

HIGHER EDUCATION COMMISSION PAKISTAN



Standard Operating Procedures (SOP's) SAP (Competence Center)



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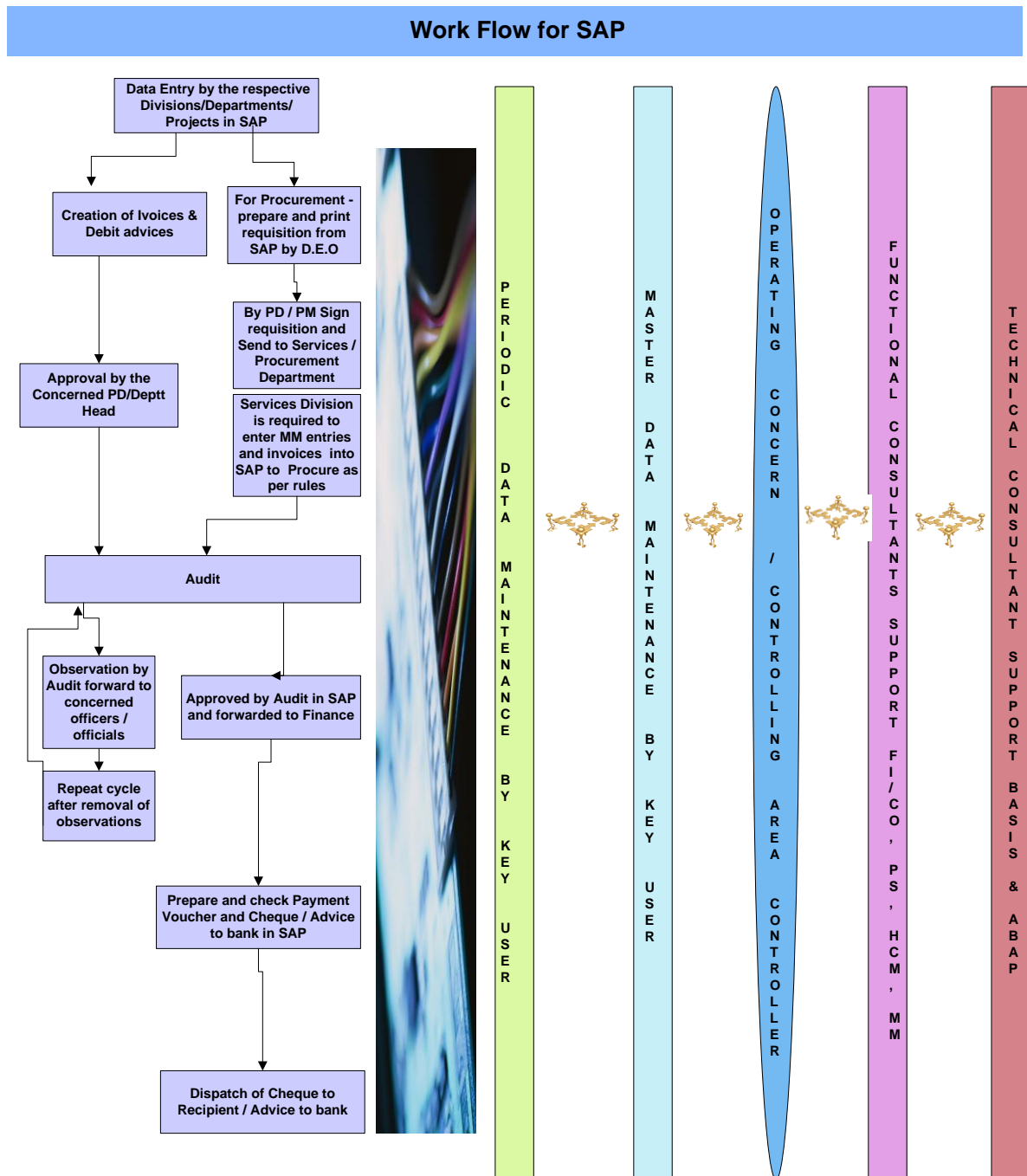
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1. INTRODUCTION:



SAP, an enterprise-wide information system, is based on a common database and modular software design to coordinate all the resources, information, and activities of every department and development projects of HEC to store and retrieve information on real-time. The purpose of Business Automation Wing is to ensure smooth data entry into SAP and retrieval of objective oriented reports. The same is obtained through the systematic and well designed support of Operational, Functional and Technical humane resource. The Standard Operating Procedures (SOP's) required to be maintained as a set of specific guidelines & valuable tools designed to address the methods that will be used in preparation of timely compliance of the HEC requirements.

2. OPERATIONAL SUPPORT ACTIVITIES



Full time support to SAP users of all Level is required to ensure the accurate data entry and retrieval of the information.

2.1 End User & Key User Support:

Data Entry of the transactional data by end user of SAP and Key users who maintain and updates the periodic data needs full time support. At transactional level all the modules Financial, Project System, Material Management and Human Capital Management are approached at the same time, therefore, multi dimensional support is required to the end users where as the Key user are supported by the functional consultant of the respective area or by the all modules coordination team.

2.1.1 END USERS

2.1.1.1 First Level Entry

2.1.1.1 (a) All the departments/Divisions e.g. R&D, Admin, ACAD., M&E, IT, Curriculum, Services and projects of HEC.

- i. Create Vendor & Scholars,
- ii. Assignment of the scholar to respective project,
- iii. Maintenance of the scholars Financial & statistical data,
- iv. Purchase Requisitions to Service Division, IT Etc.
- v. Debit Advice(General & Scholars) ,
- vi. Invoices

2.1.1.1 (b) Purchasing/IT Department to enter

- i. Request for Quotation,
- ii. Comparative Analysis
- iii. Purchase Orders ,
- iv. Goods Receipts & Issues,
- v. Invoice with GRN.

2.1.1.1 (c) Admin Department maintains the

- i. Employees Personal Profile,
- ii. Academic Credential,
- iii. Leave Record,
- iv. Pay Scale Management,
- v. Personal Area assignment,
- vi. department/ Project assignment,
- vii. Hiring of New employees,
- viii. retirement/termination/contract expiry of employees
- ix. status of employees.

2.1.1.1 (d) Services Division maintains

- i. Creation of Assets
- ii. Assets movement
- iii. Assets accounting & valuation.

2.1.1.1 (e) Finance Division maintains

- i. Accounts Payable Management.
- ii. Cash journal.
- iii. Banking & cheques Management.
- iv. Bank Reconciliation.

2.1.1.2 Second Level Entry

This Level users approves the invoices entered by the first level, make correction where required and read the affect of all transaction through different standard and customized reports

2.1.1.3 Third Level Entry

This level pertains mainly to Audit. All the invoices and claim forwarded by the approving authority are audited and forwarded to finance for payment or if there are some reservation the sent back to respective section with remarks put within the system.

2.1.1.4 Fourth Level Entry

This level pertains to Finance Division. Finance division post all the audited invoices if found correct in all respect for payment and the prepare payment voucher and print cheques/Transfer Letter

2.1.1.5 Fifth Level

This is mainly the reporting level. All the financial and statistical reports are analyzed.

2.1.2 KEY USERS

2.1.2.1 Project System (PS)

Project Builder Maintenance, WBS controlling, Project Budget Version, Original & Released Budget Maintenance etc

2.1.2.2 Material Management (MM)

Creation of New Material Master Record, Material Valuation, Material Location assignment, Asset Tracking System Management, Stock Register Maintenance etc

2.1.2.3 Human Capital Management (HCM)

Key user are responsible to maintain HR Hierarchy, Depart/Project assignment, employees Transfers , Pay Scale change, Promotion and other Master data related activities.

2.1.2.4 Financial Management & Controlling (FI/CO)

GL Maintenance, Creation/edit/Deletion of Cost Center , Cost elements, Funds Management Creation/edit/Deletion of Fund Center & Commitment Items, Budget entry and Release, Re-appropriation of Budget , Asset Accounting, creation of asset Classes and Valuation of assets,

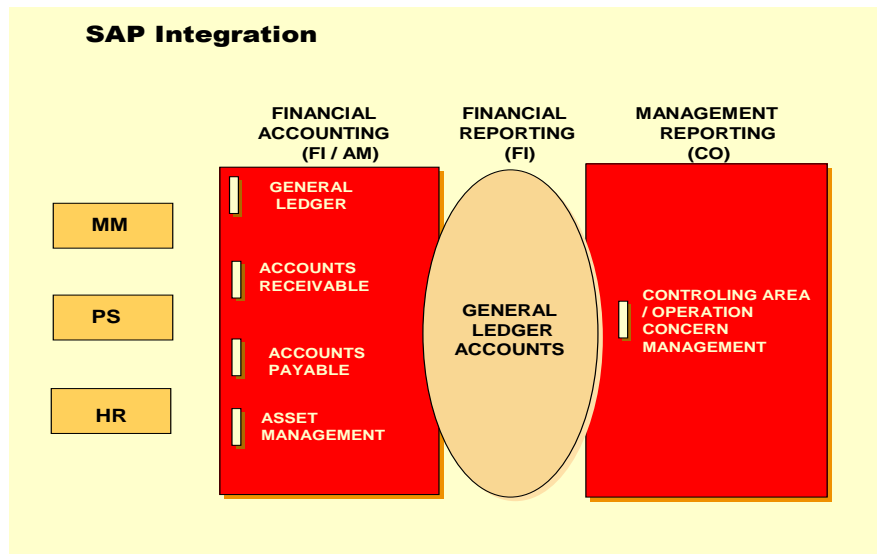
2.2 ALL MODULES SUPERVISION & INTEGRATION

2.2.1 Coordination & Supervision.

Data relevant to cost and revenue flows are created from various sources such as FI, MM, HCM & PS, the cost and revenue flows will update FI and simultaneously create equivalent postings into CO. Controlling (CO) offers information to decision makers for planning, measuring and monitoring enterprise's operations and performance. It represents the internal accounting view of an organization as a part of this process, the system assigns the costs and revenues to different CO account assignment objects like cost centers, orders, or WBS Element. The relevant accounts in FI are managed in CO as cost elements or revenue elements. Controlling (CO) is implemented in HEC with due consideration for future expansion of SAP for Cross company Codes Controlling within the HEC. HEC requirements are as follows

- To manage costs by cost centre i.e. Payroll expenses & other
- To manage costs at multiple levels for reporting purpose

