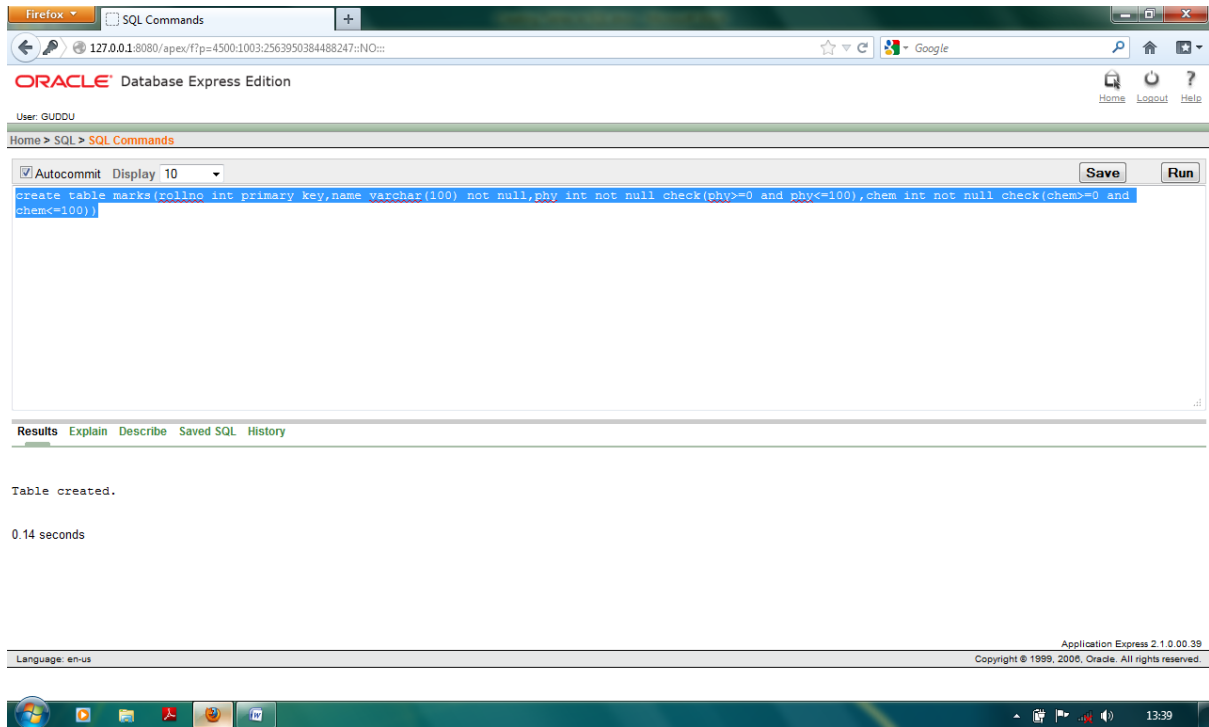
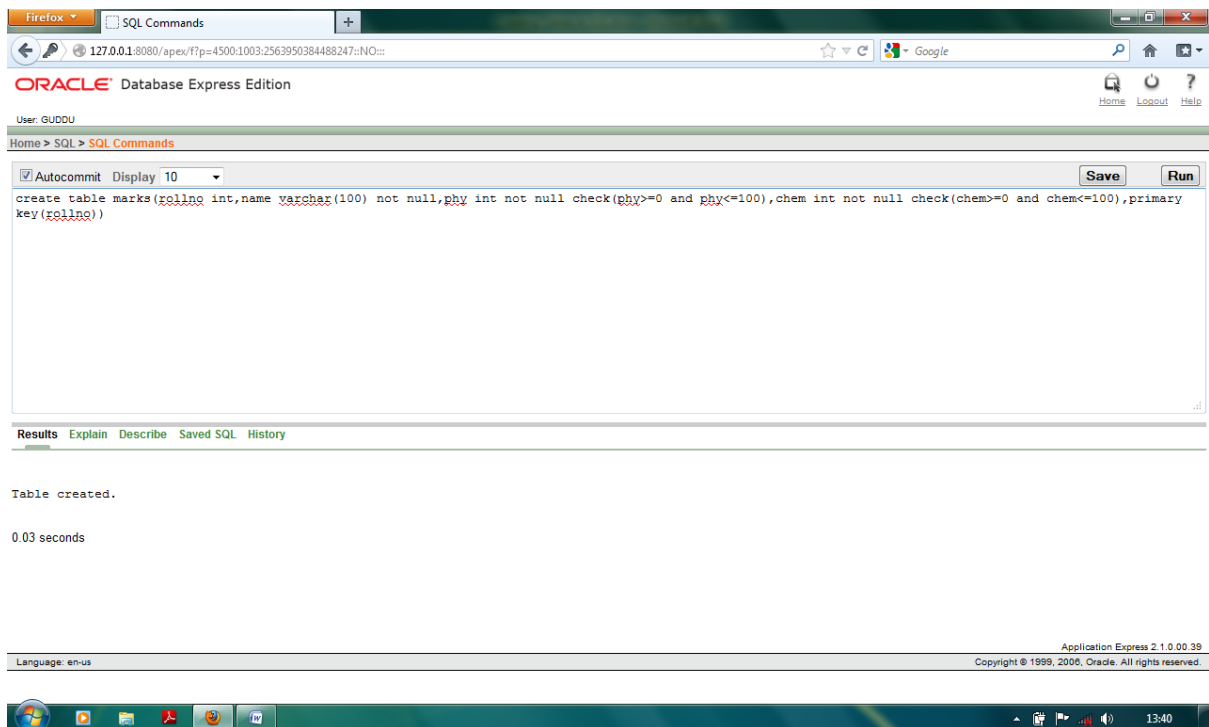


