Teradata Basics

Lesson 04: Teradata Utilities
Fast Export

Capgemini

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

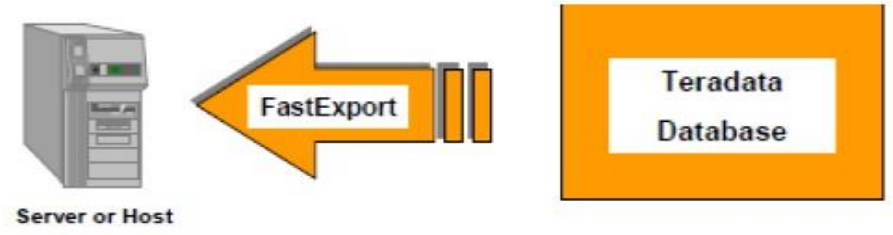
- Teradata Utilities:
- BTEQ: Help for Report formatting, Ad hoc query tool, Database administration, Best for small data volumes
- Fast Export :High-performance data unload in client format.
- Fast Load: High-performance initial table load.
- Multi Load: High-performance maintenance operations multiple 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 restartibilty.
  - 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

.BIEGIN
EXPORT

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

SESSIONS

- Maximum.. and optionally, minimum number of sessions the utility may use - defaults to 4 for UNIX FastExport.
- The utm1ty wiH log on two additionall SQ[Lsessions: one for the Restart Log and one for the SEl.ECT.

TENACITY

- Number of hours FastExport wi1II try to establish a connection to the system; default is 4.

SLEEP

- Number of minutes that FastExport willl wait between llogon attempts, default is 6.

NOTIFY

- Parameter for specifying the notify user exit option
- The f'astExpo1rt manuall spedfi1es i1nlldetai1lll whkh events are associated with each llevell .

```
. END
EXPORT;
```

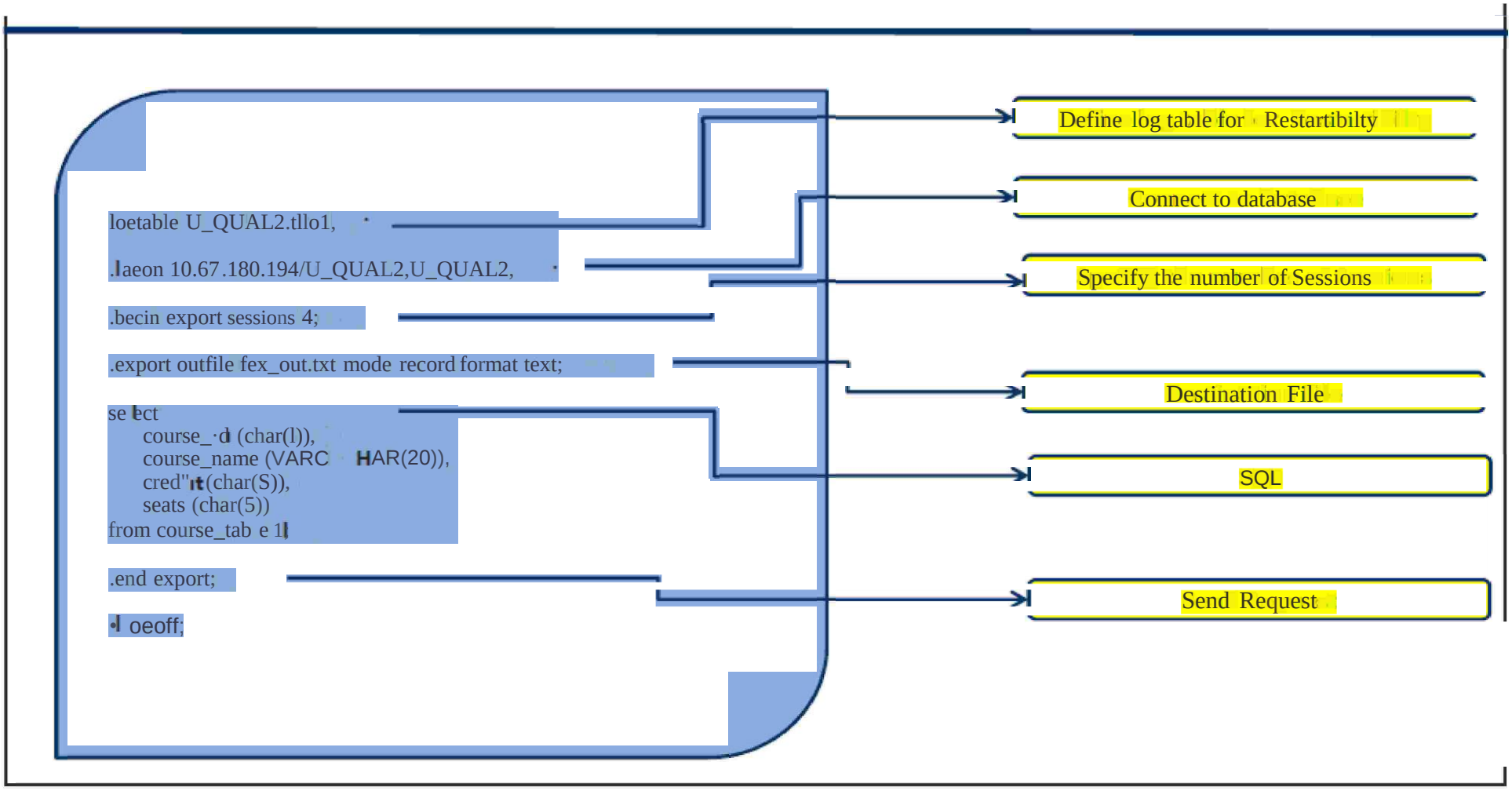
- Delirnlts a series of commands that define a single EXPORT action.
- Causes the utilitv to send the SIE .E1CT(s) to the Teradata Database.

