

# 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 lighting 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
TENACITY
SLEEP
SPOOLMODE
NOTIFY
rsSESSIONS max [min]
hours
minutes
SPOOL | NOSPOOL | NOSPOOLONLY
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 ]
[ MLSCRIPT      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 retuning exported data. Default (and maximum) is 63.5 KB.
- FORMAT** Record format of the export file, on network-attached UNIX and Windows, IP formats.
- OUTLIMIT** Defines the maximum number of records to be written to the output host file.
- MLSCRIPT** Fast Export generates a MultiLoad script that can be used later to load the exported data back into a Teradata system.

# A Fast Export Script

```
logtable U_QUAL2.tllo1,
. lagon 10.67.180.194/U_QUAL2,U_QUAL2,
.becin export sessions 4;
.export outfile fex_out.txt mode record format text;
select
  course_id (char(1)),
  course_name (VARCHAR(20)),
  credits(char(5)),
  seats (char(5))
from course_table 1;
.end export;
. l oeff;
```

Define log table for Restartibility

Connect to database

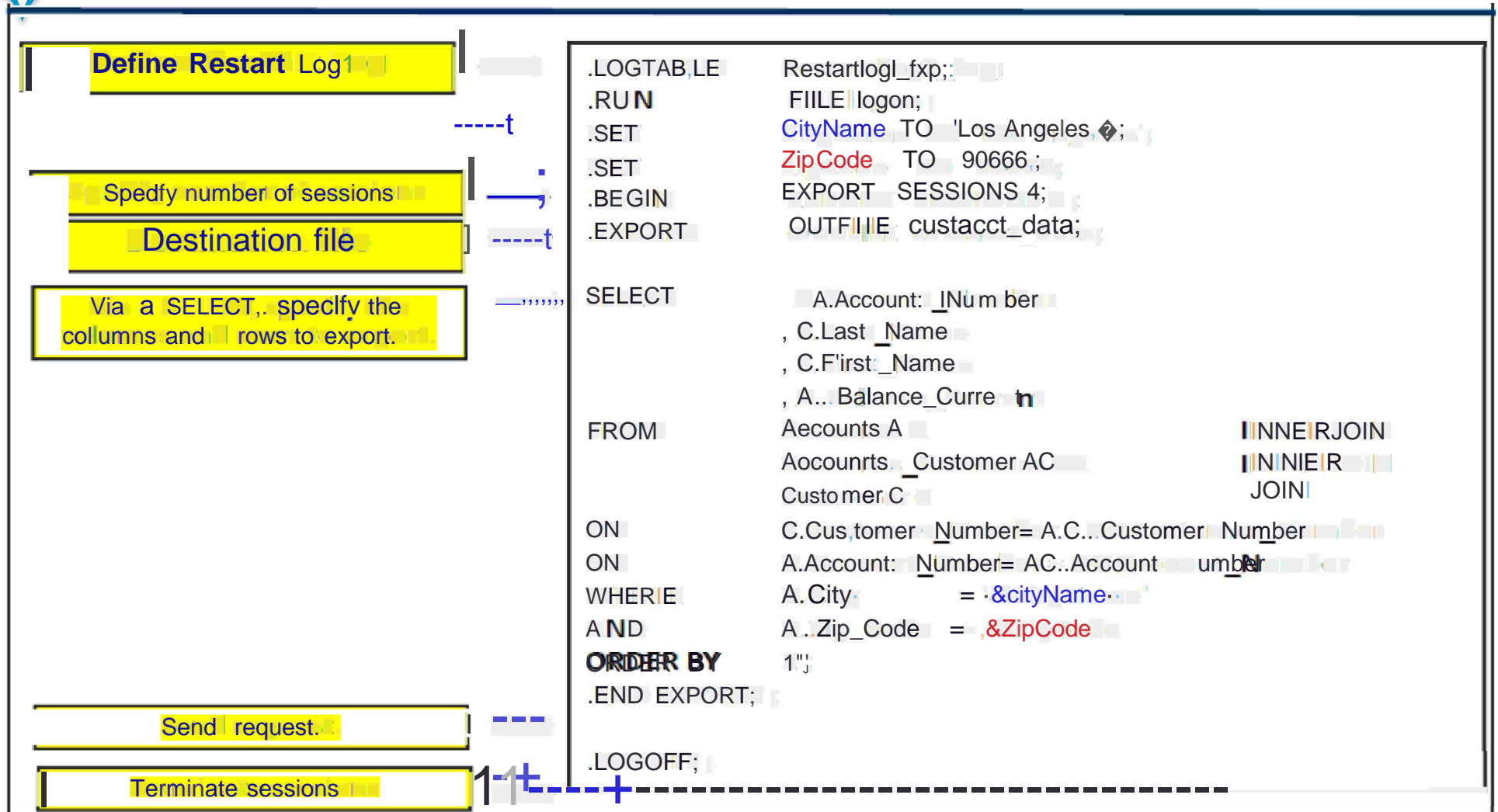
Specify the number of Sessions

Destination File

SQL

Send Request

# A Fast Export Script



# Multiple Export in one fast Export

```
.logtable U_QUAL2.t11og;  
.logon 10 67.180.194/U_QUAU,U_QUAU•  
•DISPLAY 'Exporting fex_out1.txt-&SYSOATE4 TO F LE D:\Sandeep\a.txt•
```

```
•export outfile fex_out1.txt mode recordformat text;
```

```
select  
  course_id (char{t}),  
  course_name (VAROIAR(20)),  
  aedit (char{3}),  
  seats (char(S))  
from course_table1;
```

```
.DISPLAY 'Exporting fex_out2.txt-&SYSOATE4 TO F LE D:\Sandeep\a.txt•
```

