

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
```