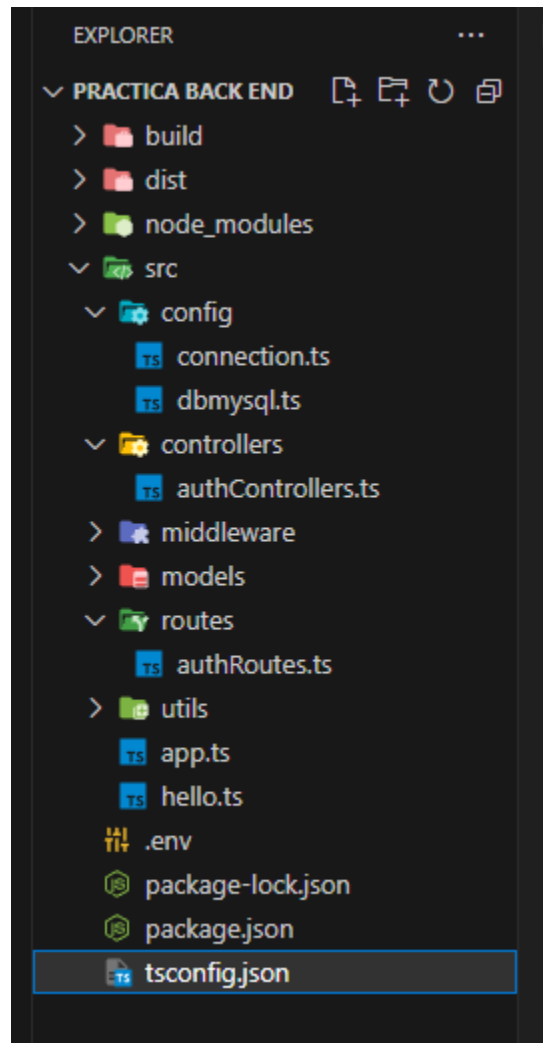


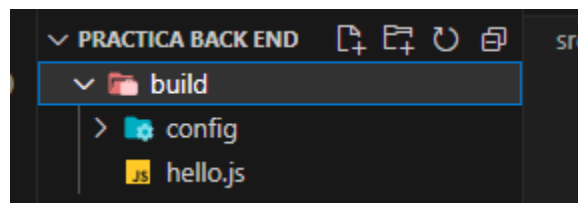
## ACTIVIDAD BACK END

```
C:\Users\Administrador\Downloads\Web Integral\PRACTICA BACK END>npm install promise-mysql express nodemonmorgan cors crypto-js jsonwebtoken validator
added 126 packages, and audited 127 packages in 1s
11 packages are looking for funding
  run 'npm fund' for details
found 0 vulnerabilities
C:\Users\Administrador\Downloads\Web Integral\PRACTICA BACK END>
```



```
tsconfig.json x hello.ts dbmysql.ts package.json
tsconfig.json > {} compilerOptions
1 {
2   "compilerOptions": {
3     "module": "commonjs",
4     "esModuleInterop": true,
5     "target": "es6",
6     "moduleResolution": "node",
7     "sourceMap": true,
8     "outDir": "dist"
9   },
10  "lib": ["es2015"]
11 }
12
```

```
tsconfig.json hello.ts x dbmysql.ts package.json .env
src > hello.ts > ...
1 let mensaje = " Hello World !!!! Welcome !!!!!";
2 console.log(mensaje)
```



```
tsconfig.json hello.ts hello.js x dbmysql.ts package.json
build > hello.js
1 "use strict";
2 let mensaje = " Hello World !!!! Welcome !!!!!";
3 console.log(mensaje);
4
```

```
tsconfig.json  TS hello.ts  JS hello.js  TS dbmysql.ts

src > config > TS dbmysql.ts > default > database > port
1  export default {
2      database: {
3          host: 'localhost',
4          port: 3306,
5          user: 'root',
6          password: 'root',
7          database: 'web_integral'
8      }
9  }
10
```

```
tsconfig.json  TS hello.ts  JS hello.js  TS dbmysql.ts  JS pack

src > config > TS connection.ts > ...
1
2  import mysql from 'promise-mysql';
3  import keys from './dbmysql';
4
5  const pool = mysql.createPool(keys.database);
6  export default pool;
7
```

```
tsconfig.json  TS hello.ts  JS hello.js

.env
1  PORT = 3000
2
```

```
5   main: index.js ,
6   > Debug
7   "scripts": {
8     "build": "tsc -w",
9     "start": "node build/app.js",
10    "dev": "concurrently \"npx tsc --watch\" \"nodemon -q dist/app.js\""
11  },
12  "keywords": [],
13  "author": "",
14  "license": "MIT"
```

```
app.ts x authControllers.ts authRoutes.ts
src > app.ts > ...
1  import express, {Application} from 'express';
2  import morgan from 'morgan';
3  import cors from 'cors';
4  import bodyParser from 'body-parser';
5  import authRoutes from './routes/authRoutes'
6
7  class Server{
8
9    private app: Application;
10
11    constructor() {
12      this.app = express();
13      this.config();
14      this.routes();
15      this.app.listen(this.app.get("port"), () => {
16        console.log("Server on port", this.app.get("port"));
17      });
18    }
19
20    config(): void {
21      // configuración del puerto para el servidor
22      this.app.set("port", 3000);
23
24      // muestra las peticiones en consola
25      this.app.use(morgan("dev"));
26    }
27  }
28
29  const server = new Server();
30  server.constructor();
31
32  export {server};
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
[0]
[0] 18:07:29 - Found 0 errors. Watching for file changes.
[1] Server on port 3000
[1] GET / 200 11.604 ms - 24
[1]
```