Start with .BEGIN EXPORT .END EXPORT

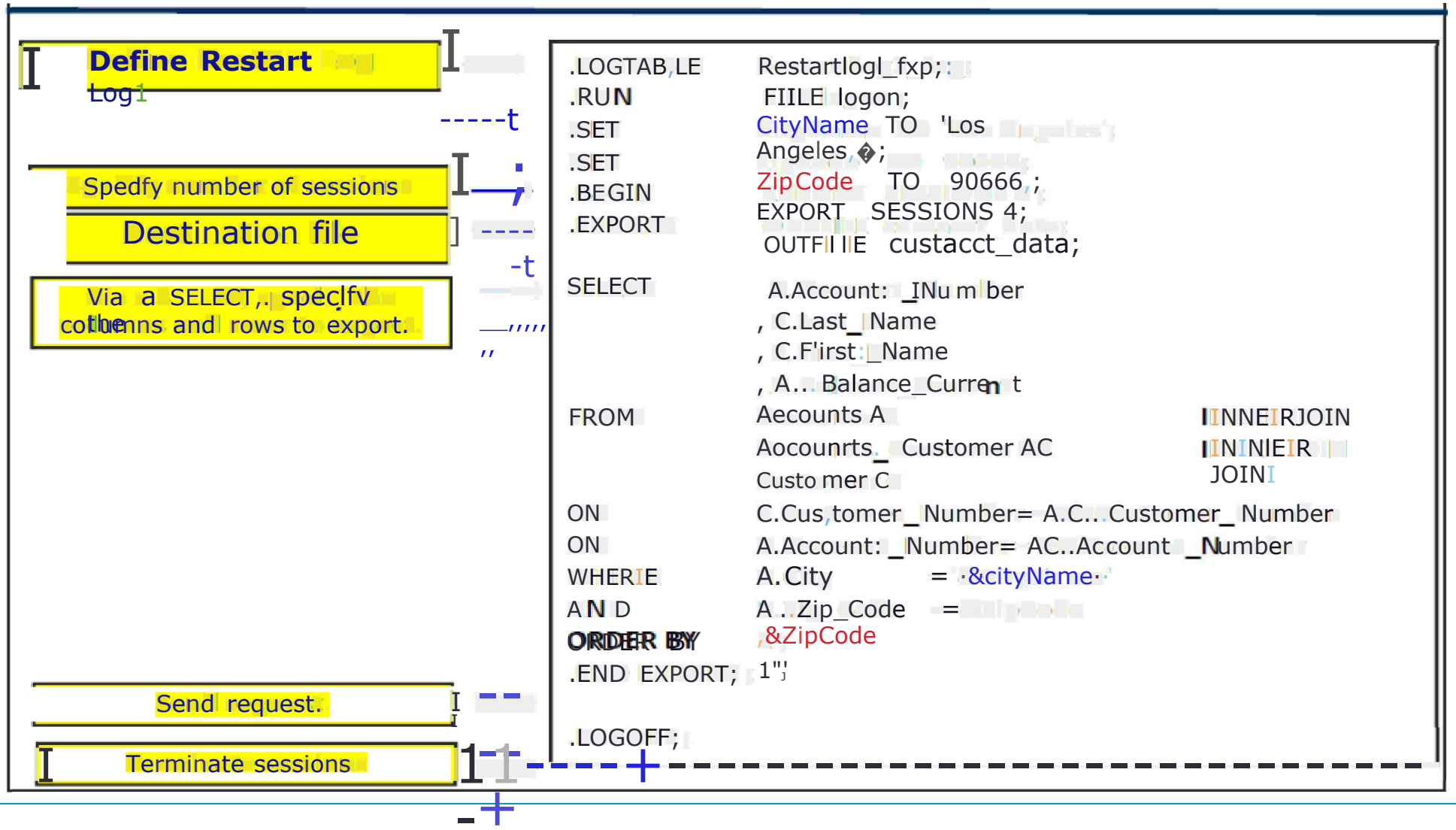
```
EXPORT      OUTFILE fileid      [ AXSMOD name [ 'init-string' ] ] [ OUTMOD module_name ]

    [ 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 returning exported data. Default (and maximum) is 63.5 KB.
FORMAT	Record format of the export file, on network-attached UNIX and Windows, IP platforms.