Creating Tables in SQL

Creating tables, primary keys, unique keys, check constraints, altering fields, dropping fields, dropping constraints and dropping tables.

create table marks(rollno int primary key,name varchar(100) not null,phy int not null check(phy>=0 and phy<=100),chem int not null check(chem>=0 and chem<=100))





create table marks(rollno int,name varchar(100) not null,phy int not null check(phy>=0 and phy<=100),chem int not null check(chem>=0 and chem<=100),primary key(rollno))

To see the structure of the table use the desc or the describe command.

Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

desc marks

Results Explain Describe Saved SQL History

Object Type TABLE Object MARKS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
MARKS	ROLLNO	Number	-	-	0	1	-	-	-
	NAME	Varchar2	100	-	-	-	-	-	-
	PHY	Number	-	-	0	-	-	-	-
	CHEM	Number	-	-	0	-	-	-	-

1 - 4

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For primary keys involving more than one field, the fields should be entered separated by commas.

This will create a composite primary key involving F1 and F2

Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
create table sample (F1 int,F2 int,Primary key(F1,F2))
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
desc sample
```

Results Explain Describe Saved SQL History

Object Type TABLE Object SAMPLE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SAMPLE	F1	Number	-	-	0	1	-	-	-
	F2	Number	-	-	0	2	-	-	-
									1 - 2

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

This will not allow the combination of F1 and F2 to be repeated.

The screenshot shows the Oracle Database Express Edition interface in a Firefox browser. The address bar shows the URL `127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::`. The page title is "ORACLE Database Express Edition". The user is logged in as "GUDDU". The "SQL Commands" tab is active, showing a query: `select * from sample`. The "Autocommit" checkbox is checked, and the "Display" is set to 10. The "Run" button is visible. Below the query, the results are displayed in a table with two columns, F1 and F2. The results are:

F1	F2
1	1
1	2
2	1
2	2

Below the table, it says "4 rows returned in 0.02 seconds" and there is a "CSV Export" link. The footer of the application shows "Language: en-us" and "Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved." The Windows taskbar at the bottom shows the time as 13:44.

Since a table can have only one primary key, others are marked as unique. Suppose that F1 and F2 are both to be unique. Then we can make one of them the primary key, the other as unique.

create table sample (F1 int primary key,F2 int unique)

Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
create table sample (F1 int primary key,F2 int unique)
```

Results Explain Describe Saved SQL History

Table created.