2.2.2 Integration

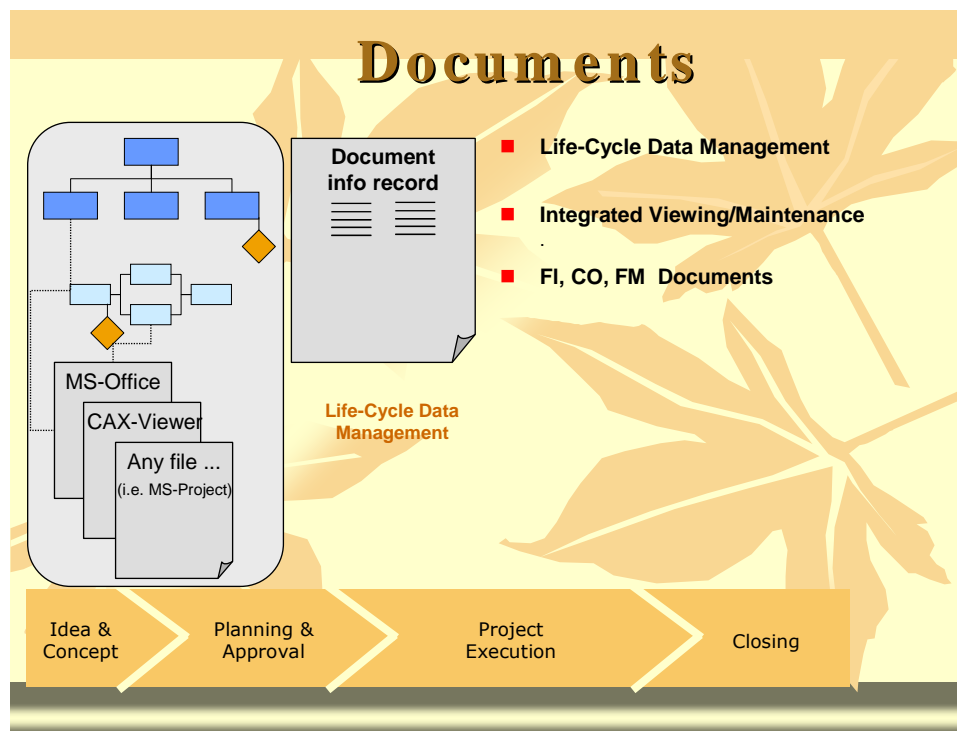


Integration of the modules and supervision thereof is an important activity. In all SAP Implementations there is one Operating Concern / Controlling Area Controller who is responsible for overall monitoring of the system. It includes

- Cost Center Hierarchy Maintenance.
- Derivation of the cost center with cost element.
- Cost Center Categorization,
- Fund centers with the commitment Items,
- Derivation of the Fund Center to Cost center,
- Running of the Budget addresses,
- Budget derivations,
- Assignment of the responsible cost center to a project,
- Responsible person to a project,
- Responsible Cost center to a cost element,
- Cost center/WBS Assignment to employees cost object,
- WBS Assignment to scholars, WBS Categorization,
- Definition of Project activities,
- Networking, creation of Planning Version,
- Creation of Monitoring versions,
- Commitments Management through different Modules i.e. FI/CO/HCM/MM,
- Project Period integration with the cost center Start & End time,
- Project Masking,
- Project assignment to controlling area & company code,
- Material assignment to GL,
- Material cost Object assignment,
- Materials integration with controlling Area and Company code.

In addition to all above activities the affect of all transaction in all the respective modules is supposed to be monitored as well.

2.3 DOCUMENTS CONTROLLING



A document number range is linked to the document type via a unique key. It identifies the document number for

- HEC company code in a given fiscal year.
- HEC company code is using the accounting number ranges.

It will be linked with the document type and is based on the fiscal year dependent.

Monitoring of the documents types and Number ranges:

AA: assets Posting,

AB Indirect Accounting Document Posting,

KA: Vendor Invoices,

KZ: Vendor Payment ,

SA: GL Document

It affects of the each document in the different area i.e. Financial Accounting, Cost Center Accounting, Funds Management Area & Project System is also an important activity.

2.4 TRAININGS:



At SAP End User Training (EUT) is a critical to the successful deployment and acceptance of SAP within HEC. End user and Key user in-house formal and informal training sessions are scheduled subject to requirements of the concerned Division/Department /Project users.

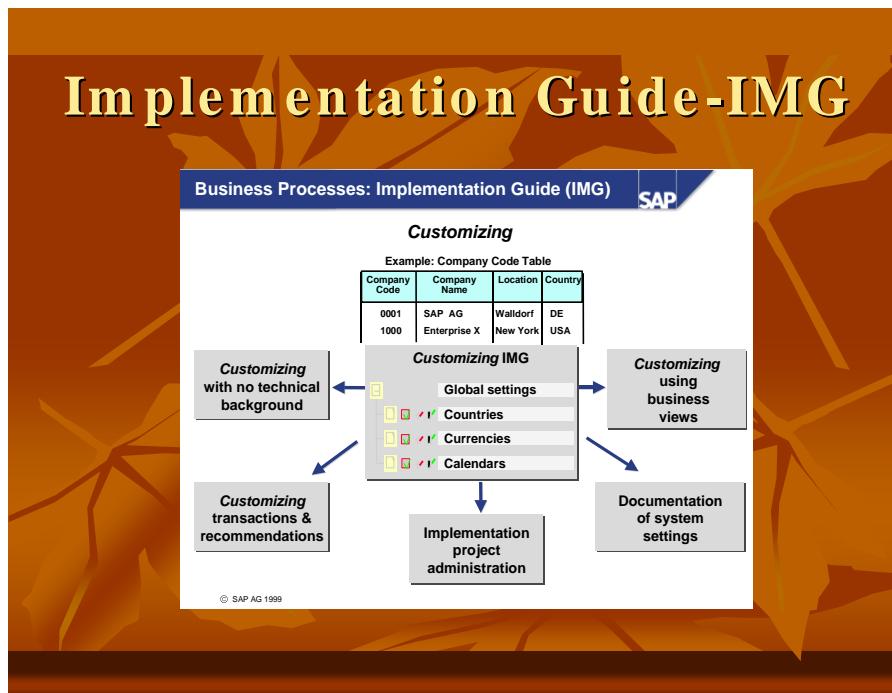
- Formal Training sessions
- Informal Trading (at Desk, Via Telephone etc)
- User Manual

The End User Solutions Team has a number of specialist resources with extensive knowledge and varied experience to deliver successful education and training programs. Our team will work to ensure the approach, plan and execution of program effectively rolled out to end user base.

2.5 TRANSACTIONAL, PERIODICAL AND MASTER DATA MAINTENANCE:

- **Transactional Data:** Statistical and financial transaction data is maintained by the end user and real time affect is seen by the management.
- **Periodical Data:** Key user of the respective module performs the Periodical activities e.g. Period End Closing, Period end Adjustment, Budget release, Budget re-Appropriation, HR, MM & PS Master Data maintenance.
- **Master Data:** Master date of the Cost Centers, GL, Funds, Bank, Vendors, Employees, Scholars, Projects, Assets, Materials to be maintained by Key Users.

3 FUNCTIONAL SUPPORT ACTIVITIES



- **IMG ACTIVITIES:**

The IMG acts as a **checklist of the Customizing activities** that enterprise should complete for SAP System implementation project. The IMG is hierarchically structured. The structure of the IMG and the IMG management tools (such as resource management and the MS Project interface) help your SAP team to work through the Customizing activities in a rational sequence.

- Organizational Structure and General Setting
- Responsible for User Maintenance / Authorizations
- Examine system support problems, correct or delegate to respective consultants
- Creation and execution of test plans/cases to ensure proper testing of business processes and participates in UAT

ROLE OF A FUNCTIONAL CONSULTANT IN AN END TO END IMPLEMENTATION

The functional consultant has to understand the modules they are implementing and the set up and configuration options available, the key skill is being able to map the requirements of the organization to the capabilities of the ERP system. It is to try and configure or customize the ERP system to match exactly an existing business process, as well as to look to improve the processes.

1. A functional consultant is to generate knowledge about the current business process, design current business flows, study current business processes and its complication - in all we can say that this is getting through with the current business setup. Flow diagrams (DFD's) are prepared, all this forms the part of the AS IS document.
2. Everything configured has to be documented according to their categories in the form of predefined templates; these then have to be approved by the team leads or who ever the consultant is reporting to.
3. Mapping and GAP analysis is done for each module."
4. Before starting configuring future business processes in SAP, the Data Flow Diagram (DFD's), Entity Relation Diagram (ERD's) are prepared, this documentation is called TO BE, which can be also said as the result of mapping and gap analysis.
5. Functional consultants to prepare test scripts for testing the configured scenarios. Testing may also include Unit testing, System Integration Testing, Performance Testing, User Acceptance Testing, Regression Testing or any client specific software testing.
6. A configuration document showing all the setting done by the consultant also comes under the area of role & responsibilities of consultant.
7. End user manual and user training to be prepared by Functional Consultants.
8. There will also be interaction with other modules consultants.

9. Updating of project status to Project Manager & other concerned persons.
10. Interaction with core team members, end users & other team members (consultants)
11. A Functional consultant has to communicate with Organization ERP core team, implementing team, Technical consultant and project leader. Written communication skill is to be demonstrated by a functional consultant to e-mail to different groups, documentation about the ERP, reports generation. Verbal communication is to understand the requirement, interact with customer, to explain and convince the customer.

ROLE OF A SUPPORT CONSULTANT:

Is primarily responsible for Handling tickets/tasks and application support to the end-users.