OUTLIMIT	Defines the maximum number of records to be written to the output host file,
MLSCRIPT	FastExport generates a MultiLoad script that can be used later to load the exported data back into a Teradata system.

A Fast Export Script



A Fast Export Script



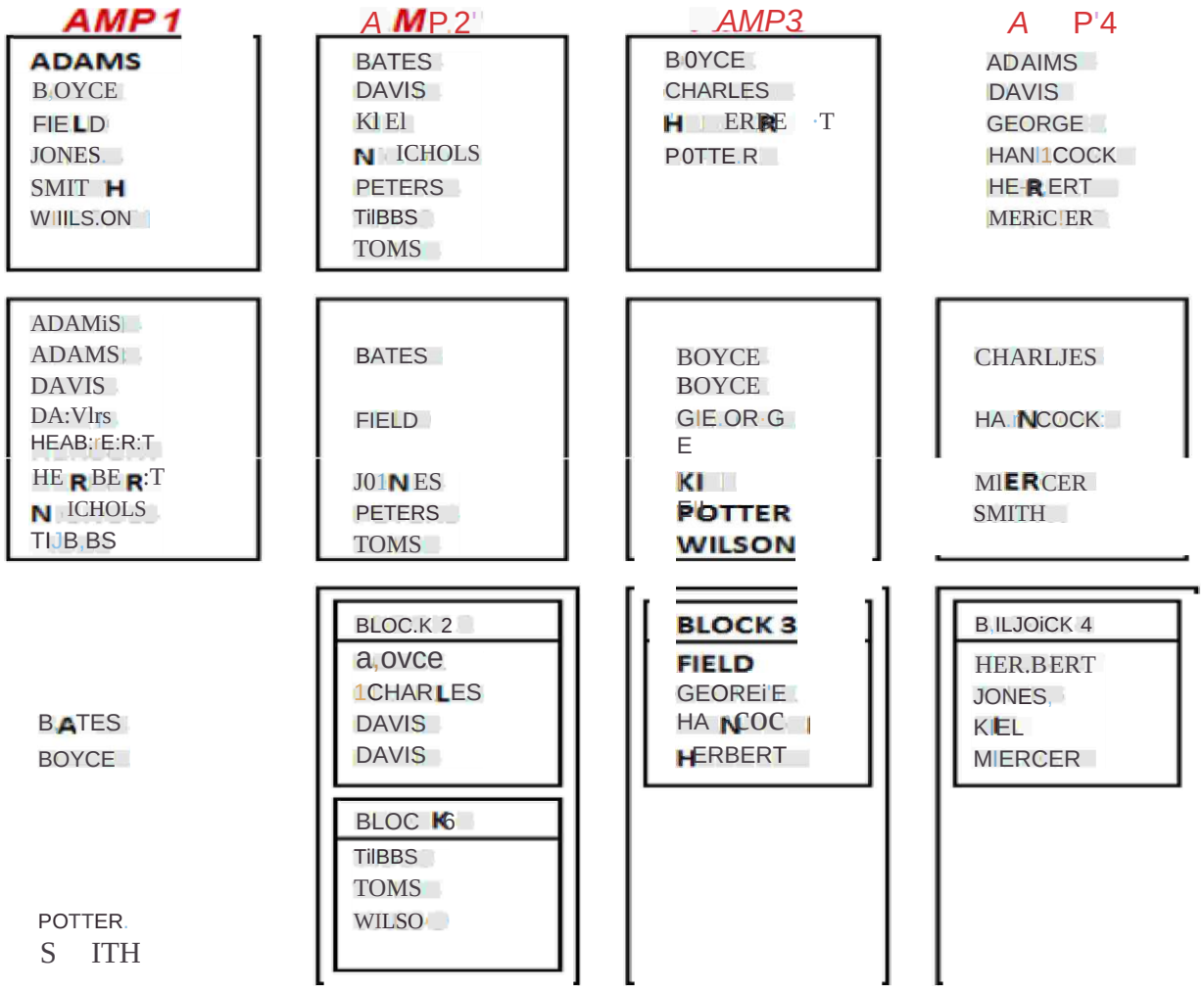
Multiple Export in one fast Export