0.02 seconds

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

Now both fields are individually unique:-

Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
select * from sample
```

Results Explain Describe Saved SQL History

F1	F2
1	1
2	2

2 rows returned in 0.00 seconds [CSV Export](#)

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

Changing of Fields:-

The table structure at present is:-

The screenshot shows the Oracle Database Express Edition interface in a Firefox browser. The user is logged in as GUDDU. The 'SQL Commands' tab is active, and the 'Autocommit' checkbox is checked. The 'Display' dropdown is set to 10. The SQL command entered is `desc sample`. Below the command area, there are tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is selected, showing the table structure of 'SAMPLE'.

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SAMPLE	F1	Number	-	-	0	1	-	-	-
	F2	Number	-	-	0	-	✓	-	-

1 - 2

Application Express 2.1.0.0.39
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To add a new field F3

The screenshot shows the Oracle Database Express Edition interface in a Firefox browser. The user is logged in as GUDDU. The 'SQL Commands' tab is active, and the 'Autocommit' checkbox is checked. The 'Display' dropdown is set to 10. The SQL command entered is `alter table sample add(F3 int)`. Below the command area, there are tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is selected, showing the message 'Table altered.' and the execution time '0.09 seconds'.

Table altered.

0.09 seconds

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Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
desc sample
```

Results Explain Describe Saved SQL History

Object Type	TABLE	Object	SAMPLE						
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SAMPLE	F1	Number	-	-	0	1	-	-	-
	F2	Number	-	-	0	-	✓	-	-
	F3	Number	-	-	0	-	✓	-	-

1 - 3

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To drop the field:-

Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
alter table sample drop column F3
```

Results Explain Describe Saved SQL History

Table dropped.

0.09 seconds

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Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit | Display: 10 | Save | Run

```
desc sample
```

Results | Explain | Describe | Saved SQL | History

Object Type	TABLE	Object	SAMPLE						
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SAMPLE	F1	Number	-	-	0	1	-	-	-
	F2	Number	-	-	0	-	✓	-	-
1 - 2									

Language: en-us | Application Express 2.1.0.00.39 | Copyright © 1999, 2006, Oracle. All rights reserved.

Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit | Display: 10 | Save | Run

```
alter table sample modify F2 varchar(50)
```

Results | Explain | Describe | Saved SQL | History

ORA-01439: column to be modified must be empty to change datatype

0.07 seconds

Language: en-us | Application Express 2.1.0.00.39 | Copyright © 1999, 2006, Oracle. All rights reserved.

Delete the data and try again.

firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
delete from sample
alter table sample modify F2 varchar(50)
```

Results Explain Describe Saved SQL History

Table altered.

