

ALTER DATATYPE PGSQL

To change a column's data type in PostgreSQL, use the `ALTER TABLE` statement with the `ALTER COLUMN` clause^[1] ^[2]. You must own the table to use `ALTER TABLE`^[3].

Here's the basic syntax^[1]:

```
ALTER TABLE table_name ALTER COLUMN column_name [SET DATA] TYPE new_data_type;
```

- `table_name`: The name of the table containing the column you want to modify^[1].
- `column_name`: The name of the column you want to change^[1].
- `new_data_type`: The desired data type for the column^[1]. You can use `SET DATA TYPE` or `TYPE` interchangeably^[4].

To modify multiple columns at once, use multiple `ALTER COLUMN` clauses separated by commas^[1] ^[4]:

```
ALTER TABLE table_name
ALTER COLUMN column_name_1 [SET DATA] TYPE new_data_type,
ALTER COLUMN column_name_2 [SET DATA] TYPE new_data_type,
...
ALTER COLUMN column_name_N [SET DATA] TYPE new_data_type;
```

If the column contains data, PostgreSQL may require you to specify a `USING` clause to convert existing values to the new data type^[1]. If you omit the `USING` clause, PostgreSQL will attempt to cast the values automatically^[1]. If the cast fails, PostgreSQL will return an error, recommending the use of the `USING` clause with an expression for data conversion^[1].

```
ALTER TABLE table_name
ALTER COLUMN column_name TYPE new_data_type
USING (expression);
```

The expression can be as simple as `column_name::new_data_type` (e.g., `price::numeric`) or a more complex custom function^[1].

Example

To change the data type of the `bike_number` column from `TEXT` to `VARCHAR` in the `bike_details` table^[4]:

```
ALTER TABLE bike_details ALTER COLUMN bike_number TYPE VARCHAR;
```

To change the data type of the `asset_no` column to integer, casting data from VARCHAR to INT^[1]:

```
ALTER TABLE assets ALTER COLUMN asset_no TYPE INTEGER USING (asset_no::INTEGER);
```

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1. <https://neon.tech/postgresql/postgresql-tutorial/postgresql-change-column-type>
2. https://www.w3schools.com/postgresql/postgresql_alter_column.php
3. <https://www.postgresql.org/docs/current/sql-altertable.html>
4. <https://www.commandprompt.com/education/how-to-alter-column-type-in-postgresql/>