ms

✓ Compiled successfully.

De aquí es donde se consume la información antes mencionada.

localhost/angularPhp/src/app/

Index of /angularPhp/src/app

	Name	Last modified	Size	Description
	Parent Directory	-		
	alta.php	2021-06-24 14:08	647	
	app-routing.module.ts	2021-06-24 13:22	245	
	app.component.css	2021-06-24 13:22	0	
	app.component.html	2021-06-25 14:35	1.7K	
	app.component.spec.ts	2021-06-24 13:22	1.0K	
	app.component.ts	2021-06-25 13:56	1.4K	
	app.module.ts	2021-06-24 14:13	454	
	articulos.service.sp...>	2021-06-24 13:29	372	
	articulos.service.ts	2021-06-25 14:38	872	
	baja.php	2021-06-24 14:09	502	
	conexion.php	2021-06-24 14:08	112	
	modificacion.php	2021-06-24 14:09	736	
	recuperartodos.php	2021-06-24 14:08	476	
	seleccionar.php	2021-06-24 14:10	492	

Apache/2.4.39 (Win64) OpenSSL/1.1.1b PHP/7.3.5 Server at localhost Port 80

Captura de pantalla creando un artículo llamado Chamarra con precio de 500 pesos.



AngularPhp

localhost:4200

Administración de artículos

Codigo	Descripcion	Precio	Borrar	Seleccionar
--------	-------------	--------	--------	-------------

Articulos

Descripcion

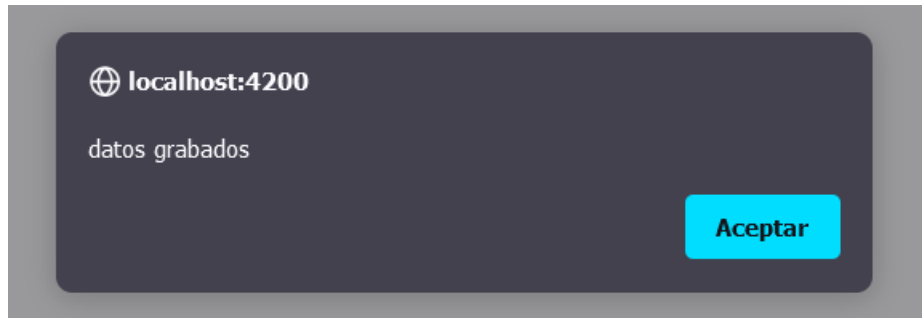
Chamarra

Precio

500

Agregar Modificar

Mensaje de que se agrego

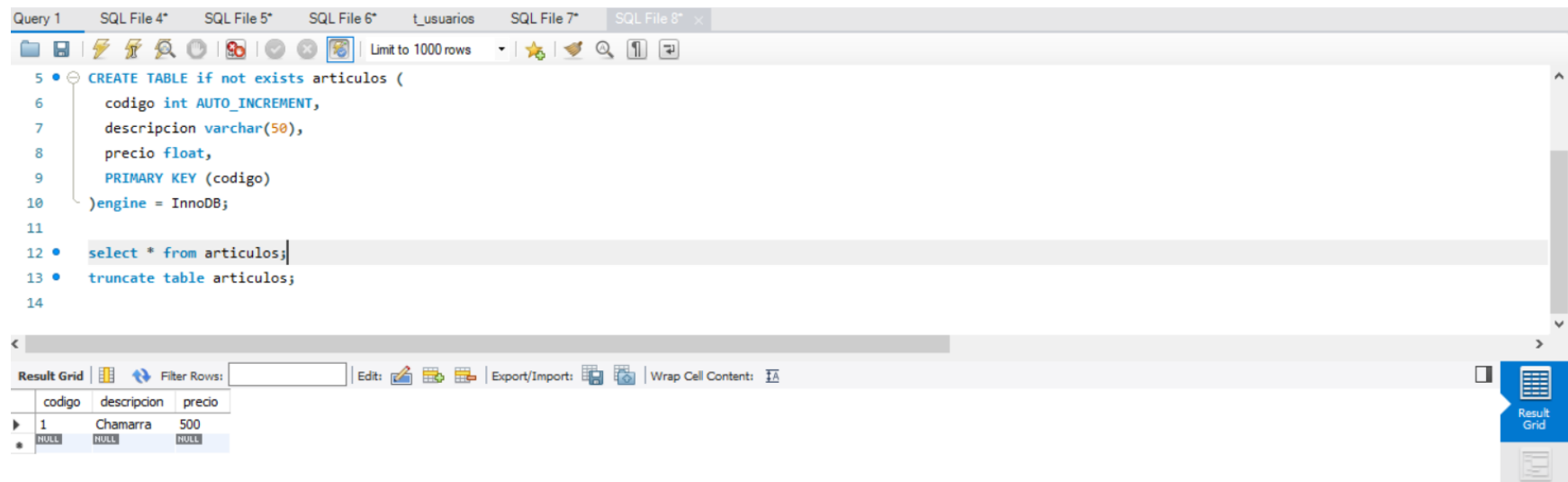


Resultado en la tabla

Administración de artículos

Codigo	Descripcion	Precio	Borrar	Seleccionar
1	Chamarra	500	Borrar	Seleccionar

Resultado en la base de datos



The screenshot shows a SQL IDE interface. The top toolbar includes icons for file operations, execution, and a 'Limit to 1000 rows' dropdown. The query window contains the following SQL code:

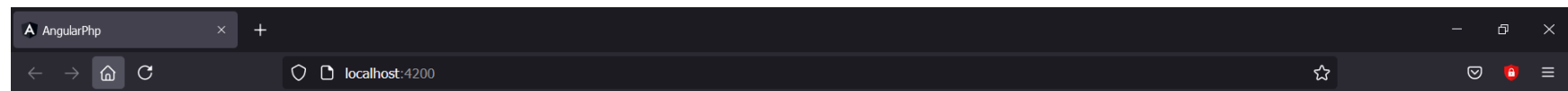
```
5 CREATE TABLE if not exists articulos (  
6     codigo int AUTO_INCREMENT,  
7     descripcion varchar(50),  
8     precio float,  
9     PRIMARY KEY (codigo)  
10 )engine = InnoDB;  
11  
12 select * from articulos;  
13 truncate table articulos;  
14
```

Below the query window is the 'Result Grid' section. It includes a 'Filter Rows' input field and a table with the following data:

codigo	descripcion	precio
1	Chamarra	500

On the right side of the result grid, there is a 'Result Grid' button and a 'Wrap Cell Content' checkbox.

Agregamos otro articulo llamado calcetines con precio de 100 pesos.

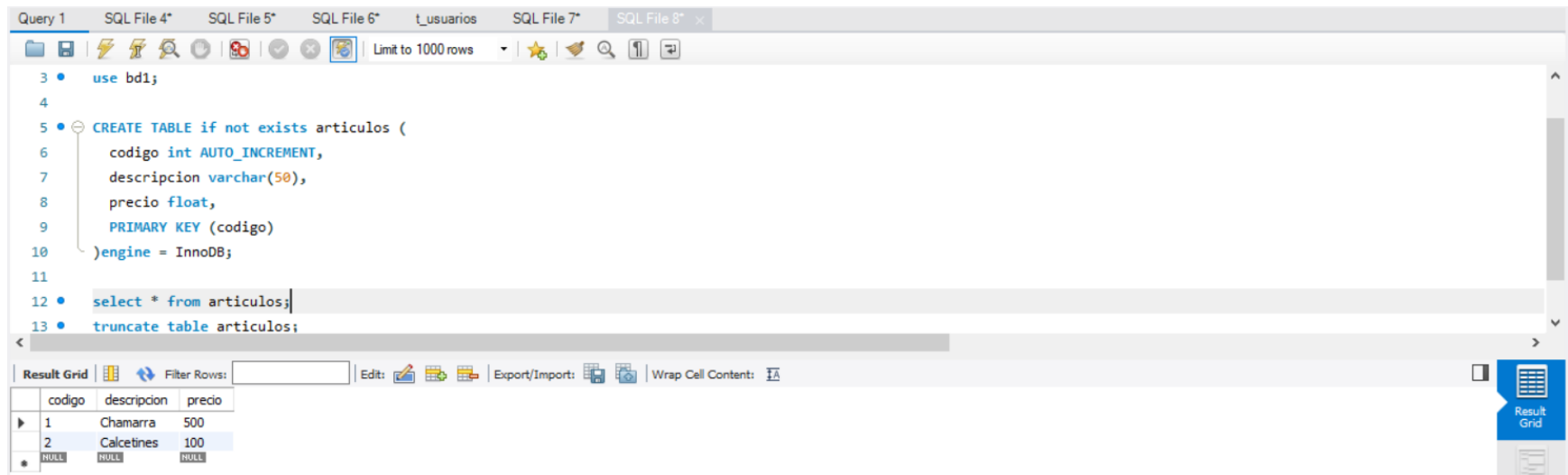


The screenshot shows a web browser window with the address bar displaying 'localhost:4200'. The browser tab is labeled 'AngularPhp'.

