

ubuntu@ip-172-31-85-215: ~

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```
mysql> CREATE DATABASE simple_bank;
Query OK, 1 row affected (0.01 sec)
```

```
mysql> USE simple_bank;
Database changed
```

```
mysql> CREATE TABLE IF NOT EXISTS customers ( customer_id INT AUTO_INCREMENT, fi
rst_name VARCHAR(255) NOT NULL, last_name VARCHAR(255) NOT NULL, age INT NOT NUL
L, customer_type VARCHAR(20) NOT NULL, street VARCHAR(255) NOT NULL, city VARCHA
R(50) NOT NULL, state VARCHAR(50) NOT NULL, zip_code VARCHAR(5) NOT NULL, phone_
number VARCHAR(15) NOT NULL )
```

-> ;

ERROR 1075 (42000): Incorrect table definition; there can be only one auto colum
n and it must be defined as a key

```
mysql> CREATE TABLE `customers` (
-> `customer_id` int(12) NOT NULL AUTO_INCREMENT,
-> `first_name` varchar(255) NOT NULL,
-> `last_name` varchar(255) NOT NULL,
-> `age` int(3) NOT NULL,
-> `customer_type` varchar(20) NOT NULL,
-> `street` varchar(255) NOT NULL,
-> `city` varchar(50) NOT NULL,
-> `state` varchar(50) NOT NULL,
-> `zip_code` varchar(5) NOT NULL,
-> `phone_number` varchar(15) NOT NULL,
-> PRIMARY KEY (`customer_id`)
-> ) ENGINE=InnoDB DEFAULT CHARSET=latin1
-> ;
```

Query OK, 0 rows affected, 2 warnings (0.02 sec)

```
mysql> describe customers;
```

Field	Type	Null	Key	Default	Extra
customer_id	int	NO	PRI	NULL	auto_increment
first_name	varchar(255)	NO		NULL	
last_name	varchar(255)	NO		NULL	
age	int	NO		NULL	
customer_type	varchar(20)	NO		NULL	
street	varchar(255)	NO		NULL	
city	varchar(50)	NO		NULL	
state	varchar(50)	NO		NULL	
zip_code	varchar(5)	NO		NULL	
phone_number	varchar(15)	NO		NULL	

10 rows in set (0.00 sec)

```
mysql> ALTER TABLE customers ADD COLUMN npwp_id VARCHAR(20) AFTER customer_id;
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> describe customers;
```

Field	Type	Null	Key	Default	Extra
customer_id	int	NO	PRI	NULL	auto_increment
npwp_id	varchar(20)	YES		NULL	
first_name	varchar(255)	NO		NULL	
last_name	varchar(255)	NO		NULL	
age	int	NO		NULL	
customer_type	varchar(20)	NO		NULL	
street	varchar(255)	NO		NULL	
city	varchar(50)	NO		NULL	
state	varchar(50)	NO		NULL	
zip_code	varchar(5)	NO		NULL	
phone_number	varchar(15)	NO		NULL	

```
11 rows in set (0.00 sec)
```

```
mysql> INSERT INTO customers (
-> npwp_id,
-> first_name,
-> last_name,
-> age,
-> customer_type,
-> street,
-> city,
-> state,
-> zip_code,
-> phone_number
-> )
-> VALUES
-> (
-> '99.999.999.9-999.001',
-> 'Irwan',
-> 'Syahputra',
-> 25,
-> 'employee',
-> 'Jalan Sunggal',
-> 'Sumatera Utara',
-> 'Medan',
-> '20127',
-> );

'085371415511'
-> );
```

```
Query OK, 1 row affected (0.00 sec)
```



```

mysql> SELECT first_name, age, city FROM customers WHERE npwp_id IS NULL;
+-----+-----+-----+
| first_name | age | city |
+-----+-----+-----+
| John      | 21 | Sleman |
| Second    | 32 | Sleman |
+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> SELECT first_name, age, city FROM customers WHERE customer_type = 'employee' OR customer_type = 'student';
+-----+-----+-----+
| first_name | age | city |
+-----+-----+-----+
| Irwan      | 25 | Sumatera Utara |
| John      | 21 | Sleman |
| Second    | 32 | Sleman |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> SELECT COUNT(first_name) FROM customers WHERE customer_type = 'student';
ERROR 1054 (42S22): Unknown column ''student'' in 'where clause'
mysql> SELECT COUNT(first_name) FROM customers WHERE customer_type = 'student';
+-----+
| COUNT(first_name) |
+-----+
| 1 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT first_name, age, city FROM customers ORDER BY first_name;
+-----+-----+-----+
| first_name | age | city |
+-----+-----+-----+
| Irwan      | 25 | Sumatera Utara |
| John      | 21 | Sleman |
| Second    | 32 | Sleman |
+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> SELECT first_name, age, city FROM customers ORDER BY age DESC;
+-----+-----+-----+
| first_name | age | city |
+-----+-----+-----+
| Second    | 32 | Sleman |
| Irwan      | 25 | Sumatera Utara |
| John      | 21 | Sleman |
+-----+-----+-----+
3 rows in set (0.00 sec)

```

