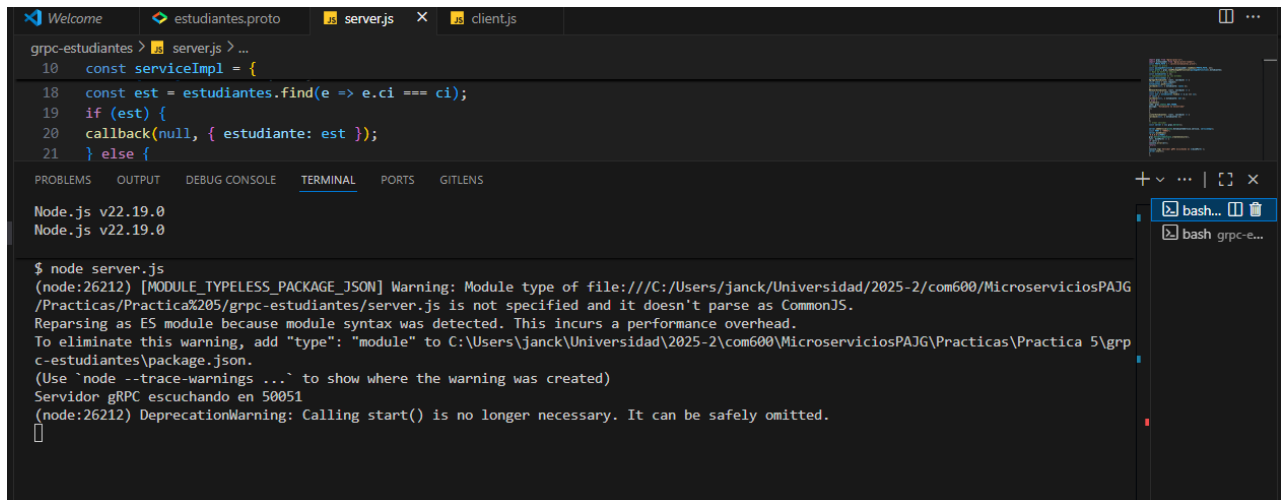


Practica 5

Ejercicio guiado

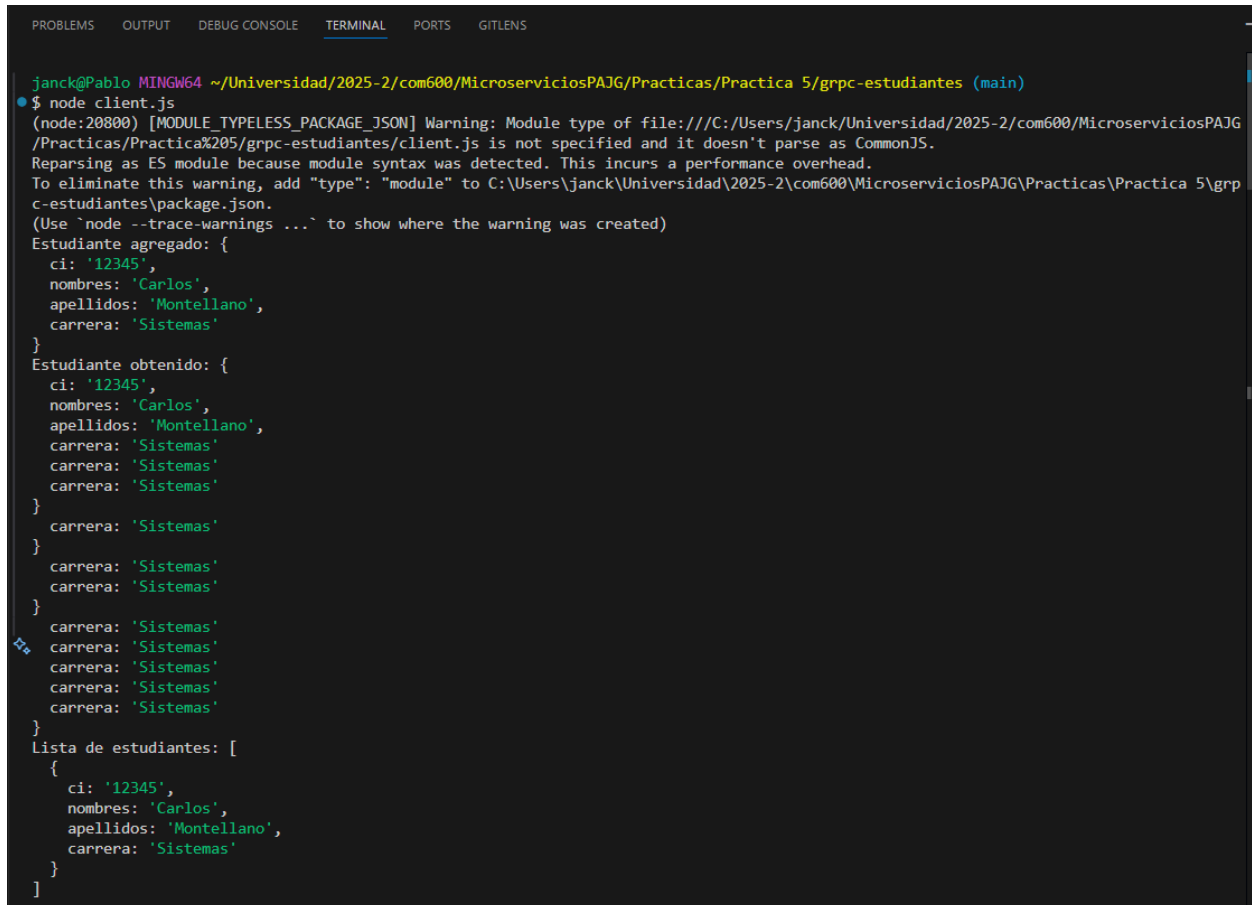


The screenshot shows the VS Code editor with the `server.js` file open. The code defines a gRPC service for managing students. The terminal shows the command `node server.js` being executed, which starts the gRPC server on port 50051. A warning about module type is displayed, along with a deprecation warning for the `start()` method.

```
grpc-estudiantes > server.js > ...
10   const serviceImpl = {
18   const est = estudiantes.find(e => e.ci === ci);
19   if (est) {
20     callback(null, { estudiante: est });
21   } else {
```

Node.js v22.19.0
Node.js v22.19.0

\$ node server.js
(node:26212) [MODULE_TYPELESS_PACKAGE_JSON] Warning: Module type of file:///C:/Users/janck/Universidad/2025-2/com600/MicroserviciosPAJG/Practicas/Practica%205/grpc-estudiantes/server.js is not specified and it doesn't parse as CommonJS. Reparsing as ES module because module syntax was detected. This incurs a performance overhead. To eliminate this warning, add "type": "module" to C:\Users\janck\Universidad\2025-2\com600\MicroserviciosPAJG\Practicas\Practica 5\grpc-estudiantes\package.json. (Use `node --trace-warnings ...` to show where the warning was created)
Servidor gRPC escuchando en 50051
(node:26212) DeprecationWarning: Calling start() is no longer necessary. It can be safely omitted.



The screenshot shows the VS Code editor with the `client.js` file open. The terminal shows the command `node client.js` being executed, which connects to the gRPC server and sends a request to add a student. The output shows the student being added and then retrieved, along with a list of all students.

```
janck@Pablo MINGW64 ~/Universidad/2025-2/com600/MicroserviciosPAJG/Practicas/Practica 5/grpc-estudiantes (main)
• $ node client.js