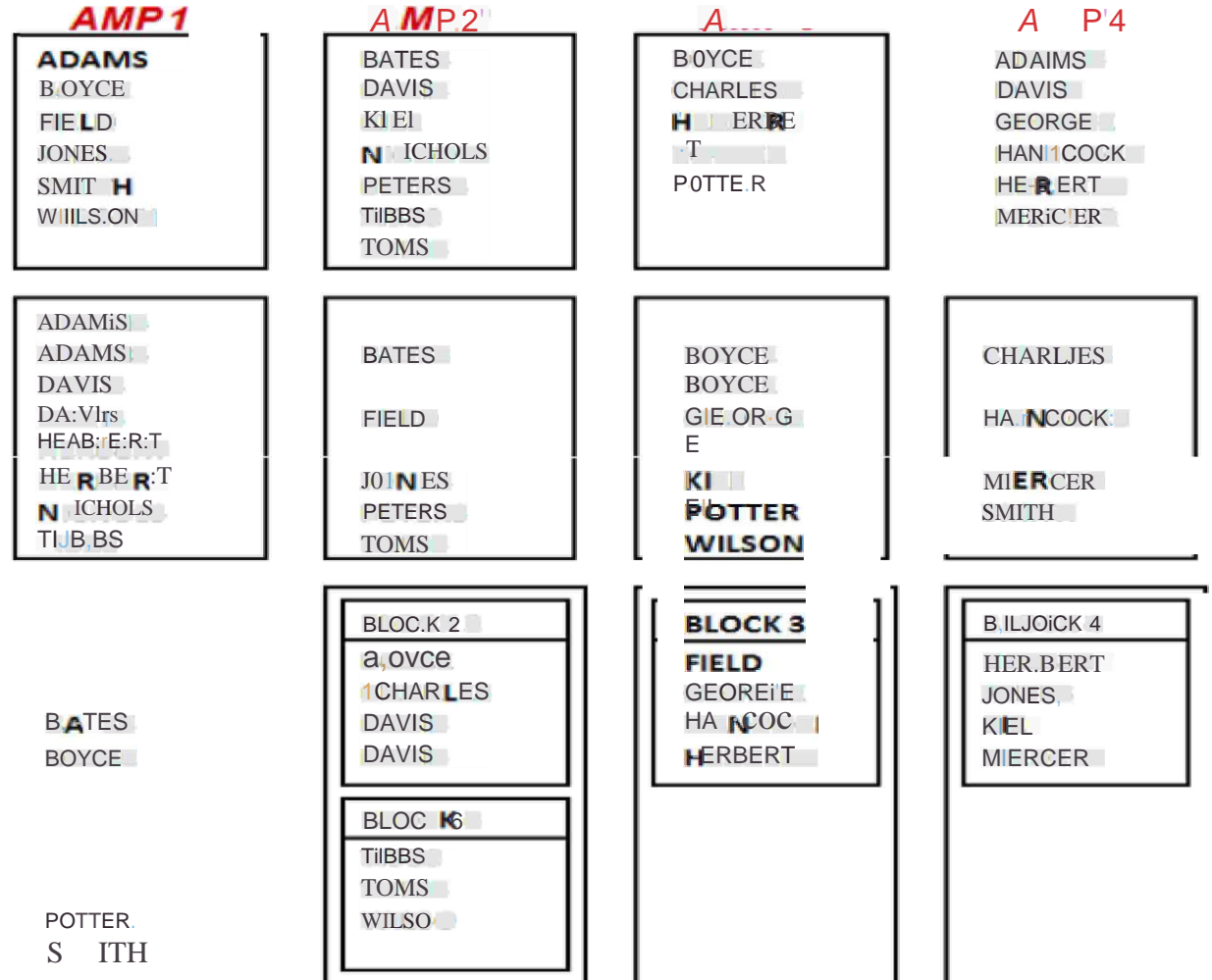
```
•export outfile fex_out2.txt mode recordformat text;
```

```
select  
  course_id (char{t}),  
  course_name (VAROIAR(20)),  
  aedit (char{3}),  
  seats (char(S))  
from course_table2;  
logof
```

# The SORT Procedure

Response flows locally  
sorted in SIP00L:

Vertical ID's - button:



# 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

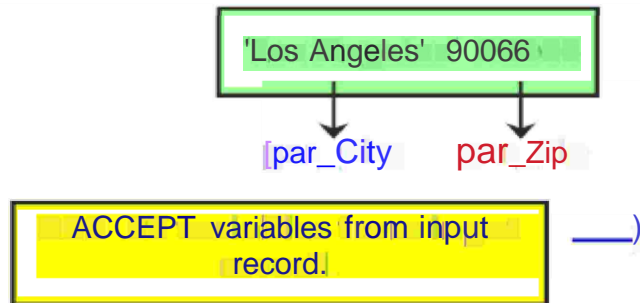
- Fast Export EXPORTS data from Teradata.
- Fast Export does not import data into Teradata , like BTEQ it can output
- multiple files in a single run.
- Fast Export only supports the SELECT statement.
- The only DML statement that Fast Export understands is SELECT.
- Choose Fast Export over BTEQ when 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



Reference accepted variables with an &.

```
.LOGTABLE RestartLog1_fxp;
.RUN FILE logon;
.ACCEPT par_City, par_Zip FROM FILE logon;
.BEGIN EXPORT SESSION54;
.EXPORT OUTFILE custacct_data;
SELECT
    A.Account Number
    , C.Last Name
    , C.First Name
    , A.Balance Current
FROM Accounts A
INNER JOIN
    Customers C
ON C.Customer Number = A.Customer Number
ON A.Account Number = AC.Account Number
WHERE A.City = '&par_City'
AND A.Zip Code = '&par_Zip'
ORDER BY 1;
.END EXPORT;
.LOGOFF
```

# A FastExport Script with LAYOUT

city.zipinfile

Los Angeles  
San Diego

90066  
90217

in\_City

in\_Zip

IMPORT fields from  
input records.

Reference imported  
fields with a :

```

..LOGTABLE RestartLog1_fxp;

..RUN FILE logon ;
..BEGIN EXPORT SESSIDNS 4;

.. LAYOUT Record_Layout ;
..HELD in_City 1 CHAR(2D);
..HELD in_Zip * CHAR(S);

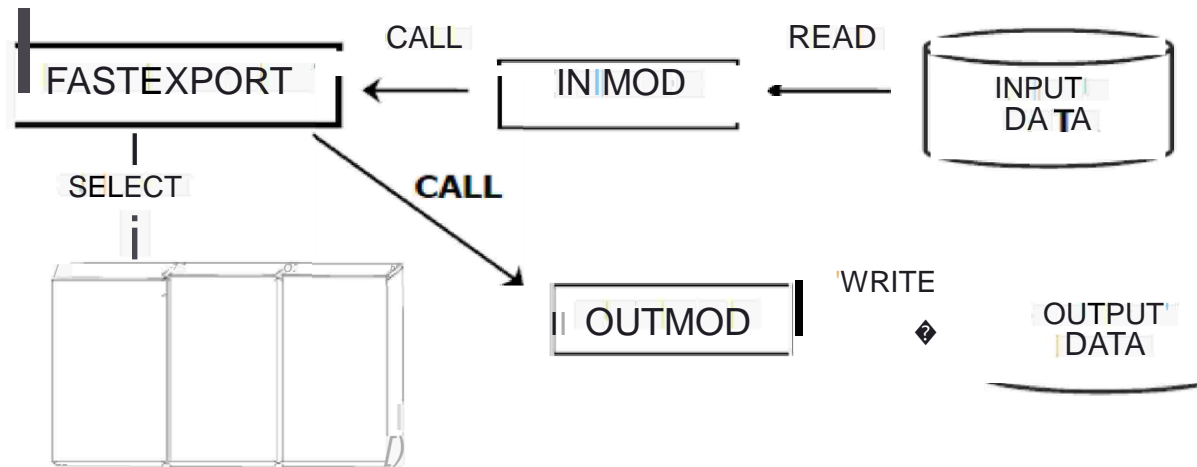
.. IMPORT INFILE city_zip_infile LAYOUT Record_Layout ;

.. EXPORT OUTFILE cust_acct_outfile2;
SELECT A..Account_Number
, rC..Last_Name
, rC..First_Name
, A..Balance_Current:
FROM Accounts A INNER JOIN
Account's_Customer AC INNER JOIN
CustomerC
ON C..Customer_Number= AC..Customer_Number
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	Multilo,ad	TP'UIm p
IDOL Functions	ALL	LIMITED	No		
DML Functions	ALL	INSERT	SELECT		
Multiple DML	Yes	No	Yes		
Multiple Tables	No	No	Yes		
Multiple Sessions	Yes	Yes	Yes		
Protocol Used	Yes	FASTLOAD	EXPORT		
Conditional Expressions	No	No	Yes		
Arithmetic Calculations	No	No	Yes		
Data Conversion	No	1 per column	Yes		
Error Files	Yes	Yes	No		
Error Limits	No	Yes	No		
User-written Routines	No	Yes	Yes		

# 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
  - B).logtable
  - C) on

outfile custacct\_data

restartLog1\_fxp

A.Account\_number=AC.customer



# QUIZ

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



# 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..