```
mysql> SELECT first_name, age, city FROM customers WHERE first_name LIKE "J%";
```

```
+-----+-----+
| first_name | age | city |
+-----+-----+
| John      | 21 | Sleman |
+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> CREATE TABLE IF NOT EXISTS account (
->   account_id INT UNSIGNED NOT NULL,
->   customer_id INT UNSIGNED NOT NULL,
->   balance DECIMAL,
->   account_type VARCHAR (20) NOT NULL,
->   PRIMARY KEY (account_id)
-> );
```

```
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> describe account;
```

```
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| account_id | int unsigned  | NO   | PRI | NULL    |      |
| customer_id | int unsigned  | NO   |     | NULL    |      |
| balance     | decimal(10,0) | YES  |     | NULL    |      |
| account_type | varchar(20)   | NO   |     | NULL    |      |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> ALTER TABLE customers ADD INDEX(first_name);
Query OK, 0 rows affected (0.03 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> DELETE FROM customers WHERE customer_id = 2;
ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails ('simple_bank`.`account`, CONSTRAINT `account_ibfk_1` FOREIGN KEY (`customer_id`) REFERENCES `customers` (`customer_id`))
```

```
mysql> select * from customers;
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| customer_id | npwp_id | first_name | last_name | age | customer_type | street | city | state | zip_code | phone_number |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 99.999.999.9-999.001 | Irwan | Syahputra | 25 | employee | Jalan Sunggal | Sumatera Utara | Medan | 20127 | 085371415511 |
| 2 | NULL | John | Doe | 21 | student | Jalan Grafika No. 2 | Sleman | Yogyakarta | 55281 | 082222222222 |
| 3 | NULL | Second | User | 32 | employee | Jalan Tentara Pelajar | Sleman | Yogyakarta | 55581 | 081111111111 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

ID 2 ERROR PADA SAAT DI HAPUS KARENA ID 2 SUDAH DIGUNAKAN PADA TABEL ACCOUNT
DIKARENAKAN FOREIGNKEY CHECK.

```
mysql> select * from customers;
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| customer_id | npwp_id | first_name | last_name | age | customer_type | street | city | state | zip_code | phone_number |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 99.999.999.9-999.001 | Irwan | Syahputra | 25 | employee | Jalan Sunggal | Sumatera Utara | Medan | 20127 | 085371415511 |
| 2 | NULL | John | Doe | 21 | student | Jalan Grafika No. 2 | Sleman | Yogyakarta | 55281 | 082222222222 |
| 3 | NULL | Second | User | 32 | employee | Jalan Tentara Pelajar | Sleman | Yogyakarta | 55581 | 081111111111 |
+-----+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> select * from accounts;
```

```
ERROR 1146 (42S02): Table 'simple_bank.accounts' doesn't exist
```

```
mysql> select * from account;
```

```
+-----+-----+-----+-----+
| account_id | customer_id | balance | account_type |
+-----+-----+-----+-----+
| 10 | 1 | 10000000 | savings |
| 11 | 2 | 10000000 | savings |
| 50 | 1 | 500000000 | deposit |
| 51 | 3 | 500000000 | deposit |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

Script Display;

```
mysql> CREATE DATABASE simple_bank;
```

Query OK, 1 row affected (0.01 sec)

```
mysql> USE simple_bank;
```

Database changed

```
mysql> CREATE TABLE IF NOT EXISTS customers ( customer_id INT AUTO_INCREMENT, first_name VARCHAR(255) NOT NULL, last_name VARCHAR(255) NOT NULL, age INT NOT NULL, customer_type VARCHAR(20) NOT NULL, street VARCHAR(255) NOT NULL, city VARCHAR(50) NOT NULL, state VARCHAR(50) NOT NULL, zip_code VARCHAR(5) NOT NULL, phone_number VARCHAR(15) NOT NULL )
```