0

```
src > controllers > authControllers.ts > AuthController
1 import { Request, Response } from "express";
2
3 class AuthController {
4
5     public async iniciarSesion(req: Request, res: Response) {
6         const {username, password} = req.body;
7         return res.json({ message: "Autenticación correcta",
8             username: username,
9             password: password });
10    }
11
12 }
13 export const authController = new AuthController();
```

```
src > routes > authRoutes.ts > AuthRoutes > config > router.get('/') callback
1 import {Router, RouterOptions} from "express";
2 import { authController } from "../controllers/authControllers";
3
4 class AuthRoutes{
5
6     public router: Router;
7
8     constructor(){
9         this.router = Router();
10        this.config();
11    }
12
13    config(){
14
15        this.router.get('/', (req, res)=>{
16            res.send('Invocando Autenticación');
17        })
18        // this.router.post('/', authController.iniciarSesion);
19    }
20
21 }
22
23 const authRoutes = new AuthRoutes();
24 export default authRoutes.router;
```

## GET

http://localhost:3000

GET http://localhost:3000

Send

Params Authorization Headers (6) Body Pre-request Script Tests Settings Cookies

Query Params

Key	Value	Description	...	Bulk Edit
Key	Value	Description		

Body Cookies Headers (6) Test Results

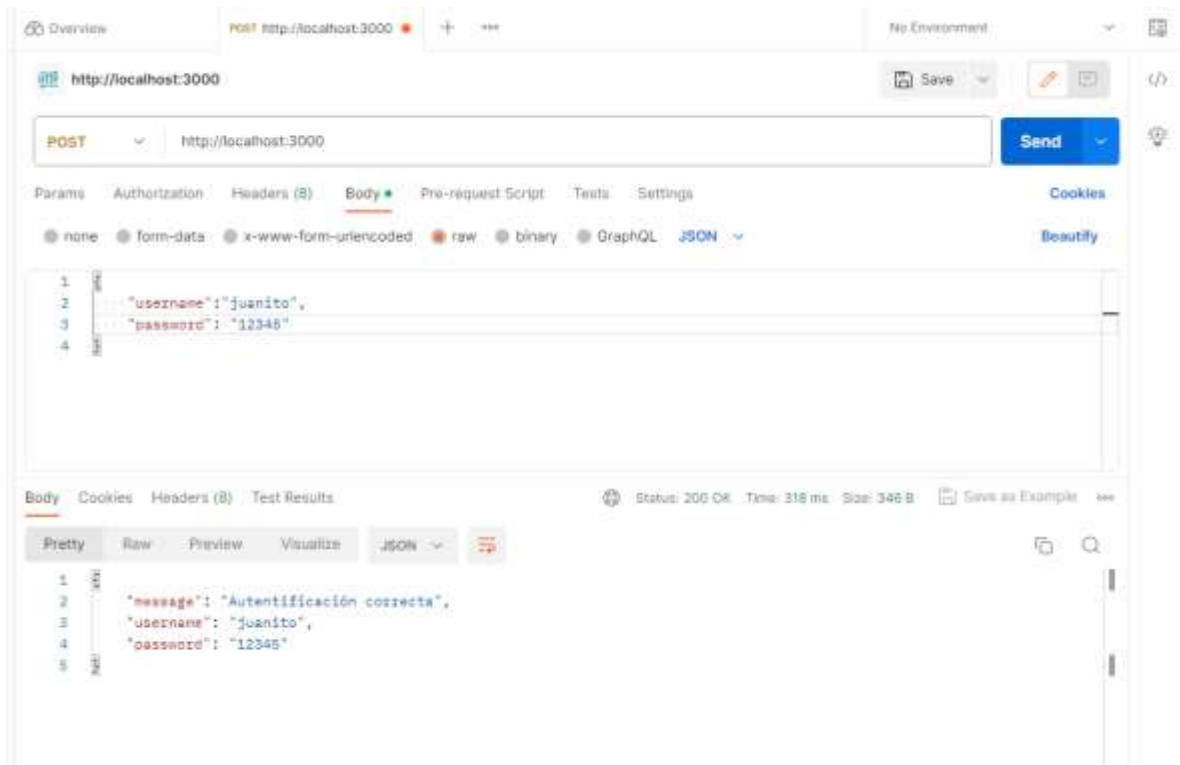
Status: 200 OK Time: 43 ms Size: 284 B Save as Example