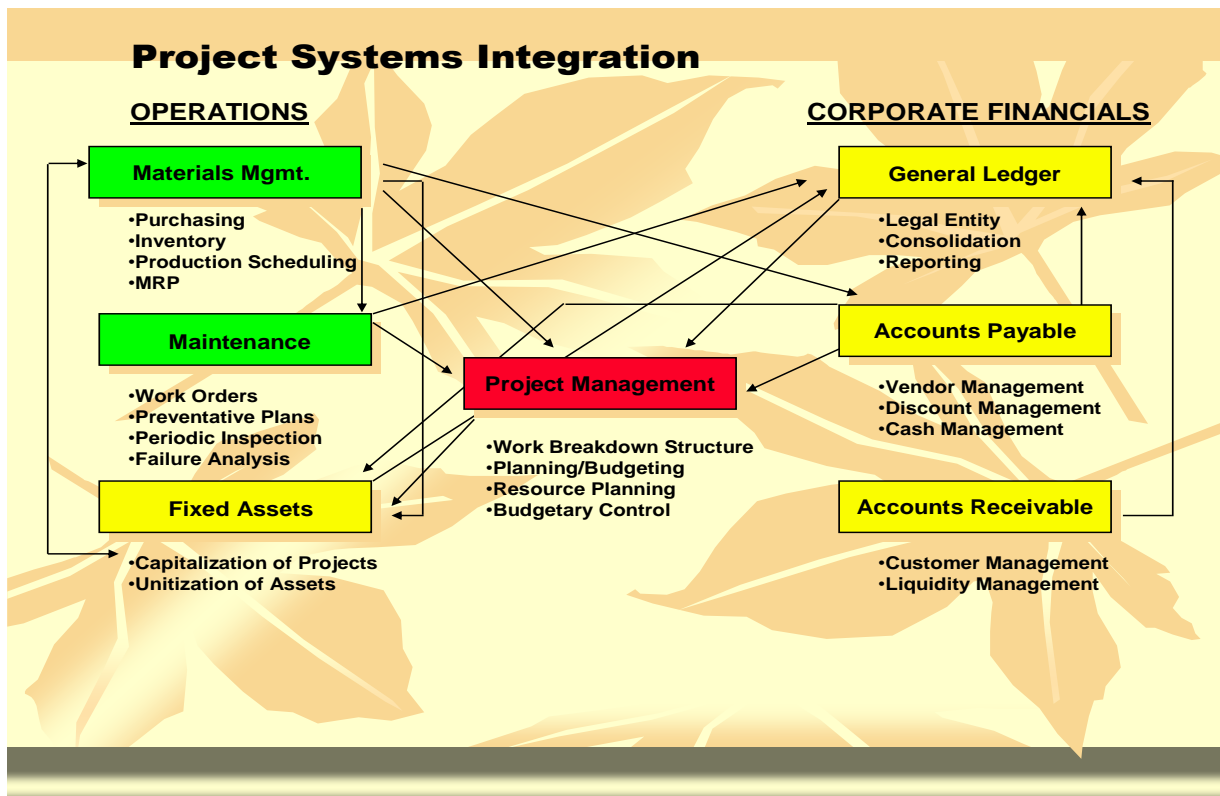
1. When an issue comes to diagnose, analyze it and to solve it.
2. Responsible for enhancements.
3. Writing functional specifications and interacting with "ABAP Developer" to develop any user exits.
4. Raising Change Request Notes (CRNs) and preparing Test Data & its testing.
5. Interaction with key/end users & updating the status.
6. Training the end users and preparing end user training material.
7. There will also be interaction with other modules consultants.
8. Creation of process documents & its Updation

3.1 FI/CO FUNCTIONAL CONSULTANT SUPPORT:

<h4>Asset Management – Integration with Material Management</h4> <p>The diagram illustrates the integration between Asset Management and Material Management. It shows a flow from Purchase Requisition to Purchase Order, then to Goods Receipt, and finally to Invoice Receipt. A 'Create Master Record' step is shown for 'Fork Lift', which is linked to the 'Capitalization' process. Arrows indicate 'optional' and 'required' relationships between the processes.</p>	<h4>Overview of the FI Module</h4> <ul style="list-style-type: none"> ■ Key Terms: <ul style="list-style-type: none"> ■ SAP Financial Accounting Module ■ FI-GL ■ FI-AR ■ FI-AP ■ FI-AA ■ FI-SL ■ FI-FM ■ TR-CM ■ Integration <p>The screenshot shows the SAP Financial Accounting Module menu structure, including General Ledger, Accounts Receivable, Accounts Payable, Banks, Fixed Assets, Consolidation, Special Purpose Ledger, Funds Management, and Travel Management.</p>
<h4>Bank Management (ref 2.1.6)</h4> <p>The screenshot shows the SAP Bank Master Data interface. It displays 'Bank Master Data' at the Client level, including Bank country, Bank key, Address, and Control data. It also shows 'House Bank Data' with fields for Company Code, House Bank-ID, House bank data, Bank country, Bank key, House bk comm. data, and + DME/EDI-data. 'Customer/Vendor Master Data' is also shown, including Client level, Customer/Vendor, Bank Details, Ctry Bank key, Account, Bank type, and Collection.</p>	<h4>Bank Management – Integration with GL</h4> <p>The diagram shows the integration between Bank Accounts and G/L Accounts. It includes 'Bank Accounts (2)' and 'G/L Account' sections. The Bank Account section shows House Bank-ID, Account-ID, Bank acc. data, Bank account, Currency, and G/L-Account. The G/L Account section shows Account no, Account control, Account currency, Bank/Fin. details, and House bank Account ID. Arrows indicate the relationships between these fields.</p>

- House Banks Management
- Utilize SAP Reporting functionality – report painter/writer
- Maintenance & running allocations / distributions
- Maintenance of master data (GL, Profit/Cost centers, etc.)
- Support for Month/Year end financial reporting and audit schedules

3.2 PROJECT SYSTEM FUNCTIONAL CONSULTANT SUPPORT ACTIVITES:

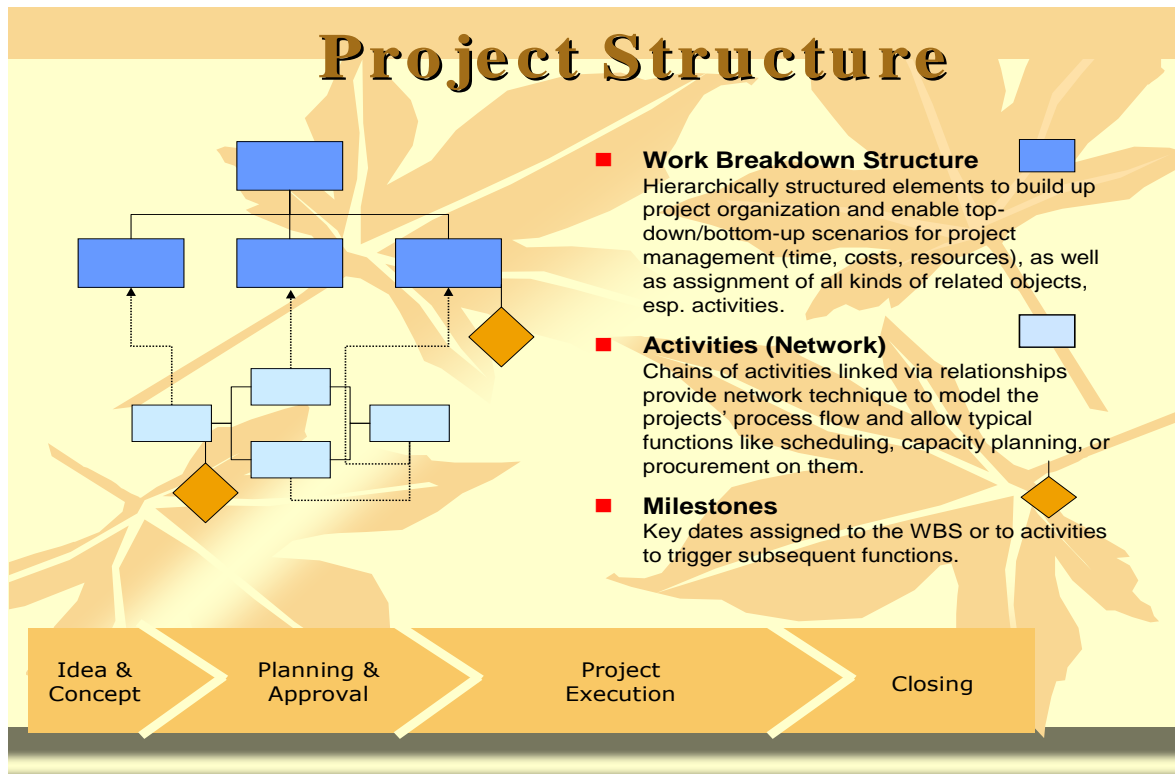


A SAP PS functional consultant has to perform different functions related to the configuration as well as non configuration areas.

In configuration

1. Maintain tolerance limits if required
2. Create different versions for budgetary needs
3. Reconstruct availability control
4. Specify person responsible for projects
5. Create project profile
6. Define coding mask for projects
7. If any cost elements are to be exempted from budget check

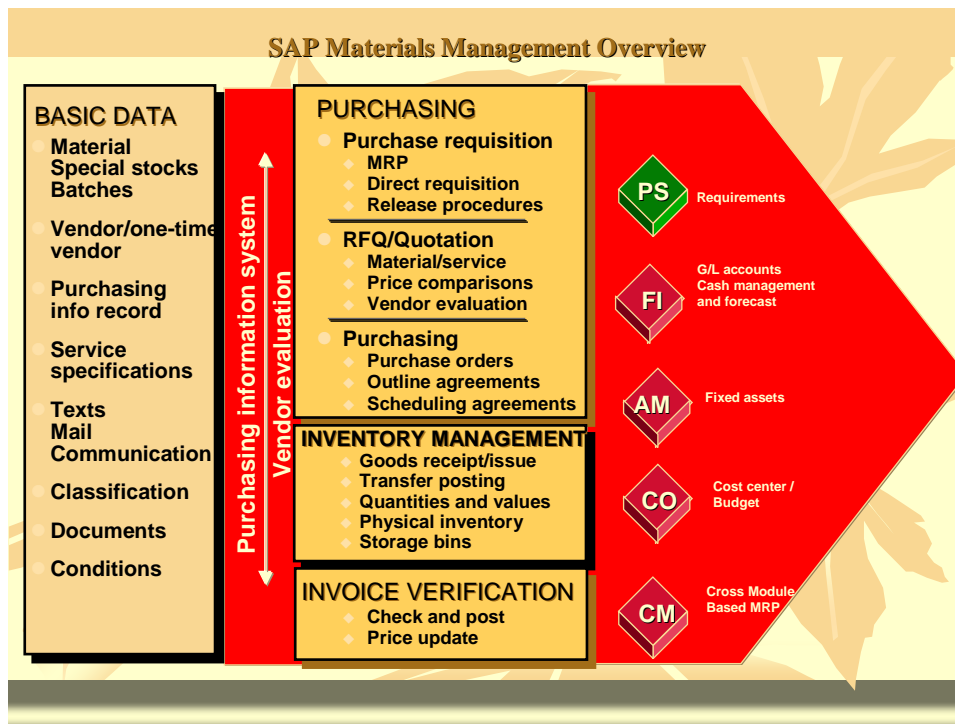
3.3 NON CONFIGURATION AREAS:



SAP PS consultant role is to build the system, changes & modification/ Update in currently installed SAP system for the end users. The SAP PS consultant documents the settings and prepares proper guidelines that allow other consultants

1. Maintain budget for projects
2. Checking of system status through different standard reports
3. Solving queries of users
4. Responsible for any enhancements.
5. Writing functional specs and interacting with ABAP team to develop any user exits.
6. Development of customized reports in collaboration with ABAP

3.4 MATERIAL MANAGEMENT FUNCTIONAL CONSULTANT SUPPORT ACTIVITES:



- HEC (as Plant) Maintenance
- Material Valuation Settings
- Integration with FI/CO and Assets Accounting
- Documents types and Document Number Management
- Purchasing Activities Workflow Management
- Purchase requisition settings
- Quotations/Tender settings
- Purchase order and maintain ace
- Receiving\Good Receipt GL Assignment
- Vendor Analysis and Performance Measurement
- Integration with Financial Module
- Inventory Management.