```
-> ;
```

ERROR 1075 (42000): Incorrect table definition; there can be only one auto column and it must be defined as a key

```
mysql> CREATE TABLE `customers` (
```

```
-> `customer_id` int(12) NOT NULL AUTO_INCREMENT,
```

```
-> `first_name` varchar(255) NOT NULL,
```

```
-> `last_name` varchar(255) NOT NULL,
```

```
-> `age` int(3) NOT NULL,
```

```
-> `customer_type` varchar(20) NOT NULL,
```

```
-> `street` varchar(255) NOT NULL,
```

```
-> `city` varchar(50) NOT NULL,
```

```
-> `state` varchar(50) NOT NULL,
```

```
-> `zip_code` varchar(5) NOT NULL,
```

```
-> `phone_number` varchar(15) NOT NULL,
```

```
-> PRIMARY KEY (`customer_id`)
```

```
-> ) ENGINE=InnoDB DEFAULT CHARSET=latin1
```

```
-> ;
```

Query OK, 0 rows affected, 2 warnings (0.02 sec)

```
mysql> describe customers;
```

Field	Type	Null	Key	Default	Extra
customer_id	int	NO	PRI	NULL	auto_increment
first_name	varchar(255)	NO		NULL	
last_name	varchar(255)	NO		NULL	
age	int	NO		NULL	
customer_type	varchar(20)	NO		NULL	
street	varchar(255)	NO		NULL	
city	varchar(50)	NO		NULL	
state	varchar(50)	NO		NULL	
zip_code	varchar(5)	NO		NULL	
phone_number	varchar(15)	NO		NULL	

10 rows in set (0.00 sec)

```
mysql> ALTER TABLE customers ADD COLUMN npwp_id VARCHAR(20) AFTER customer_id;
```

Query OK, 0 rows affected (0.05 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> describe customers;
```

Field	Type	Null	Key	Default	Extra
customer_id	int	NO	PRI	NULL	auto_increment
npwp_id	varchar(20)	YES		NULL	
first_name	varchar(255)	NO		NULL	

last_name	varchar(255)	NO		NULL		
age	int	NO		NULL		
customer_type	varchar(20)	NO		NULL		
street	varchar(255)	NO		NULL		
city	varchar(50)	NO		NULL		
state	varchar(50)	NO		NULL		
zip_code	varchar(5)	NO		NULL		
phone_number	varchar(15)	NO		NULL		

+-----+-----+-----+-----+-----+-----+

11 rows in set (0.00 sec)

mysql> INSERT INTO customers (

-> npwp_id,

-> first_name,

-> last_name,

-> age,

-> customer_type,

-> street,

-> city,

-> state,

-> zip_code,

-> phone_number

->)

-> VALUES

-> (

-> '99.999.999.9-999.001',

-> 'Irwan',

-> 'Syahputra',

-> 25,


```
-> 'employee',  
-> 'Jalan Sunggal',  
-> 'Sumatera Utara',  
-> 'Medan',  
-> '20127',  
-> );
```

```
'085371415511'
```

```
-> );
```

Query OK, 1 row affected (0.00 sec)

```
mysql>
```

```
mysql> INSERT INTO customers (
```

```
-> first_name,  
-> last_name,  
-> age,  
-> customer_type,  
-> street,  
-> city,  
-> state,  
-> zip_code,  
-> phone_number  
-> )  
-> VALUES  
-> (  
-> "John",  
-> "Doe",  
-> 21,  
-> "student",
```

```

-> "Jalan Grafika No. 2",
-> 32,
"employee",
"Sleman",
-> "Yogyakarta",
-> "55281",
-> "082222222222"
-> );
),
-> (
-> "Second",
-> "User",
-> 32,
-> "employee",
-> "Jalan Tentara Pelajar ",
-> "Sleman",
-> "Yogyakarta",
-> "55581",
-> "081111111111"
-> );

```

Query OK, 2 rows affected (0.00 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql>

mysql> SELECT * FROM customers;

```

+-----+-----+-----+-----+-----+
---+-----+-----+-----+-----+
-----+

```

customer_id	npwp_id	first_name	last_name	age	customer_type	street	city	state	zip_code	phone_number
-------------	---------	------------	-----------	-----	---------------	--------	------	-------	----------	--------------

```

+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+

```

1	99.999.999.9-999.001	Irwan	Syahputra	25	employee	Jalan Sunggal	Sumatera Utara	Medan	20127	085371415511
---	----------------------	-------	-----------	----	----------	---------------	----------------	-------	-------	--------------

