

# Teradata Basics

Lesson 04: Teradata Utilities Fast Export

## Introduction about Teradata Utility

- What is the need of Teradata utilities in Data ware house:
- Quick access to data for more timely decision making.
- Solutions for the entire spectrum of load requirements from batch to real time.
- Unmatched scalability for large volume loads.
- Fail-proof loads with checkpoint restart capabilities.
- Proven technology from the data warehouse technology leader.
- Integration with industry-leading ETL and ELT tools.

## Introduction about Teradata Utility

- Teradata Utilities:
- BTEQ: Help for Report formatting, Ad hoc query tool, Database administration, Best for small data volumes
- Fast Export :High-performance data unload in client format.
- Fast Load: High-performance initial table load.
- Multi Load: High-performance maintenance operations multiple tables in single pass.
- Apart from this Teradata having other utilities like Teradata Parallel Transporter, Tpumps etc.

## Module Object

- Fast Export Definition
- Supporting Environment
- Execution Process
- Start with .BEGIN EXPORT and .END EXPORT
- Set the output file with .EXPORT
- Fast Export Support and Task Commands
- Some key features of Fast Export

## Fast Export Definition

- Fast export known for its lightning speed , it comes to exporting large volumes of formatted data from Teradata to host a file either mainframe or network attached system.
- Features---
  - It support multiple sessions.
  - It support multiple tables.
  - It support the restartibility.
- Recommendation:
  - Fast export is the best choice if the volume of data more than half a million records.



## Supporting Environment

- The Fast Export utility is supported either on either the mainframe or on network attached system(LAN).
- The LAN environment supports the following operating systems:
  - UNIX MP-RAS
  - Windows 2000
  - Windows 95
  - Windows NT
  - UNIX HP-UX
  - AIX
  - Solaris SPARC
  - Solaris Intel

## Supporting Environment

- The Mainframe (Channel Attached) environment supports the following
  - Operating Systems:
    - MVS
    - VM
  - CAUTION: The Teradata RDBMS will only support a maximum of 15 simultaneous FastLoad, MultiLoad, or FastExport utility jobs

## Execution Process

- Logon to Teradata for the utility Fast Export.
- .BEGIN EXPORT
- Create utility logs into Teradata database.
- Retrieves records from Teradata Database and put them in to spool.
- Pass the records from SPOOL to work tables.
- Blocks are created and distributed into AMP.
- .END EXPORT
- Logoff Teradata Database



# Start with .BEGIN EXPORT and .END EXPORT

.BEGIN EXPORT

.BEGIN EXPORT	SESSIONS	max [min]
TENACITY	hours	
SLEEP	minutes	
SPOOLMODE	SPOOL   NOSPOOL   NOSPOOLONLY	
NOTIFY	OFF   LOW   MEDIUM   HIGH ...;	

SESSIONS

- Maximum... and optionally, minimum... number of sessions the utility may use - defaults to 4 for UNIX FastExport.
- The utility will log on two additional SQL sessions: one for the Restart Log and one for the SELECT.

TENACITY

- Number of hours FastExport will try to establish a connection to the system; default is 4.

SLEEP

- Number of minutes that FastExport will wait between logon attempts, default is 6.

NOTIFY

- Parameter for specifying the notify user exit option.
- The fastExport manual specifies in detail which events are associated with each level.

.END EXPORT;

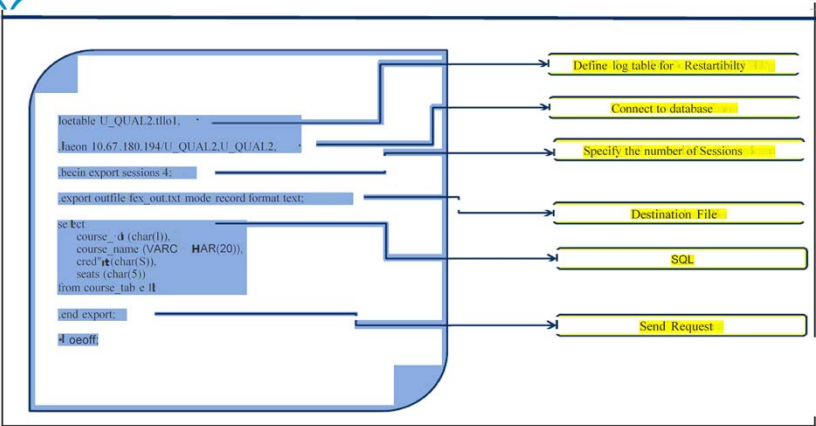
- Defines a series of commands that define a single EXPORT action.
- Causes the utility to send the SELECT(s) to the Teradata Database.