3.5 HUMAN CAPITAL MANAGEMENT FUNCTIONAL CONSULTANT SUPPORT ACTIVITIES:

What HRM offers

EXPERIENCE,
KNOWLEDGE,
AND TECHNOLOGY

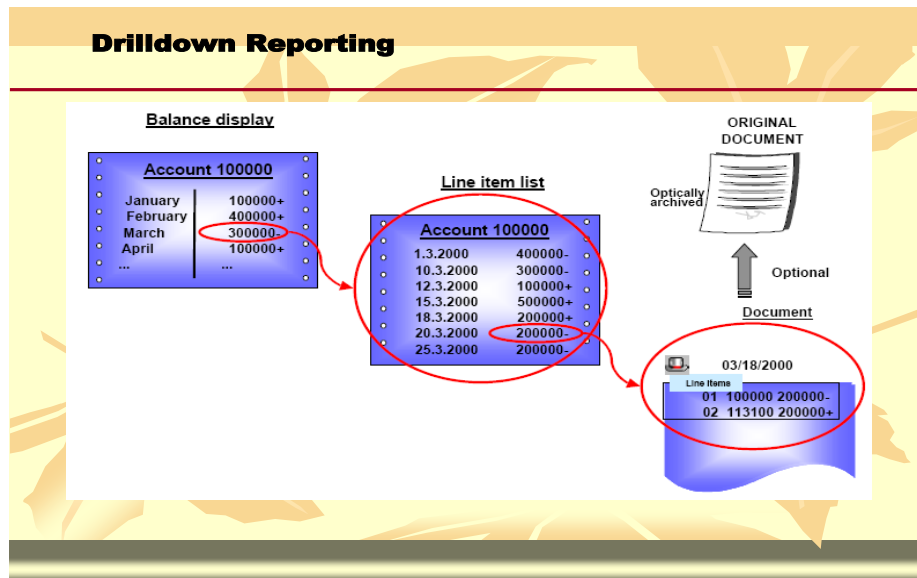


- Organization management
- Recruitment
- E-Recruitment
- Training and Event Management
- Compensation Management
- Personnel Administration



- Personal Area Management
- HR Hierarchy Maintenance
- Standard & Customized Infotypes Maintenance
- Payroll Settings
- Cost Object Assignment
- Employees Life Cycle Maintenance
- Employee's Loan & Advances Management.

3.6 REPORTING NEW & MODIFICATIONS:



Reporting Tools

- 1 SAP Standard Reports** provides instant reports based on most frequently requested information
- 2 Report Painter** where reports are generated by the users by designing in easy manner.
- 3 InfoSet Query** allows creation of reports for all areas of SAP components. User friendly and no ABAP programming required.
- 4 SAP Query** allows for creation of complex reports for all areas of SAP components. User friendly and ABAP programming can be used if required.
- 5 ABAP Reports** special format report can also be created by using ABAP Programming.

- Standard reporting
- Report writer & Report Painter Reports
- Info-set Query
- SAP Query
- ABAP Report (Customized Reports)

4. TECHNICAL SUPPORT ACTIVITIES

4.1 STANDARD OPERATING PROCEDURE FOR BACKUP OF SAP SERVERS

Goal

Is to define the backup services of the SAP Servers.

Definitions

Backup - saving a copy of disk files over different magnetic media. Restore - a recovery of files saved in the backup to the original disk. Running the backup - actual performance of the backups. Backup generation - copy of backup that was done in the particular course.

Method

Backup can be taken by using following methods:

1. Through Backup utility provided by windows
2. Using SAP BR tools

Types of Backup:

1. **Online/Hot backup**

Logical backup of the data files can be taken while SAP system is running.

2. **Offline/Cold backup**

Physical backup of all the data files can be taken when SAP system is down.

Backup of SAP servers:

1. **Daily backup (online backup)**

- Full backup of the SAP system files is being performed every evening at 5:00 p.m.
- Full backup of the SAP/Oracle database will be taken online, including Archive Mode (Transactions Log).
- This backup saved for at least one day on local hard disk and can be discarded when required to available the space for new online backup.
- This backup must be saved on local hard disk.
- Steps are attached at Annex-I

2. **Weekly backup (offline backup)**

- Every Thursday, Friday and Saturday of the week SAP System's files and Database files of DEV, QA and PRD respectively backed-up offline at 9 p.m. while the SAP system is offline, in order to ensure data integrity.

- This backup must be saved on TAP Libraries (Data Cartridges)
- Three TAP Libraries (Data Cartridges) can be used for each system.
When they become full they can be used again by rotation.
- Each TAP Library must be named like SID_1, SID_2, and SID_3 where SID identifies the particular system. For example PRD_1, PRD_2, and PRD_3
- This backup remains save on TAP Libraries.
- Steps are attached at Annex-II

Running of the backup:

The backup is run automatically. The operator should insert a suitable backup cassette before the backup, run a process of check and booting of the cassette, and eject it on the next day.

Restore backup files

The SAP BASIS Administrator will perform file restoration by demand.

Continuous follow-up:

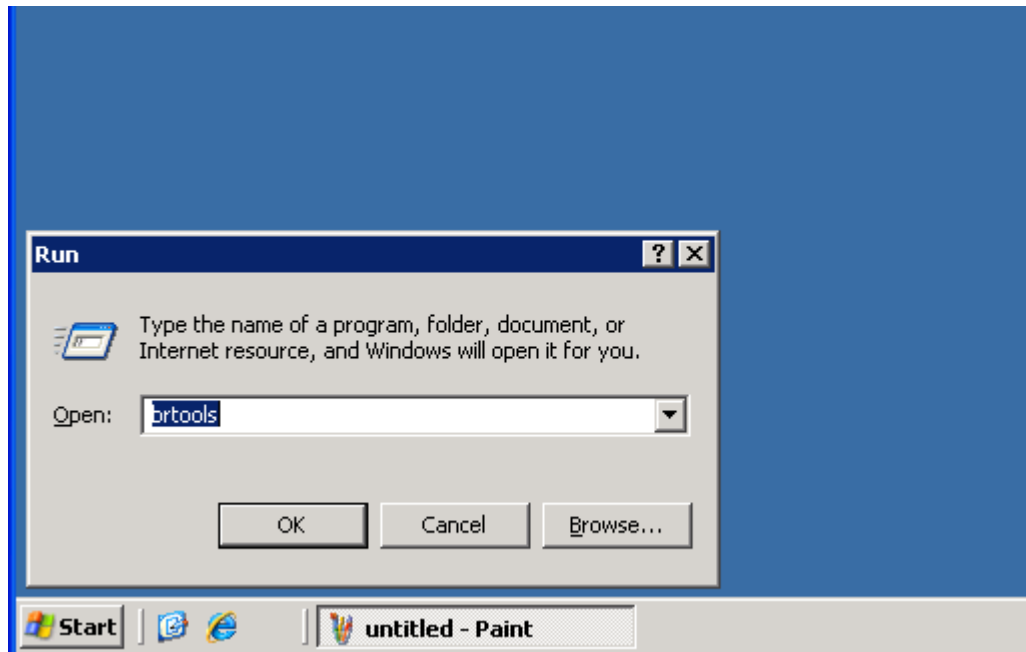
SAP BASIS Administrator will execute implementation follow-up of the backup:

1. Checking the backup's results in the log files.
2. Maintaining the list of libraries for each backup.
3. Testing the life span of the cassettes, and exchanging them if needed.
4. Ordering new cassettes.

