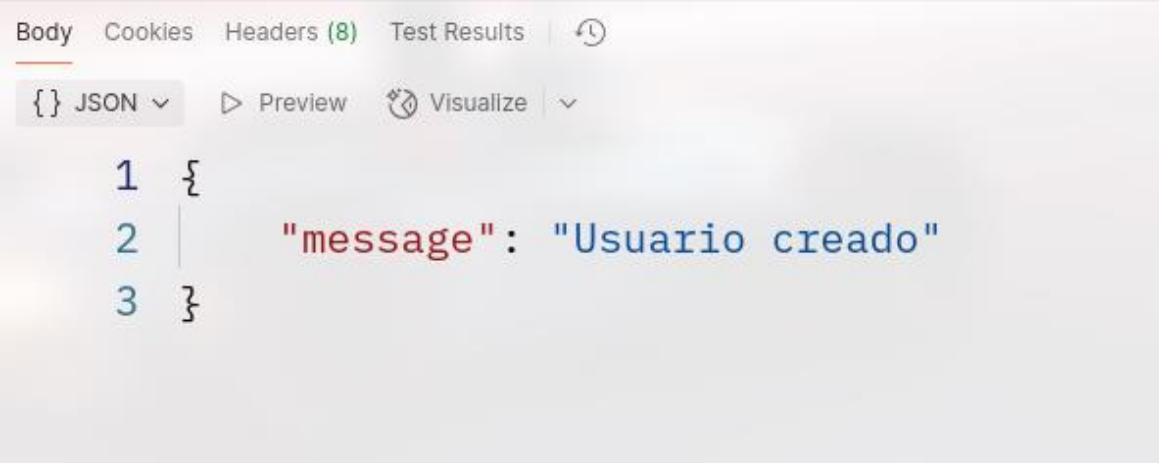
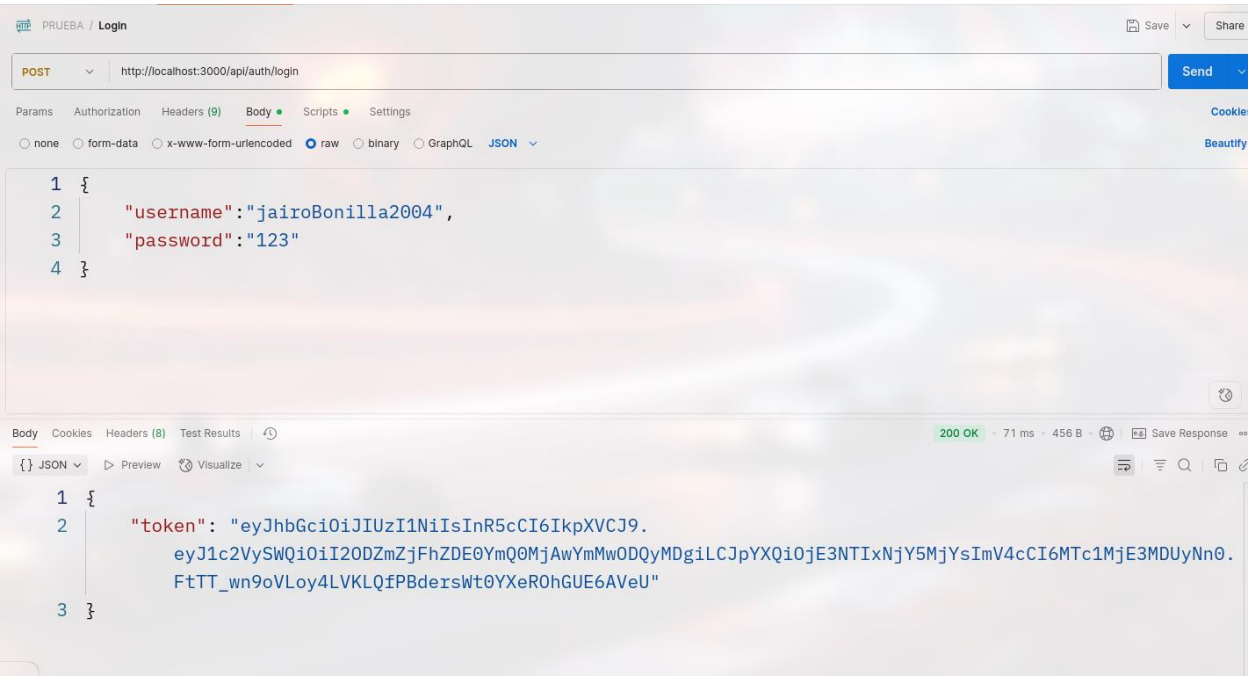


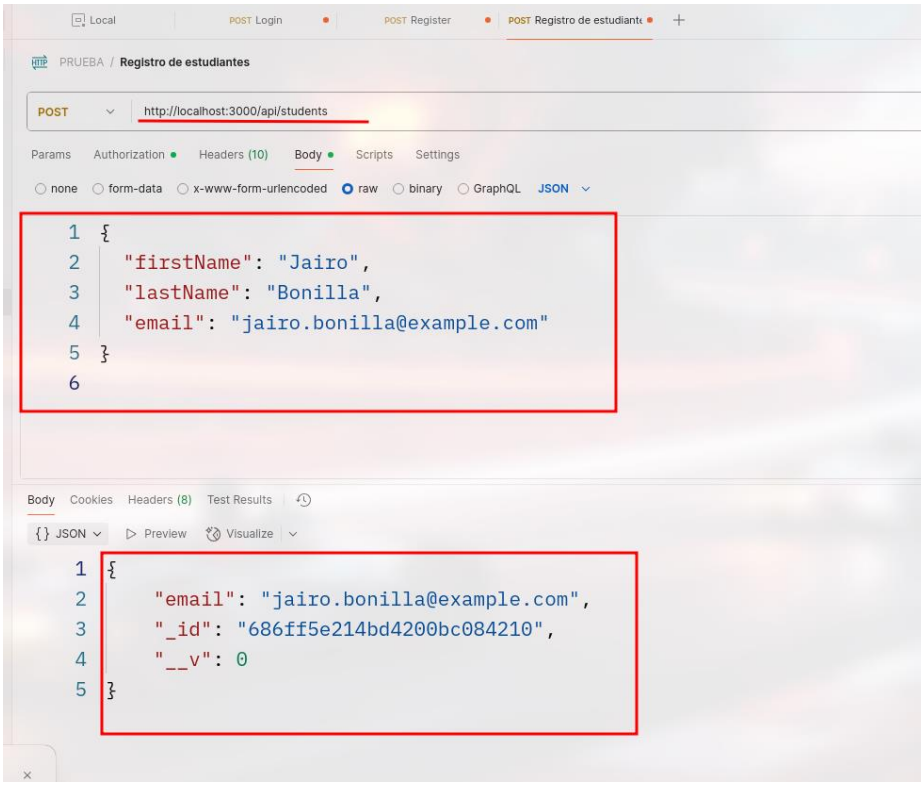
PASO 2 NOS LOGEAMOS, CON EL USUARIO CREADO