0.05 seconds

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firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
desc sample
```

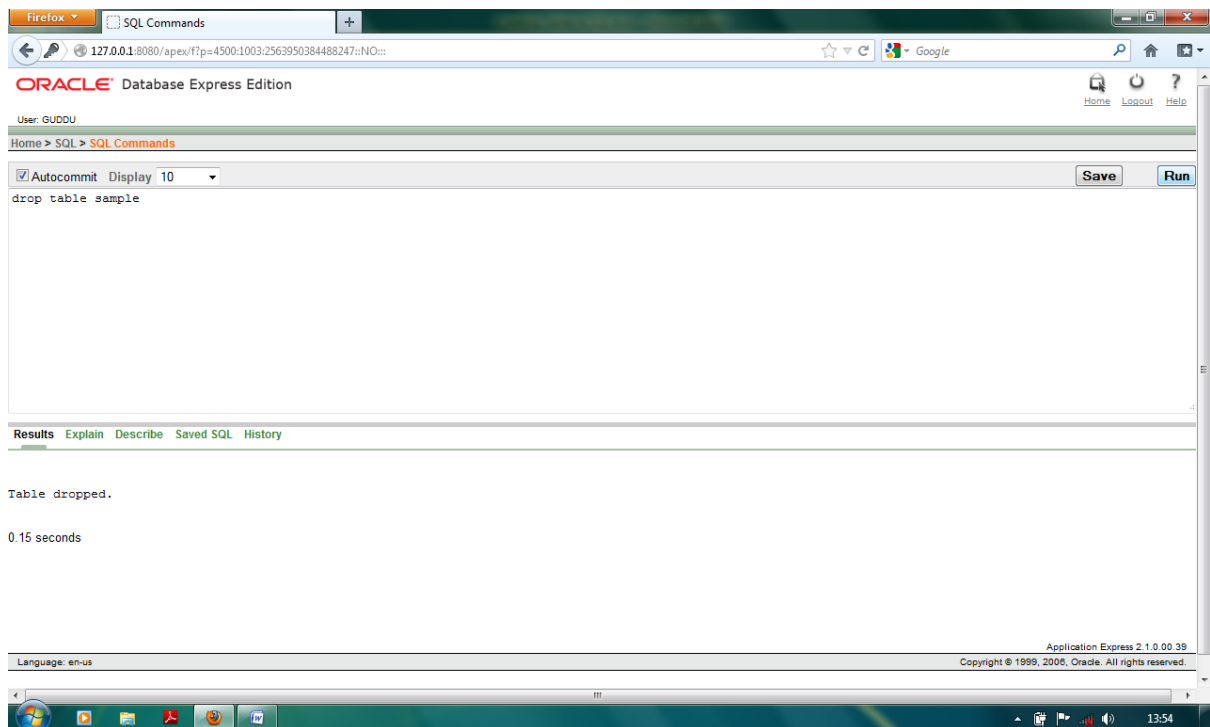
Results Explain Describe Saved SQL History

Object Type TABLE Object SAMPLE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SAMPLE	F1	Number	-	-	0	1	-	-	-
	F2	Varchar2	50	-	-	-	✓	-	-
									1 - 2

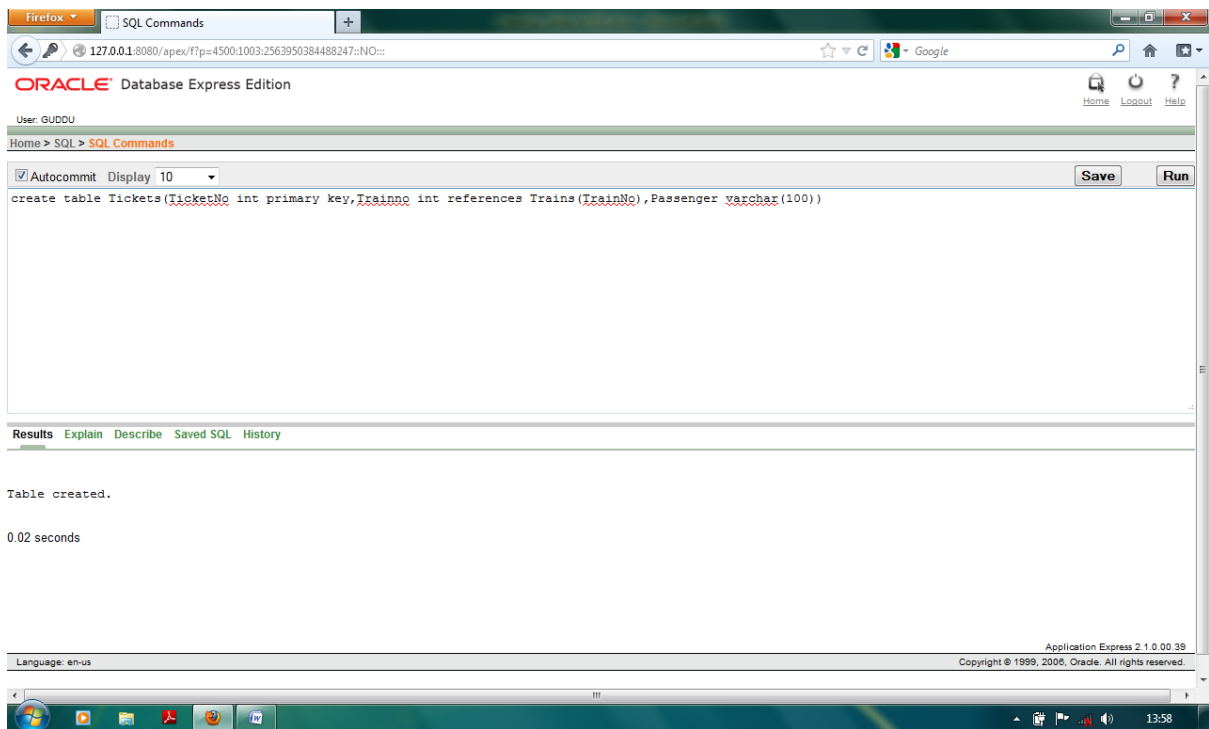