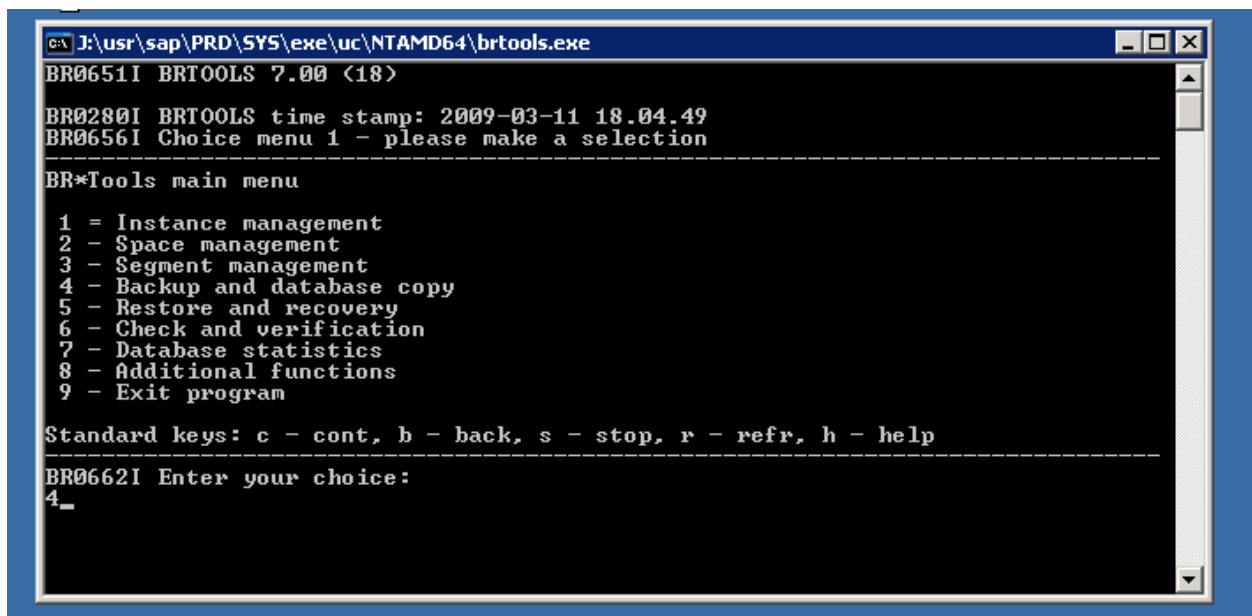
Responsible person

SAP BASIS Administrator

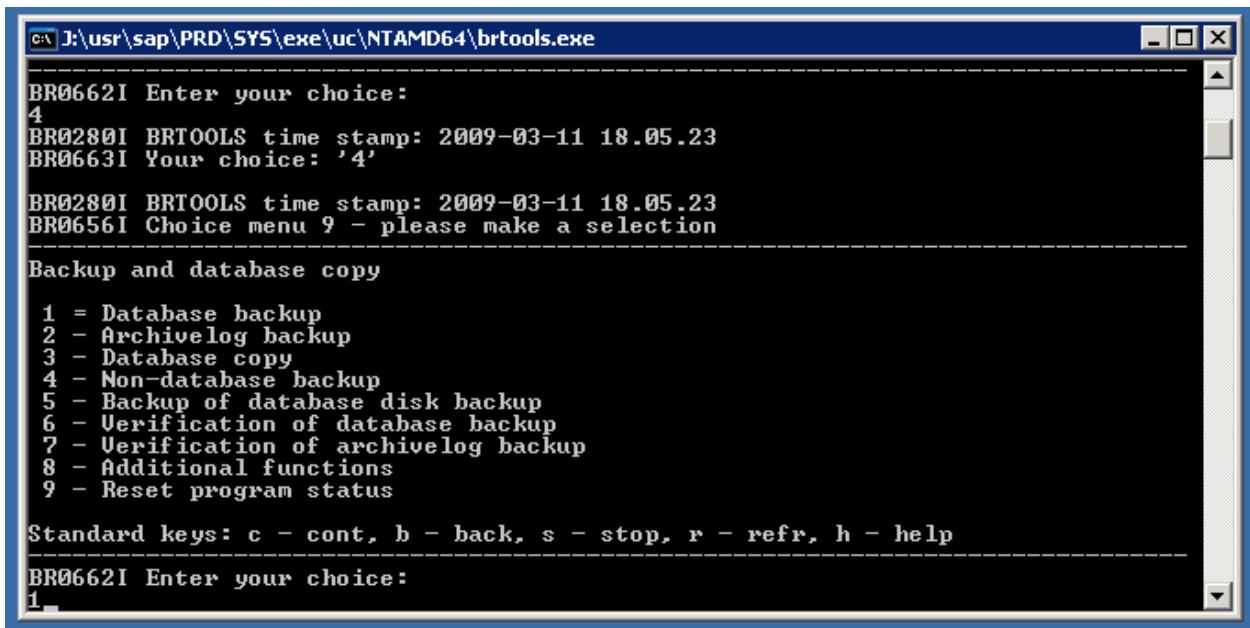
Step- 1 CLICK ON START- RUN AND ENTER BRTOOLS IN THE INPUT BOX THEN PRESS OK BUTTON



Step- 2 ENTER OPTION 4 FOR BACKUP AND DATABASE COPY



Step- 3 ENTER OPTION 1 FOR DATABASE BACKUP



```

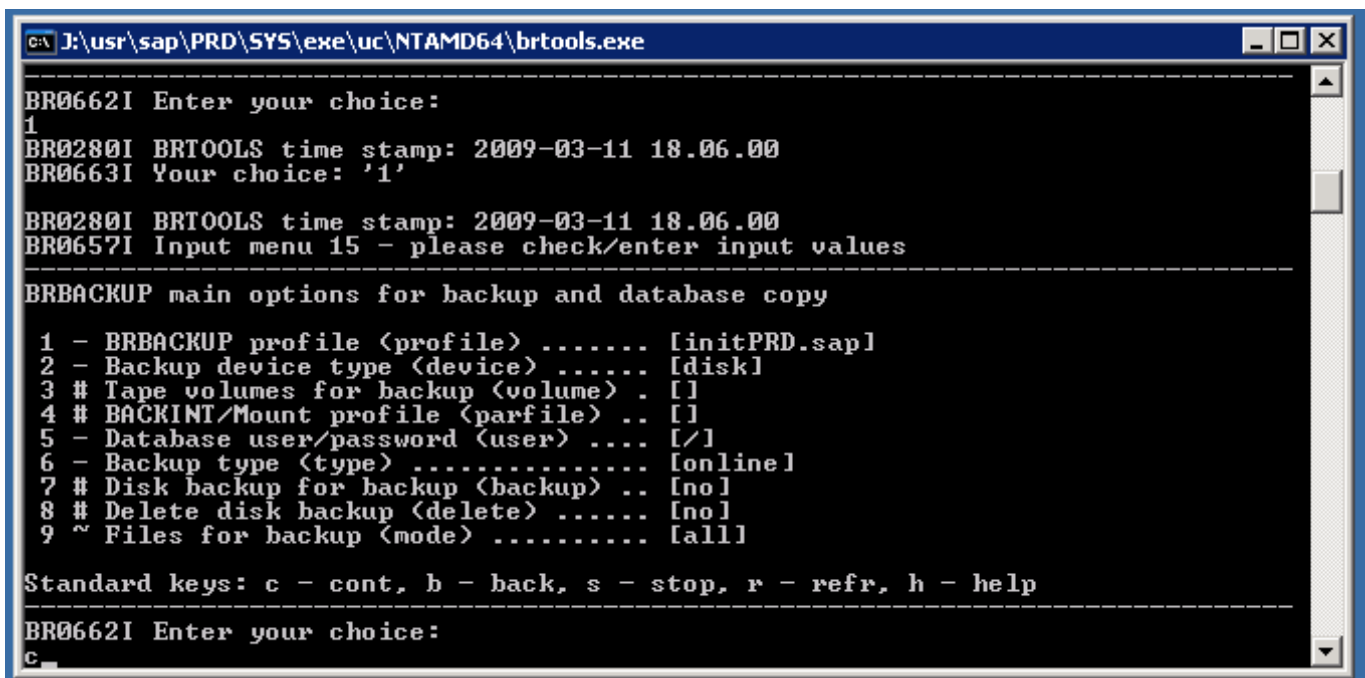
C:\J:\usr\sap\PRD\SY5\exe\uc\NTAMD64\brtools.exe
-----
BR0662I Enter your choice:
4
BR0280I BRTOOLS time stamp: 2009-03-11 18.05.23
BR0663I Your choice: '4'
BR0280I BRTOOLS time stamp: 2009-03-11 18.05.23
BR0656I Choice menu 9 - please make a selection
-----
Backup and database copy

1 = Database backup
2 - Archivelog backup
3 - Database copy
4 - Non-database backup
5 - Backup of database disk backup
6 - Verification of database backup
7 - Verification of archivelog backup
8 - Additional functions
9 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
1_

```

Step- 4 MAKE SURE THAT OPTION 1,2 AND 6 MUST BE SAME AS MENTIONED BELOW AND ENTER C FOR CONTINUE .



```

C:\J:\usr\sap\PRD\SY5\exe\uc\NTAMD64\brtools.exe
-----
BR0662I Enter your choice:
1
BR0280I BRTOOLS time stamp: 2009-03-11 18.06.00
BR0663I Your choice: '1'
BR0280I BRTOOLS time stamp: 2009-03-11 18.06.00
BR0657I Input menu 15 - please check/enter input values
-----
BRBACKUP main options for backup and database copy

1 - BRBACKUP profile <profile> ..... [initPRD.sap]
2 - Backup device type <device> ..... [disk]
3 # Tape volumes for backup <volume> .. []
4 # BACKINT/Mount profile <parfile> .. []
5 - Database user/password <user> .... [/]
6 - Backup type <type> ..... [online]
7 # Disk backup for backup <backup> .. [no]
8 # Delete disk backup <delete> ..... [no]
9 ~ Files for backup <mode> ..... [all]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
c_

```

Step- 5 MAKE SUE ALL OPTIONS SHOULD BE SIMILAR AS MENTIONED BELOW AND ENTER C FOR CONTINUE

```
J:\usr\sap\PRD\SY5\exe\uc\NTAMD64\brtools.exe
c
BR0280I BRTOOLS time stamp: 2009-03-11 18.06.23
BR0663I Your choice: 'c'
BR0259I Program execution will be continued...

BR0280I BRTOOLS time stamp: 2009-03-11 18.06.23
BR0657I Input menu 16 - please check/enter input values
-----
Additional BRBACKUP options for backup and database copy

1 - Confirmation mode <confirm> ..... [yes]
2 - Query mode <query> ..... [no]
3 - Compression mode <compress> ..... [no]
4 - Verification mode <verify> ..... [no]
5 - Fill-up previous backups <fillup> . [no]
6 - Parallel execution <execute> ..... [0]
7 - Additional output <output> ..... [no]
8 - Message language <language> ..... [E]
9 - BRBACKUP command line <command> ... [-p initPRD.sap -d disk -t online -m al
l -k no -e 0 -l E]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
c_
```

