

Parcial Back-End

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Documentos Adicionales

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A continuación se presentan los documentos adicionales que se solicitaron para esta instancia de parcial de Back.

Base de datos en H2

URL para levantar la base en h2: <https://camachotomas-parcial-backend.onrender.com/h2-console/>

JDBC: jdbc:h2:mem:./testdb

The screenshot shows the H2 console web interface. The browser address bar displays the URL: `https://camachotomas-parcial-backend.onrender.com/h2-console/login.do?sessionId=e2a5855af38e7fd7bcd46ce91a6048a`. The interface includes a sidebar on the left with a tree view of the database structure, showing a connection to `jdbc:h2:mem:./testdb` and a list of database objects including `ADN`, `ID`, `IS_MUTANT`, `Indexes`, `INFORMATION_SCHEMA`, `Sequences`, and `Users`. The main area contains a SQL statement input field with the text `SELECT * FROM ADN` and a `Run` button. Below the input field, the query results are displayed in a table format. The table has two columns: `ID` and `IS_MUTANT`. The results show 17 rows of data, each representing a record in the `ADN` table.

ID	ADN	IS_MUTANT
1	ATGCGA,CAGTGC,GTTCGT,AGCAGG,CCACGA,TCACGA	FALSE
2	ATGCGA,CAGTGC,GTTCGT,AGCAGG,CCACGA,TCACTA	FALSE
3	ATGCGA,CAGTGC,GTTCGT,AGCAGG,CCACGA,AAAAAA	TRUE
4	ATGCGA,AAGTGC,ATTCGT,AGCAGG,ACACGA,AAAGGA	TRUE
5	ATGCGA,AAGTGC,ATTCGT,AGCAGG,ACACGA,AAAGGA	TRUE
6	ATGCGA,AAGTGC,GTTCGT,AGCAGG,ACACGA,AAAGGA	FALSE
7	ATGCGA,AAGTGC,GTTCGT,AGCAGG,ACACGA,AAAGGA	FALSE
8	ATGCGA,AAGTGC,GTTCGT,AGCAGG,ACACGA,AAAGTA	FALSE
9	ATGCGA,AAGCGC,GTTCGT,AGCCGG,ACACGA,AAAGTA	TRUE
10	ATGCGA,AAGCGC,GTTCGT,AGCAGG,ACACGA,AAAGTA	FALSE
11	ATGCGA,AAGCGA,GTTCGA,AGCAGA,ACACGA,AAAGTA	TRUE
12	ATGCGT,AAGCGA,GTTCGA,AGCAGA,ACACGA,AAAGTA	TRUE
13	ATGCGT,AAGCGT,GTTCGA,AGCAGA,ACACGA,AAAGTA	TRUE
14	ATGCGT,AAGCGT,GTTCGT,AGCAGA,ACACGA,AAAGTA	FALSE
15	ATGCAT,AAGCAT,GTTCAT,AGCAAA,ACACGA,AAAGTA	TRUE
16	ATGCAT,AAGCAT,GTTCAT,AGCAAA,ACACGA,GGGGTA	FALSE
17	ATGCAT,AAGCAT,GTTCAT,AGCAAA,ACACGA,AAAAA	FALSE

Las instrucciones para acceder a la base de datos también se encuentran tanto en el archivo README del repositorio en GitHub, como en el archivo *properties* del proyecto.

Pruebas en JMeter

En primer lugar configuré la Request, con su protocolo HTTP, la URL, el tipo de request y el path:

The screenshot shows the 'HTTP Request' configuration window in JMeter. The 'Name' field is set to 'HTTP Request'. The 'Basic' tab is selected. Under 'Web Server', the 'Protocol [http]' is set to 'https', 'Server Name or IP' is 'camachotomas-parcial-backend.onrender.com', and 'Port Number' is empty. Under 'HTTP Request', the method is 'GET' and the 'Path' is '/stats'. The 'Content encoding' is empty. Checkboxes for 'Follow Redirects' and 'Use KeepAlive' are checked, while 'Redirect Automatically', 'Use multipart/form-data', and 'Browser-compatible headers' are unchecked. At the bottom, there are tabs for 'Parameters', 'Body Data', and 'Files Upload'.

Luego realicé pruebas de rendimiento para ver cómo respondía la aplicación ante numerosas peticiones en 1 segundo. Las pruebas fueron desde diez hasta un millón de peticiones.

10 peticiones:

The screenshot shows the 'Summary Report' window in JMeter. The 'Name' field is set to 'Summary Report'. The 'Comments' field is empty. The 'Write results to file / Read from file' section has a 'Filename' field and a 'Browse...' button. The 'Log/Display Only' section has checkboxes for 'Errors' and 'Successes', both of which are unchecked, and a 'Configure' button. Below this is a table with performance metrics.