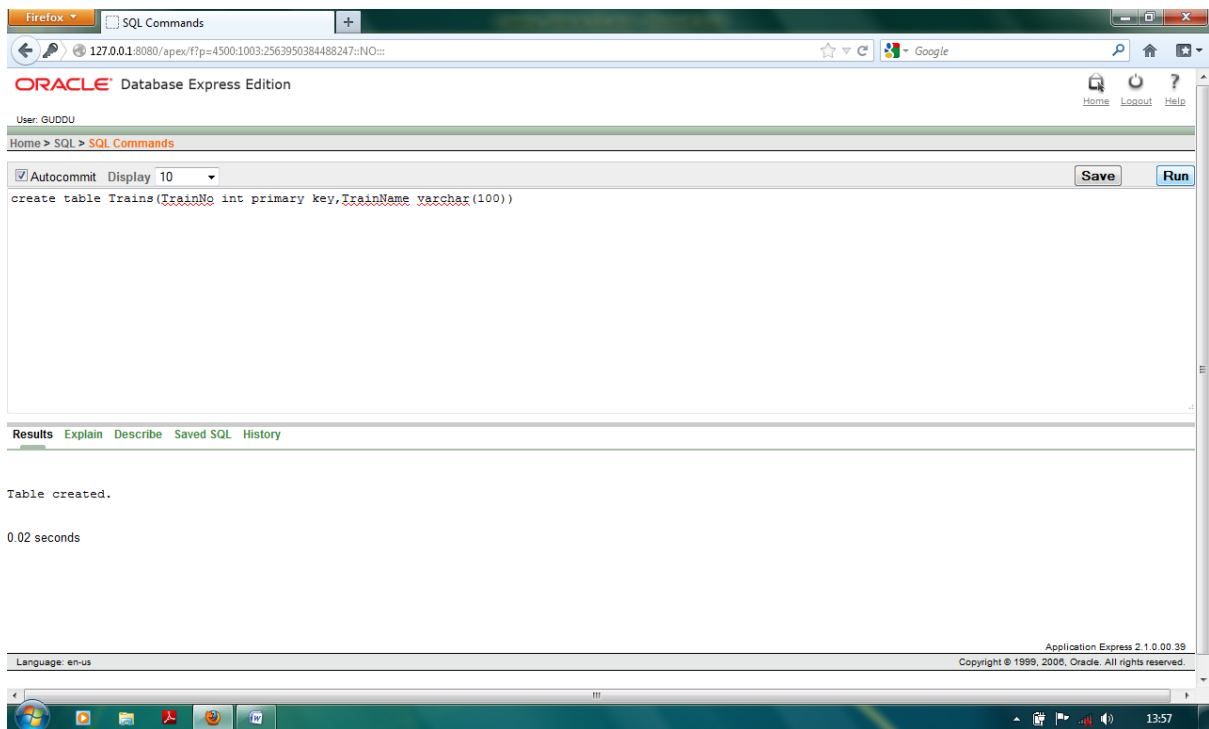
Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.





Creating foreign keys:-

A foreign key is a relation between two tables. One of these is the parent key which must be unique. The other is the child key which will only accept values already in the parent.



Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
select * from Trains
```