STEP- 6 CHECK ALL PARAMETERS AND ENTER C FOR CONTINUE

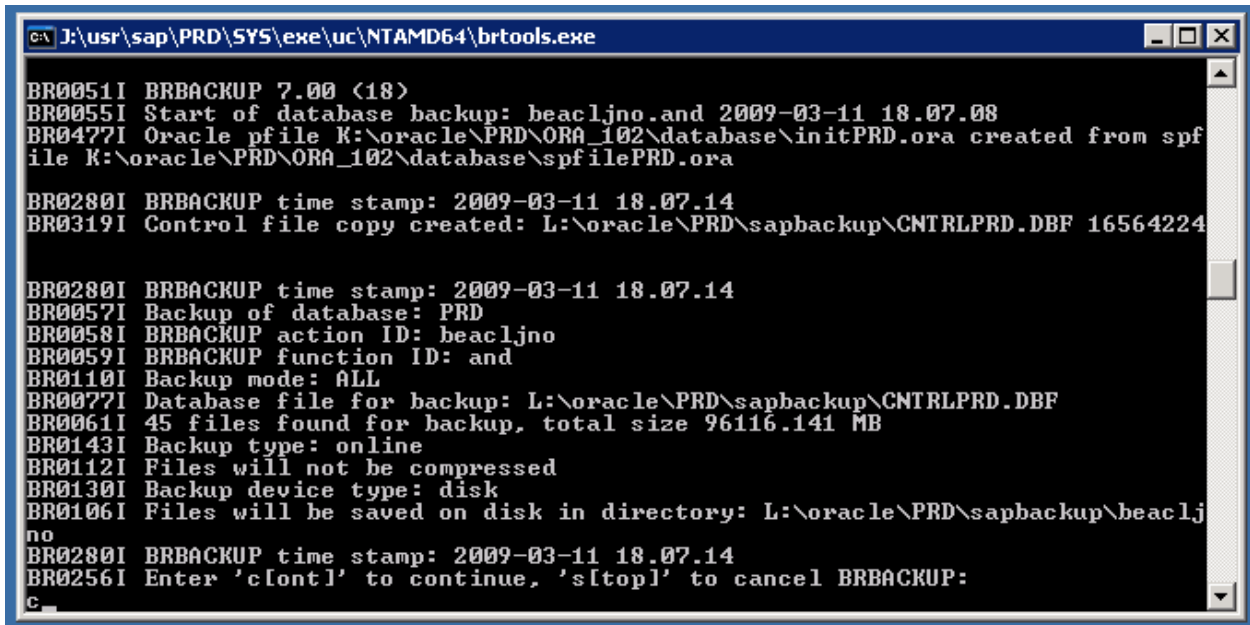
```
J:\usr\sap\PRD\SY5\exe\uc\NTAMD64\brtools.exe
1 - Confirmation mode <confirm> ..... [yes]
2 - Query mode <query> ..... [no]
3 - Compression mode <compress> ..... [no]
4 - Verification mode <verify> ..... [no]
5 - Fill-up previous backups <fillup> . [no]
6 - Parallel execution <execute> ..... [0]
7 - Additional output <output> ..... [no]
8 - Message language <language> ..... [E]
9 - BRBACKUP command line <command> ... [-p initPRD.sap -d disk -t online -m al
l -k no -e 0 -l E]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
c
BR0280I BRTOOLS time stamp: 2009-03-11 18.06.47
BR0663I Your choice: 'c'
BR0259I Program execution will be continued...

BR0291I BRBACKUP will be started with options '-p initPRD.sap -d disk -t online
-m all -k no -e 0 -l E'

BR0280I BRTOOLS time stamp: 2009-03-11 18.06.47
BR0670I Enter 'c[ont]' to continue, 'b[ack]' to go back, 's[top]' to abort:
c_
```

STEP- 7 ENTER C FOR CONTINUE

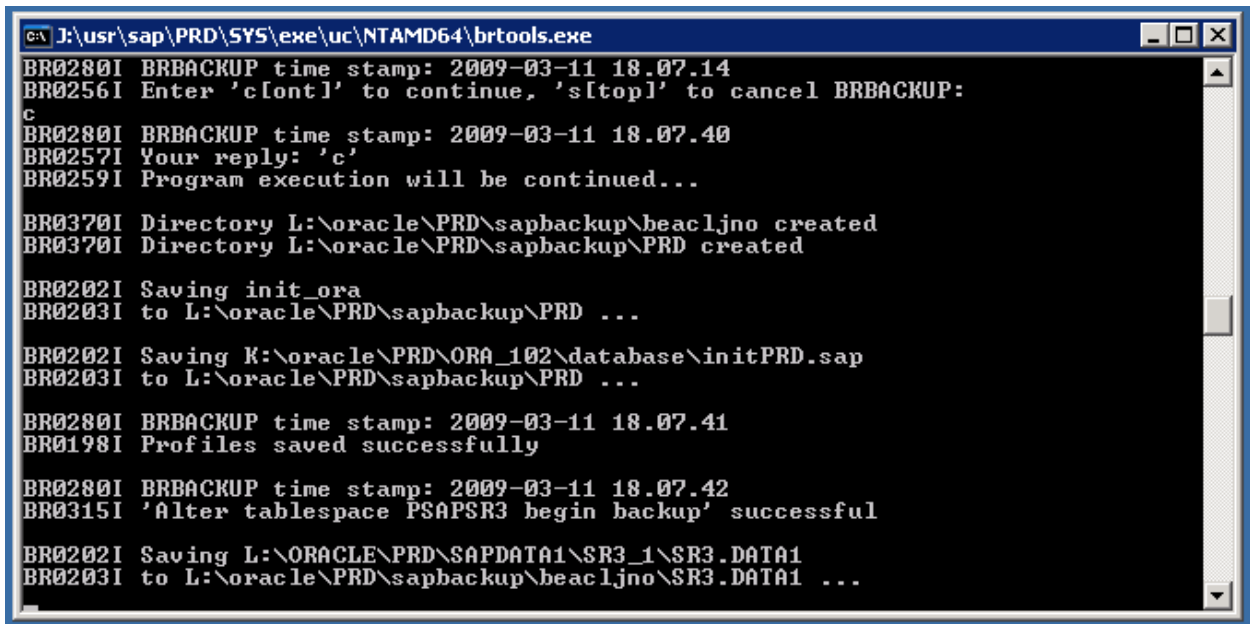


```
C:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
BR0051I BRBACKUP 7.00 <18>
BR0055I Start of database backup: beacljno.and 2009-03-11 18.07.08
BR0477I Oracle pfile K:\oracle\PRD\ORA_102\database\initPRD.ora created from spf
file K:\oracle\PRD\ORA_102\database\spfilePRD.ora

BR0280I BRBACKUP time stamp: 2009-03-11 18.07.14
BR0319I Control file copy created: L:\oracle\PRD\sapbackup\CNTRLPRD.DBF 16564224

BR0280I BRBACKUP time stamp: 2009-03-11 18.07.14
BR0057I Backup of database: PRD
BR0058I BRBACKUP action ID: beacljno
BR0059I BRBACKUP function ID: and
BR0110I Backup mode: ALL
BR0077I Database file for backup: L:\oracle\PRD\sapbackup\CNTRLPRD.DBF
BR0061I 45 files found for backup, total size 96116.141 MB
BR0143I Backup type: online
BR0112I Files will not be compressed
BR0130I Backup device type: disk
BR0106I Files will be saved on disk in directory: L:\oracle\PRD\sapbackup\beaclj
no
BR0280I BRBACKUP time stamp: 2009-03-11 18.07.14
BR0256I Enter 'c[ontl]' to continue, 's[top]' to cancel BRBACKUP:
c_
```

STEP- 8 ONLINE BACKUP HAS BEEN STARTED NOW



```
C:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
BR0280I BRBACKUP time stamp: 2009-03-11 18.07.14
BR0256I Enter 'c[ontl]' to continue, 's[top]' to cancel BRBACKUP:
c
BR0280I BRBACKUP time stamp: 2009-03-11 18.07.40
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0370I Directory L:\oracle\PRD\sapbackup\beacljno created
BR0370I Directory L:\oracle\PRD\sapbackup\PRD created

BR0202I Saving init_ora
BR0203I to L:\oracle\PRD\sapbackup\PRD ...

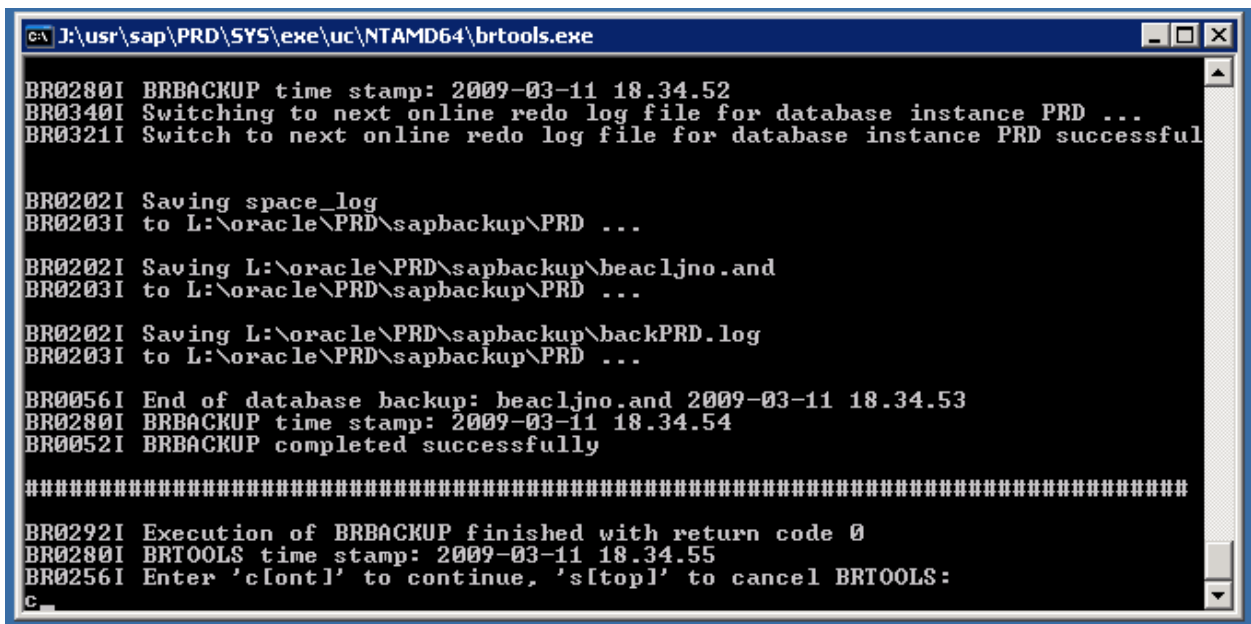
BR0202I Saving K:\oracle\PRD\ORA_102\database\initPRD.sap
BR0203I to L:\oracle\PRD\sapbackup\PRD ...

BR0280I BRBACKUP time stamp: 2009-03-11 18.07.41
BR0198I Profiles saved successfully

BR0280I BRBACKUP time stamp: 2009-03-11 18.07.42
BR0315I 'Alter tablespace PSAPSR3 begin backup' successful

BR0202I Saving L:\ORACLE\PRD\SAPDATA1\SR3_1\SR3.DATA1
BR0203I to L:\oracle\PRD\sapbackup\beacljno\SR3.DATA1 ...
```

