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Q&A WITH SPEAKER SPEAKER BIO



Ricardo Ferreira
Developer Advocate
Confluent

Ricardo is a Developer Advocate at Confluent, the company founded by the creators of Apache Kafka. He has over 21 years of experience working with software engineering, where he specialized in different types of distributed systems such as integration, SOA, NoSQL, messaging, API management, and cloud computing. Prior to Confluent, he worked for other vendors such as Oracle, Red Hat and IONA Technologies, as well as several consulting firms. While not working he enjoys grilling steaks on his backyard with his family and friends, where he gets the chance to talk about anything that is not IT related. Currently

SLIDES



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Learning Event Streaming Processing with Pac-Man

Ricardo Ferreira / Confluent

#ossummit



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Learning Event Stream Processing with Pac-Man
building-streaming-data-apps-1.1.pdf

189.6% ▾

ABOUT ME



- **RICARDO FERREIRA**
- **DEVELOPER ADVOCATE**
- **CONFLUENT'S DEVREL TEAM**
- **KAFKA SUMMIT PC MEMBER**
- **RICARDO@CONFLUENT.IO**
- **RIFERREI@RIFERREI.COM**

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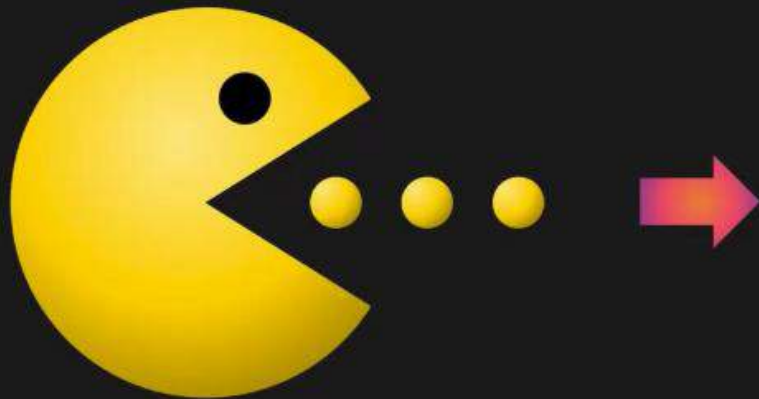
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building-streaming-data-apps-1.1.pdf

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STREAMING PAC-MAN



RANK	NAME	SCORE
#1	Gianluca	11630
#2	riferrei	1780
#3	James	1320

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STREAMING PAC-MAN



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Open Source Summit

onlinexperiences.com/scripts/Server.nxp?LASCmd=AI:1;F:US/100&PreviousLoginCount=1&ForceProfileTabFilledOut=0&DisplayItem=P389016&EventScreenCaptureMode=0&ShowFrameFormatOverride=4

Apps

My Stuff

Confluent

Nest

Alexa Console

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Azure

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Q&A WITH SPEAKER

SPEAKER BIO

All

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8

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LIVE MODE

00:12:48

SOURCES

STAFF

CHAT

Webcast 389016 Engineer 1 (Private)
Hi Ricardo. Could you dial into the conference bridge, please?

Kate Qiu has left

Kate Qiu has joined

Kate Qiu has left

Kate Qiu has joined

Webcast 389016 Engineer 1 has left

Webcast 389016 Engineer 1 has joined

Webcast 389016 Engineer 1 (Private)
all ok?

Ricardo Ferreira
I think myhttp://streaming-pacmanwjsjcmvv.s3-website-us-east-1.amazonaws.com conf bridge is gone. S

Everyone

Enter Message Here

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Activities Google Chrome Mon Jun 29 12:45:04 PM

Open Source Summit Streaming Pac-Man w

Not secure | streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com/start.html

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PAC-MAN

SCORE BOARD

SCORE
310

HIGH SCORE
310

LEVEL
1UP

- help -



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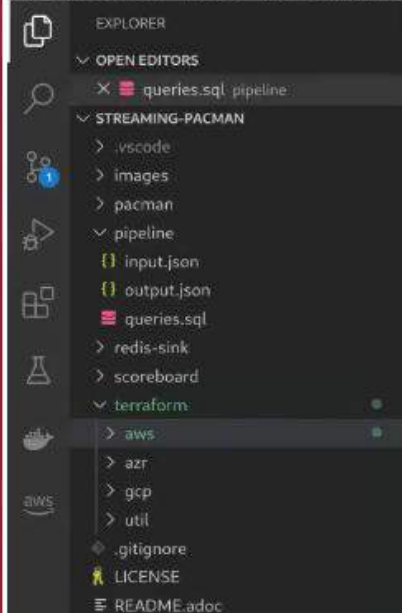
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Activities Visual Studio Code

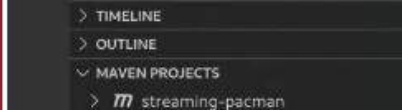
Mon Jun 29 12:47:33 PM

100 %

File Edit Selection View Go Run Terminal Help



```
queries.sql X
pipeline > queries.sql
1  /*
2  /*
3  /* Before running this script, it is a good */
4  /* idea to set the position of the offset to */
5  /* the earliest position to load all data. */
6  /*
7  /*
8  /*
9  /* SET 'auto.offset.reset' = 'earliest'; */
10 /*
11 /*
12 /*
13 /*
14 /* Stream Sources */
15 /*
16
17 CREATE STREAM USER_GAME (USER VARCHAR, GAME STRUCT<SCORE INT, LIVES INT, LEVEL INT>)
18 WITH (KAFKA_TOPIC='USER_GAME', VALUE_FORMAT='JSON', PARTITIONS=6, REPLICAS=3);
19
20 CREATE STREAM USER_LOSSES (USER VARCHAR)
21 WITH (KAFKA_TOPIC='USER_LOSSES', VALUE_FORMAT='JSON', PARTITIONS=6, REPLICAS=3);
22
23 /*
24 /* Scoreboard */
25 /*
26
27 CREATE TABLE STATS_PER_USER AS
28 SELECT
29     USER AS USER,
```



PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

1: bash

aws_autoscaling_target.redis_sink_auto_scaling_target: Modifications complete after 1s [id=service/streaming-pacman-cluster/redis-sink-service]

Apply complete! Resources: 1 added, 3 changed, 1 destroyed.

Outputs:

```
Pacman = http://streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com
ksqlDB = http://streaming-pacmanwjscjmvv-ksqldb-344129327.us-east-1.elb.amazonaws.com
[riferrei@riferrei aws]$
```