```
.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 record format 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 record format text;

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

The SORT Procedure

Re·spons.e 11"0ws _ocal_y
son,ed i-- S1P00L:

Venical ID"'st - utton:



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 SE LE CT state t. me
FILLER	Specifies a field in the input record that uvill not be sent to Teradata for processing.
IMPORT	It is part of the input record to provide data values for the SELECT statement. Defines the file that provides the USING data values for the SELECT.
LAYOUT	Specifies the data layout for a file. It oonta ins a FIELD and FILLER sequence o 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

'Los Angeles' 90066

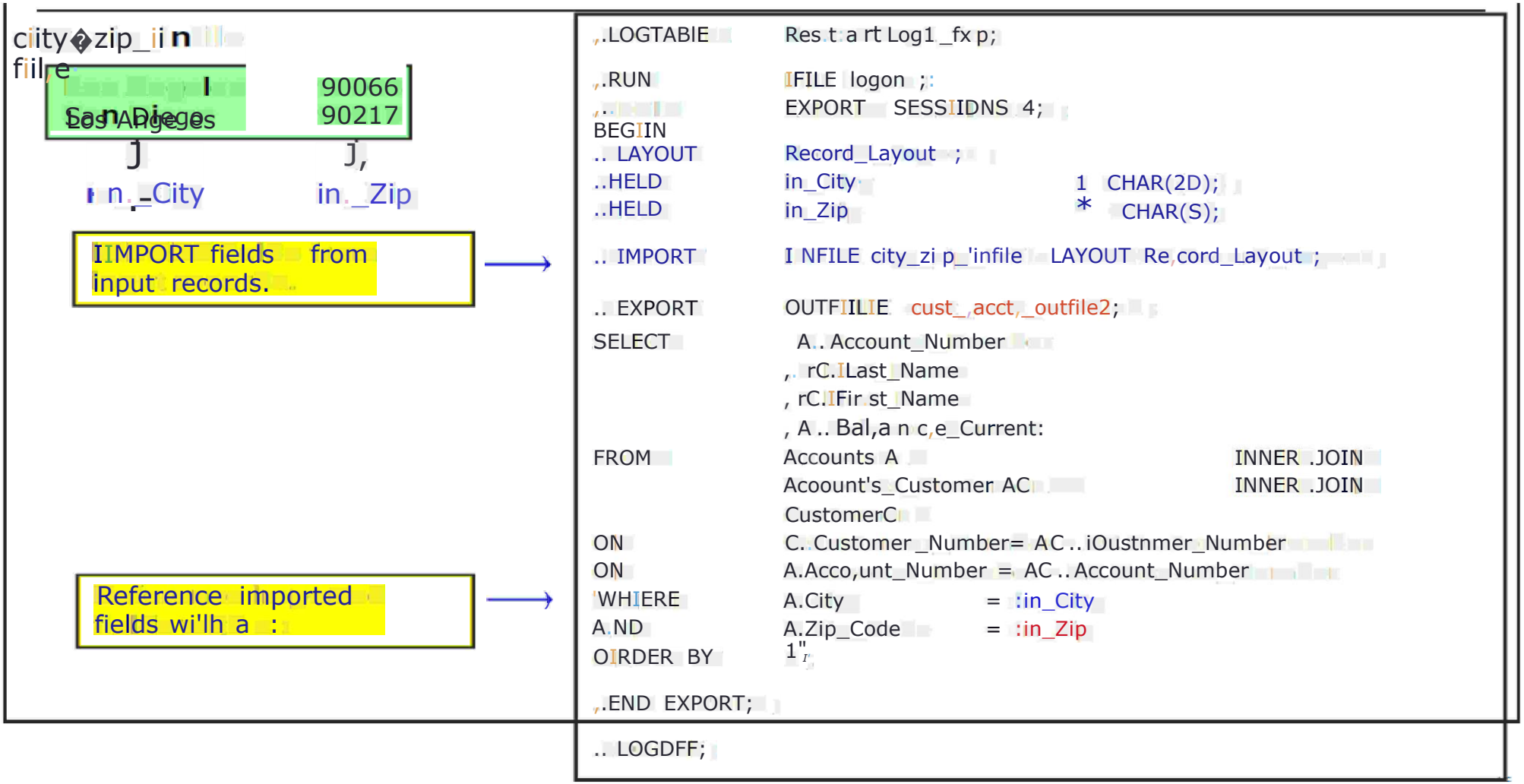
par_City
par_Zip

ACCEPT variables from input record.

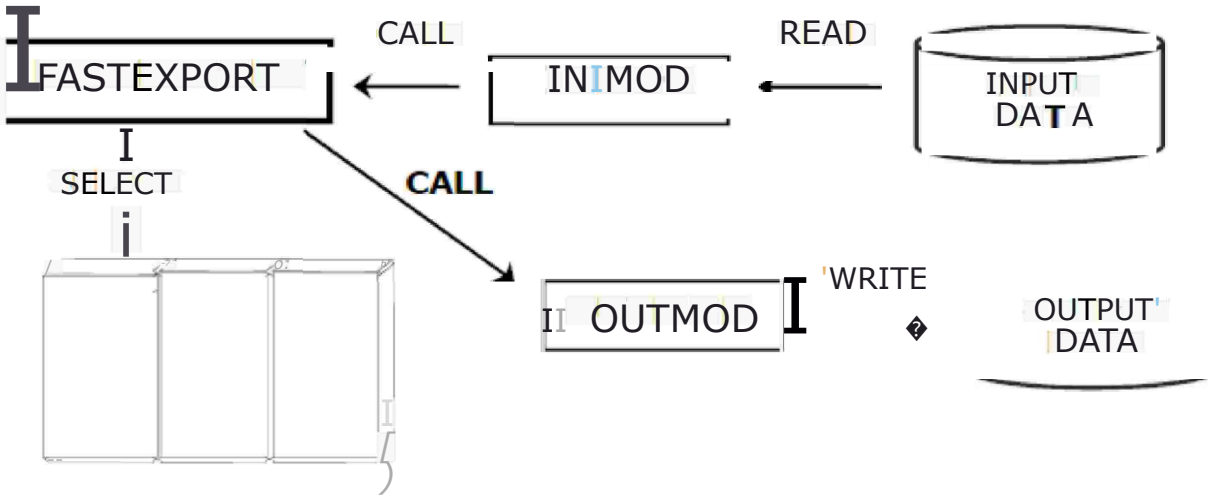
Reference accepted variables with an&.

```
.LOGTABLE   RestartLog1_fxp;
.RUN        FILE logon ;
.ACCEPT     par_City, par_Zip FROM
.BEGIN      EXPORT SESSIONS
            54 ;
.EXPORT     OUTFILE custacct_data;

SELECT      A.Account_Number