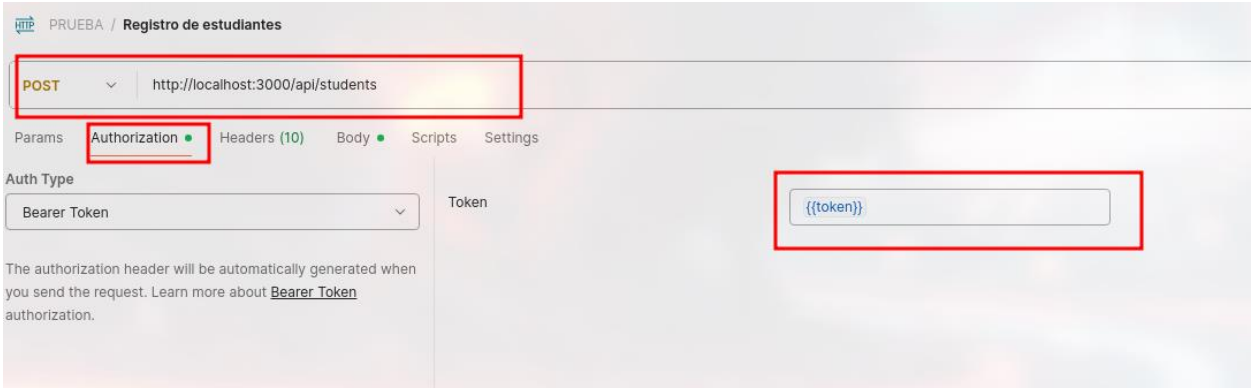
```
academico> db.users.find()
[
  {
    _id: ObjectId('686ff1ad14bd4200bc084208'),
    username: 'jairoBonilla',
    password: '$2a$10$.efJCYq05/oovIdQPmI7BOrZMFaf4AzJBrnhEEnzEB50ki4alJHEO',
    __v: 0
  },
  {
    _id: ObjectId('686ff4a314bd4200bc08420e'),
    username: 'jairoBonilla2004',
    password: '$2a$10$Jl6a4WCiarwHra1hij75TuRUnN5SvY.5Dtl2tw7g9i9nj3lBsTCPS',
    __v: 0
  }
]
```

PRUEBAS

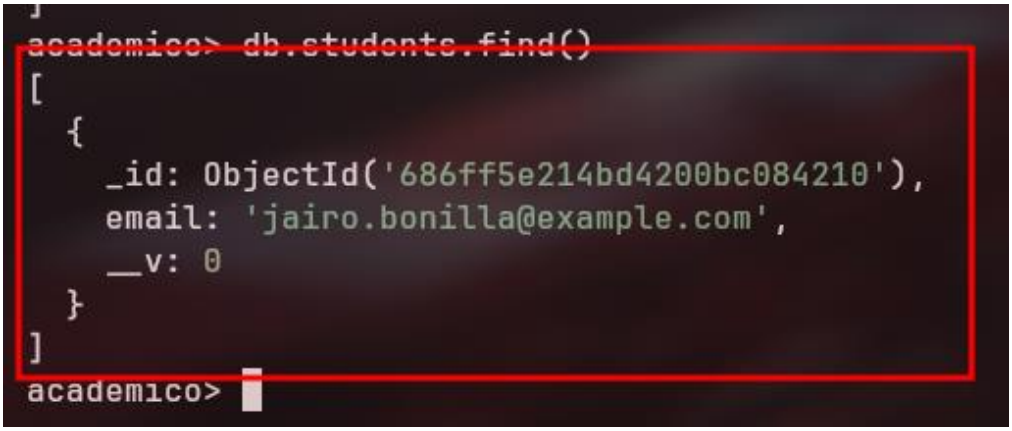
- **Registro y consulta de estudiantes (/api/students)**