master* 0 0 0

Ln 21, Col 81 Tab Size: 4 UTF-8 LF SQL



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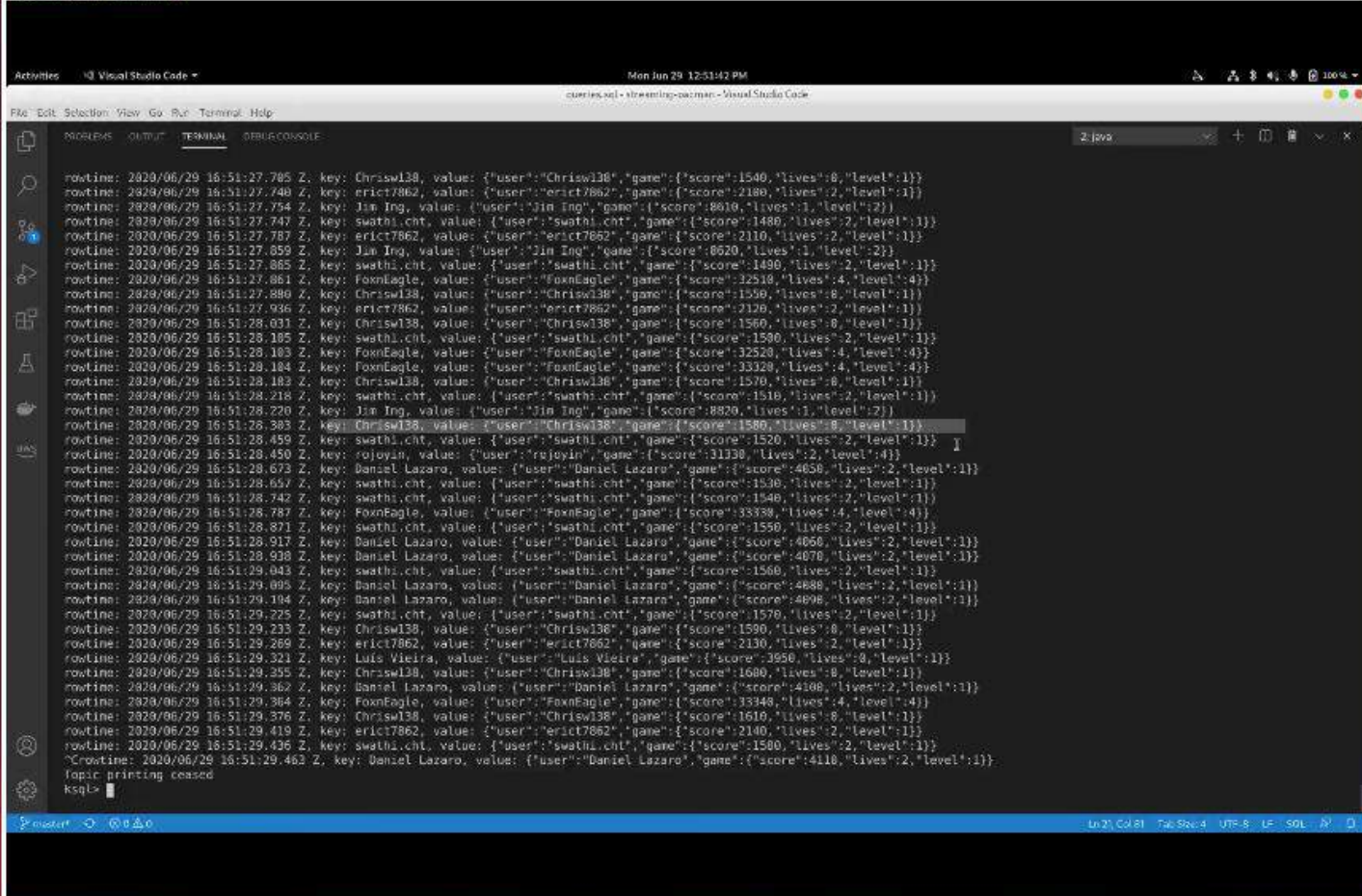
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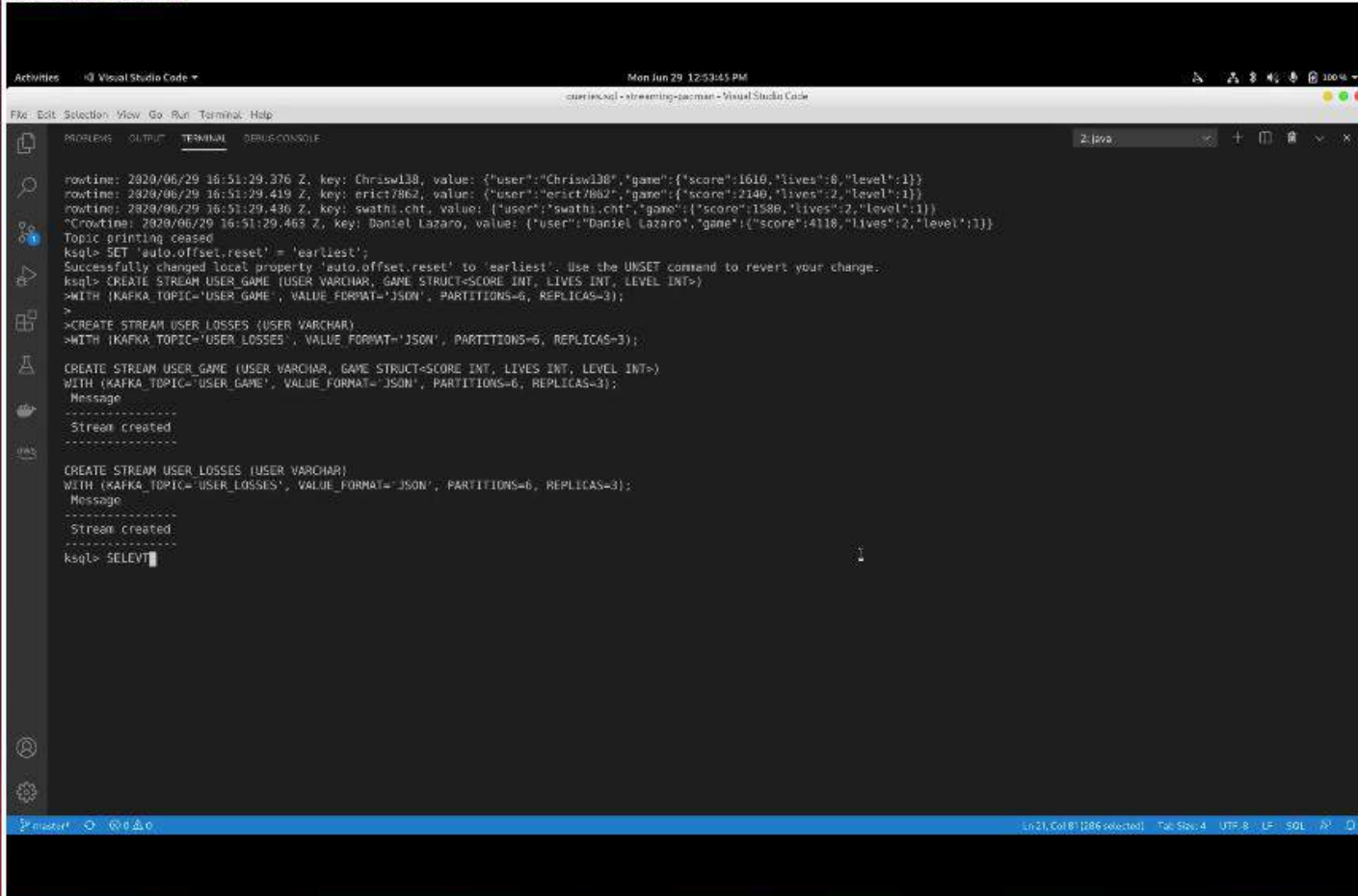
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Activities Visual Studio Code Mon Jun 29 12:54:17 PM

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PROBLEMS OUTPUT TERMINAL DEVICES/CONSOLE

```
[happy_coder {SCORE=10740, LIVES=2, LEVEL=2}
[happy_coder {SCORE=10750, LIVES=2, LEVEL=2}
[happy_coder {SCORE=10760, LIVES=2, LEVEL=2}
[happy_coder {SCORE=10770, LIVES=2, LEVEL=2}
[happy_coder {SCORE=10780, LIVES=2, LEVEL=2}
[Player1 {SCORE=1080, LIVES=1, LEVEL=1}
[happy_coder {SCORE=10790, LIVES=2, LEVEL=2}
[happy_coder {SCORE=10990, LIVES=2, LEVEL=2}
[Player1 {SCORE=1110, LIVES=1, LEVEL=1}
[Player1 {SCORE=1160, LIVES=1, LEVEL=1}
[Player1 {SCORE=1170, LIVES=1, LEVEL=1}
[Player1 {SCORE=1180, LIVES=1, LEVEL=1}
[Player1 {SCORE=1180, LIVES=1, LEVEL=1}
[Player1 {SCORE=1180, LIVES=1, LEVEL=1}
[Player1 {SCORE=1180, LIVES=1, LEVEL=1}
[happy_coder {SCORE=11800, LIVES=2, LEVEL=2}
[happy_coder {SCORE=11810, LIVES=2, LEVEL=2}
[happy_coder {SCORE=11830, LIVES=2, LEVEL=2}
[happy_coder {SCORE=11820, LIVES=2, LEVEL=2}
[Paul {SCORE=3580, LIVES=1, LEVEL=1}
[happy_coder {SCORE=11630, LIVES=2, LEVEL=2}
[happy_coder {SCORE=11440, LIVES=2, LEVEL=2}
[Paul {SCORE=3670, LIVES=1, LEVEL=1}
[Player1 {SCORE=1160, LIVES=1, LEVEL=1}
[Paul {SCORE=3680, LIVES=1, LEVEL=2}
[happy_coder {SCORE=11490, LIVES=2, LEVEL=2}
[Player1 {SCORE=1170, LIVES=1, LEVEL=1}
[Player1 {SCORE=1180, LIVES=1, LEVEL=1}
[Paul {SCORE=3680, LIVES=1, LEVEL=1}
[Paul {SCORE=3680, LIVES=1, LEVEL=1}
[Player1 {SCORE=1170, LIVES=1, LEVEL=1}
[happy_coder {SCORE=11800, LIVES=2, LEVEL=2}
[happy_coder {SCORE=11800, LIVES=2, LEVEL=2}
[Paul {SCORE=3610, LIVES=1, LEVEL=1}
[happy_coder {SCORE=11470, LIVES=2, LEVEL=2}
[happy_coder {SCORE=11400, LIVES=2, LEVEL=2}
[Player1 {SCORE=1200, LIVES=1, LEVEL=1}
[happy_coder {SCORE=11500, LIVES=2, LEVEL=2}
[Paul {SCORE=3620, LIVES=1, LEVEL=1}
[Player1 {SCORE=1210, LIVES=1, LEVEL=1}
[Paul {SCORE=3630, LIVES=1, LEVEL=1}
[happy_coder {SCORE=11510, LIVES=2, LEVEL=2}
[Player1 {SCORE=1220, LIVES=1, LEVEL=1}
Press CTRL-C to interrupt
```

Ln 21, Col 81 (286 selected) Tab: SQL-4 UTF-8 LF SQL



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Mon Jun 29 12:54:51 PM

Learning Event: Stream Processing with FaaS - Man

189.6%

CREATING USER_GAME STREAM

```
{ "user": "riferrei", "game": { "score": 280, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 290, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 300, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 310, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 320, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 330, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 340, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 390, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 400, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 410, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 420, "lives": 2, "level": 1 } }
{ "user": "riferrei", "game": { "score": 430, "lives": 2, "level": 1 } }
```

```
CREATE STREAM USER_GAME (USER VARCHAR, GAME STRUCT<SCORE INT, LIVES INT, LEVEL INT>)
WITH (KAFKA_TOPIC='USER_GAME', VALUE_FORMAT='JSON', PARTITIONS=6, REPLICAS=3);
```

