



## Exercise Eleven



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11.1 Create a before insert trigger for the stock\_information table, and perform the following checks

- a. Make sure the si\_stock\_number isnt already used on the table
- b. Make sure the si\_section\_number is present in the section\_details table (foreign key)
- c. Convert the si\_stock\_description to uppercase
- d. Make sure that the si\_stock\_description isnt already used in the table
- e. Make sure that the si\_no\_in\_stock is not a negative value
- f. Make sure that the audit columns are populated (si\_created\_date and si\_created\_by)
- g. Make sure that the updated audit columns are not populated (si\_updated\_date and si\_updated\_by)

Save as c:\course\ex11\_1.sql

Test as follows ...

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*insert into stock\_information values (1,1,'Testing1',12,25,user,sysdate,null,null);*

*ERROR at line 1:*

*ORA-20000: Cannot insert a Duplicate Stock Number.*

*insert into stock\_information values (999,11,'Testing1',12,25,user,sysdate,null,null);*

*ERROR at line 1:*

*ORA-20000: Invalid Section Number.*

*insert into stock\_information values (999,1,'Mallet',12,25,user,sysdate,null,null);*

*ERROR at line 1:*

*ORA-20000: Duplicate Stock Description.*

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*insert into stock\_information values (999,1,'Chisel',12,-25,user,sysdate,null,null)*

*ERROR at line 1:*

*ORA-20000: Number in Stock cannot be lower than zero.*

*insert into stock\_information values (999,1,'Chisel',12,25,null,sysdate,null,null);*

*ERROR at line 1:*

*ORA-20000: Created audit columns cannot be null.*

*insert into stock\_information values (999,1,'Chisel',12,25,user,null,null,null);*

*ERROR at line 1:*

*ORA-20000: Created audit columns cannot be null.*

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```
insert into stock_information values (999,1,'Chisel',12,25,user,sysdate,user,null);
```

*ERROR at line 1:*

*ORA-20000: Updated audit columns must be null.*

```
insert into stock_information values (999,1,'Chisel',12,25,user,sysdate,null,sysdate);
```

*ERROR at line 1:*

*ORA-20000: Updated audit columns must be null.*

```
insert into stock_information values (999,1,'Chisel',12,25,user,sysdate,null,null);
```

*1 row created.*



## Exercise Eleven

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11.2 Modify the trigger created in ex11\_1 so that any error is recorded in a new table called SI\_AUDIT, make it of the following structure ...

```
SIA_DATE DATE  
SIA_ACTION VARCHAR2(10)  
SIA_DATA VARCHAR2(4000)
```

Remember that when the raise\_application\_error process is used then the data is rolled back, therefore the writing to the SI\_AUDIT table should take place in a sub-process within the trigger etc

Save as c:\course\ex11\_2.sql

Test it as follows ...

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```
insert into stock_information values (1,1,'Testing1',12,25,user,sysdate,null,null)
```

*ERROR at line 1:*

*ORA-20000: Cannot insert a Duplicate Stock Number.*

```
select * from si_audit
```

```
SIA_DATE  SIA_ACTION  SIA_DATA
```

```
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18-NOV-10 Insert      An attempt was made to insert a Duplicate Stock Number.
```



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11.3 Create a new delete trigger for the stock\_information trigger which prevents the User deleting records. Save as c:\course\ex11\_3.sql

Test as follows ...

*delete from stock\_information*

*ERROR at line 1:*

*ORA-20000: This table cannot be deleted from.*

*ORA-06512: at "PLSQL1001\_USER.SI\_BD\_TRG", line 5*

*ORA-04088: error during execution of trigger 'PLSQL1001\_USER.SI\_BD\_TRG'*