# Start with .BEGIN EXPORT .END EXPORT

```
EXPORT OUTFILE fileid [ AXSMOD name [ 'init-string' ] ] [ OUTMOD module_name ]  
  
[ MODE RECORD | INDICATOR ]  
[ BLOCKSIZE integer ]  
[ FORMAT FASTLOAD | BINARY | TEXT | VARTEXT | UNFORMAT ]  
[ OUTLIMIT record_count ]  
[ MLCSCRIPT fileid ];
```

- MODE** If RECORD, then indicator bytes for NULLs are not included in exported data.  
If INDICATOR, then indicator bytes for NULLs are included in exported data.
- BLOCKSIZE** Defines the maximum block size to be used in buffering exported data. Default (and maximum) is 63.5 KB.
- FORMAT** Record format of the export file on network-attached UNIX and Windows platforms.
- OUTLIMIT** Defines the maximum number of records to be written to the output host file.
- MLSCRIPT** Fast Export generates a NULL load script that can be used later to load the exported data back into a Teradata system.

# A Fast Export Script



## A Fast Export Script

<b>Define Restart Log1</b>	.LOGTABLE Restartlog_fxp;
	.RUN FILE logon;
	.SET CityName TO 'Los Angeles';
<b>Specify number of sessions</b>	.SET ZipCode TO 90666;
<b>Destination file</b>	.BEGIN EXPORT SESSIONS 4;
<b>Via a SELECT, specify the columns and rows to export</b>	.EXPORT OUTFILE custacct_data;
	SELECT
	A.Account_ Number
	, C.Last_Name
	, C.First_Name
	, A... Balance_Curren
	FROM
	Accounts A
	Accounts_Customer AC
	Customer C
	ON
	ON
	WHERE
	AND
	ORDER BY
	END EXPORT;
<b>Send request</b>	.LOGOFF;
<b>Terminate sessions</b>	

## Multiple Export in one fast Export

```
.logtable U_QUAL2.11 log;  
.logon 10 67.180.194/U_QUAU.U_QUAU;  
*DISPLAY 'Exporting fex_out1.txt-&SYSOATE4 TO FILE D:\Sandeepa.txt'
```

```
*export outfile fex_out1.txt mode record format text;
```

```
select  
  course_id (char(1)),  
  course_name (VARIOAR(20)),  
  aedit (char(3)),  
  seats (char(5))  
from course_table1;
```

```
.DISPLAY 'Exporting fex_out2.txt-&SYSOATE4 TO FILE D:\Sandeepa.txt'
```

```
*export outfile fex_out2.txt mode record format text;
```

```
select  
  course_id (char(1)),  
  course_name (VARIOAR(20)),  
  aedit (char(3)),  
  seats (char(5))  
from course_table2;  
logoff
```

## The SORT Procedure

Response shows local\_y  
son,ed i-- S1P00L:

Venical ID"st - utton:

AMP 1

ADAMS  
BOYCE  
FIELD  
JONES  
SMITH  
WILSON

A **MP2**

BATES  
DAVIS  
KIEI  
**N**ICHOLS  
PETERS  
TIBBS  
TOMS

A

BOYCE  
CHARLES  
HERN  
T  
POTTER

A P4

ADAMS  
DAVIS  
GEORGE  
HANCOCK  
HERBERT  
MERCER

ADAMIS  
ADAMS  
DAVIS  
DAVIS  
HEABER  
HERBERT  
NICHOLS  
THIBBS

BATES  
FIELD  
JOINES  
PETERS  
TOMS

BOYCE  
BOYCE  
GIEORGE  
E  
KI  
POTTER  
WILSON

CHARLES  
HAINCOCK  
MIERCER  
SMITH

BATES  
BOYCE

BLOCK 2  
a.ovce  
CHARLES  
DAVIS  
DAVIS

BLOC 16
TIBBS
TOMS
WILSO

**BLOCK 3**  
**FIELD**  
GEORGE  
HANNOC  
HERBERT

BILJOICK 4
HERBERT
JONES
KIEL
MIERCER

POTTER  
S ITH



# Important Commands and meaning

Task Commands

BEGIN EXPORT	Begins the export task and sets the specifications for the number of sessions with Teradata.
END EXPORT	Ends the export task and initiates processing by Teradata.
EXPORT	Provides two things, which are: The client destination and file format specifications for the export data retrieved from Teradata. A generated Multi Load script file that can be used later to reload the export data back into Teradata.
FIELD	Constitutes a field in the input record section that provides data values for the SELECT statement.
FILLER	Specifies a field in the input record that will not be sent to Teradata for processing. It is part of the input record to provide data values for the SELECT statement.
IMPORT	Defines the file that provides the USING data values for the SELECT.
LAYOUT	Specifies the data layout for a file. It contains a sequence of FIELD and FILLER commands. This is used to describe the import file that can optionally provide data values for the SELECT.

## Key features of Fast Export

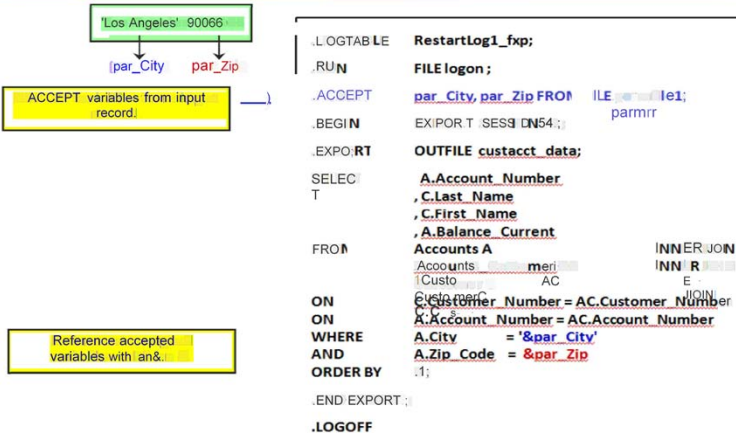
- Fast Export EXPORTS data from Teradata.
- Fast Export does not import data into Teradata , like BTEQ it can output multiple files in a single run.
- Fast Export only supports the SELECT statement.
- The only DML statement that Fast Export understands is SELECT.
- Choose Fast Export over BTEQ when Exporting Data of more than half a million+
- It is recommended use Fast export , if you have huge volume of data for exporting.



