

NOSQL Cassandra: Exercise2

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:54:38 AM.

• Get the help

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:30:35 AM.

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Use Case: Messaging System

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Description:

We want to create the tables required for a persistent messaging system similar to WhatsApp.

Features:

- We need to store all messages
- The user has the ability to create groups
- Access patterns:
 - Send a message (store a single message) in a conversation or group
 - Retrieve all messages from a conversation
 - Retrieve all messages from a group
 - Remove a single message

Deliverable:

DDL scripts for the required table(s)

Explanation of the data model

Took 0 sec. Last updated by anonymous at November 08 2020, 11:30:39 AM.

Create keyspace named whatsapp

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:30:42 AM.

CREATE KEYSPACE IF NOT EXISTS whatsapp WITH replication = {'class': 'SimpleStrategy', 'replication_factor' : 3};
DESCRIBE KEYSPACE whatsapp;

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whatsapp

DESCRIBE KEYSPACE whatsapp;

Legend

Replication

Durable Writes

{'class' : 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor' : '3'}

true

As CQL statement

Took 0 sec. Last updated by anonymous at November 08 2020, 11:34:09 AM. (outdated)

Create messages table

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:34:19 AM.

CREATE TABLE IF NOT EXISTS whatsapp.messages (
message_id uuid,
message_content text,
sent_at timeuuid,
group_id uuid,
sender uuid,
message_reply uuid,
PRIMARY KEY ((group_id, message_id), sent_at)
);
DESCRIBE TABLE whatsapp.messages;

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DESCRIBE TABLE whatsapp.messages;

Legend

messages

Column Type

Column Name

Data Type

group_id

uuid

message_id

uuid

sent_at

timeuuid

message_content

text

message_reply

uuid

sender

uuid

As CQL statement

Took 0 sec. Last updated by anonymous at November 08 2020, 11:34:41 AM. (outdated)

Insert first entry in whatsapp.messages

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:35:21 AM.

INSERT INTO whatsapp.messages (message_id, message_content, sent_at, group_id, sender) VALUES (uuid(), 'Hello people!', now(), uuid(), uuid());

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Query whatsapp.messages

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:35:26 AM.

SELECT * FROM whatsapp.messages;

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group_id

message_id

sent_at

message_content

message_reply

sender

58ff3a42-e181-4812-8c9c-26627884d437

143ce079-1ba7-4ded-a13b-e793ced343cd

1cbd3480-21ae-11eb-8c0b-f32fe61ab573

Hello people!

null

90bc03764-7ab7-4578-9a50-4012da3e9d53

Took 1 sec. Last updated by anonymous at November 08 2020, 11:35:31 AM.

Detele all entries in whatsapp.messages

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:35:43 AM.

TRUNCATE whatsapp.messages;
SELECT * FROM whatsapp.messages;

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No Result

Last query execution info

Info

Value

Statement

SELECT * FROM whatsapp.messages;

Achieved Consistency

N/A

Tried Hosts

cassandra172.24.0.4:9042

Queried Hosts

cassandra172.24.0.4:9042

Schema In Agreement

true

Took 1 sec. Last updated by anonymous at November 08 2020, 11:35:45 AM.

Create groups table

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One to one conversations are groups of 2 people

Took 0 sec. Last updated by anonymous at November 08 2020, 11:35:48 AM.

CREATE TABLE IF NOT EXISTS whatsapp.groups(
group_id uuid,
created_at timeuuid,
admin uuid,
participants set<uuid>,
PRIMARY KEY (admin, created_at)
);
DESCRIBE TABLE whatsapp.groups;

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DESCRIBE TABLE whatsapp.groups;

Legend

groups

Column Type

Column Name

Data Type

admin

uuid

created_at

timeuuid

group_id

uuid

participants

set<uuid>

As CQL statement

Took 0 sec. Last updated by anonymous at November 08 2020, 11:36:03 AM. (outdated)

Use whatsapp keyspace and describe it

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We won't need to use the keyspace name to call the tables inside: *whatsapp.groups* -> *groups*

Took 0 sec. Last updated by anonymous at November 08 2020, 11:36:08 AM.

USE whatsapp;
DESCRIBE KEYSPACE whatsapp;

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whatsapp

DESCRIBE KEYSPACE whatsapp;

Legend

Replication

Durable Writes

{'class' : 'org.apache.cassandra.locator.SimpleStrategy', 'replication_factor' : '3'}

true

As CQL statement

Tables

groups

messages

Took 0 sec. Last updated by anonymous at November 08 2020, 11:36:11 AM.

Create first conversation

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The person who starts de conversation is the group admin

Took 0 sec. Last updated by anonymous at November 08 2020, 11:36:22 AM.

INSERT INTO groups (group_id, created_at, admin, participants) VALUES (uuid(), now(), uuid(), {uuid()});
SELECT * FROM groups;

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admin

created_at

group_id

participants

2f1b48c1-4c84-44e6-9611-03270c82af2d

40d37c80-21ae-11eb-8c0b-f32fe61ab573

d742dd46-1e9d-4d88-841a-3add6b02027a

[208e06ca-70c8-4f0c-9843-197abdf11e8f]

Took 0 sec. Last updated by anonymous at November 08 2020, 11:36:26 AM.