2	NULL	John	Doe	21	student	Jalan Grafika No. 2	Sleman	Yogyakarta	55281	082222222222
---	------	------	-----	----	---------	---------------------	--------	------------	-------	--------------

3	NULL	Second	User	32	employee	Jalan Tentara Pelajar	Sleman	Yogyakarta	55581	081111111111
---	------	--------	------	----	----------	-----------------------	--------	------------	-------	--------------

```

+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+

```

3 rows in set (0.00 sec)

mysql> SELECT * FROM customers;

customer_id	npwp_id	first_name	last_name	age	customer_type	street	city	state	zip_code	phone_number
-------------	---------	------------	-----------	-----	---------------	--------	------	-------	----------	--------------

1	99.999.999.9-999.001	Irwan	Syahputra	25	employee	Jalan Sunggal	Sumatera Utara	Medan	20127	085371415511
---	----------------------	-------	-----------	----	----------	---------------	----------------	-------	-------	--------------

2	NULL	John	Doe	21	student	Jalan Grafika No. 2	Sleman	Yogyakarta	55281	082222222222
---	------	------	-----	----	---------	---------------------	--------	------------	-------	--------------

3	NULL	Second	User	32	employee	Jalan Tentara Pelajar	Sleman	Yogyakarta	55581	081111111111
---	------	--------	------	----	----------	-----------------------	--------	------------	-------	--------------

```

+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+

```

3 rows in set (0.00 sec)

```
mysql> SELECT first_name, age, city FROM customers WHERE npwp_id IS NULL;
```

first_name	age	city
------------	-----	------

John	21	Sleman
Second	32	Sleman

2 rows in set (0.00 sec)

```
mysql> SELECT first_name, age, city FROM customers WHERE customer_type = 'employee' OR  
customer_type = 'student';
```

first_name	age	city
Irwan	25	Sumatera Utara
John	21	Sleman
Second	32	Sleman

3 rows in set (0.00 sec)

```
mysql> SELECT COUNT(first_name) FROM customers WHERE customer_type = 'student';
```

ERROR 1054 (42S22): Unknown column 'student' in 'where clause'

```
mysql> SELECT COUNT(first_name) FROM customers WHERE customer_type = 'student';
```

COUNT(first_name)
1

```
+-----+
```

1 row in set (0.00 sec)

```
mysql> SELECT first_name, age, city FROM customers ORDER BY first_name;
```

```
+-----+----+-----+
```

```
| first_name | age | city      |
```

```
+-----+----+-----+
```

```
| Irwan      | 25 | Sumatera Utara |
```

```
| John       | 21 | Sleman        |
```

```
| Second     | 32 | Sleman        |
```

```
+-----+----+-----+
```

3 rows in set (0.00 sec)

```
mysql> SELECT first_name, age, city FROM customers ORDER BY age DESC;
```

```
+-----+----+-----+
```

```
| first_name | age | city      |
```

```
+-----+----+-----+
```

```
| Second     | 32 | Sleman        |
```

```
| Irwan      | 25 | Sumatera Utara |
```

```
| John       | 21 | Sleman        |
```

```
+-----+----+-----+
```

3 rows in set (0.00 sec)

```
mysql> SELECT first_name, age, city FROM customers WHERE first_name LIKE "J%";
```

```
+-----+----+-----+
```

```
| first_name | age | city      |
```

```
+-----+----+-----+
```

```
| John       | 21 | Sleman      |
```

```
+-----+----+-----+
```

1 row in set (0.00 sec)

```
mysql> CREATE TABLE IF NOT EXISTS account (  
  -> account_id INT UNSIGNED NOT NULL,  
  -> customer_id INT UNSIGNED NOT NULL,  
  -> balance DECIMAL,  
  -> account_type VARCHAR (20) NOT NULL,  
  -> PRIMARY KEY (account_id)  
  -> );
```

Query OK, 0 rows affected (0.03 sec)

```
mysql> describe account;
```

Field	Type	Null	Key	Default	Extra
account_id	int unsigned	NO	PRI	NULL	
customer_id	int unsigned	NO		NULL	
balance	decimal(10,0)	YES		NULL	
account_type	varchar(20)	NO		NULL	

4 rows in set (0.00 sec)

```
mysql> ALTER TABLE `simple_bank`.`account` CHANGE `customer_id` `customer_id` INT(10) NOT NULL,  
ADD FOREIGN KEY (`customer_id`) REFERENCES `si  
mple_bank`.`customers`(`customer_id`);
```