## Key features of Fast Export

- Fast Export supports multiple SELECT statements and multiple tables in a single run.
- Fast Export supports multiple select and each select can use 64 tables.
- Fast Export supports conditional logic, conditional expressions, arithmetic calculations,
  - data conversions.
- Fast Export does NOT support error files or error limits.

# A FastExport Script with ACCEPT



# A FastExport Script with LAYOUT

city.zip file

Los Angeles	90066
San Diego	90217

↓ ↓

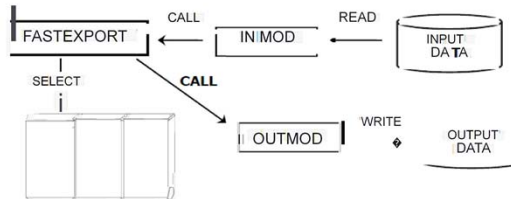
in\_City in\_Zip

IMPORT fields from input records.

Reference imported fields with a :

```
..LOGTABLE Res tartLog1_fxp;
..RUN FILE logon;
..BEGIN EXPORT SESSIONS 4;
..LAYOUT Record_Layout;
..HELD in_City 1 CHAR(2D);
..HELD in_Zip 8 CHAR(S);
..IMPORT INFILE city_zip_infile LAYOUT Record_Layout;
..EXPORT OUTFILE cust_acct_outfile2;
SELECT A.Account_Number,
       rC.Last_Name,
       rC.First_Name,
       A.Balance_Current
FROM Accounts A
     Accounts_Customer AC
     CustomerC
ON C.Customer_Number=AC.iCustmrNumber
ON A.Account_Number = AC.Account_Number
WHERE A.City = :in_City
AND A.Zip_Code = :in_Zip
ORDER BY 1;
..END EXPORT;
..LOGOFF;
```

## INMODs and OUTMODs




### INMODs

- Read input data values from a file...
- Qualify SELECT requests.
- Usually more applicable to an import utility such as Multiload...

### OUTMODs

- Process, answer-set, data.
- Modify, discard, or record responses...
- Usually more applicable to an export utility such as FastExport...

Application Utility Checklist					
Feature	BTEQ	Fastload	Fastfixport	Multiloading	TPUMP
IDOL Functions	ALL	LIMITED	NO		
DML Functions	ALL	INSERT	SELECT		
Multiple DML	Yes	NO	Yes		
Multiple Tables	Yes	NO	Yes		
Multiple Sessions	Yes	Yes	Yes		
Protocol Used	Yes	FASTLOAD	EXPORT		
Conditional Expressions	Yes	NO	Yes		
Arithmetic Calculations	SQLE	NO	Yes		
Data Conversion	Yes	1 per column	Yes		
Error Files	Yes	Yes	NO		
Error Limits	NO	Yes	NO		
User-written Routines	NO	Yes	Yes		



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## QUIZ

■ 1. Which two statements are true about data integration utilities? (Choose two.)

- A. BTEQ is limited to using one session.
- B. FastExport is used to export large amounts of data.
- C. BTEQ allows import/export across all supported platforms.
- D. SQL Assistant supports report writing and formatting features.



■ what is destination file

- A).export outfile custacct\_data
- B).logtable restartLog1\_fxp
- C) on A.Account\_number=AC.customer

## QUIZ

- 3. which utility uses select feature
  - A) FastExport
  - B) Fastload
  - C) Bteq
  - D) T pump



## Summary

- Best choice for exporting large amounts of data from the Teradata database to a host file using multiple sessions.
- Fully automatic restart capability.
- Specialized processing of output data can be handled using an OUTMOD routine.
- Teradata accommodates not more than 15 'LOAD' applications at any one time (FastLoad, MultiLoad, FastExport).





## Lab Exercises

- Lab Exercise 5-1 - Purpose
- In this lab, you will use FastExport to create an export file that contains one record for each transaction. You will have to join columns from two different tables in order to create the export file.
- What you need
- Populated TD\_BIM\_FR\_TRNG\_DB.Accounts and TD\_BIM\_FR\_TRNG\_DB.Trans tables.



## Lab Exercises

- Tasks
- 1. Create a FastExport script that outputs to file data5\_1. For each transaction in the
- AU.Trans
- table, include the transaction\_number, account\_number, number, street, city, state and zip of the
- associated account (AU.Accounts).
- 2. Run the script.
- 3. Test the result by opening the data file..