Send message in conversation

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:36:37 AM.

INSERT INTO messages (message_id, message_content, sent_at, group_id, sender)
VALUES (uuid(), 'Hola Vicent!', now(), d742dd46-1e9d-4d88-841a-3add6b02027a, 2f1b48c1-4c84-44e6-9611-03270c82af2d);
SELECT * FROM messages;

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group_id

message_id

sent_at

message_content

message_reply

sender

d742dd46-1e9d-4d88-841a-3add6b02027a

379654a4-97ef-4162-bf29-04bf90ea5b59

60d4d880-21ae-11eb-8c0b-f32fe61ab573

Hola Vicent!

null

2f1b48c1-4c84-44e6-9611-03270c82af2d

Took 0 sec. Last updated by anonymous at November 08 2020, 11:37:19 AM. (outdated)

Create frist group conversation

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:37:25 AM.

INSERT INTO groups (group_id, created_at, admin, participants) VALUES (uuid(), now(), uuid(), {uuid(), uuid()});
SELECT * FROM groups;

FINISHED

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admin

created_at

group_id

participants

74aea38c-ae89-4256-b775-82cb7efd5043

6cbd1810-21ae-11eb-8c0b-f32fe61ab573

db609bb8-4c34-48d3-b4f4-e256c2213148

[1d2906d9-ba54-4fbb-ba68-f0001f781a68, 801cd691-39d9-48ec-9913-12b2a26d005c]

2f1b48c1-4c84-44e6-9611-03270c82af2d

40d37c80-21ae-11eb-8c0b-f32fe61ab573

d742dd46-1e9d-4d88-841a-3add6b02027a

[208e06ca-70c8-4f0c-9843-197abdf11e8f]

fc5f701d-fe90-438a-86a9-1c8b1cdd5689

8f8beb70-21ae-11eb-8c0b-f32fe61ab573

20ce515b-96b3-4614-bd49-01e270faec89

[0b000eac-6aa8-4a05-af65-7daaa0c558a2, 6d185975-6733-42de-9016-e3582aebd04f]

Took 0 sec. Last updated by anonymous at November 08 2020, 11:38:38 AM.

Send message in group conversation

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Took 0 sec. Last updated by anonymous at November 08 2020, 11:37:49 AM.

INSERT INTO messages (message_id, message_content, sent_at, group_id, sender)
VALUES (uuid(), 'Hola grupo!', now(), db609bb8-4c34-48d3-b4f4-e256c2213148, 74aea38c-ae89-4256-b775-82cb7efd5043);
SELECT * FROM messages;

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group_id

message_id

sent_at

message_content

message_reply

sender

d742dd46-1e9d-4d88-841a-3add6b02027a

379654a4-97ef-4162-bf29-04bf90ea5b59

60d4d880-21ae-11eb-8c0b-f32fe61ab573

Hola Vicent!

null

2f1b48c1-4c84-44e6-9611-03270c82af2d

db609bb8-4c34-48d3-b4f4-e256c2213148

1ac78cc5-a271-47db-a4e4-40ba5d9976eb

a3ced780-21ae-11eb-8c0b-f32fe61ab573

Hola grupo!

null

74aea38c-ae89-4256-b775-82cb7efd5043

Took 0 sec. Last updated by anonymous at November 08 2020, 11:39:12 AM. (outdated)

Reply to a message in a group conversation

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Took 1 sec. Last updated by anonymous at November 08 2020, 11:46:59 AM.

INSERT INTO messages (message_id, message_content, sent_at, group_id, sender, message_reply)
VALUES (uuid(), 'Hola grupo!', now(), db609bb8-4c34-48d3-b4f4-e256c2213148, 801cd691-39d9-48ec-9913-12b2a26d005c, 1ac78cc5-a271-47db-a4e4-40ba5d9976eb);
SELECT * FROM messages;

FINISHED

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group_id

message_id

sent_at

message_content

message_reply

sender

d742dd46-1e9d-4d88-841a-3add6b02027a

379654a4-97ef-4162-bf29-04bf90ea5b59

60d4d880-21ae-11eb-8c0b-f32fe61ab573

Hola Vicent!

null

2f1b48c1-4c84-44e6-9611-03270c82af2d

db609bb8-4c34-48d3-b4f4-e256c2213148

1ac78cc5-a271-47db-a4e4-40ba5d9976eb

a3ced780-21ae-11eb-8c0b-f32fe61ab573

Hola grupo!

null

74aea38c-ae89-4256-b775-82cb7efd5043

db609bb8-4c34-48d3-b4f4-e256c2213148

490ae678-2a36-49be-8e11-666a1002e225

1c3b4860-21b0-11eb-8c0b-f32fe61ab573

Hola!

1ac78cc5-a271-47db-a4e4-40ba5d9976eb

801cd691-39d9-48ec-9913-12b2a26d005c

Took 0 sec. Last updated by anonymous at November 08 2020, 11:49:43 AM. (outdated)