# Example 02 - Inserting on Tables - Sequences and Identity

This example shows the different ways of inserting on database tables with or without PK and with or without autogeneration PKs.

## How to Run this example

The **Example 02** is included in the download package. To run this example please refer to the section How to Run the Examples above.

## Case #1: Insert into a table with no PK

When inserting into a table with no PK the insert takes a simple form where you need to speficy the values of the columns you want in a DAO object and then call the insert() method on it.

This is shown inserting into the table VISIT that does not have a PK.

## Case #2: Insert into a table with PK, but no auto-generated PK

When inserting into a table with a PK but no autogeneration logic for its values, you need to speficy the values for the PK column(s) (simple or composite).

The configuration file does not include the <auto-generated-column> tag.

This is shown inserting into the table DAILY\_REPORT that does have a composite PK (BRANCH\_ID, REPORT\_DATE) and there's no auto-generation logic for it.

## Case #3: Insert into a table with auto-generated PK using identity

When inserting into a table with an auto-generated PK using identity database functionality, any value you speficy for the PK column(s) are ignored. The database produces the value(s) and this(ese) value(s) are populated back into the DAO object after insertion (except for Oracle 12c, see reference section).

The configuration file includes the following entry to define it's an identity-generated PK:

<auto-generated-column name=*"id"* />

This is shown inserting into the table VEHICLE that does have a single column PK (ID).

## Case #4: Insert into a table with auto-generated PK using sequence

When inserting into a table with an auto-generated PK using a database sequence, any value you speficy for the PK column(s) are ignored. The database produces the value(s) and this(ese) value(s) are populated back into the DAO object after insertion.

The configuration file includes the following entry to define its a sequence-generated PK:

<auto-generated-column name=*"id"* sequence=*"client\_seq"* />

This is shown inserting into the table CLIENT.

## Case #5: Insert into a table with auto-generated PK using OPTIONAL identity

This case is different from case #3 since the developer can actually specify the desired value for the PK.

Most RDBMSs that support PK auto-generation, either as identity PK or auto-increment columns, support this functionality.

If left unspecified (null) the database will generate a new value, and this value will be populated back into the DAO property (except for Oracle 12c, see reference section).

If the PK value(s) are specified its(their) value will be honored.

The configuration file includes the following entry to define it's an identity-generated PK:

<auto-generated-column name=*"id"* allows-specified-value=*"true"* />

This is shown inserting into the table BRANCH that does have a single column PK (ID).