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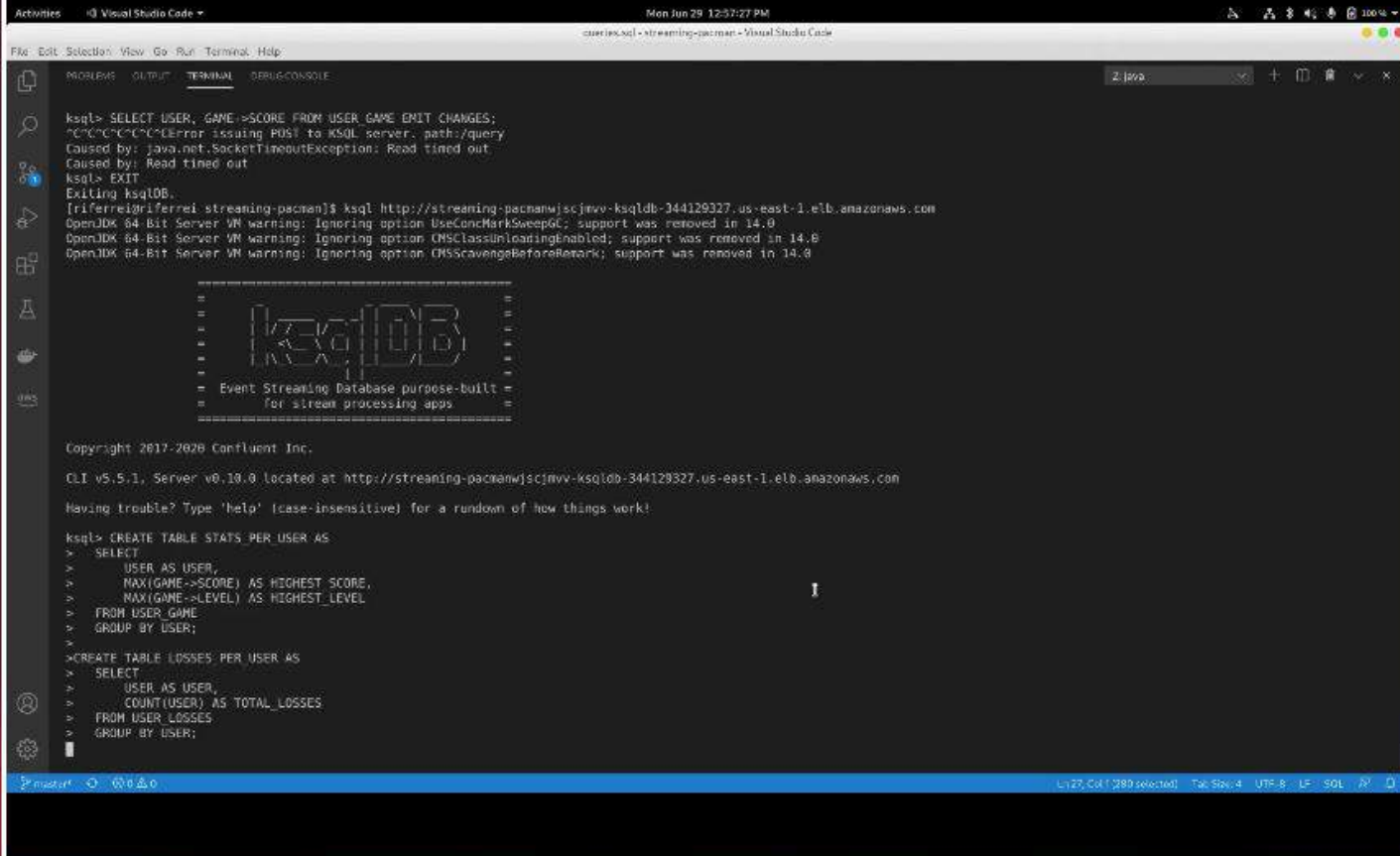
□ ×



SPEAKER BIO

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Activities Visual Studio Code ▾

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Activities Visual Studio Code Mon Jun 29 12:58:00 PM

queries.sql - streaming-pacman - Visual Studio Code

File Edit Selection View Go Run Terminal Help

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
> SELECT
>   USER AS USER,
>   COUNT(USER) AS TOTAL LOSSES
> FROM USER LOSSES
> GROUP BY USER;
```

CREATE TABLE STATS_PER_USER WITH (KAFKA_TOPIC='STATS_PER_USER', PARTITIONS=6, REPLICAS=3) AS SELECT
USER_GAME.USER, USER,
MAX(USER_GAME.GAME->SCORE) HIGHEST_SCORE,
MAX(USER_GAME.GAME->LEVEL) HIGHEST_LEVEL
FROM USER_GAME, USER_GAME
GROUP BY USER_GAME.USER
EXIT CHANGES;
Message

Created query with ID CTAS_STATS_PER_USER_13

CREATE TABLE LOSSES_PER_USER WITH (KAFKA_TOPIC='LOSSES_PER_USER', PARTITIONS=6, REPLICAS=3) AS SELECT
USER_LOSSES.USER, USER,
COUNT(USER_LOSSES.USER) TOTAL LOSSES
FROM USER_LOSSES, USER_LOSSES
GROUP BY USER_LOSSES.USER
EXIT CHANGES;
Message

Created query with ID CTAS_LOSSES_PER_USER_39

ksql> SHOW STREAMS;

Stream Name	Kafka Topic	Format
KSQL_PROCESSING_LOG	ksqldb-clusterksql_processing_log	JSON
USER_GAME	USER_GAME	JSON
USER_LOSSES	USER_LOSSES	JSON

ksql> SHOW TABLES;

Table Name	Kafka Topic	Format	Windowed
LOSSES_PER_USER	LOSSES_PER_USER	JSON	false
STATS_PER_USER	STATS_PER_USER	JSON	false

ksql>

Ln 27, Col 1 (280 selected) Tab Size: 4 UTF-8 LF SQL



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Activities Visual Studio Code Mon Jun 29 12:59:29 PM

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PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

1: bash

```
aws_cloudwatch_event_target.alexahandler.everyminute[0]: Refreshing state... [id=execute-alexahandler-every-minute-alexahandler]
aws_cloudwatch_event_target.scoreboard.everyminute: Refreshing state... [id=execute-scoreboard-every-minute-scoreboard]
aws_lambda_permission.scoreboard_cloudwatch_trigger: Refreshing state... [id=AllowExecutionFromCloudWatch]
aws_api_gateway_rest_api.scoreboardapi: Refreshing state... [id=75skrl0cq5]
aws_appautoscaling_target.redis_sink_auto_scaling_target: Refreshing state... [id=service/streaming-pacman-cluster/redis-sink-service]
aws_cloudwatch_metric_alarm.ksqldb_server_cpu_high_alarm: Refreshing state... [id=ksqldb_server_cpu_high_alarm]
aws_lambda_permission.event_handler_api_gateway_trigger: Refreshing state... [id=AllowExecutionFromApiGateway]
aws_cloudwatch_metric_alarm.ksqldb_server_cpu_low_alarm: Refreshing state... [id=ksqldb_server_cpu_low_alarm]
aws_appautoscaling_policy.redis_sink_auto_scaling_up: Refreshing state... [id=redis_sink_auto_scaling_up]
aws_appautoscaling_policy.redis_sink_auto_scaling_down: Refreshing state... [id=redis_sink_auto_scaling_down]
aws_api_gateway_resource.scoreboard_resource: Refreshing state... [id=pl4ki4]
aws_cloudwatch_metric_alarm.redis_sink_cpu_high_alarm: Refreshing state... [id=redis_sink_cpu_high_alarm]
aws_cloudwatch_metric_alarm.redis_sink_cpu_low_alarm: Refreshing state... [id=redis_sink_cpu_low_alarm]
aws_api_gateway_method.scoreboard_get_method: Refreshing state... [id=agmr-75skrl0cq5-pl4ki4-POST]
aws_api_gateway_method.scoreboard_options_method: Refreshing state... [id=agmr-75skrl0cq5-pl4ki4-OPTIONS]
aws_api_gateway_method.response.scoreboard_options_method_response: Refreshing state... [id=agmr-75skrl0cq5-pl4ki4-OPTIONS-200]
aws_api_gateway_integration.scoreboard_options_integration: Refreshing state... [id=agi-75skrl0cq5-pl4ki4-OPTIONS]
aws_api_gateway_method.response.scoreboard_get_method_response: Refreshing state... [id=agmr-75skrl0cq5-pl4ki4-POST-200]
aws_api_gateway_integration.scoreboard_get_integration: Refreshing state... [id=agi-75skrl0cq5-pl4ki4-POST]
aws_api_gateway_integration.response.highest_score_options_integration_response: Refreshing state... [id=agir-75skrl0cq5-pl4ki4-OPTIONS-200]
aws_api_gateway_deployment.scoreboard_v1: Refreshing state... [id=jr4jmg]
local_file.ssh_cache_server_bastion_readme[0]: Refreshing state... [id=5d47399f1cd34ddfc1ebc1d4437344a25f2b94e5]
aws_lambda_permission.scoreboard_api_gateway_trigger: Refreshing state... [id=AllowExecutionFromApiGateway]
data.template_file.shared_js: Refreshing state...
aws_s3_bucket_object.shared_js: Refreshing state... [id=gare/js/shared.js]
aws_ecs_task_definition.redis_sink_task: Destroying... [id=redis_sink_task]
data.template_file.redis_sink_definition: Refreshing state...
aws_appautoscaling_target.ksqldb_server_auto_scaling_target: Modifying... [id=service/streaming-pacman-cluster/ksqldb-server-service]
aws_ecs_task_definition.redis_sink_task: Destruction complete after 0s
aws_ecs_task_definition.redis_sink_task: Creating...
aws_appautoscaling_target.ksqldb_server_auto_scaling_target: Modifications complete after 1s [id=service/streaming-pacman-cluster/ksqldb-server-service]
aws_ecs_task_definition.redis_sink_task: Creation complete after 1s [id=redis_sink_task]
aws_ecs_service.redis_sink_service: Modifying... [id=arn:aws:ecs:us-east-1:523370736235:service/redis-sink-service]
aws_ecs_service.redis_sink_service: Modifications complete after 0s [id=arn:aws:ecs:us-east-1:523370736235:service/redis-sink-service]
aws_appautoscaling_target.redis_sink_auto_scaling_target: Modifying... [id=service/streaming-pacman-cluster/redis-sink-service]
aws_appautoscaling_target.redis_sink_auto_scaling_target: Modifications complete after 1s [id=service/streaming-pacman-cluster/redis-sink-service]

Apply complete! Resources: 1 added, 3 changed, 1 destroyed.