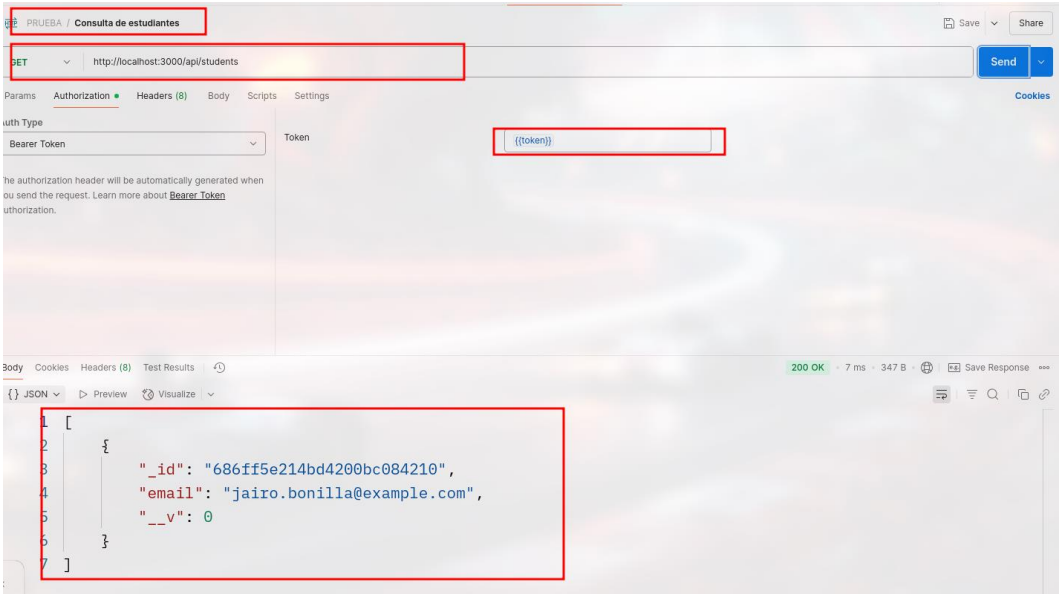
Mandamos el token de autorizacion



Verificamos en el MONGODB que se creo este usuario

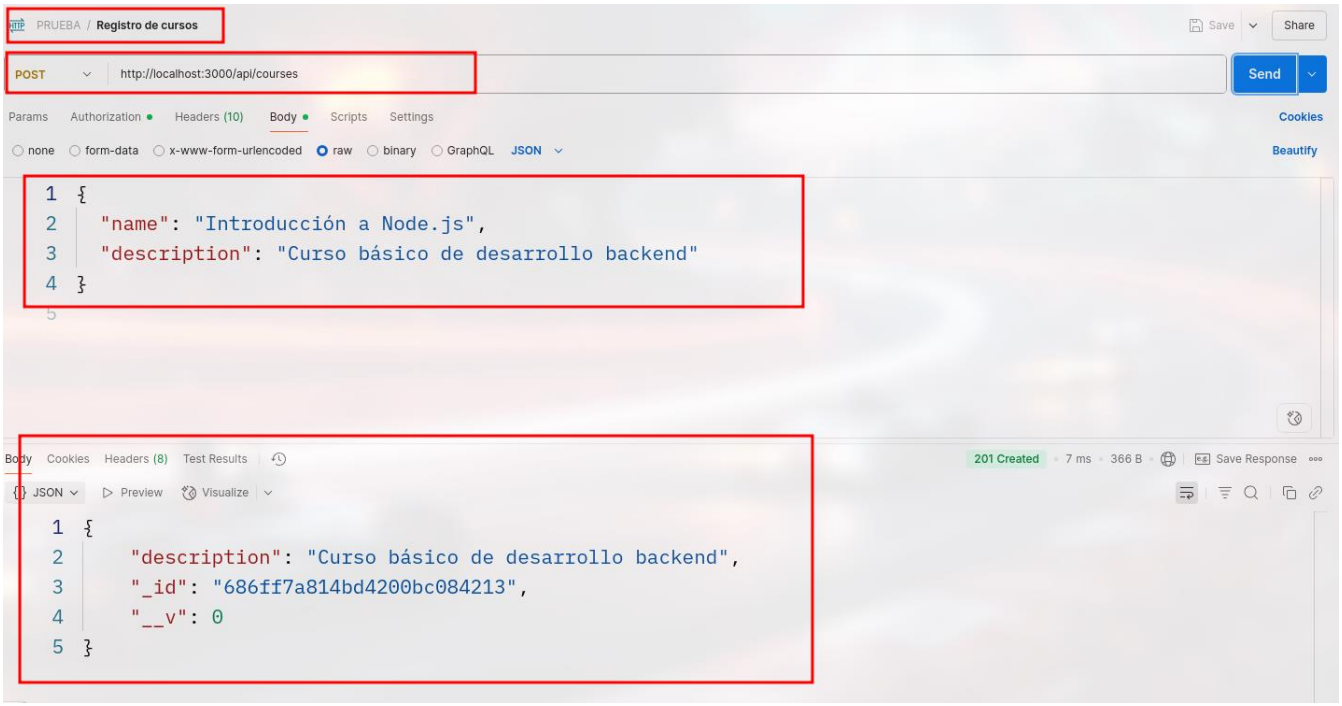


CONSULTA DE ESTUDIANTES

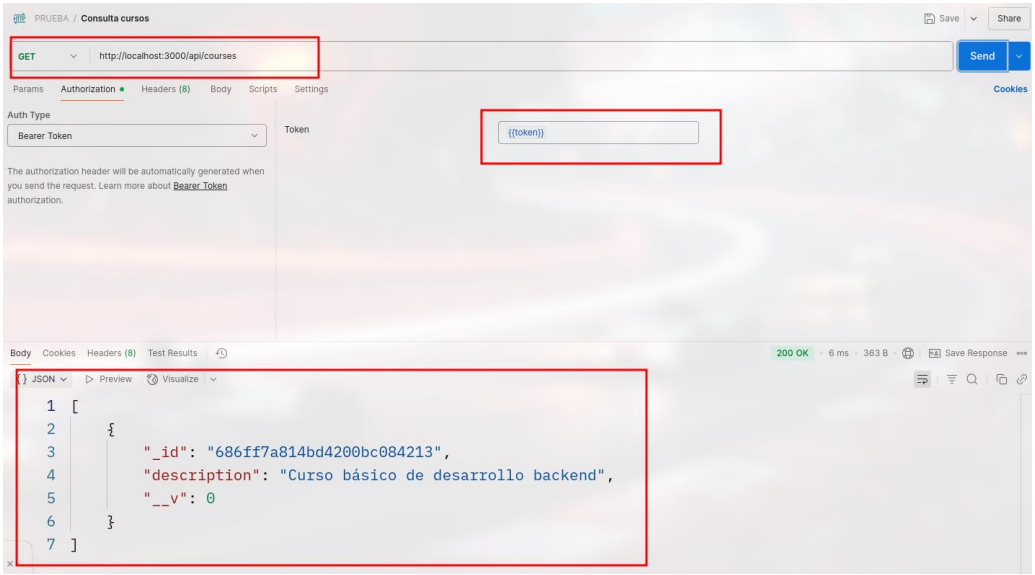


REGISTRO DE CURSOS

