

CASSANDRA - CQL USER DEFINED DATATYPES

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CQL provides the facility of creating and using user-defined data types. You can create a data type to handle multiple fields. This chapter explains how to create, alter, and delete a user-defined data type.

Creating a User-defined Data Type

The command **CREATE TYPE** is used to create a user-defined data type. Its syntax is as follows:

```
CREATE TYPE <keyspace name>. <data typename>
( variable1, variable2).
```

Example

Given below is an example for creating a user-defined data type. In this example, we are creating a **card_details** data type containing the following details.

| Field | Field name | Data type |
|--------------------------------|------------|-----------|
| credit card no | num | int |
| credit card pin | pin | int |
| name on credit card | name | text |
| cvv | cvv | int |
| Contact details of card holder | phone | set |

```
cqlsh:tutorialspoint> CREATE TYPE card_details (
... num int,
... pin int,
... name text,
... cvv int,
... phone set<int>
... );
```

Note: The name used for user-defined data type should not coincide with reserved type names.

Verification

Use the **DESCRIBE** command to verify whether the type created has been created or not.

```
CREATE TYPE tutorialspoint.card_details (
num int,
pin int,
name text,
cvv int,
phone set<int>
);
```

Altering a User-defined Data Type

ALTER TYPE command is used to alter an existing data type. Using ALTER, you can add a new field or rename an existing field.

Adding a Field to a Type

Use the following syntax to add a new field to an existing user-defined data type.

```
ALTER TYPE typename
ADD field_name field_type;
```

The following code adds a new field to the **Card_details** data type. Here we are adding a new field called email.

```
cqlsh:tutorialspoint> ALTER TYPE card_details ADD email text;
```

Verification

Use the **DESCRIBE** command to verify whether the new field is added or not.

```
cqlsh:tutorialspoint> describe type card_details;
CREATE TYPE tutorialspoint.card_details (
  num int,
  pin int,
  name text,
  cvv int,
  phone set<int>,
);
```

Renaming a Field in a Type

Use the following syntax to rename an existing user-defined data type.

```
ALTER TYPE typename
RENAME existing_name TO new_name;
```

The following code changes the name of the field in a type. Here we are renaming the field email to mail.

```
cqlsh:tutorialspoint> ALTER TYPE card_details RENAME email TO mail;
```

Verification

Use the **DESCRIBE** command to verify whether the type name changed or not.

```
cqlsh:tutorialspoint> describe type card_details;
CREATE TYPE tutorialspoint.card_details (
  num int,
  pin int,
  name text,
  cvv int,
  phone set<int>,
  mail text
);
```

Deleting a User-defined Data Type

DROP TYPE is the command used to delete a user-defined data type. Given below is an example to delete a user-defined data type.

Example

Before deleting, verify the list of all user-defined data types using **DESCRIBE_TYPES** command as shown below.

```
cqlsh:tutorialspoint> DESCRIBE TYPES;
card_details card
```

From the two types, delete the type named **card** as shown below.

```
cqlsh:tutorialspoint> drop type card;
```

Use the **DESCRIBE** command to verify whether the data type dropped or not.

```
cqlsh:tutorialspoint> describe types;  
card_details
```