Outputs:

Pacman = http://streaming-pacmanwscjenvu.s3-website-us-east-1.amazonaws.com
ksqldb = http://streaming-pacmanwscjenvu.ksqldb-344129327.us-east-1.elb.amazonaws.com
[referre@refrnel aus]$
```

Ln 27, Col 1 (280 selected) Tab Size: 4 UTF-8 LF SQL



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```
Activities Terminal Mar Jun 28 1:00:58 PM
OpenJDK 64-Bit Server VM warning: Ignoring option CMSClassUnloadingEnabled; support was removed in 14.0
OpenJDK 64-Bit Server VM warning: Ignoring option CMSScavengeBeforeRemark; support was removed in 14.0

=
=  [KSQLDB]  =
=
= Event Streaming Database purpose-built =
=   for stream processing apps          =
=====

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CLI v5.5.1, Server v0.10.0 located at http://streaming-pacmanwjscjmvv-ksqldb-344129327.us-east-1.elb.amazonaws.com

Having trouble? Type 'help' (case-insensitive) for a rundown of how things work!

ksql> SHOW TOPICS\
>
^C
ksql> SHOW TOPICS;

Kafka Topic | Partitions | Partition Replicas |
-----|-----|-----|
LOSSES_PER_USER | 6 | 3 |
SCOREBOARD | 6 | 3 |
STATS_PER_USER | 6 | 3 |
USER_GAME | 6 | 3 |
USER_LOSSES | 6 | 3 |
ksqldb-clusterksql_processing_log | 1 | 3 |

ksql> PRINT STATS_PER_USER FROM BEGINNING;
```



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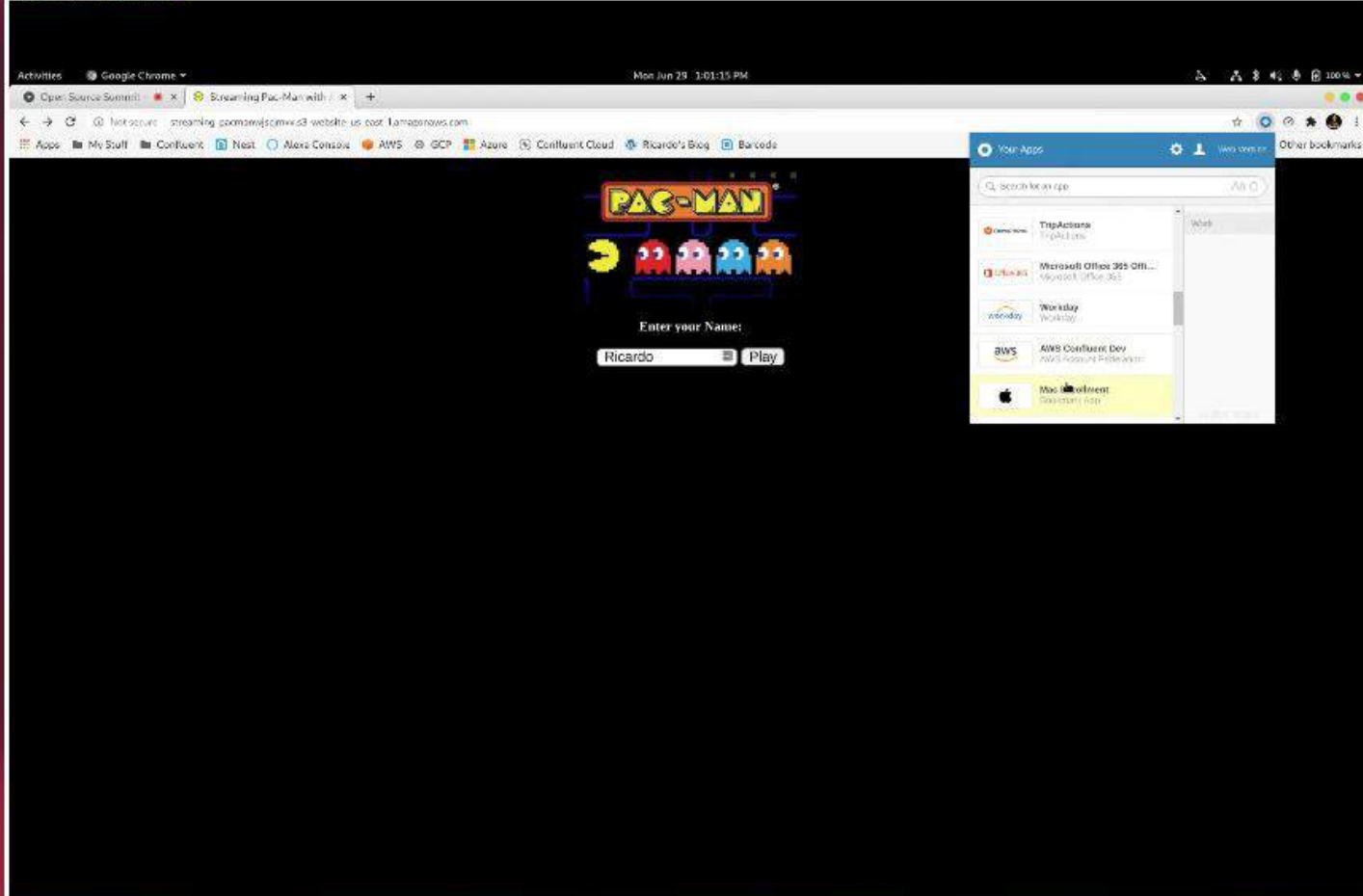
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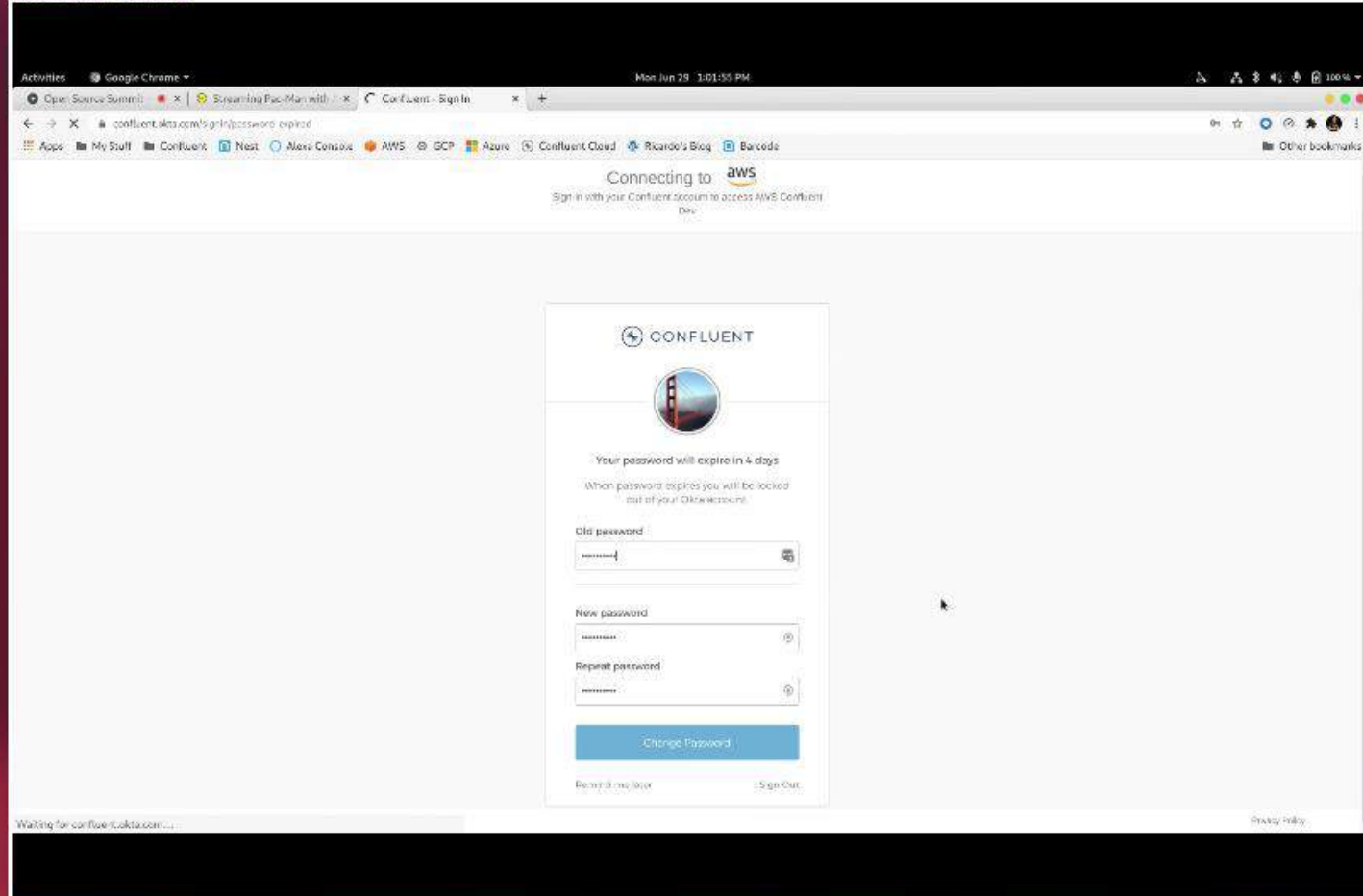
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SCREEN SHARE

The screenshot shows the AWS Management Console interface. At the top, there's a navigation bar with 'Activities', 'Google Chrome', and the date 'Mon Jun 28 1:02:46 PM'. Below this, a dropdown menu is open, showing options like 'Monthly Bill to Pay', 'Banking & Cards', 'Voice & Communication', 'My Cloud Mirror', 'Former's Network', and 'Cheap Flights'. The main content area is titled 'Management Console' and features a 'Find Services' search bar. Below the search bar, there's a 'Recently visited services' section with links to 'Elastic Container Service', 'Lambda', 'API Gateway', and 'ElastiCache'. Further down, there's a 'Build a solution' section with various templates like 'Launch a virtual machine', 'Build a web app', 'Build using virtual servers', 'Register a domain', 'Connect an IoT device', 'Start migrating to AWS', 'Start a development project', and 'Deploy a serverless microservice'. On the right side, there's a sidebar with 'Stay connected to your AWS resources on-the-go' (download the AWS Console Mobile App), 'Explore AWS' (Get Started with Amazon S3 Glacier, Amazon DocumentDB, Host Static Web Apps in Minutes), and 'Take it to the Track' (Test your ML skills on the Farnham Loop).



