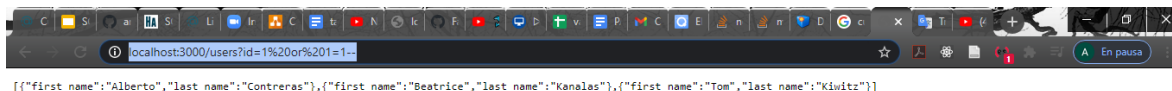


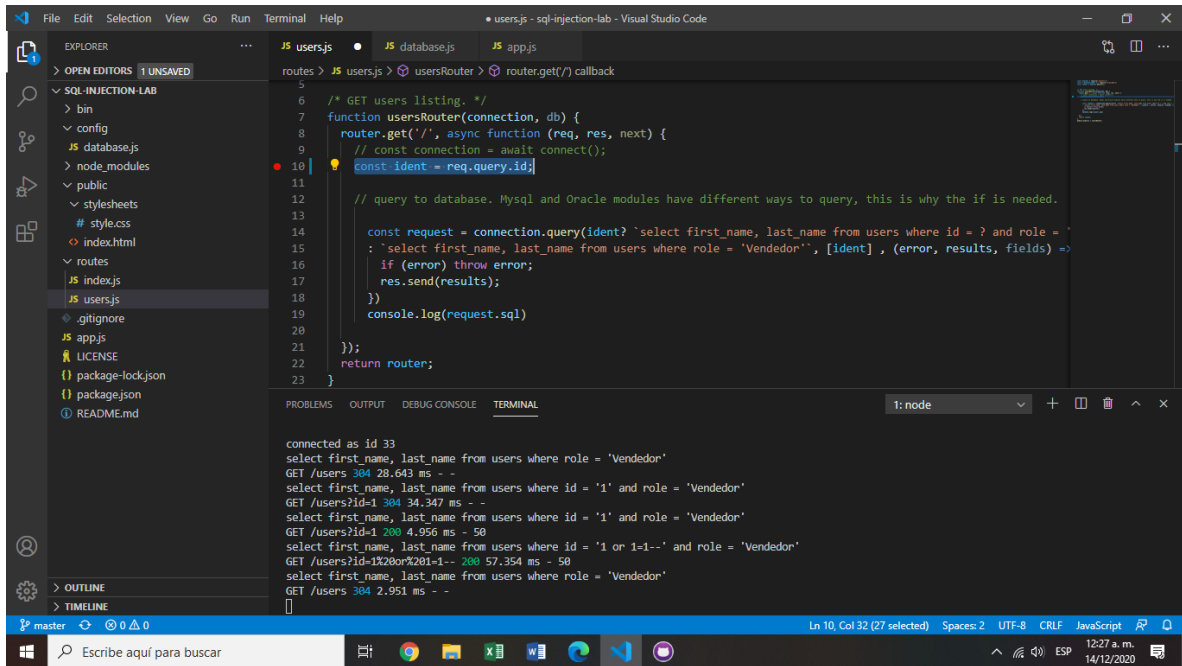
## Laboratorio de inyeccion SQL

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Para lograr que se vieran todos los usuarios del sistema incluyendo a todos aquellos que tengan un rol diferente a VENDEDOR solo coloqué después de ' ? ' id=1 or 1=1- - con esto anule la condición de que solo aparecieran vendedores, dando lugar a que aparezcan los demás:



Para evitar esta inyección SQL realice una sencilla parametrización con la cual se puede evitar que un usuario pueda acceder a la concatenación de string.



The image displays two screenshots of a Visual Studio Code editor window, showing a Node.js application with a SQL injection vulnerability. The application is running on a local server, and the terminal output shows the results of a GET request to the /users endpoint.

**Top Screenshot:** The code in `users.js` shows a function `usersRouter` that handles GET requests to the /users endpoint. It connects to a database and returns all user data. The terminal output shows the results of a GET request to the /users endpoint, displaying all user data.

```
/* GET users listing. */
function usersRouter(connection, db) {
  router.get('/', async function (req, res, next) {
    // const connection = await connect();
    const id = req.query.id;

    // query to database. Mysql and Oracle modules have different ways to query, this is why the if is needed.

    const request = connection.query(id ? `select first_name, last_name from users where id = ${id} and role = 'Vendedor'` : `select first_name, last_name from users where role = 'Vendedor'`, [id], (error, results, fields) => {
      if (error) throw error;
      res.send(results);
    });
    console.log(request.sql);
  });
  return router;
}
```

**Bottom Screenshot:** The code in `users.js` shows the same function `usersRouter`, but the SQL query is modified to filter the results by role. The terminal output shows the results of a GET request to the /users endpoint, displaying only the user data for the role 'Vendedor'.

```
/* GET users listing. */
function usersRouter(connection, db) {
  router.get('/', async function (req, res, next) {
    // const connection = await connect();
    const id = req.query.id;

    // query to database. Mysql and Oracle modules have different ways to query, this is why the if is needed.

    const request = connection.query(id ? `select first_name, last_name from users where id = ? and role = 'Vendedor'` : `select first_name, last_name from users where role = 'Vendedor'`, [id], (error, results, fields) => {
      if (error) throw error;
      res.send(results);
    });
    console.log(request.sql);
  });
  return router;
}
```

Al realizar la inyeccion ya no aparecen todos los datos