Results Explain Describe Saved SQL History

TRAINNO	TRAINNAME
1	Varanasi-Chandauli Exp
2	Chandauli-Varanasi Exp

2 rows returned in 0.00 seconds CSV Export

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

Now the only acceptable values for the TrainNo column in tickets are 1 and 2.

Firefox | SQL Commands | 127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

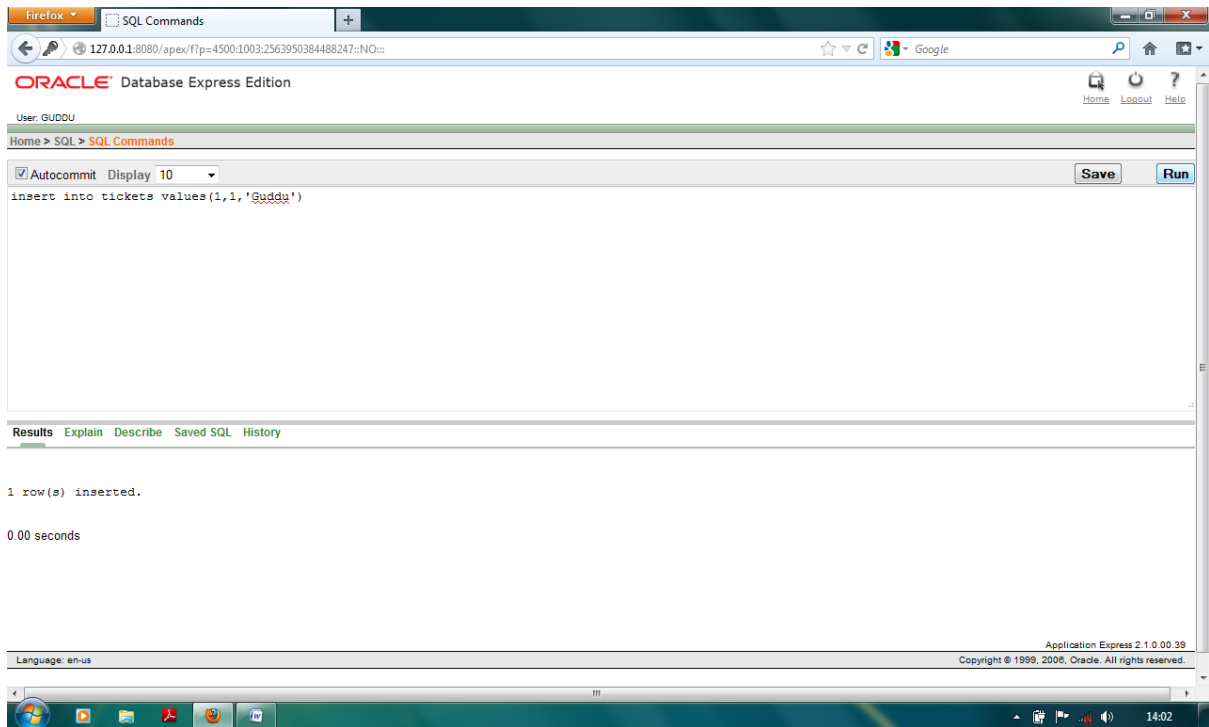
```
insert into tickets values(1,5,'Guddu')
```

Results Explain Describe Saved SQL History

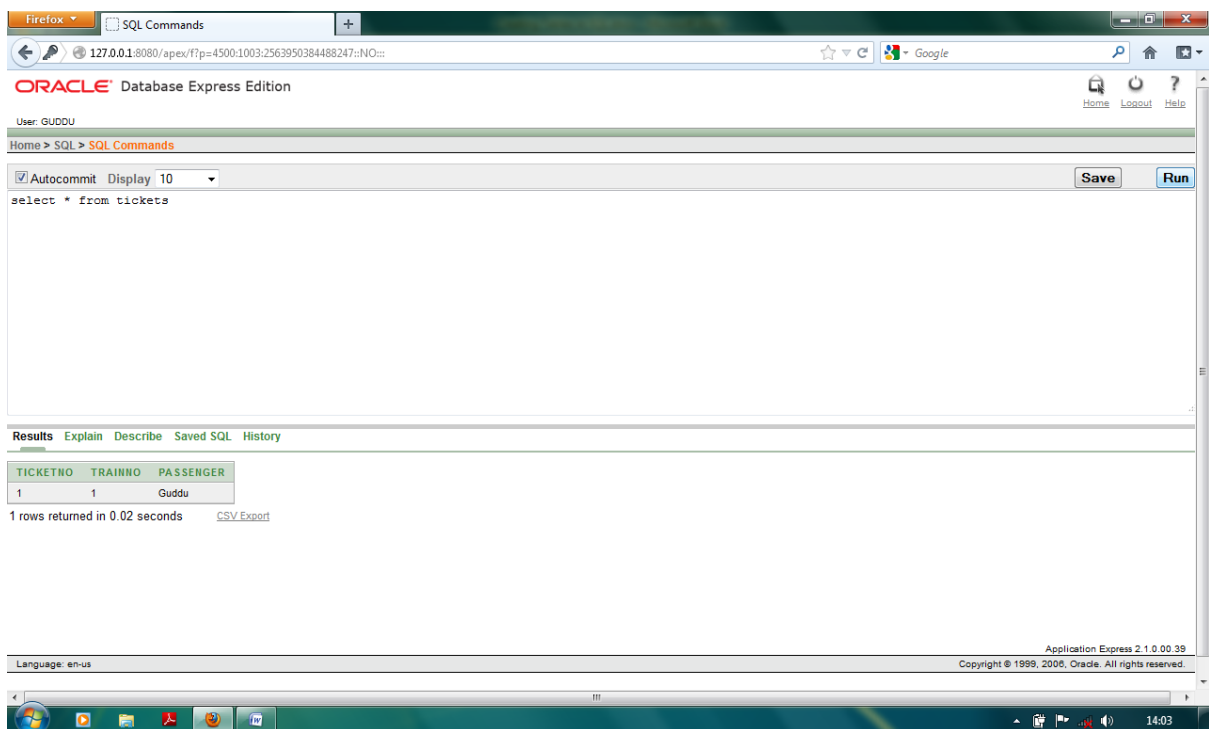
CRA-02291: integrity constraint (GUDDU.SYS_C004045) violated - parent key not found