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[NEW QUESTION](#)

SCREEN SHARE

The screenshot shows a Visual Studio Code window with a file named `queries.sql`. The code contains a SQL query to create a table named `HIGHEST_SCORE` and insert data from `USER_GAME`. The query is as follows:

```
CREATE TABLE HIGHEST_SCORE AS
SELECT
  'HIGHEST_SCORE_KEY' AS HIGHEST_SCORE_KEY,
  MAX(GAME->SCORE) AS HIGHEST_SCORE_VALUE
FROM USER_GAME GROUP BY 'HIGHEST_SCORE_KEY';
```

Below the code editor, the terminal shows the output of a command:

```
aws_appautoscaling_target.redis_sink_auto_scaling_target: Modifications complete after 1s [id=service/streaming-pacman-cluster/redis-sink-service]
Apply complete! Resources: 1 added, 3 changed, 1 destroyed.
Outputs:
Pacman = http://streaming-pacmanwjsjmvv.s3-website-us-east-1.amazonaws.com
ksqlDB = http://streaming-pacmanwjsjmvv-ksqldb-344129327.us-east-1.elb.amazonaws.com
[riferrei@riferrei-aws]$
```



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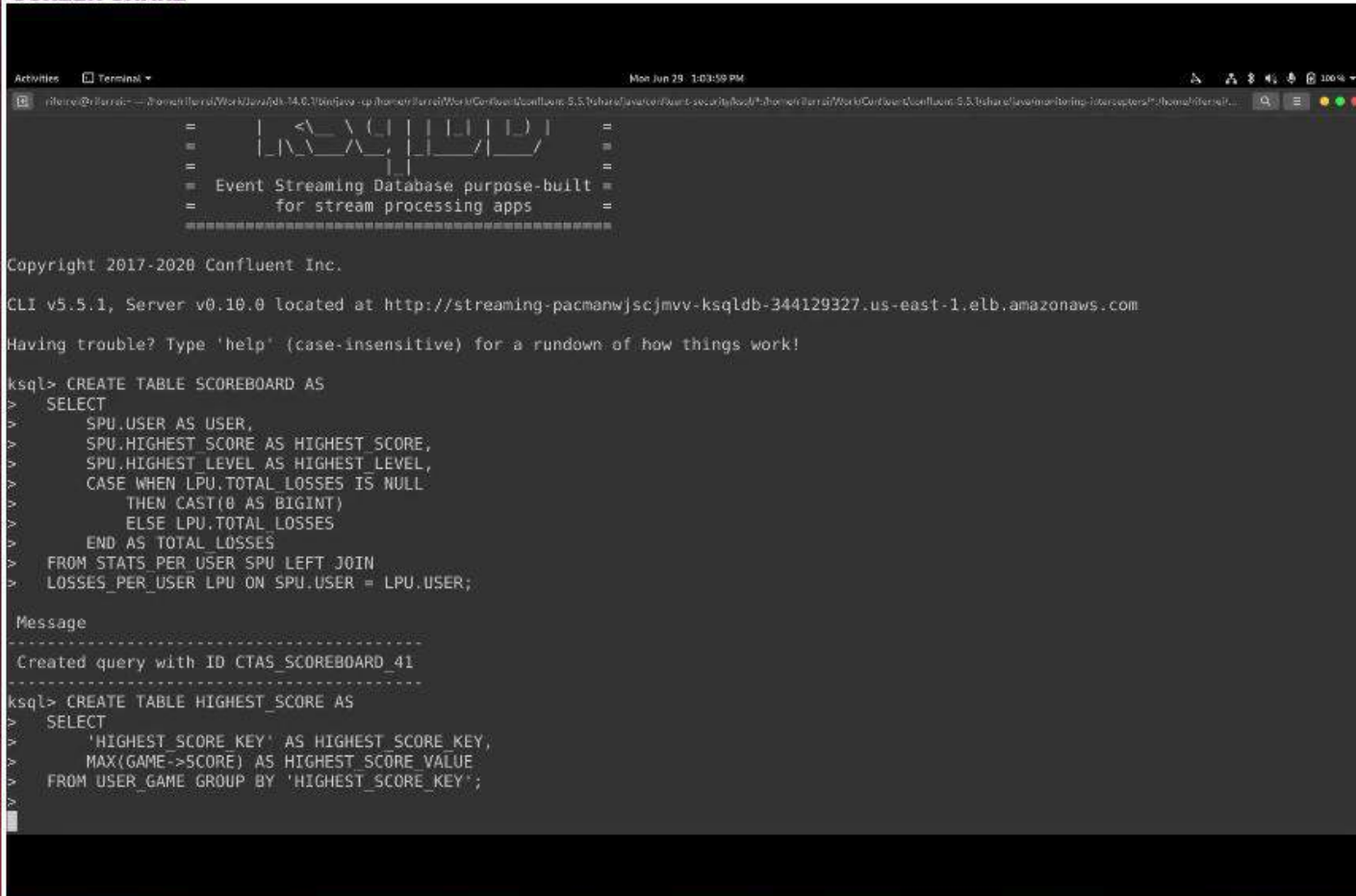
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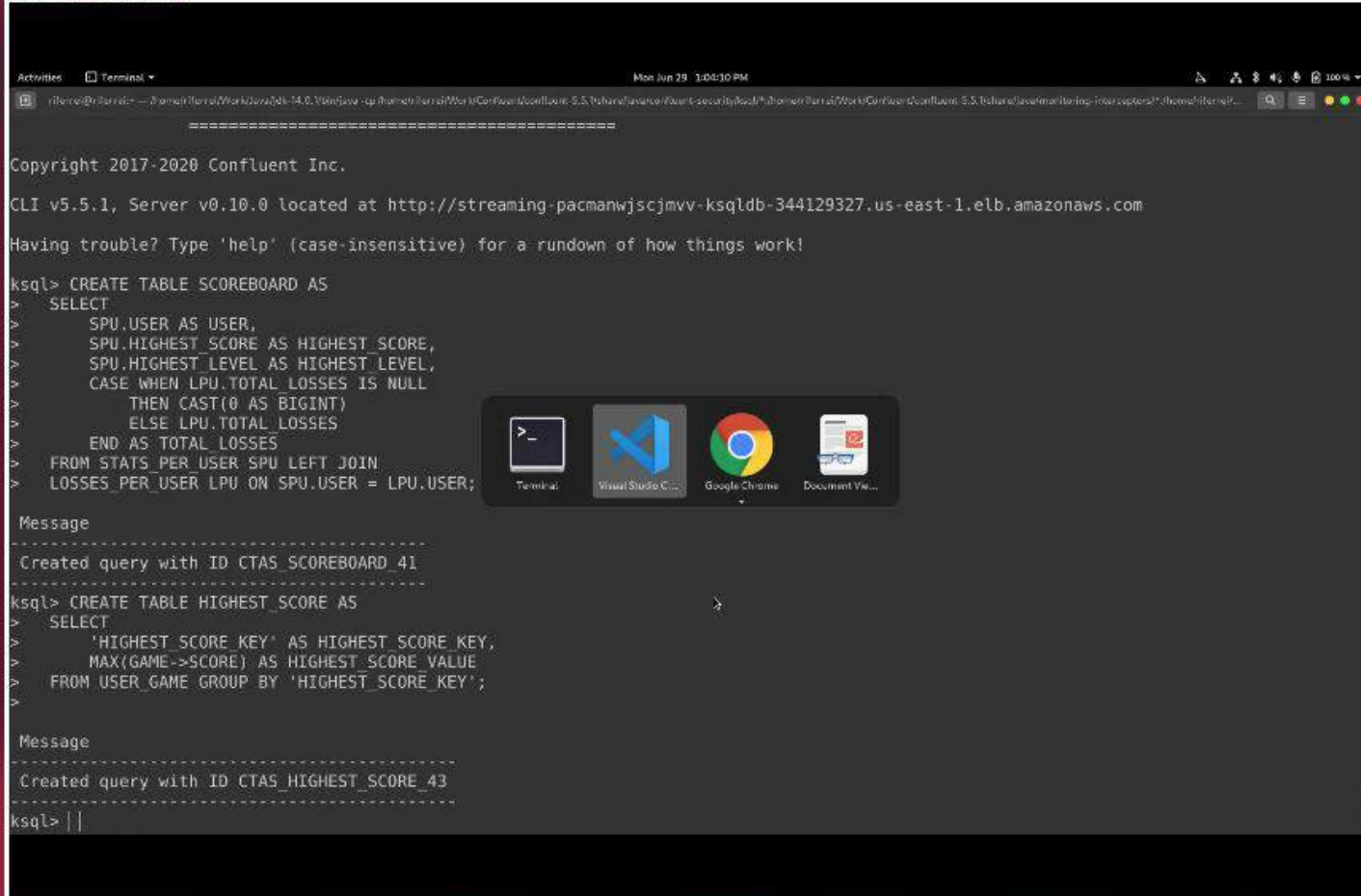
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[NEW QUESTION](#)

SCREEN SHARE

The screen share displays a web browser window with a Pac-Man game interface. The game is titled "PAC-MAN" and shows a "Enter your Name:" prompt with a text input field containing "Ricardo" and a "Play" button. To the right of the game interface is a leaderboard titled "PAC-MAN" with a "BACK TO GAME" link. The leaderboard table is as follows:

RANK	NAME	SCORE	LEVEL	LOSSES
#1	FoxnEagle	118700	11	0
#2	rojogin	65310	7	0
#3	Daniel Lazaro	23770	4	2
#4	Luis Vieira	18800	6	0
#5	LukeKenneke	11100	3	0
#6	Jim Ing	7460	2	1
#7	CheckYourFly	7420	3	0
#8	Player1	6540	1	1
#9	MikeEr	4900	1	2
#10	jabcdefg	4840	1	1
#11	edk	4560	2	2
#12	Hani	4040	1	0
#13	Sven	3750	1	1
#14	Joe	3600	2	0
#15	Sule	1970	1	1
#16	Hehe	1520	1	0
#17	Toukseeper	740	1	0



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[NEW QUESTION](#)