STEP- 9 ENTER C FOR CONTINUE AS BACKUP COMPLETED SUCCESSFULLY



```
C:\J:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
BR0280I BRBACKUP time stamp: 2009-03-11 18.34.52
BR0340I Switching to next online redo log file for database instance PRD ...
BR0321I Switch to next online redo log file for database instance PRD successful

BR0202I Saving space_log
BR0203I to L:\oracle\PRD\sapbackup\PRD ...

BR0202I Saving L:\oracle\PRD\sapbackup\beacljno.and
BR0203I to L:\oracle\PRD\sapbackup\PRD ...

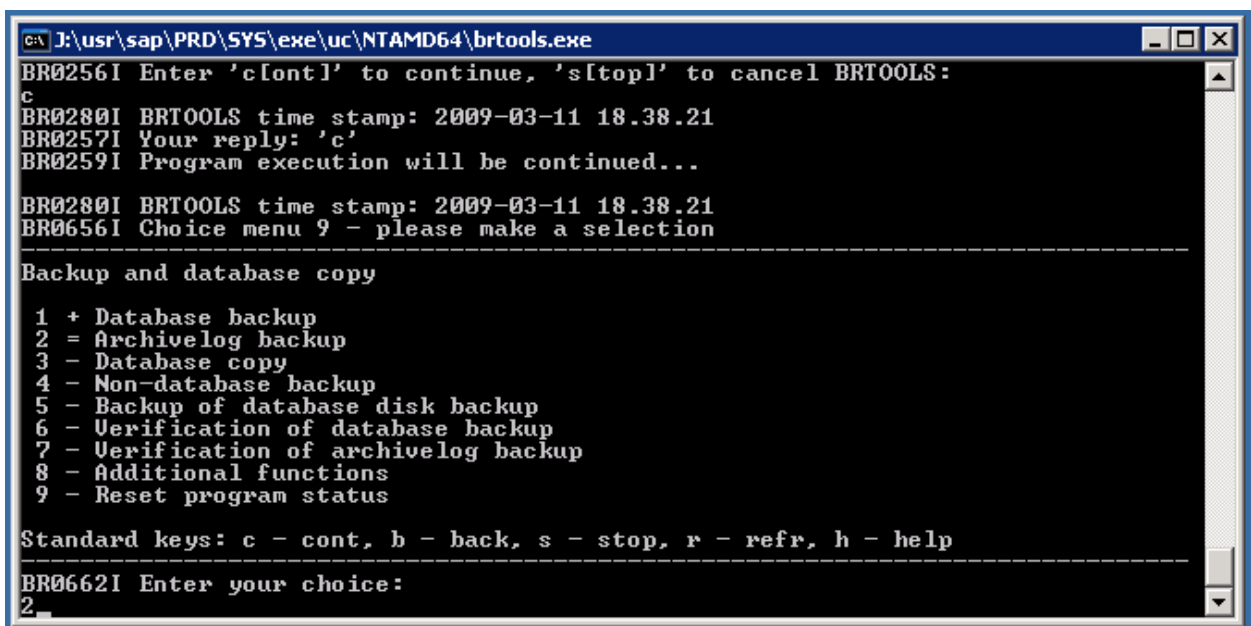
BR0202I Saving L:\oracle\PRD\sapbackup\backPRD.log
BR0203I to L:\oracle\PRD\sapbackup\PRD ...

BR0056I End of database backup: beacljno.and 2009-03-11 18.34.53
BR0280I BRBACKUP time stamp: 2009-03-11 18.34.54
BR0052I BRBACKUP completed successfully

#####

BR0292I Execution of BRBACKUP finished with return code 0
BR0280I BRTOOLS time stamp: 2009-03-11 18.34.55
BR0256I Enter 'c[ontl]' to continue, 's[top]' to cancel BRTOOLS:
c_
```

STEP- 10 ENTER OPTION 2 FOR ARCHIVE LOG BACKUP



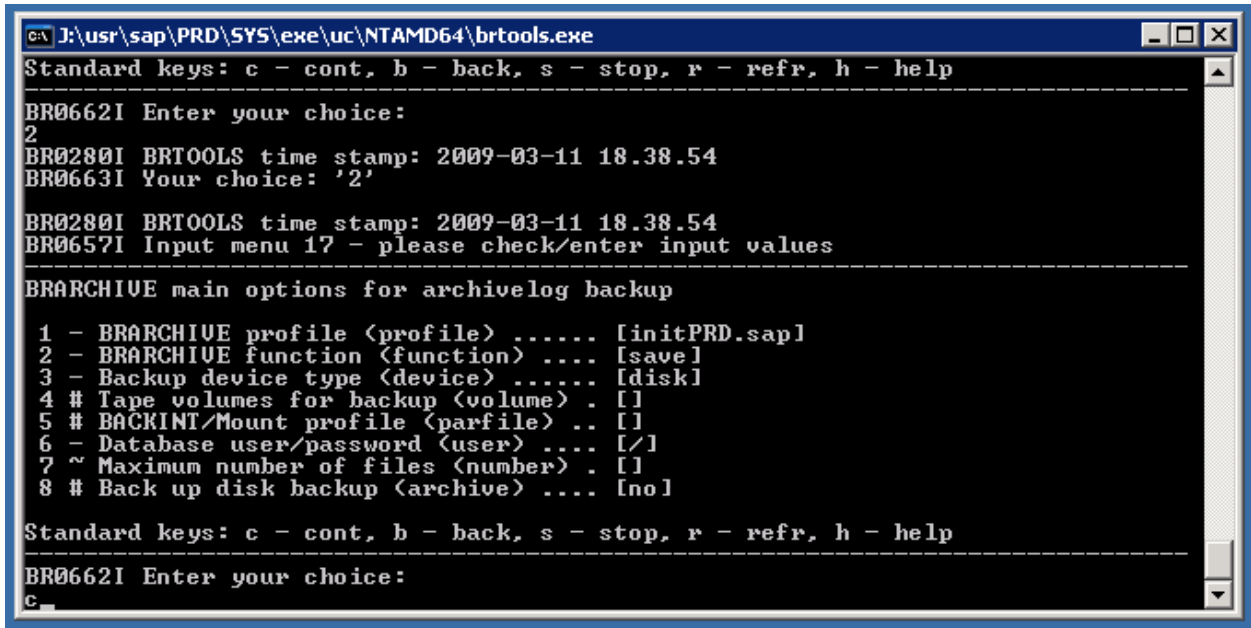
```
C:\J:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
BR0256I Enter 'c[ontl]' to continue, 's[top]' to cancel BRTOOLS:
c
BR0280I BRTOOLS time stamp: 2009-03-11 18.38.21
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRTOOLS time stamp: 2009-03-11 18.38.21
BR0656I Choice menu 9 - please make a selection

-----
Backup and database copy
1 + Database backup
2 = Archivelog backup
3 - Database copy
4 - Non-database backup
5 - Backup of database disk backup
6 - Verification of database backup
7 - Verification of archivelog backup
8 - Additional functions
9 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
2_
```

STEP- 11 CHECK ALL OPTIONS ARE SAME AS MENTIONED BELOW AND ENTER C FOR CONTINUE



```

C:\J:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
2
BR0280I BRTOOLS time stamp: 2009-03-11 18.38.54
BR0663I Your choice: '2'

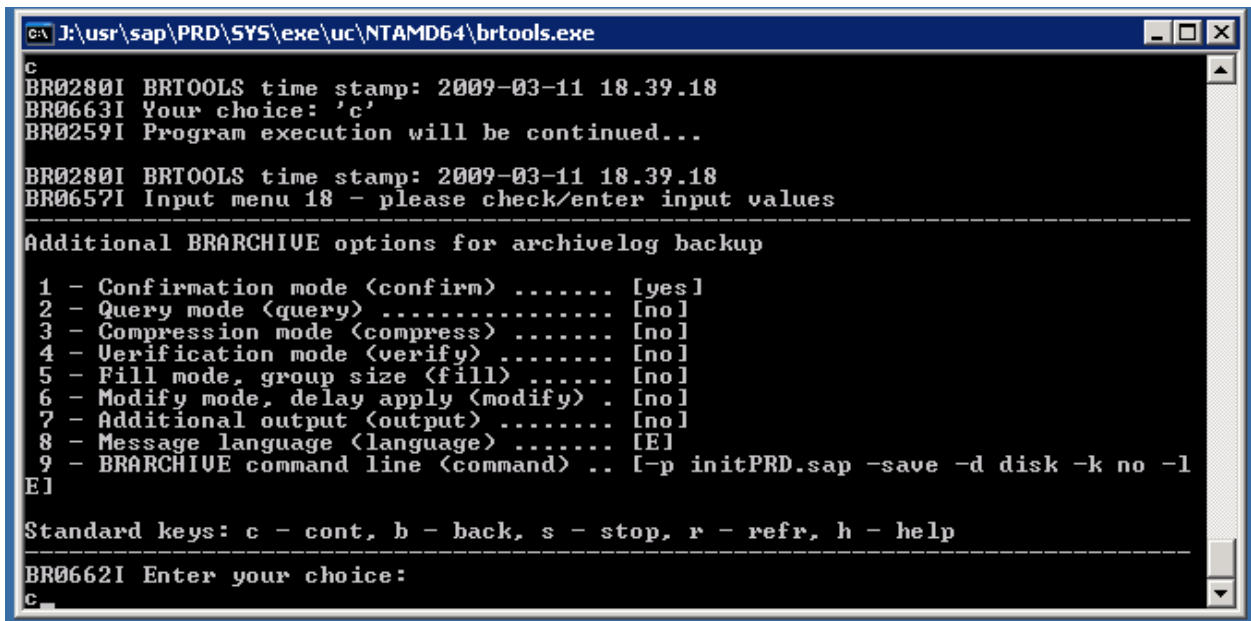
BR0280I BRTOOLS time stamp: 2009-03-11 18.38.54
BR0657I Input menu 17 - please check/enter input values
-----
BRARCHIVE main options for archivelog backup

1 - BRARCHIVE profile (profile) ..... [initPRD.sap]
2 - BRARCHIVE function (function) .... [save]
3 - Backup device type (device) ..... [disk]
4 # Tape volumes for backup (volume) . []
5 # BACKINT/Mount profile (parfile) .. []
6 - Database user/password (user) .... [/]
7 ~ Maximum number of files (number) . []
8 # Back up disk backup (archive) .... [no]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
c_