Administración de artículos

Codigo	Descripcion	Precio	Borrar	Seleccionar
1	Chamarra	500	<button>Borrar</button>	<button>Seleccionar</button>
2	Calcetines	100	<button>Borrar</button>	<button>Seleccionar</button>

Resultados en la base de datos



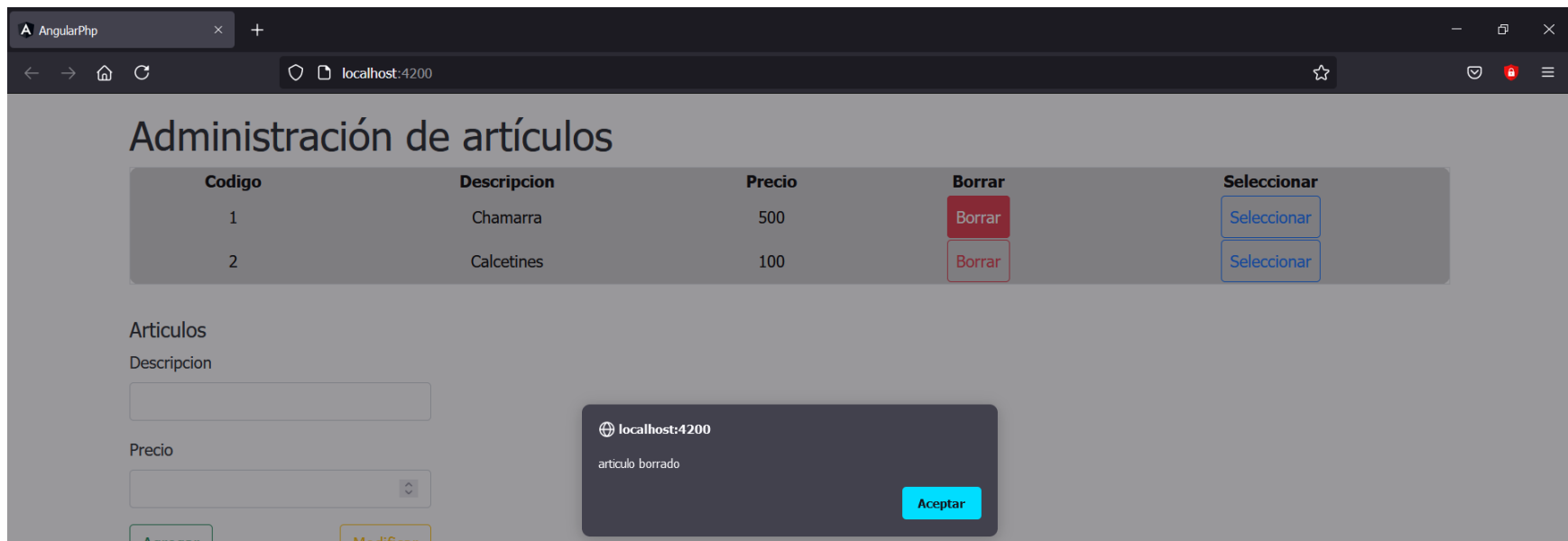
The screenshot shows a SQL IDE interface with a query window and a result grid. The query window contains the following SQL code:

```
3 • use bd1;
4
5 • CREATE TABLE if not exists articulos (
6     codigo int AUTO_INCREMENT,
7     descripcion varchar(50),
8     precio float,
9     PRIMARY KEY (codigo)
10 )engine = InnoDB;
11
12 • select * from articulos;
13 • truncate table articulos;
```

The result grid shows the following data:

codigo	descripcion	precio
1	Chamarra	500
2	Calcetines	100

Borramos el primer registro.



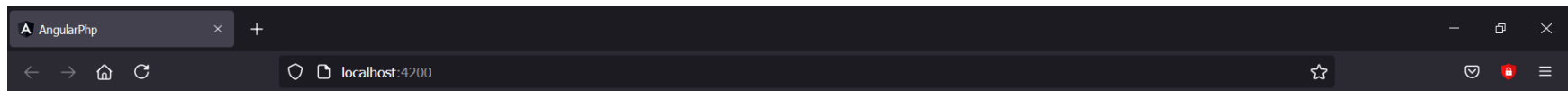
The screenshot shows a web application interface for article management. The title is "Administración de artículos". The interface displays a table with the following columns: Codigo, Descripción, Precio, Borrar, and Seleccionar. The data rows are:

Codigo	Descripción	Precio	Borrar	Seleccionar
1	Chamarra	500	Borrar	Seleccionar
2	Calcetines	100	Borrar	Seleccionar

Below the table, there is a form for adding or modifying articles. The form includes fields for "Articulos", "Descripcion", and "Precio". There are buttons for "Agregar" and "Modificar".

A modal dialog box is open, showing the message "localhost:4200" and "articulo borrado". There is an "Aceptar" button to close the dialog.

Resultado en la tabla



Administración de artículos

Codigo	Descripcion	Precio	Borrar	Seleccionar
2	Calcetines	100	Borrar	Seleccionar

...

Resultado en la base de datos