(node:20800) [MODULE_TYPELESS_PACKAGE_JSON] Warning: Module type of file:///C:/Users/janck/Universidad/2025-2/com600/MicroserviciosPAJG/Practicas/Practica%205/grpc-estudiantes/client.js is not specified and it doesn't parse as CommonJS. Reparsing as ES module because module syntax was detected. This incurs a performance overhead. To eliminate this warning, add "type": "module" to C:\Users\janck\Universidad\2025-2\com600\MicroserviciosPAJG\Practicas\Practica 5\grpc-estudiantes\package.json. (Use `node --trace-warnings ...` to show where the warning was created)
Estudiante agregado: {
  ci: '12345',
  nombres: 'Carlos',
  apellidos: 'Montellano',
  carrera: 'Sistemas'
}
Estudiante obtenido: {
  ci: '12345',
  nombres: 'Carlos',
  apellidos: 'Montellano',
  carrera: 'Sistemas'
}
Lista de estudiantes: [
  {
    ci: '12345',
    nombres: 'Carlos',
    apellidos: 'Montellano',
    carrera: 'Sistemas'
  }
]
```

Ejercicio practico

```
janck@Pablo MINGW64 ~/Universidad/2025-2/com600/MicroserviciosPAJG/Practicas/Practica 5/gestion-cursos (main)
$ node client.js
mensaje: 'Estudiante agregado',
estudiante: {
  ci: '123',
  nombres: 'Pablo',
  apellidos: 'Jancko',
  carrera: 'Ing. Sistemas'
}
}
AgregarCurso: {
  ok: true,
  mensaje: 'Curso agregado',
  curso: { codigo: 'INF101', nombre: 'Programación I', docente: 'Dr. Smith' }
}
InscribirEstudiante: { ok: true, mensaje: 'Inscripción exitosa: 123 -> INF101' }
ListarCursosDeEstudiante: {
  cursos: [
    {
      codigo: 'INF101',
      nombre: 'Programación I',
      docente: 'Dr. Smith'
    }
  ]
}
}
ListarEstudiantesDeCurso: {
  estudiantes: [
    {
      ci: '123',
      nombres: 'Pablo',
      apellidos: 'Jancko',
      carrera: 'Ing. Sistemas'
    }
  ]
}
}
```

```
janck@Pablo MINGW64 ~/Universidad/2025-2/com600/MicroserviciosPAJG/Practicas/Practica 5/gestion-cursos (main)
$ node client.js
AgregarEstudiante: {
  ok: false,
  mensaje: 'Estudiante con CI 123 ya existe.',
  estudiante: {
    ci: '123',
    nombres: 'Pablo',
    apellidos: 'Jancko',
    carrera: 'Ing. Sistemas'
  }
}
AgregarCurso: {
  ok: false,
  mensaje: 'Curso con código INF101 ya existe.',
  curso: { codigo: 'INF101', nombre: 'Programación I', docente: 'Dr. Smith' }
}
Error InscribirEstudiante: 6 ALREADY_EXISTS: Estudiante 123 ya inscrito en curso INF101
```