Pretty Raw Preview Visualize HTML

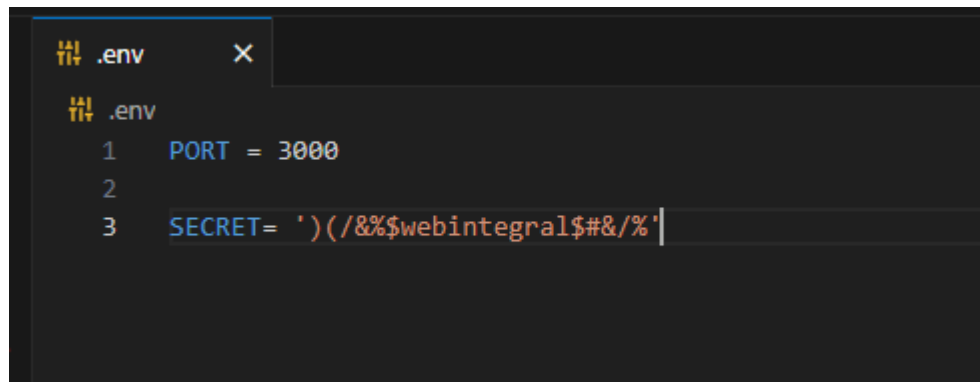
1 Invocando Autenticación

```
12
13   config() {
14     // this.router.get('/', (req, res) => {
15     //   res.send('Invocando Autenticación')
16     // })
17     this.router.post('/', authController.iniciarSesion);
18   }
19
20
21 }
22
23 const authRoutes = new AuthRoutes();
24 export default authRoutes.router;
```

## POST



## CONFIGURACION BASE DE DATOS



Servidor: 127.0.0.1 » Base de datos: web\_integral » Tabla: tbl\_usuario

Examinar Estructura SQL Buscar Insertar Exportar Importar Privilegios Operaciones Seguimiento

Columna	Tipo	Función	Nulo	Valor
username	varchar(30)			progra01
password	varchar(250)		<input type="checkbox"/>	12345
role	varchar(20)		<input checked="" type="checkbox"/>	admin

☒ Ignorar

Continuar

```
.env connection.ts x authModelo.ts
src > config > connection.ts > ...
1
2 // import mysql from 'promise-mysql';
3 // import keys from './dbmysql';
4
5 // const pool = mysql.createPool(keys.database);
6 // export default pool;
7
8 import mysql from 'promise-mysql';
9
10
11 const pool = mysql.createPool({
12   host: 'localhost',
13   port: 3306,
14   user: 'admin',
15   password: 'admin',
16   database: 'web_integral'
17 });
18 export default pool;
19
```



```

src > models > authModelo.ts > ...
1  import pool from '../config/connection';
2
3
4  class AuthModelo {
5
6      /*
7       *Método para buscar un usuario por username
8       */
9      public async getuserByUsername(username: string) {
10         const result = await pool.then(async (connection) => {
11             return await connection.query(
12                 " SELECT * FROM tbl_usuario WHERE username = ? ", [username]);
13             });
14         return result;
15     }
16 }
17 const model = new AuthModelo();
18 export default model;
19