            , C.Last_Name
            , C.First_Name
            , A.Balance_Current
FROM        Accounts A
ON          C.Customer_Number = AC.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



INMODs and OUTMODs



INMODs

- Read input data values from a file.
- Qua I i1fy SELECT requests.
- Usually more app icable to an import utility such as Mult:iload.

OU TM ODs

- Process. an swer-set: data.
- Modify, di.sea rd, or re cord responses...
- Usually more app icable to an export utllltv such as FastExport.

Application Utility Checklist

Feature	BTEQ	Fastl.oad	Fastfixport	Mulltil.o,ad	TP'Ulmp
IDOL Functions	ALL	LIIMITED I	IN o		
DML Functions	ALL	INSERT	SELECT		
IMultip,le DML	Ye s.	INo	Yes		
IMultip,le Tables		INo	Yes		
IMu ltiple Sessions	Ye s.	Yes	Yes		
Proto co Used	Ye s.	IfAST LOAD	EXPORT		
Cond ltlonal Exp ress ions	Yes	INo	Ye s		
Arithmetic Ca I cu I at ions	SQI L	INo			
Data Conversion	Ye s.	1 per column	Yes		
Error [files	Ye s.	Yes	Ye s		
Error ILi mits	IN o	Yes	IN o		
User-written Routines	No	Yes	Ye s		

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)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..