0.03 seconds

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In the first case it was disallowed because there is no TrainNo 5.

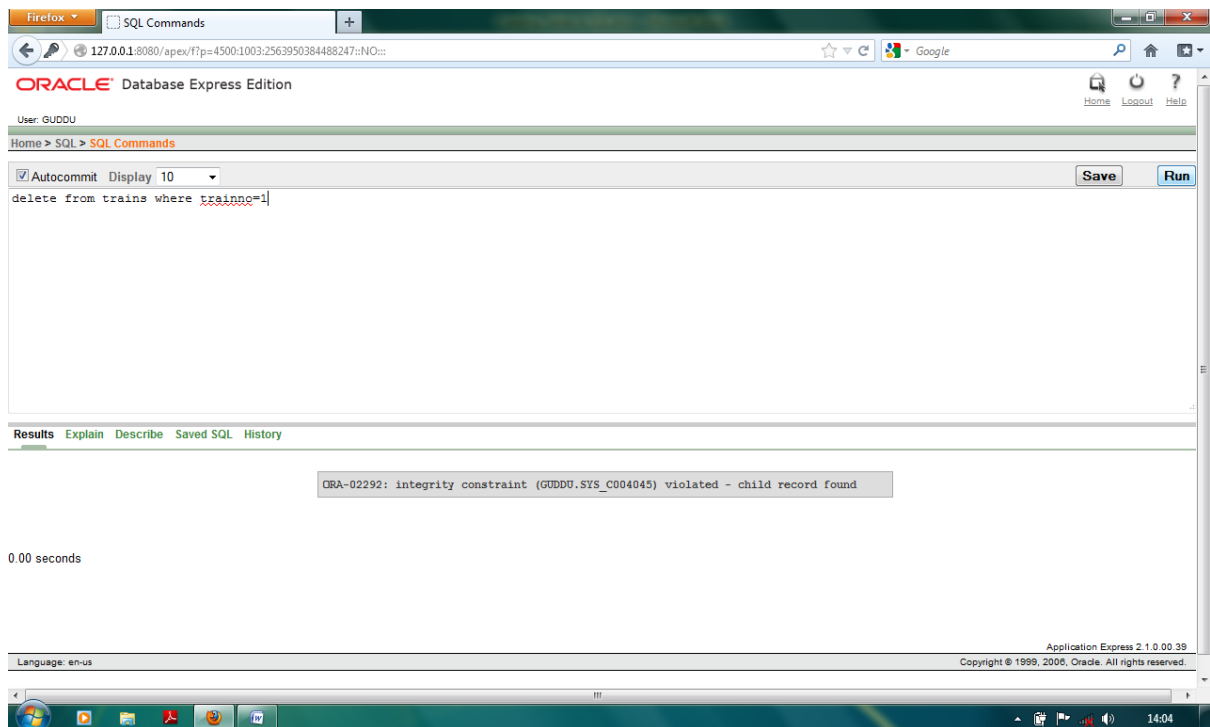


Now try deleting the TrainNo 1 from Trains.