```

## CONTROLADOR

```

.env  connection.ts  authModelo.ts  authControllers.ts X
src > controllers > authControllers.ts > AuthController > iniciarSesion
1  import { Request, Response } from "express";
2  import validator from "validator";
3
4      /**
5       * Método para validad Inicio de sesión
6       * @param req Petición
7       * @param res respuesta
8       * @returns
9       */
10
11  class AuthController {
12
13      public async iniciarSesion(req: Request, res: Response) {
14
15          try {
16              const {username, password }= req.body;
17
18              // verificar que los datos no esten vacios
19              if (validator.isEmpty(username.trim()) ||
20                  validator.isEmpty(password.trim())) {
21                  return res
22                      .status(400)
23                      .json({ message: "Los campos son requeridos", code: 1 });
24              }
25          }
26      }
27  }
28

```

## POSTMAN

The image displays two sequential screenshots of the Postman application interface, illustrating the process of testing an API endpoint.

**Top Screenshot (Failed Request):**

- URL:** `http://localhost:3000`
- Method:** `POST`
- Body (JSON):**

```
{  "username": "",  "password": "12345"}
```
- Status:** `400 Bad Request`
- Time:** `1127 ms`
- Size:** `324 B`
- Response Body (JSON):**

```
{  "message": "Los campos son requeridos",  "code": 1}
```

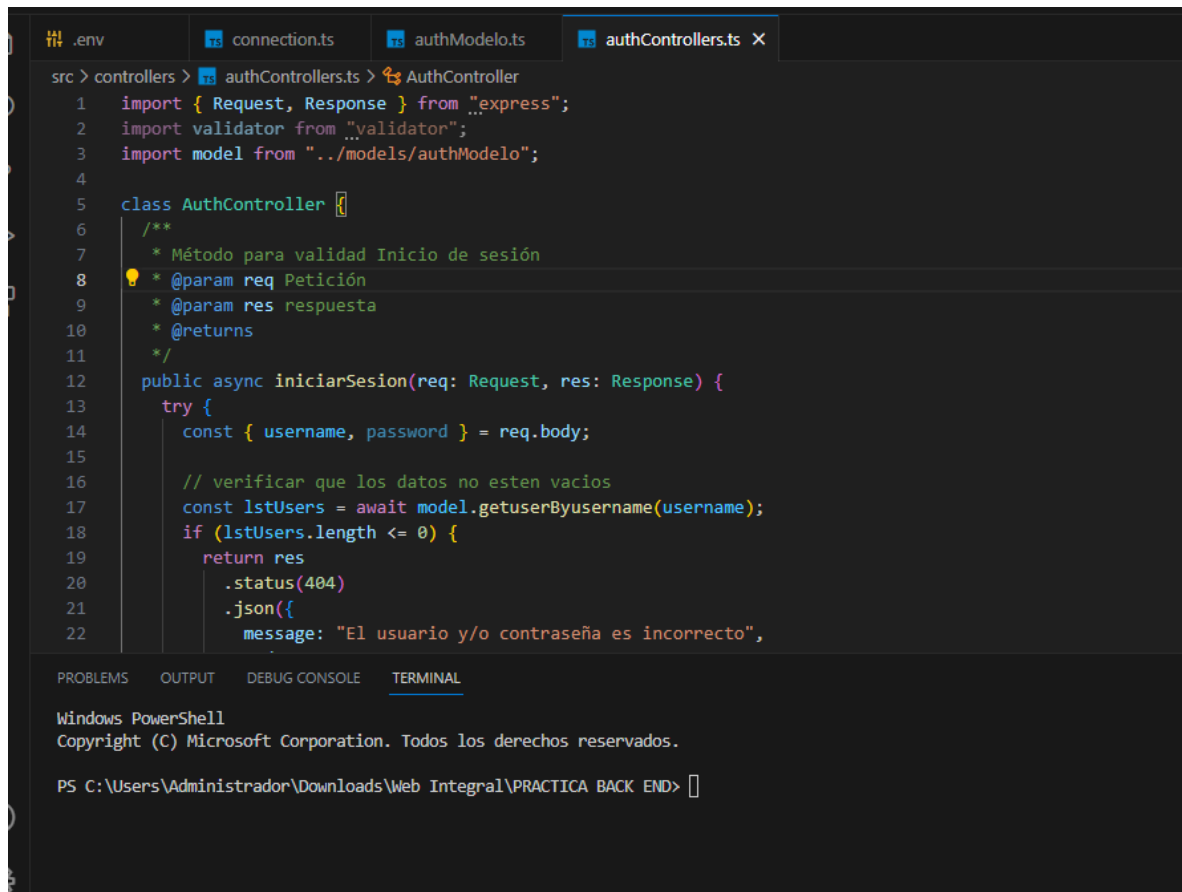
**Bottom Screenshot (Successful Request):**