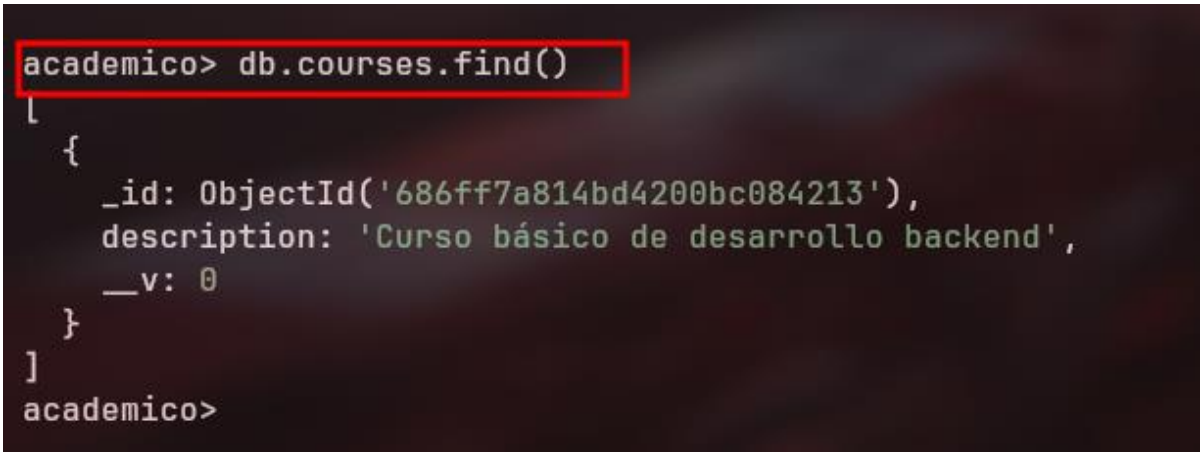
Solitud POST



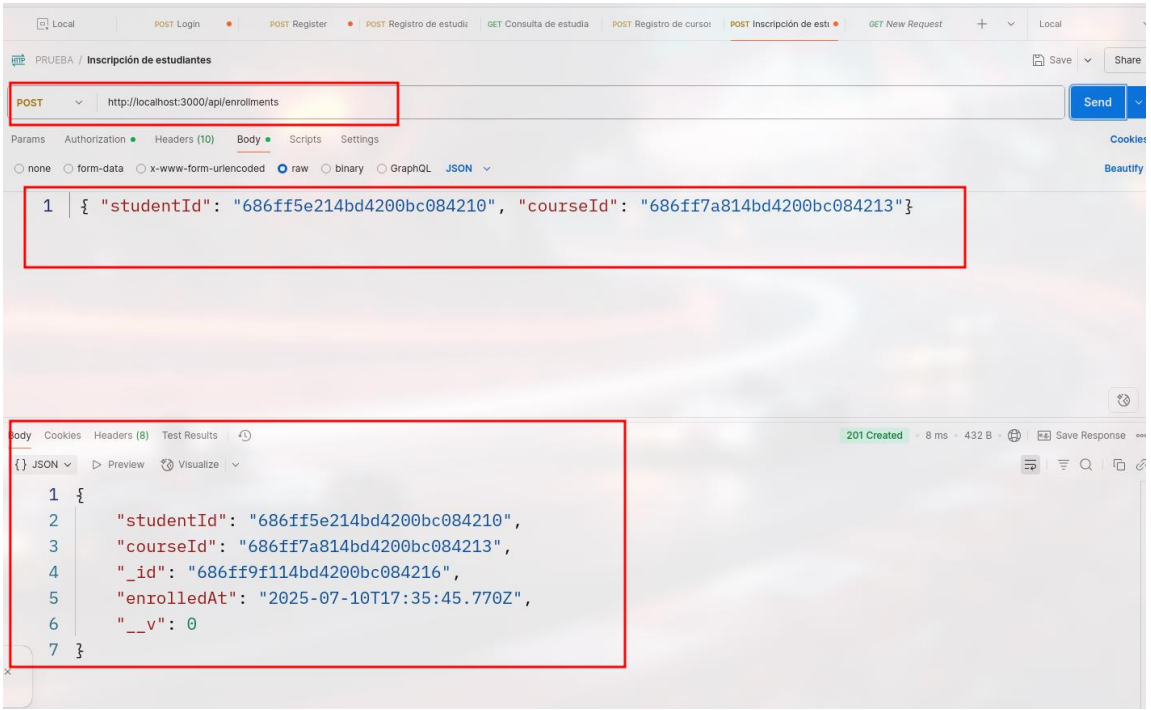
Consulta de cursos, solicitud tipo GET



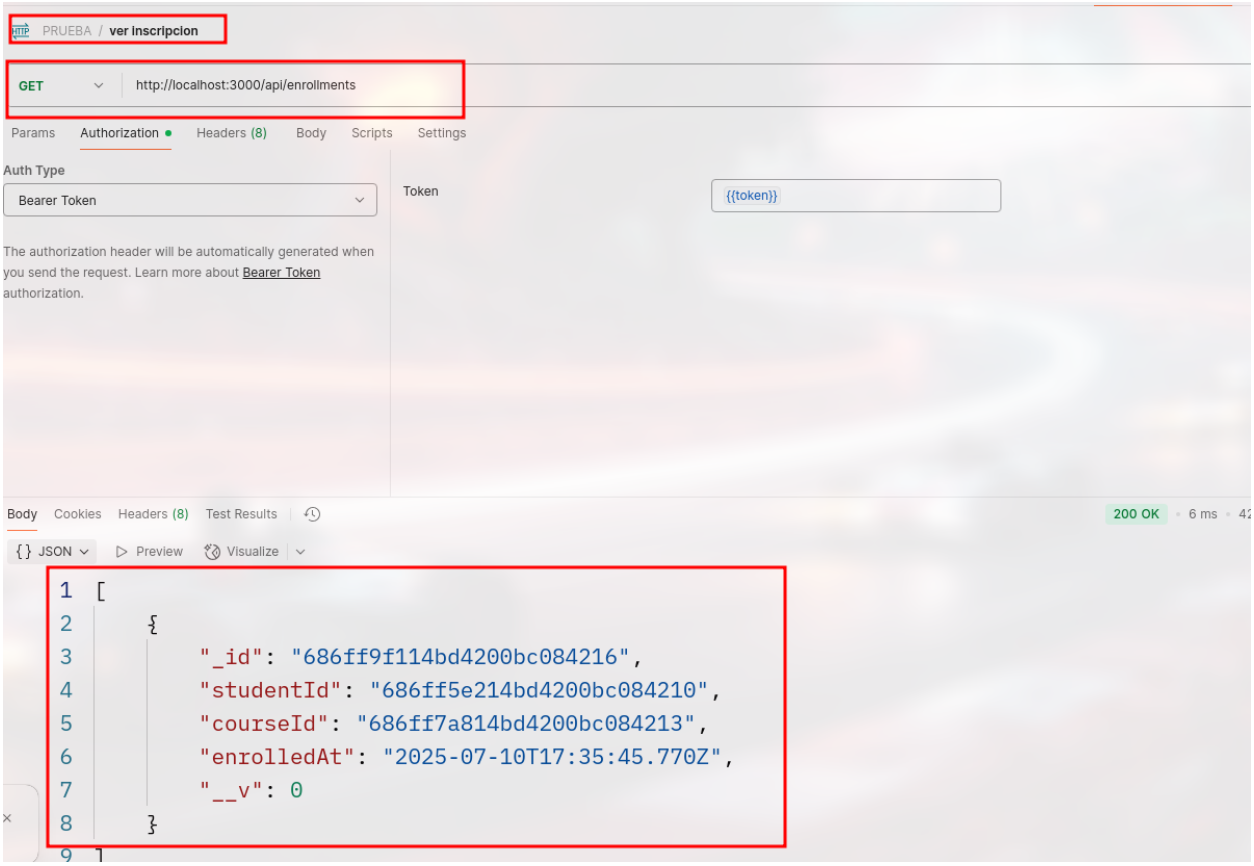
VERIFICAMOS QUE SE GUARDE EN EL MONGO



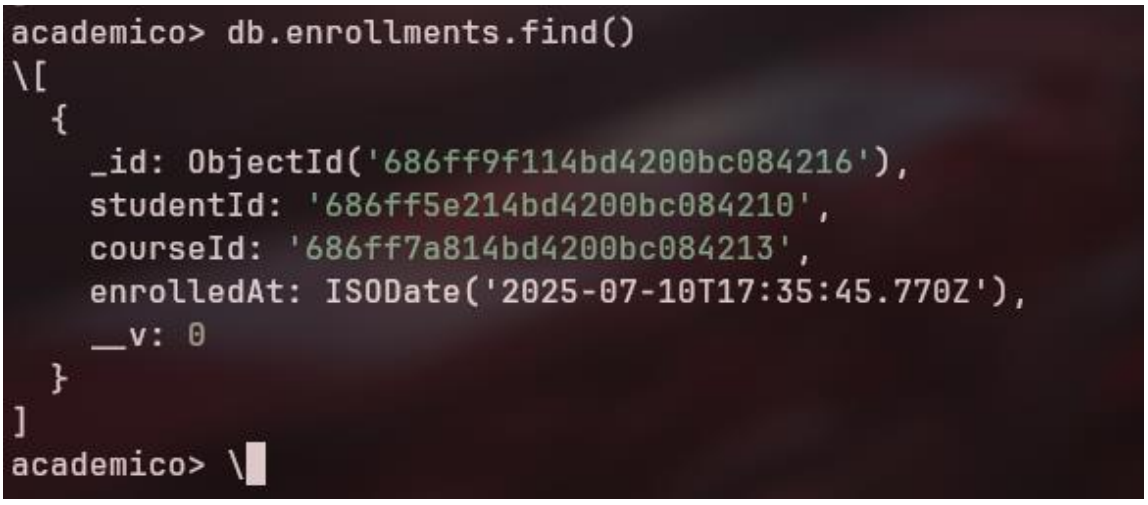