SCREEN SHARE

```
Activities Terminal Mon Jun 29 1:05:58 PM
Having trouble? Type 'help' (case-insensitive) for a rundown of how things work!

ksql> SELECT * FROM SCOREBOARD;
Missing WHERE clause. Refer to https://cnfl.io/queries for info on query types. If you intended to issue a push query, resubmit with the
EMIT CHANGES clause
Pull queries require a WHERE clause that:
- limits the query to a single key, e.g. 'SELECT * FROM X WHERE <key-column>=>Y;'.
ksql> SELECT * FROM SCOREBOARD EMIT CHANGES;
+-----+-----+-----+-----+
|USER|HIGHEST_SCORE|HIGHEST_LEVEL|TOTAL_LOSSES|
+-----+-----+-----+-----+
|vj|80|1|0|
|sfsfs|170|1|0|
|Daniel Lazaro|23770|4|2|
|Hehe|1520|1|0|
|CheckYourFly|9500|3|0|
|ToyKeeper|4890|1|0|
|gware|1030|1|0|
|rojoyin|70110|8|0|
|FoxnEagle|125190|12|0|
|BurtonR|1600|1|0|
|Luis Vieira|21060|6|0|
|MikeEr|6210|1|2|
|A_zzzzA|80|1|2|
|Jim Ing|7460|2|1|
|Sule|1970|1|1|
|Sven|3750|1|1|
|Joe|3600|2|0|
|Hani|4040|1|0|
|edk|4560|2|2|
|LukeKuenneke|11100|3|0|
|jabcdefg|4840|1|1|
|Ricardo|140|1|0|
|Player1|6540|1|1|
+-----+-----+-----+-----+
Press CTRL-C to interrupt
```





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NEW QUESTION

SCREEN SHARE

```

[0] [here@barrel: ~]$ ./bin/jay-up --name barrelWorkConf\conf\lua: 5.5; lua -e "require('jay-secure') local f = io.open('/dev/null', 'w') do f:write('jay-secure\n') end f:close() end"
|CheckYourFly      |9500    |3|0|
|ToyKeeper         |4890    |1|0|
|lgware            |1030    |1|0|
|rojoyin           |70110   |8|0|
|FoxnEagle         |125190  |12|0|
|BurtonR           |1600    |1|0|
|Luis Vieira       |21860   |6|0|
|MikeEr            |6210    |1|2|
|A zzzzA           |80      |1|2|
|Jim Ing           |7460    |2|1|
|Sule              |1970    |1|1|
|Sven              |3750    |1|1|
|Joe               |3600    |2|0|
|Hani              |4040    |1|0|
|edk               |4560    |2|2|
|LukeKuenneke     |11100   |3|0|
|jabcddefg        |4840    |1|1|
|Ricardo           |140     |1|0|
|Player1          |6540    |1|1|
|ToyKeeper         |5190    |1|0|
|CheckYourFly     |9530    |3|0|
|rojoyin           |70260   |8|0|
|FoxnEagle         |125290  |12|0|
|lgware            |1310    |1|0|
|MikeEr            |6300    |1|2|
|BurtonR           |1680    |1|0|
|Luis Vieira       |21940   |6|0|
|FoxnEagle         |125340  |12|0|
|ToyKeeper         |5640    |1|0|
|lgware            |1790    |1|0|
|rojoyin           |70400   |8|0|
|BurtonR           |2490    |1|0|
|Luis Vieira       |22020   |6|0|
|MikeEr            |6330    |1|2|
Press CTRL-C to interrupt

```

Press CTRL-C to interrupt





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NEW QUESTION

SCREEN SHARE

```

riferre@xilinx: ~$ cd /home/riferre/Work/Java -cp /home/riferre/Work/ConfWw/ConfLdap:S.S.Trustare/javax/conf/t-security/ssl/*:/home/riferre/Work/ConfWw/ConfLdap:S.S.Trustare/javax/mail/imap-tls-openssl/*:/home/riferre/...
|CheckYourFly      |10240      |3          |0
|ToyKeeper         |9530       |1          |0
|erict7862         |1020       |1          |0
|Luis Vieira       |22580     |6          |0
|BurtonR           |4300       |1          |0
|ToyKeeper         |9560       |1          |0
|gware             |3710       |1          |0
|CheckYourFly      |10440     |3          |0
|erict7862         |1090       |1          |0
|rojoyin           |73040     |8          |0
|BurtonR           |4400       |1          |0
|gware             |4110       |1          |0
|rojoyin           |73840     |8          |0
|erict7862         |1180       |1          |0
|FoxnEagle         |130480    |12         |0
|CheckYourFly      |10510     |3          |0
|BurtonR           |4680       |1          |0
|gware             |4910       |1          |0
|rojoyin           |75440     |8          |0
|FoxnEagle         |130560    |12         |0
|erict7862         |1250       |1          |0
|ToyKeeper         |9640       |1          |0
|MikeEr            |7830       |1          |2
|BurtonR           |4750       |1          |0
^CQuery terminated
ksql> SHOW TABLES;

Table Name      | Kafka Topic   | Format | Windowed
-----
HIGHEST SCORE   | HIGHEST_SCORE | JSON   | false
LOSSES PER USER | LOSSES_PER_USER | JSON   | false
SCOREBOARD      | SCOREBOARD    | JSON   | false
STATS PER USER  | STATS_PER_USER | JSON   | false

ksql> DESCRIBE E
```



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SCREEN SHARE

```
Activities Terminal Mon Jun 28 1:07:44 PM
rffern@rffern:~/Work/Dev/ok-14.0/lin-jav-up$ ./bin/lin-jav-up --bin-dir ~/Work/Conf/lin-jav-5.5 --share/java/monitoring-interceptors/*
Caused by: key
ksql> SHOW QUERIES;
```

Query ID	Status	Sink Name	Sink Kafka Topic	Query String
confluent-ksql-ksqldb-clustertransient_5905324764053450497_1593449760753	RUNNING			SELECT USER, GAME->SCORE FROM USER_GAME EMIT CHANGES;
confluent-ksql-ksqldb-clustertransient_5380931049718579389_1593449913245	RUNNING			SELECT * FROM STATS_PER_USER EMIT CHANGES;
confluent-ksql-ksqldb-clustertransient_4748458873390933432_1593449899121	RUNNING			CREATE TABLE STATS_PER_USER_13 WITH (KAFKA_TOPIC='STATS_PER_USER', PARTITIONS=6, REPLICAS=3) AS SELECT USER_GAME.USER USER, MAX(USER_GAME.GAME->SCORE) HIGHEST_SCORE, MAX(USER_GAME.GAME->LEVEL) HIGHEST_LEVEL FROM USER_GAME USER_GAMEGROUP BY USER_GAME.USER EMIT CHANGES;
confluent-ksql-ksqldb-clustertransient_6618689931299381178_1593449929324	RUNNING			CREATE TABLE LOSSES_PER_USER_39 WITH (KAFKA_TOPIC='LOSSES_PER_USER', PARTITIONS=6, REPLICAS=3) AS SELECT USER_LOSSES.USER USER, COUNT(USER_LOSSES.USER) TOTAL_LOSSES FROM USER_LOSSES USER_LOSSESGROUP BY USER_LOSSES.USER EMIT CHANGES;
confluent-ksql-ksqldb-clustertransient_6618689931299381178_1593449929324	RUNNING			CREATE TABLE SCOREBOARD_41 WITH (KAFKA_TOPIC='SCOREBOARD', PARTITIONS=6, REPLICAS=3) AS SELECT SPU.USER USER, SPU.HIGHEST_SCORE HIGHEST_SCORE, SPU.HIGHEST_LEVEL HIGHEST_LEVEL, (CASE WHEN (LPU.TOTAL_LOSSES IS NULL) THEN CAST(0 AS BIGINT) ELSE LPU.TOTAL_LOSSES END) TOTAL_LOSSES FROM ST

```
ksql>
```