- URL:** `http://localhost:3000`
- Method:** `POST`
- Body (JSON):**

```
{  "username": "progra01",  "password": "12345"}
```
- Status:** `200 OK`
- Time:** `20 ms`
- Size:** `315 B`
- Response Body (JSON):**

```
{  "message": "Autenticación correcta",  "code": 0}
```

## ACCEDIENDO A LOS DATOS



```
src > controllers > authControllers.ts > AuthController
1  import { Request, Response } from "express";
2  import validator from "validator";
3  import model from "../models/authModelo";
4
5  class AuthController {
6      /**
7       * Método para validad Inicio de sesión
8       * @param req Petición
9       * @param res respuesta
10      * @returns
11      */
12      public async iniciarSesion(req: Request, res: Response) {
13          try {
14              const { username, password } = req.body;
15
16              // verificar que los datos no esten vacios
17              const lstUsers = await model.getuserByUsername(username);
18              if (lstUsers.length <= 0) {
19                  return res
20                      .status(404)
21                      .json({
22                          message: "El usuario y/o contraseña es incorrecto",
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

Windows PowerShell  
Copyright (C) Microsoft Corporation. Todos los derechos reservados.

PS C:\Users\Administrador\Downloads\Web Integral\PRACTICA BACK END>

## FUNCIONALIDAD CRUD USUARIOS

### MODELO

usuarioRoutes.ts

usuarioModelo.ts X

utils.ts

usuarioController.ts

src &gt; models &gt; usuarioModelo.ts &gt; default

```
1  import pool from '../config/connection';
2
3
4  class UsuarioModelo {
5      public async listar() {
6          const result = await pool.then( async (connection) => {
7              return await connection.query(
8                  " SELECT u.username, u.password, u.role "
9                  + " FROM tbl_usuario u ") );
10         return result;
11     }
12
13
14     public async insertar(usuario: any) {
15         const result = await pool.then( async (connection) => {
16             return await connection.query(
17                 " INSERT INTO tbl_usuario SET ? ", [usuario]
18             );
19         });
20         return result;
21     }
22
23
24     public async actualizar(usuario: any, username: string) {
25         const result = await pool.then( async (connection) => {
26             return await connection.query(
27                 "UPDATE tbl_usuario SET ? WHERE username = ?",
28                 [usuario, username]
```

```
23
24 public async actualizar(usuario: any, username: string) {
25     const result = await pool.then( async (connection) => {
26         return await connection.query(
27             "UPDATE tbl_usuario SET ? WHERE username = ?",
28             [usuario, username]
29         );
30     });
31     return result;
32 }
33
34
35
36 public async eliminar(username: string) {
37     console.log('Eliminando DAO');
38     const result = await pool.then( async (connection) => {
39         return await connection.query(
40             'DELETE FROM tbl_usuario WHERE username = ?', [username]
41         );
42     });
43     return result;
44 }
45
46 }
47 const model = new UsuarioModelo();
48 export default model;
```

## ROUTES

```
src > routes > usuarioRoutes.ts > UsuarioRoutes
1  import { Router } from "express";
2  import { usuarioController } from "../controllers/usuarioController";
3
4
5  class UsuarioRoutes {
6
7
8      public router: Router;
9
10
11      constructor() {
12          this.router = Router();
13          this.config();
14      }
15
16      private config() {
17          // listado
18          this.router.get('/', usuarioController.listar);
19
20          this.router.post('/insert', usuarioController.insertar);
21
22          this.router.put('/update/:username', usuarioController.actualizar);
23
24          this.router.delete('/delete/:username', usuarioController.eliminar);
25      }
26  }
27  const usuarioRoutes = new UsuarioRoutes();
28  export default usuarioRoutes.router;
```

## ENCRIPTAMIENTO DE TEXTO

### UTILS

```
utils > utils.ts > Utils
import bcrypt from 'bcryptjs';

class Utils {

  public async hashPassword(password: string): Promise<string> {
    const salt = await bcrypt.genSaltSync(10);
    return await bcrypt.hashSync(password, salt);
  }

  public async checkPassword(password: string, encryptedPassword: string): Promise<boolean> {
    return await bcrypt.compareSync(password, encryptedPassword);
  }
}

export const utils = new Utils();
```

### CONTROLADOR

```
src > controllers > usuarioController.ts > ...
1  import { Request, Response } from 'express';
2  import model from '../models/usuarioModelo';
3  import validator from 'validator';
4  import { utils } from '../utils/utils';
5
6
7  class UsuarioController {
8    /**
9     * @description Lista los usuarios disponibles
10    * @param req
11    * @param res
12    * @returns Promise<Response<any, Record<string, any>> | undefined>
13    */
14    public async listar(req: Request, res: Response) {
15      try {
16        const result = await model.listar();
17        res.json(result);
18      } catch (error: any) {
19        return res.status(500).json({ message : `${error.message}` });
20      }
21    }
22  }
```