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received ...	Sent KB/sec	Avg. Bytes
HTTP Request	10	5	3	8	1.47	0.00%	714.3/sec	159.04	107.42	228.0
TOTAL	10	5	3	8	1.47	0.00%	714.3/sec	159.04	107.42	228.0

100 peticiones:

Summary Report

Name:

Comments:

Write results to file / Read from file

Filename Log/Display Only: ☐ Errors ☐ Successes

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received ...	Sent KB/sec	Avg. Bytes
HTTP Request	100	6	1	55	7.41	0.00%	320.5/sec	71.36	48.20	228.0
TOTAL	100	6	1	55	7.41	0.00%	320.5/sec	71.36	48.20	228.0

1000 peticiones:

Summary Report

Name:

Comments:

Write results to file / Read from file

Filename Log/Display Only: ☐ Errors ☐ Successes

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received ...	Sent KB/sec	Avg. Bytes
HTTP Request	1000	24	0	221	41.43	25.20%	336.0/sec	273.45	37.80	833.3
TOTAL	1000	24	0	221	41.43	25.20%	336.0/sec	273.45	37.80	833.3

10000 peticiones:

Summary Report

Name:

Comments:

Write results to file / Read from file

Filename Log/Display Only: ☐ Errors ☐ Successes

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received ...	Sent KB/sec	Avg. Bytes
HTTP Request	10000	178	0	1831	252.22	62.38%	911.5/sec	1536.69	51.57	1726.4
TOTAL	10000	178	0	1831	252.22	62.38%	911.5/sec	1536.69	51.57	1726.4

100000 peticiones:

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 ...	Sent KB/sec	Avg. Bytes
HTTP Request	100000	798	0	5749	939.74	73.34%	738.8/sec	1289.54	29.62	1787.4
TOTAL	100000	798	0	5749	939.74	73.34%	738.8/sec	1289.54	29.62	1787.4

1000000 peticiones:

Summary Report

Name:

Summary Report

Comments:

Write results to file / Read from file

Filename

Browse...

Log/Display Only:

☐ Errors

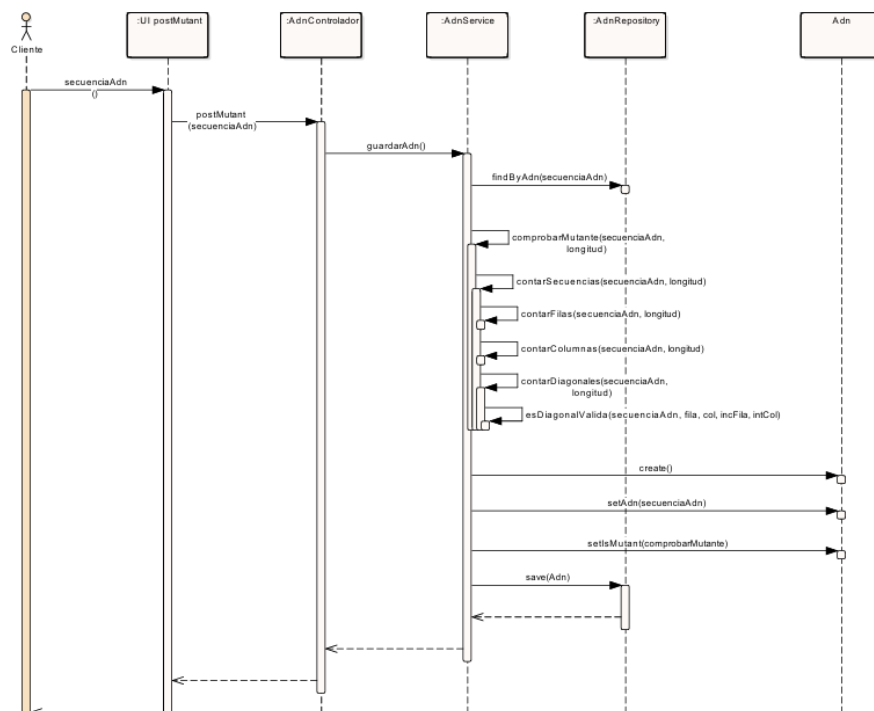
☐ Successes

Configure

Label	# Samples	Average	Min	Max	Std. Dev.	Error %	Throughput	Received ...	Sent KB/sec	Avg. Bytes
HTTP Request	1000000	746	0	33627	955.28	80.71%	753.1/sec	1433.83	21.85	1949.5
TOTAL	1000000	746	0	33627	955.28	80.71%	753.1/sec	1433.83	21.85	1949.5

Diagramas de Secuencia

POST '/mutant'



GET '/stats'