- **Inscripción de estudiantes (/api/enrollments)**



Verificamos con un método GET



Verificamos que se registro en MONGODB

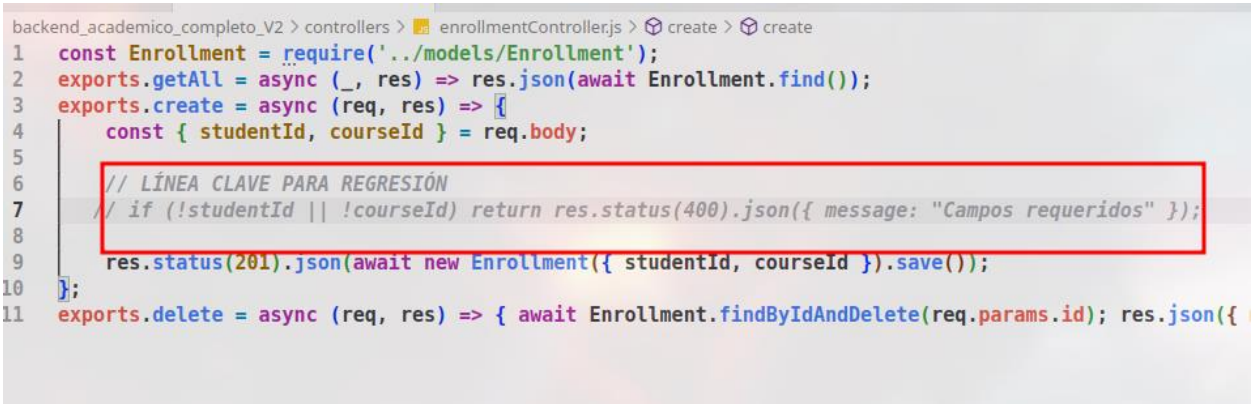


2. Pruebas de regresión – CAMBIO LÓGICO

- Aplica este cambio en enrollmentController.js:

// Antes (correcto)