```

/**
 * @description Inserción de usuarios a la bd
 * @param req
 * @param res
 * @returns Promise<Response<any, Record<string, any>> | undefined>
 */
public async insertar(req: Request, res: Response) {
  try {
    // se obtienen los datos del body
    var usuario = req.body;
    console.log(usuario);

    // validar que los datos no sean nulos o indefinidos
    if (!usuario.username
      || !usuario.password
      || !usuario.role) {
      return res.status(404).json({ message: "Todos los datos son requeridos", code: 1});
    }

    // encriptar nuestra contraseña
    var encryptedText = await utils.hashPassword(usuario.password);
    usuario.password = encryptedText;
    console.log("Contraseña encriptada " + typeof usuario.password);
  }
}

```

```

    // se verifica que los datos no se encuentren vacios
    if (validator.isEmpty(username)) {
      return res.status(404).json({ message: "Todos los datos son requeridos", code: 1});
    }

    // actualización de los datos
    //Agregar enunciado
    const result = await model.eliminar(username);

    if (result.affectedRows > 0) {
      return res.json({message: "Los datos se eliminaron correctamente", code: 0});
    } else {
      return res.status(404).json({ message: result.message, code: 1});
    }

  } catch (error: any) {
    console.log("Error");
    return res.status(500).json({ message : `${error.message}` });
  }
}

export const usuarioController = new UsuarioController();

```



# PRUEBAS POSTMAN

## LISTAR

Postman interface showing a GET request to `http://localhost:3000`. The response is a JSON array of three user objects.

Request: `GET http://localhost:3000`

Response (JSON):

```
[{"username": "LuisL", "password": "$2a$10$JZ8ydi5yC5GTR/oPGfBKr0u5.jCk7BK6STKshfp7SgnHLgvTQIvJC", "role": "admin"}, {"username": "Maria", "password": "$2a$10$VvQlM1Y1LWlwqztxWcQMDuP1g1.Vgjz2oiao/y04lW81Y/I.uM/De", "role": "admin"}, {"username": "PaolaP", "password": "$2a$10$TEz/9vSpXxC3m6hYCJXk7eVTWqzyc8urkw9H6nmqIw2TElSrz5IP0", "role": "admin"}]
```

## INSERTAR

Postman interface showing a POST request to `http://localhost:3000/insert`. The response is a JSON object with a success message.

Request: `POST http://localhost:3000/insert`

Body (raw):

```
{  "username": "PaolaP",  "password": "123456",  "role": "admin"}
```

Response (JSON):

```
{  "message": "Los datos se guardaron correctamente",  "code": 0}
```

## ACTUALIZAR

```
{
  "username": "progra01",
  "password": "12345",
  "role": "admin"
}
```

PUT http://localhost:3000/update/progra01 Send

Params Authorization Headers (8) **Body** Pre-request Script Tests Settings Cookies

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL JSON Beautify

```
1 {
2   "username": "progra01",
3   "password": "94324324"
4 }
5
```

Body Cookies Headers (8) Test Results Status: 200 OK Time: 583 ms Size: 329 B Save as Example

Pretty Raw Preview Visualize JSON

```
1 {
2   "message": "Los datos se actualizaron correctamente",
3   "code": 0
4 }
```

```
{
  "username": "progra01",
  "password": "$2a$10$t3xIZVwRt/zIQz8zHf1P5ejHMPZfG0FgkbgHpnLjlmIHfYggZUCS",
  "role": "admin"
}
```

ELIMINAR

HTTP

http://localhost:3000/delete/Maria

Save

DELETE

http://localhost:3000/delete/Maria

Send

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

Cookies

Query Params

	Key	Value	Description	...	Bulk Edit
	Key	Value	Description		

Body

Cookies

Headers (8)

Test Results

Status: 200 OK

Time: 526 ms

Size: 327 B

Save as Example

Pretty

Raw

Preview

Visualize

JSON

1

2

3

4

2

3

4

5

6

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