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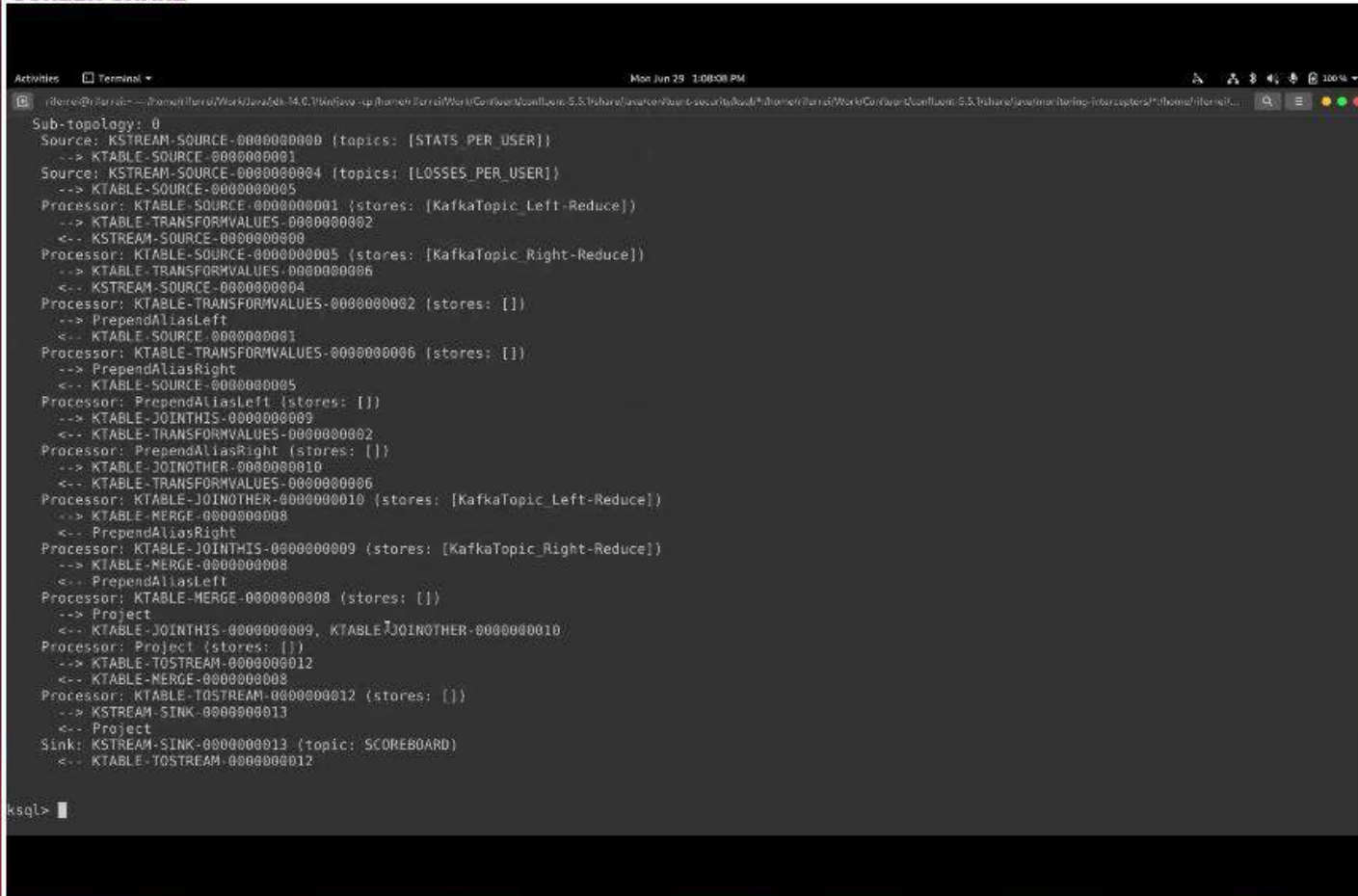
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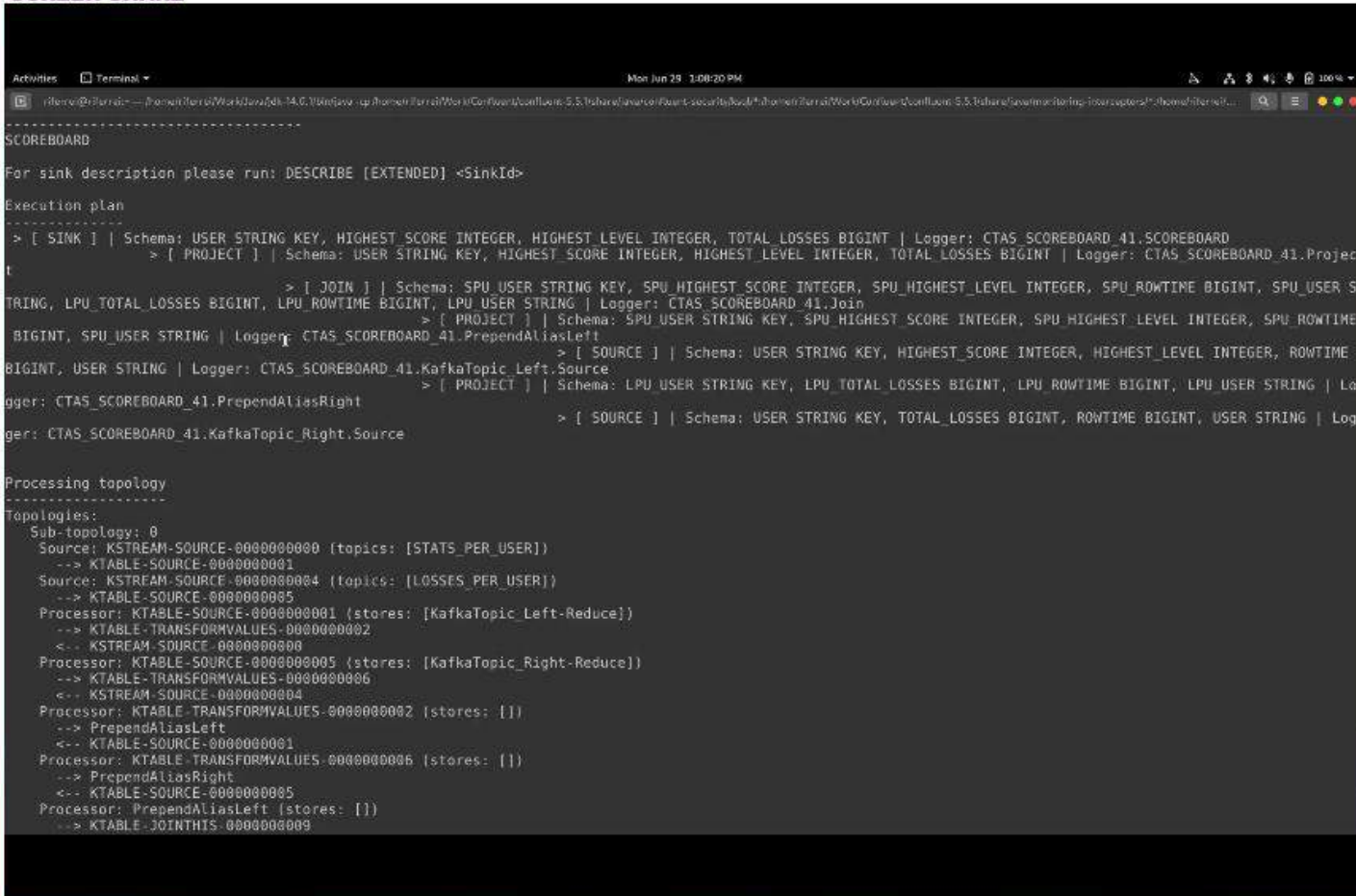
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SCREEN SHARE

Activities Visual Studio Code

Mon Jun 29 1:08:41 PM

queries.sql - streaming-pacman - Visual Studio Code

```
File Edit Selection View Go Run Terminal Help
queries.sql X
pipeline > queries.sql
32 GROUP BY USER;
33
34
35 CREATE TABLE LOSSES_PER_USER AS
36 SELECT
37     USER AS USER,
38     COUNT(USER) AS TOTAL_LOSSES
39 FROM USER_LOSSES
40 GROUP BY USER;
41
42 CREATE TABLE SCOREBOARD AS
43 SELECT
44     SPU.USER AS USER,
45     SPU.HIGHEST_SCORE AS HIGHEST_SCORE,
46     SPU.HIGHEST_LEVEL AS HIGHEST_LEVEL,
47     CASE WHEN LPU.TOTAL_LOSSES IS NULL
48     THEN CAST(0 AS BIGINT)
49     ELSE LPU.TOTAL_LOSSES
50     END AS TOTAL_LOSSES
51 FROM STATS_PER_USER SPU LEFT JOIN
52     LOSSES_PER_USER LPU ON SPU.USER = LPU.USER;
53
54 /***** Highest Score *****/
55
56
57 CREATE TABLE HIGHEST_SCORE AS
58 SELECT
59     'HIGHEST_SCORE_KEY' AS HIGHEST_SCORE_KEY,
60     MAX(HIGHEST_SCORE) AS HIGHEST_SCORE
61 FROM HIGHEST_SCORE;
62
63 PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
64
65 aws_autoscaling_target.redis_sink_auto_scaling_target: Modifications complete after 1s [id=service/streaming-pacman-cluster/redis-sink-service]
66
67 Apply complete! Resources: 1 added, 3 changed, 1 destroyed.
68
69 Outputs:
70
71 Pacman = http://streaming-pacmanwscjmvv.s3-website-us-east-1.amazonaws.com
72 ksqlDB = http://streaming-pacmanwscjmvv-ksqldb-344129327.us-east-1.elb.amazonaws.com
73 [riferrei@riferrei-aws]$
```

Li 52, Cui 48 Tao Sui 4 UTF-8 LF SQL



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Q&A WITH SPEAKER **SPEAKER BIO**

applications that may be using the Internet in order to conserve bandwidth. Also please make sure you are logged into Chrome, disconnect from any VPN, and if possible please try to utilize LAN instead of WiFi.

Where is the chat link? I don't see that here?

<http://streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com>

[NEW QUESTION](#)

SCREEN SHARE

The screenshot shows the AWS Management Console interface. The left sidebar lists various services under categories like Compute, Storage, Database, and Migration & Transfer. The main content area displays a grid of service tiles, including Amazon EC2, Amazon S3, Amazon RDS, and others. A table on the right side of the screen lists platform versions for different architectures.

ch type	Platform version
DATE	1.3.0
DATE	1.3.0



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<http://streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com>

Enter question here...

NEW QUESTION

SCREEN SHARE

The screenshot shows the AWS API Gateway console. The left sidebar lists various services and resource groups. The main content area displays the 'v1 Stage Editor' for the 'scoreboard_api' stage. The 'Cache Settings' tab is active, showing options to enable API cache, default method throttling, and enable throttling. The 'Default Method Throttling' section is expanded, showing a rate of 10,000 requests per second and a burst of 5,000 requests. The 'Web Application Firewall (WAF)' section is also visible, showing a 'None' selection for the Web ACL. The 'Client Certificate' section is at the bottom, showing a 'None' selection for the certificate. The bottom of the screen shows a navigation bar with icons for feedback, language, and other utilities.





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**Q&A WITH SPEAKER** **SPEAKER BIO**

applications that may be using the Internet in order to conserve bandwidth. Also please make sure you are logged into Chrome, disconnect from any VPN, and if possible please try to utilize LAN instead of WiFi.

Where is the chat link? I don't see that here?

<http://streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com>

Enter question here...

NEW QUESTION

SCREEN SHARE

The screenshot shows a web browser window with two tabs. The active tab is titled "Streaming Pac-Man with..." and displays a Pac-Man game leaderboard. The leaderboard has columns for RANK, NAME, SCORE, LEVEL, and LOSSES. The top 17 players are listed. The second tab is titled "REST Client" and shows a REST client interface with a "POST" request to "https://75s3w1dng3.amazonaws.com-us-east-1.amazonaws.com/1/recordboard". The response is a JSON array of player records.