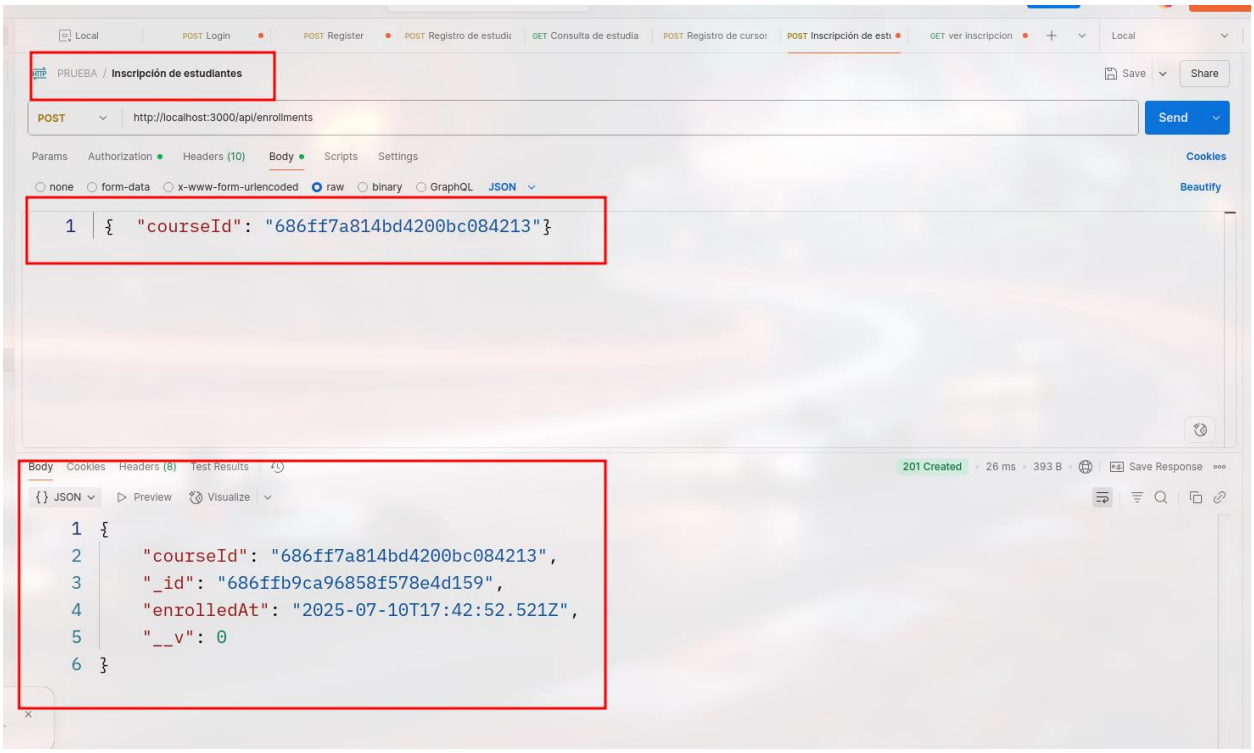
// Después (error intencional)



// Se omite la validación

- Ejecuta una prueba de inscripción sin studentId.

Como resultado nos deja registrar pero, registra, solo con los campos enviados en el bpdy en este caso courseID