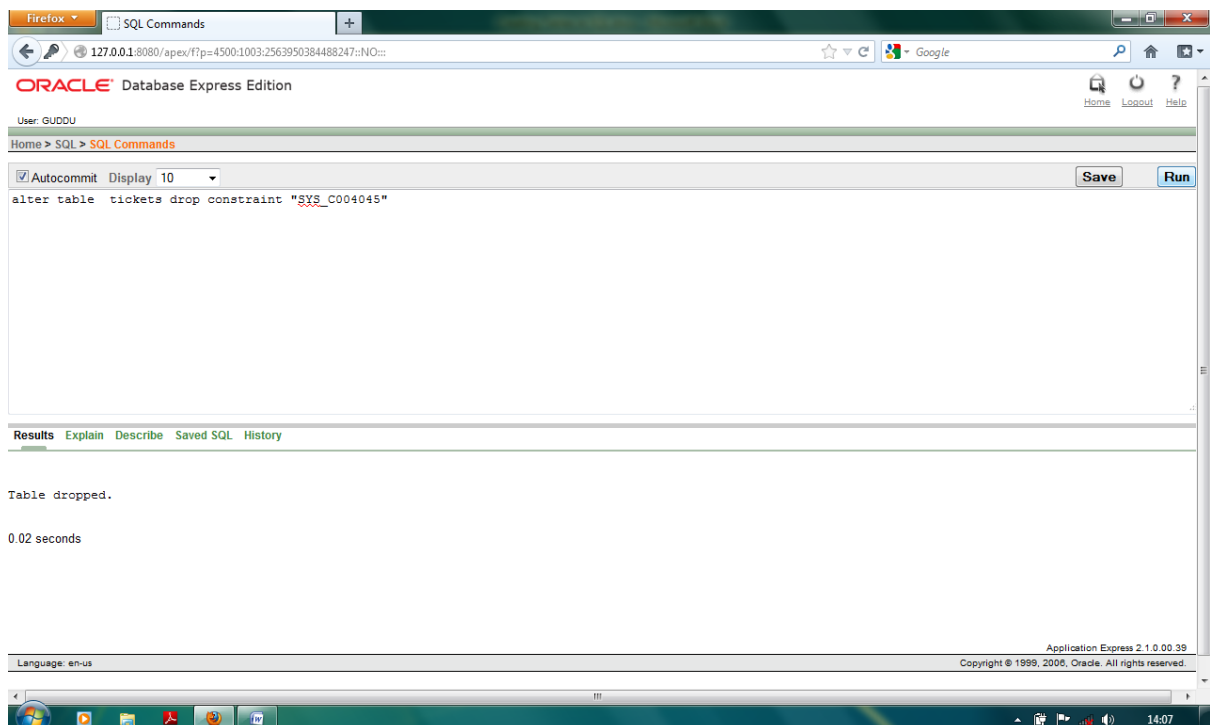
The screenshot shows the Oracle Database Express Edition SQL Commands window. The user is GUDDU. The SQL command entered is `delete from trains`. The command is executed, and an error message is displayed: `ORA-02292: integrity constraint (GUDDU.SYS_C004045) violated - child record found`. The execution time is 0.01 seconds. The window also shows the 'Autocommit' checkbox checked and the 'Display' dropdown set to 10. The bottom status bar indicates the application version is 2.1.0.00.39 and the language is en-us.

The screenshot shows the Oracle Database Express Edition SQL Commands window. The user is GUDDU. The SQL command entered is `delete from trains where trainno=2`. The command is executed, and the message `1 row(s) deleted.` is displayed. The execution time is 0.00 seconds. The window also shows the 'Autocommit' checkbox checked and the 'Display' dropdown set to 10. The bottom status bar indicates the application version is 2.1.0.00.39 and the language is en-us.

Succeeded because there were no child records.



To drop the constraint use the drop constraint method.



Now all values for trains are acceptable, including that of non existent trains.

The screenshot shows the Oracle Database Express Edition SQL Commands interface in a Firefox browser. The browser's address bar shows the URL `127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::`. The Oracle logo and "Database Express Edition" are visible at the top. The user is logged in as "GUDDU". The "SQL Commands" tab is active, and the "Autocommit" checkbox is checked. The SQL command entered is `insert into tickets values (2,111,'Guddu')`. The "Run" button is highlighted. Below the command area, the results section shows "1 row(s) inserted." and "0.00 seconds". The footer of the application indicates "Application Express 2.1.0.0.39" and "Copyright © 1999, 2008, Oracle. All rights reserved." The Windows taskbar at the bottom shows the time as 14:08.

Firefox | SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2563950384488247::NO::

ORACLE Database Express Edition

User: GUDDU

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
insert into tickets values (2,111,'Guddu')
```

Results Explain Describe Saved SQL History

1 row(s) inserted.

0.00 seconds

Language: en-us Application Express 2.1.0.0.39 Copyright © 1999, 2008, Oracle. All rights reserved.

14:08

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