RANK	NAME	SCORE	LEVEL	LOSSES
#1	FoxnEagle	185580	14	0
#2	rojojin	114580	11	0
#3	Daniel Lazaro	39220	7	2
#4	ToyKeeper	37480	3	1
#5	Luiz Vieira	22850	6	2
#6	CheckYourFly	11380	4	1
#7	LukeKuenneke	11100	3	0
#8	MikeEr	8660	1	3
#9	Jim Ing	8240	2	1
#10	Player1	6540	1	1
#11	gware	5890	2	0
#12	BurtonR	5380	1	0
#13	jabdefg	4840	1	2
#14	edk	4560	2	2
#15	Hani	4040	1	0
#16	Sven	3750	1	1
#17	Joe	3500	2	0



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Q&A WITH SPEAKER | SPEAKER BIO

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[NEW QUESTION](#)

SCREEN SHARE

Activities

Google Chrome

Mon Jun 29 11:42:29 PM

queries.sql - streaming-pacman - Visual Studio Code

queries.sql X

pipeline > queries.sql

33 GROUP BY USER;

34

35 CREATE TABLE LOSSES_PER_USER AS

36 SELECT

37 USER AS USER,

38 COUNT(USER) AS TOTAL_LOSSES

39 FROM USER_LOSSES

40 GROUP BY USER;

41

42 CREATE TABLE SCOREBOARD AS

43 SELECT

44 SPU.USER AS USER,

45 SPU.HIGHEST_SCORE AS HIGHEST_SCORE,

46 SPU.HIGHEST_LEVEL AS HIGHEST_LEVEL,

47 CASE WHEN LPU.TOTAL_LOSSES IS NULL

48 THEN CAST(0 AS BIGINT)

49 ELSE LPU.TOTAL_LOSSES

50 END AS TOTAL_LOSSES

51 FROM STATS_PER_USER SPU LEFT JOIN

52 LOSSES_PER_USER LPU ON SPU.USER = LPU.USER;

53

54 /***** Highest Score *****/

55 /***** Highest Score *****/

56 /***** Highest Score *****/

57

58 CREATE TABLE HIGHEST_SCORE AS

59 SELECT

60 'HIGHEST_SCORE_KEY' AS HIGHEST_SCORE_KEY,

61 MAX(HIGHEST_SCORE) AS HIGHEST_SCORE_VALUE

62 FROM HIGHEST_SCORE;

PROBLEMS OUTPUT TERMINAL DEBUGCONSOLE

aws_appautoscaling_target.redis_sink_auto_scaling_target: Modifications complete after 1s (id=

Apply complete! Resources: 1 added, 3 changed, 1 destroyed.

Outputs:

Pacman = http://streaming-pacmanwjsjmvv.s3-website-us-east-1.amazonaws.com

ksqlDB = http://streaming-pacmanwjsjmvv-ksqldb-344129327.us-east-1.elb.amazonaws.com

[riferrei@niferrei aws]\$

Streaming Pac-Man with C-X

Not visible | streaming-pacmanwjsjmvv.s3-website-us-east-1.amazonaws.com

Apex My Stuff Confluent Next AWS Console AWS GCP Other bookmarks

PAC-MAN - BACK TO GAME -

RANK	NAME	SCORE	LEVEL	LOSSES
#1	FoxnEagle	206300	16	0
#2	rojoyin	134510	12	0
#3	ToyKeeper	49960	5	1
#4	Daniel Lazaro	46710	7	3
#5	Luis Vieira	22850	6	3
#6	CheckYourFly	11380	4	1
#7	LukeKuenneke	11100	3	0
#8	MikeEr	8660	1	3
#9	Jim Ing	8240	2	2
#10	Player1	6540	1	1
#11	gware	5890	2	0
#12	BurtonR	5380	1	0
#13	jabcdefg	4840	1	2
#14	edk	4560	2	2
#15	Hani	4040	1	0
#16	Sven	3750	1	1
#17	eric	3730	2	1

UI:50, CUI:48 Tab:80x4 UTE:8 LP: SQL



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Q&A WITH SPEAKER **SPEAKER BIO**

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[NEW QUESTION](#)

SCREEN SHARE

Activities Document Viewer Mon Jun 29 1:16:13 PM Learning From Stream Processing with Pac-Man 100%

FROM KAFKA TO THE WORLD

```
graph LR; A[API GATEWAY] --> B[LAMBDA FUNCTION]; B --> C[REDIS CACHE]; C -- PUSH --> D[SCOREBOARD];
```

RANK	NAME	SCORE
#1	Gianluca	11630
#2	riferrei	1780
#3	James	1320

@RIFERREI | @APACHEKAFKA | @CONFLUENTINC



Questions? Ask the Events team on the #1-helpdesk Slack channel

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Q&A WITH SPEAKER | SPEAKER BIO

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<http://streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com>

Enter question here...

NEW QUESTION

SCREEN SHARE

```
1 var CLOUD_PROVIDER = "s3cloud_provider";
2 var EVENT_HANDLER_API = "s(event_handler_api)";
3 var KSQLDB_QUERY_API = "s(ksqldb_query_api)";
4 var SCOREBOARD_API = "s(scoreboard_api)";
5
6 function loadHighestScore(callback) {
7
8     var highestScore ;
9     var ksqlQuery = {};
10    ksqlQuery.ksql =
11        "SELECT HIGHEST_SCORE.VALUE FROM HIGHEST_SCORE." +
12        "WHERE HIGHEST_SCORE.KEY = 'HIGHEST_SCORE.KEY'";
13
14    var request = new XMLHttpRequest();
15    request.onreadystatechange = function() {
16        if (this.readyState == 4) {
17            if (this.status == 200) {
18                var result = JSON.parse(this.responseText);
19                if (result[1] != undefined || result[1] != null) {
20                    var row = result[1].row;
21                    highestScore = row.columns[0];
22                }
23            }
24            callback(highestScore);
25        }
26    };
27    request.open("POST", KSQLDB_QUERY_API, true);
28    request.setRequestHeader("Accept", "application/vnd.ksql.v1+json");
29    request.setRequestHeader("Content-Type", "application/vnd.ksql.v1+json");
30
31    aws_s3cp_target.redis_sink_auto_scaling_target: Modifications complete after 1s [id-service/streaming-pacman-cluster/redis-sink-service]
32
33 Apply complete! Resources: 1 added, 3 changed, 1 destroyed.
34
35 Outputs:
36 Pacman = http://streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com
37 ksqldb = http://streaming-pacmanwjscjmvv-ksqldb-344129327.us-east-1.elb.amazonaws.com
38 [riferrei@riferrei-aws]$
```



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<http://streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com>

Enter question here...

NEW QUESTION

SCREEN SHARE

```
function loadHighestScore(callback) {
    var highestScore;
    var knexQuery = {};
    knexQuery.knex =
        'SELECT HIGHEST SCORE VALUE FROM HIGHEST SCORE ' +
        'WHERE HIGHEST SCORE KEY = 'HIGHEST SCORE KEY';

    var request = new XMLHttpRequest();
    request.onreadystatechange = function() {
        if (this.readyState == 4) {
            if (this.status == 200) {
                var result = JSON.parse(this.responseText);
                if (result[0] != undefined || result[0] != null) {
                    var row = result[0].row;
                    highestScore = row.columns[0];
                }
            }
            callback(highestScore);
        }
    };
    request.open('POST', KSQLDB_QUERY_API, true);
    request.setRequestHeader('Accept', 'application/vnd.knex.v1+json');
    request.setRequestHeader('Content-Type', 'application/vnd.knex.v1+json');
    request.send(JSON.stringify(knexQuery));
}

function getScoreboardJson(callback) {
    // ...
}
```

```
aws_mppautoscaling_target.redis_sink_auto_scaling_target: Modifications complete after 1s [id-service/streaming-pacman-cluster/redis-sink-service]
Apply complete! Resources: 1 added, 3 changed, 1 destroyed.

Outputs:
Pacman = http://streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com
kSQLDB = http://streaming-pacmanwjscjmvv-ksqldb-344129327.us-east-1.elb.amazonaws.com
[interrei@interrei aws]$
```



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<http://streaming-pacmanwjscjmvv.s3-website-us-east-1.amazonaws.com>

Enter question here...

NEW QUESTION

SCREEN SHARE

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pacman > game > js > shared.js > loadHighestScore
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NORTH AMERICA



Embedded Linux
Conference
North America

VIDEO



ABSTRACT

Since Pac-Man was originally released in the '80s, it has been a beacon of fun and joy for people of all ages. What few people know is that this game can also be used to inspire developers on how to build event streaming applications. In this near-zero-slides talk, attendees will get to see the game being deployed in a cloud provider straight from the GitHub repository, and once deployed play with the game to generate events. As they play, the presenter will build from scratch a scoreboard using KSQLDB – an event streaming technology built out of Kafka Streams. Finally, an serverless API will be used to monitor in near real-time the computed aggregated statistics from the game, revealing whoever is the most proficient Pac-Man player in the room.

<http://streaming-pacmanwjsqjmvv.s3-website-us-east-1.amazonaws.com>

Enter question here...

NEW QUESTION

SCREEN SHARE

```
shared.js
pacman > game > js > shared.js > loadHighestScore
3 var KSQLDB_QUERY_API = "${ksqldb_query_api}"
4 var SCOREBOARD_API = "${scoreboard_api}"
5
6 function loadHighestScore(callback) {
7
8     var highestScore ;
9     var ksqlQuery = {};
10    ksqlQuery.ksql =
11        "SELECT HIGHEST_SCORE_VALUE FROM HIGHEST_SCORE" +
12        "WHERE HIGHEST_SCORE_KEY = 'HIGHEST_SCORE_KEY'";
13
14    var request = new XMLHttpRequest();
15    request.onreadystatechange = function() {
16        if (this.readyState == 4) {
17            if (this.status == 200) {
18                var result = JSON.parse(this.responseText);
19                if (result[1] != undefined || result[1] != null) {
20                    var row = result[1].row;
21                    highestScore = row.columns[0];
22                }
23            }
24            callback(highestScore);
25        }
26    };
27    request.open('POST', KSQLDB_QUERY_API, true);
28    request.setRequestHeader('Accept', 'application/vnd.ksql.v1+json');
29    request.setRequestHeader('Content-Type', 'application/vnd.ksql.v1+json');
30    request.send(JSON.stringify(ksqlQuery));
31}
```

```
aws_mppautoscaling_target.redis_sink_auto_scaling_target: Modifications complete after 1s [id-service/streaming-pacman-cluster/redis-sink-service]
Apply complete! Resources: 1 added, 3 changed, 1 destroyed.
Outputs:
Pacman = http://streaming-pacmanwjsqjmvv.s3-website-us-east-1.amazonaws.com
ksqldb = http://streaming-pacmanwjsqjmvv-ksqldb-344129327.us-east-1.elb.amazonaws.com
[ri1ferrei@ri1ferrei aws]$
```

#ossummit



SCORE BOARD

SCORE 10520 HIGH SCORE 10520 LEVEL 3UP