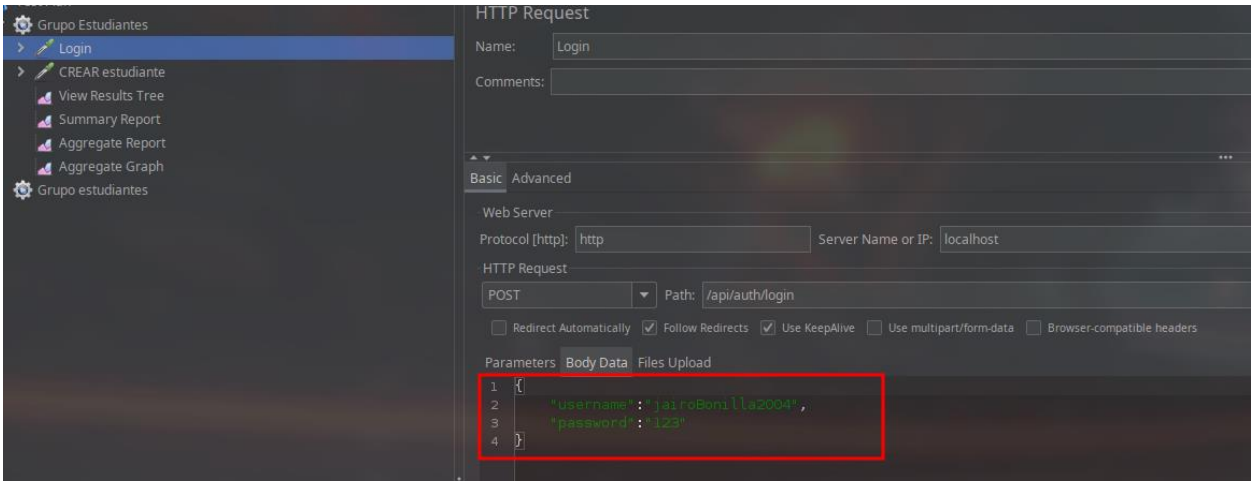


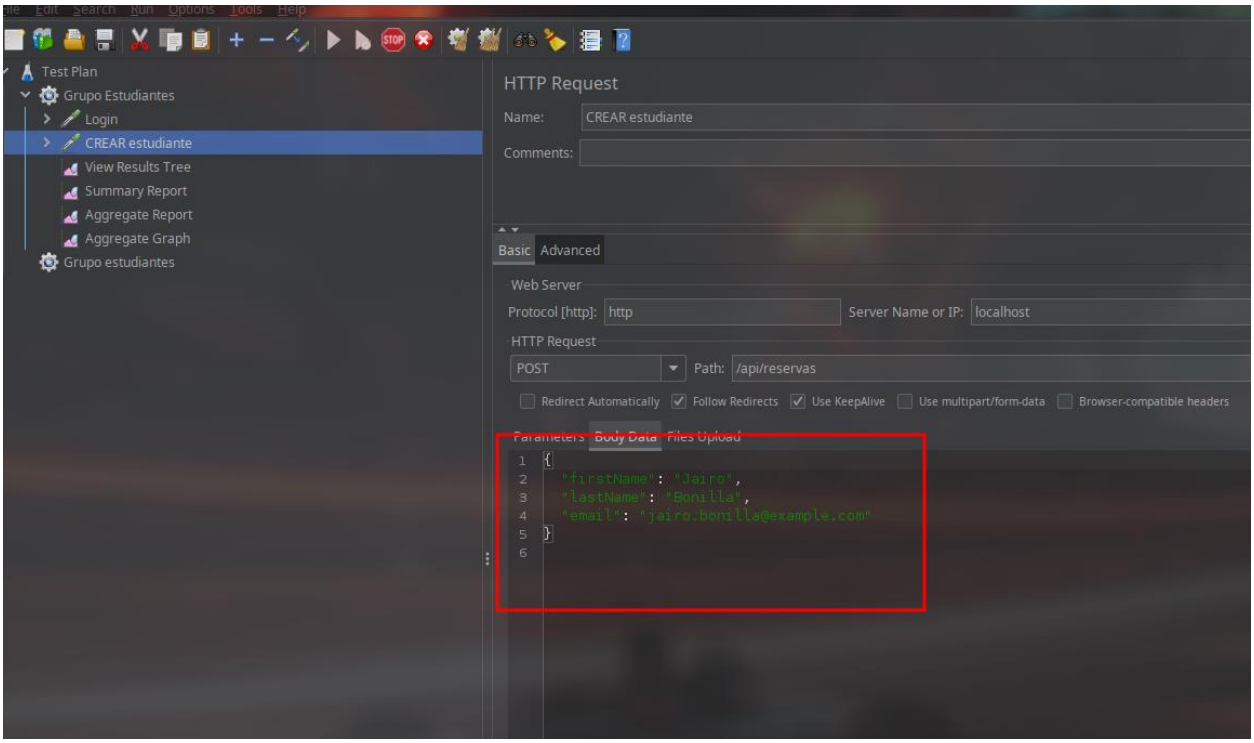
Esta prueba demuestra que un cambio no controlado en el código rompió una funcionalidad que antes estaba bien.

Es decir, la validación de campos requeridos ya no funciona, y esto afecta la integridad de los datos.

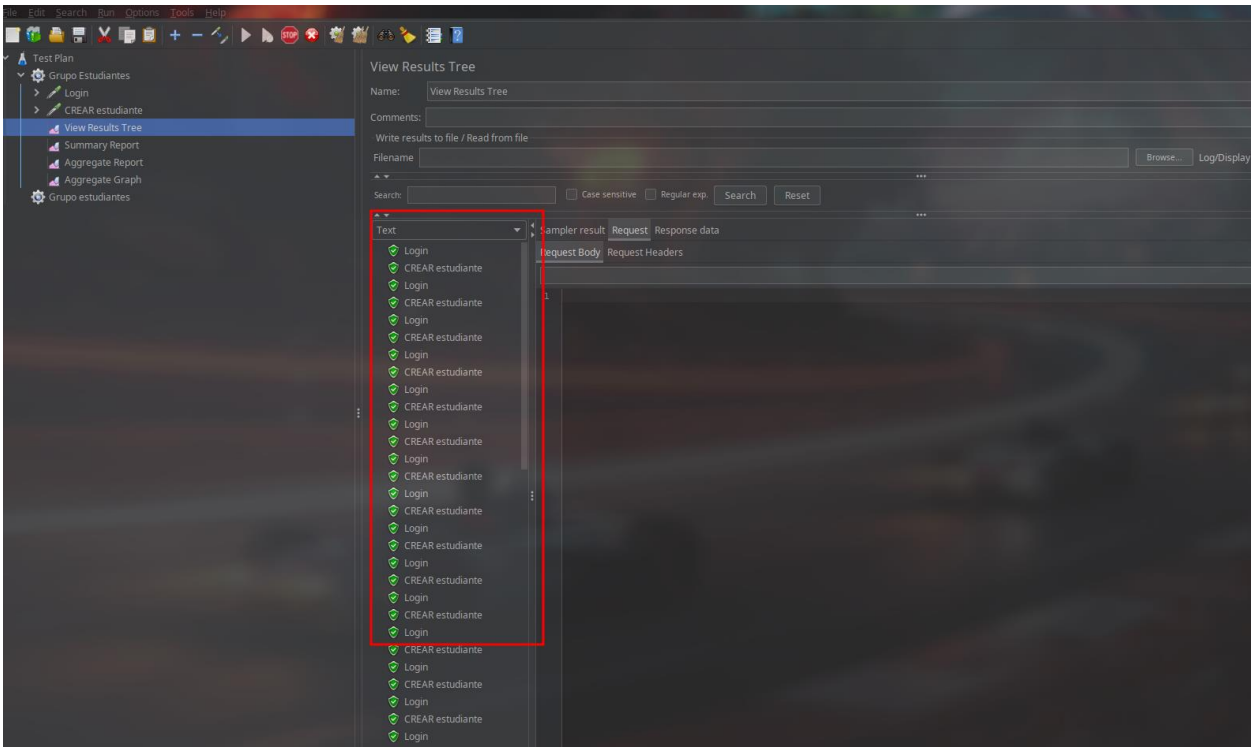
3. Pruebas de estrés – JMeter

- Simula 100 estudiantes inscritos a cursos durante 2 minutos.
- Evalúa:
    - Tiempo medio de respuesta
    - Comportamiento del servidor bajo carga
    - Solicitudes fallidas