Query OK, 0 rows affected, 1 warning (0.05 sec)

Records: 0 Duplicates: 0 Warnings: 1

```
mysql> ALTER TABLE `simple_bank`.`account` ADD FOREIGN KEY (`customer_id`) REFERENCES  
`simple_bank`.`customers`(`customer_id`);
```

Query OK, 0 rows affected (0.05 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> describe account;

Field	Type	Null	Key	Default	Extra
account_id	int unsigned	NO	PRI	NULL	
customer_id	int	NO	MUL	NULL	
balance	decimal(10,0)	YES		NULL	
account_type	varchar(20)	NO		NULL	

4 rows in set (0.00 sec)

```
mysql> INSERT INTO account(account_id, customer_id, balance, account_type) VALUES (10, 1, 1000000, 'savings'), (50, 1, 500000000, 'deposit'), (11, 2, 1000000, 'savings'), (51, 3, 500000000, 'deposit');
```

Query OK, 4 rows affected (0.01 sec)

Records: 4 Duplicates: 0 Warnings: 0

```
mysql> SELECT cust.first_name, acc.balance, acc.account_type FROM customers cust, account acc WHERE cust.customer_id = acc.customer_id;
```

first_name	balance	account_type
Irwan	1000000	savings
Irwan	500000000	deposit
John	1000000	savings
Second	500000000	deposit

4 rows in set (0.00 sec)

```
mysql> SELECT customer_id, COUNT(account_id) as no_of_acc FROM account GROUP BY (customer_id);
```

```
+-----+-----+
| customer_id | no_of_acc |
+-----+-----+
|      1 |      2 |
|      2 |      1 |
|      3 |      1 |
+-----+-----+
```

3 rows in set (0.00 sec)

```
mysql> ALTER TABLE customers ADD INDEX(first_name);
```

Query OK, 0 rows affected (0.03 sec)

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> DELETE FROM customers WHERE customer_id = 2;
```

ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key constraint fails
(`simple_bank`.`account`, CONSTRAINT `account_ibfk_1`
FOREIGN KEY (`customer_id`) REFERENCES `customers` (`customer_id`))

```
mysql> select * from customers;
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
-----+-----+
| customer_id | npwp_id          | first_name | last_name | age | customer_type | street          | city
| state      | z                |            |           |     |               | ip_code | phone_number |
+-----+-----+-----+-----+-----+-----+-----+-----+
-----+-----+
|      1 | 99.999.999.9-999.001 | Irwan      | Syahputra | 25 | employee      | Jalan Sunggal  |
Sumatera Utara | Medan          | 2          |          | 0127 | 085371415511 |
|      2 | NULL              | John       | Doe        | 21 | student       | Jalan Grafika No. 2 | Sleman
Yogyakarta | 5              |          |          | 5281 | 082222222222 |
```


3	NULL	Second	User	32	employee	Jalan Tentara Pelajar	Sleman
Yogyakarta	5					5581	081111111111

```

+-----+-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+

```

3 rows in set (0.00 sec)

mysql> select * from customers;

```

+-----+-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+

```

customer_id	npwp_id	first_name	last_name	age	customer_type	street	city
state	zip_code	phone_number					

```

+-----+-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+

```

1	99.999.999.9-999.001	Irwan	Syahputra	25	employee	Jalan Sunggal	
Sumatera Utara	Medan	20127	085371415511				

2	NULL	John	Doe	21	student	Jalan Grafika No. 2	Sleman
Yogyakarta	55281	082222222222					

3	NULL	Second	User	32	employee	Jalan Tentara Pelajar	Sleman
Yogyakarta	55581	081111111111					

```

+-----+-----+-----+-----+-----+-----+-----+-----+
-----+-----+-----+

```

3 rows in set (0.00 sec)

mysql> select * from accounts;

ERROR 1146 (42S02): Table 'simple_bank.accounts' doesn't exist

mysql> select * from account;

```

+-----+-----+-----+-----+

```

account_id	customer_id	balance	account_type
------------	-------------	---------	--------------

```

+-----+-----+-----+-----+

```

10	1	1000000	savings
----	---	---------	---------

11	2	1000000	savings
----	---	---------	---------

50	1	500000000	deposit
----	---	-----------	---------

	51		3		500000000		deposit	
--	----	--	---	--	-----------	--	---------	--

+-----+	+-----+	+-----+	+-----+	+-----+
---------	---------	---------	---------	---------

4 rows in set (0.00 sec)