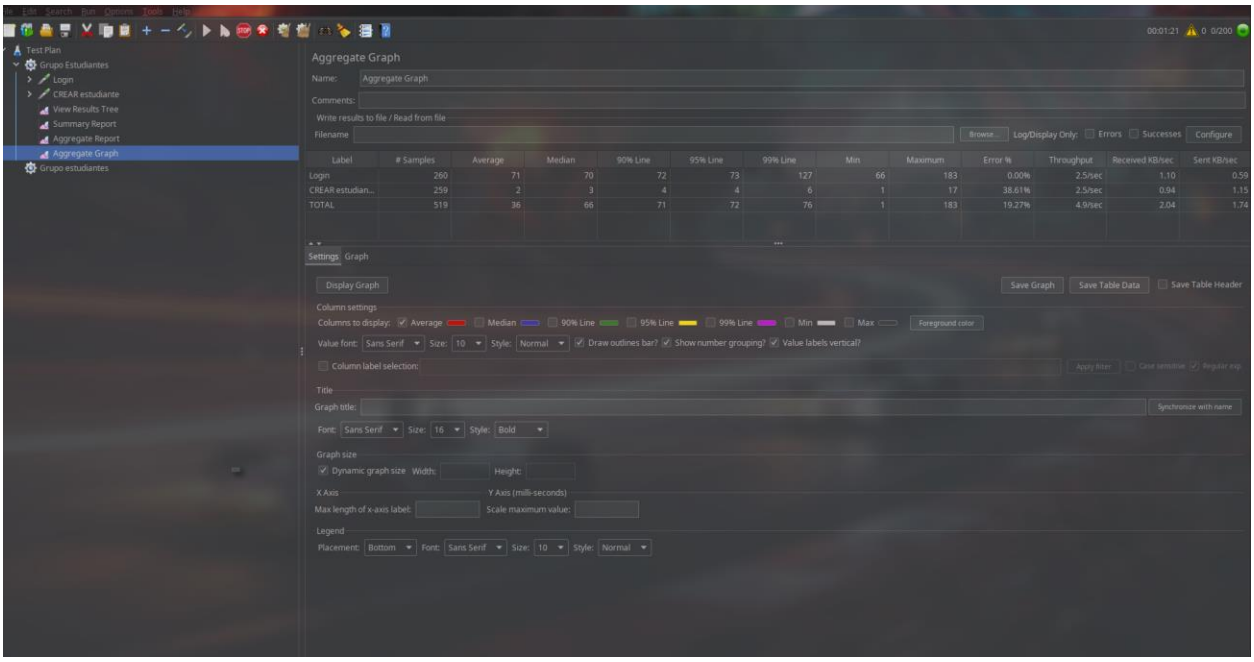

Grupo Estudiantes
Login
CREAR estudiante
View Results Tree
Summary Report
Aggregate Report
Aggregate Graph
Grupo estudiantes
HTTP Request
Name: Login
Comments:
Basic Advanced
Web Server
Protocol [http]: http
Server Name or IP: localhost
HTTP Request
POST
Path: /api/auth/login
Redirect Automatically
Follow Redirects
Use KeepAlive
Use multipart/form-data
Browser-compatible headers
Parameters Body Data Files Upload
{
"username":"jairoBonilla2004",
"password":"123"
}


Test Plan
Grupo Estudiantes
Login
CREAR estudiante
View Results Tree
Summary Report
Aggregate Report
Aggregate Graph
Grupo estudiantes
HTTP Request
Name: CREAR estudiante
Comments:
Basic Advanced
Web Server
Protocol [http]: http
Server Name or IP: localhost
HTTP Request
POST
Path: /api/reservas
Redirect Automatically
Follow Redirects
Use KeepAlive
Use multipart/form-data
Browser-compatible headers
Parameters Body Data Files Upload
{
"firstName": "Jairo",
"lastName": "Bonilla",
"email": "jairo.bonilla@example.com"
}


Summary Report
Name: Summary Report
Comments:
Write results to file / Read from file
Filename
Browse...
Log/Display Only:
Errors
Successes
Configure
Label
Samples
Average
Min
Max
Std. Dev.
Error %
Throughput
Received KB/sec
Sent KB/sec
Avg. Bytes
Login 260 71 66 183 10.93 0.00% 2.5/sec 1.10 0.59
CREAR estudiante 259 2 1 17 1.48 38.61% 2.5/sec 0.94 1.15
TOTAL 519 36 1 183 35.10 19.27% 4.9/sec 2.04 1.74


Test Plan
Grupo Estudiantes
Login
CREAR estudiante
View Results Tree
Summary Report
Aggregate Report
Aggregate Graph
Grupo estudiantes
View Results Tree
Name:
View Results Tree
Comments:
Write results to file / Read from file
Filename
Browse...
Log/Display
Search:
Case sensitive
Regular exp.
Search
Reset
Text
Sampler result
Request
Response data
Request Body
Request Headers
Login
CREAR estudiante


Test Plan
Grupo Estudiantes
Login
CREAR estudiante
View Results Tree
Summary Report
Aggregate Report
Aggregate Graph
Grupo estudiantes
Aggregate Report
Name:
Aggregate Report
Comments:
Write results to file / Read from file
Filename
Browse...
Log/Display Only:
Errors
Successes
Configure
Label
Samples
Average
Median
90% Line
95% Line
99% Line
Min
Maximum
Error %
Throughput
Received KB/sec
Sent KB/sec
Login 260 71 70 72 73 127 66 183 0.00% 2.5/sec 1.10
CREAR estudian... 259 2 3 4 4 6 1 17 38.61% 2.5/sec 0.94
TOTAL 519 36 66 71 72 76 1 183 19.27% 4.9/sec 2.04


Test Plan
Grupo Estudiantes
Login
CREAR estudiante
View Results Tree
Summary Report
Aggregate Report
Aggregate Graph
Grupo estudiantes
Aggregate Graph
Name: Aggregate Graph
Comments:
Write results to file / Read from file
Filename
Browse
Log/Display Only:
Errors
Successes
Configure
Label # Samples Average Median 90% Line 95% Line 99% Line Min Maximum Error % Throughput Received KB/sec Sent KB/sec
Login 260 71 70 72 73 127 66 183 0.00% 2.5/sec 1.10 0.59
CREAR estudian... 259 2 3 4 4 6 1 17 38.61% 2.5/sec 0.94 1.15
TOTAL 519 36 66 71 72 76 1 183 19.27% 4.9/sec 2.04 1.74
Settings
Graph
Display Graph
Save Graph
Save Table Data
Save Table Header
Column settings
Columns to display:
Average
Median
90% Line
95% Line
99% Line
Min
Max
Foreground color
Value font:
Sans Serif
Size:
10
Style:
Normal
Draw outlines bar?
Show number grouping?
Value labels vertical?
Column label selection:
Apply filter
Case sensitive
Regular exp.
Title
Graph title:
Synchronize with name
Font:
Sans Serif
Size:
16
Style:
Bold
Graph size
Dynamic graph size
Width:
Height:
X Axis
Max length of x-axis label:
Y Axis (milli-seconds)
Scale maximum value:
Legend
Placement:
Bottom
Font:
Sans Serif
Size:
10
Style:
Normal