```

STEP- 12 CHECK ALL OPTIONS ARE SAME AS MENTIONED BELOW AND ENTER C FOR CONTINUE



```

C:\J:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
c
BR0280I BRTOOLS time stamp: 2009-03-11 18.39.18
BR0663I Your choice: 'c'
BR0259I Program execution will be continued...

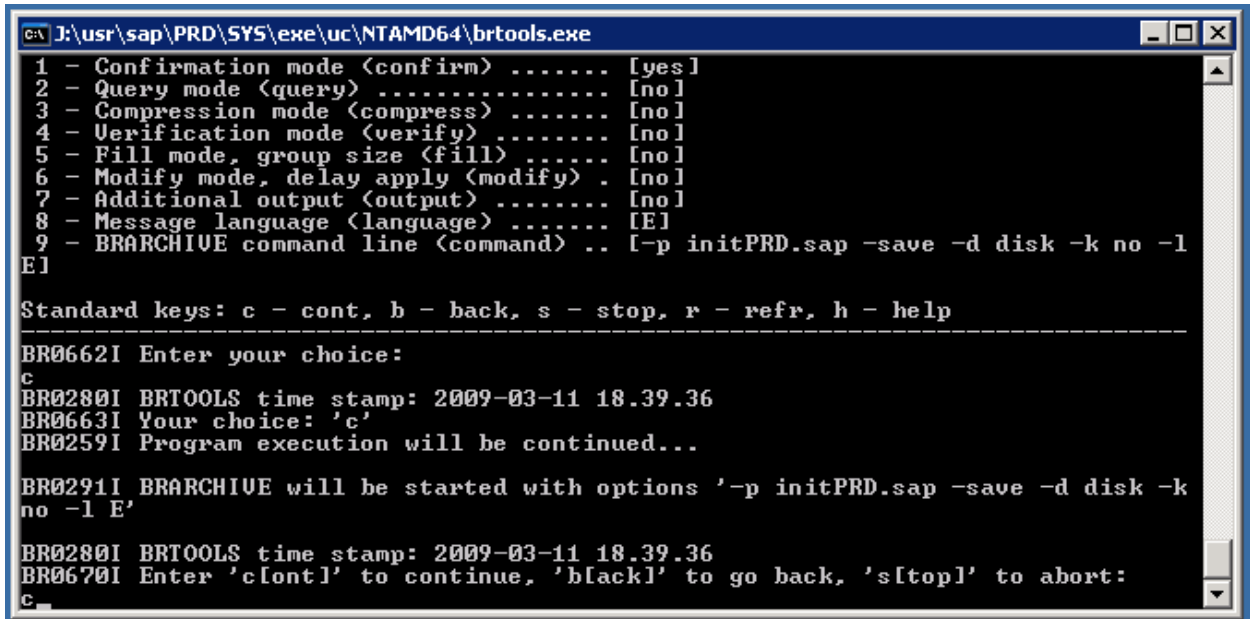
BR0280I BRTOOLS time stamp: 2009-03-11 18.39.18
BR0657I Input menu 18 - please check/enter input values
-----
Additional BRARCHIVE options for archivelog backup

1 - Confirmation mode (confirm) ..... [yes]
2 - Query mode (query) ..... [no]
3 - Compression mode (compress) ..... [no]
4 - Verification mode (verify) ..... [no]
5 - Fill mode, group size (fill) ..... [no]
6 - Modify mode, delay apply (modify) . [no]
7 - Additional output (output) ..... [no]
8 - Message language (language) ..... [E]
9 - BRARCHIVE command line (command) .. [-p initPRD.sap -save -d disk -k no -l
E]

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
c_

```

STEP- 13 ENTER C FOR CONTINUE



```

C:\J:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
1 - Confirmation mode <confirm> ..... [yes]
2 - Query mode <query> ..... [no]
3 - Compression mode <compress> ..... [no]
4 - Verification mode <verify> ..... [no]
5 - Fill mode, group size <fill> ..... [no]
6 - Modify mode, delay apply <modify> . [no]
7 - Additional output <output> ..... [no]
8 - Message language <language> ..... [E]
9 - BRARCHIVE command line <command> .. [-p initPRD.sap -save -d disk -k no -l
E]

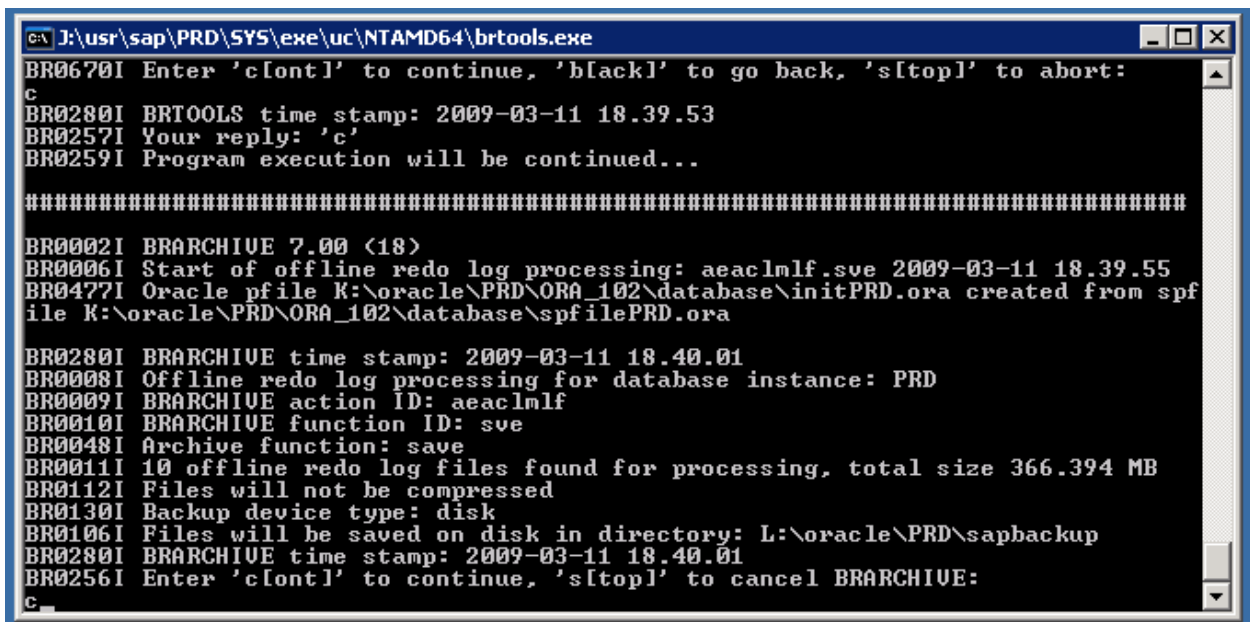
Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
c
BR0280I BRTOOLS time stamp: 2009-03-11 18.39.36
BR0663I Your choice: 'c'
BR0259I Program execution will be continued...

BR0291I BRARCHIVE will be started with options '-p initPRD.sap -save -d disk -k
no -l E'

BR0280I BRTOOLS time stamp: 2009-03-11 18.39.36
BR0670I Enter 'c[ontl]' to continue, 'b[ackl]' to go back, 's[topl]' to abort:
c

```

STEP- 14 ENTER C FOR CONTINUE



```

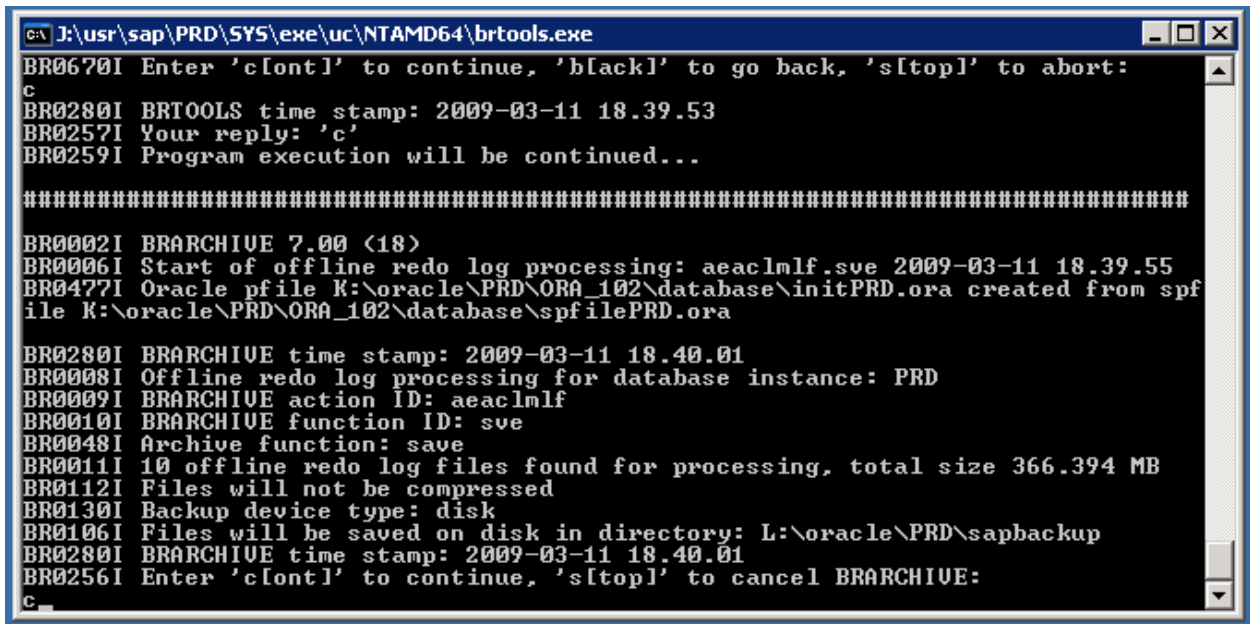
C:\J:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
BR0670I Enter 'c[ontl]' to continue, 'b[ackl]' to go back, 's[topl]' to abort:
c
BR0280I BRTOOLS time stamp: 2009-03-11 18.39.53
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

#####
BR0002I BRARCHIVE 7.00 <18>
BR0006I Start of offline redo log processing: aeacmlf.sve 2009-03-11 18.39.55
BR0477I Oracle pfile K:\oracle\PRD\ORA_102\database\initPRD.ora created from spf
ile K:\oracle\PRD\ORA_102\database\spfilePRD.ora

BR0280I BRARCHIVE time stamp: 2009-03-11 18.40.01
BR0008I Offline redo log processing for database instance: PRD
BR0009I BRARCHIVE action ID: aeacmlf
BR0010I BRARCHIVE function ID: sve
BR0048I Archive function: save
BR0011I 10 offline redo log files found for processing, total size 366.394 MB
BR0112I Files will not be compressed
BR0130I Backup device type: disk
BR0106I Files will be saved on disk in directory: L:\oracle\PRD\sapbackup
BR0280I BRARCHIVE time stamp: 2009-03-11 18.40.01
BR0256I Enter 'c[ontl]' to continue, 's[topl]' to cancel BRARCHIVE:
c

```

STEP- 15 ENTER C FOR CONTINUE



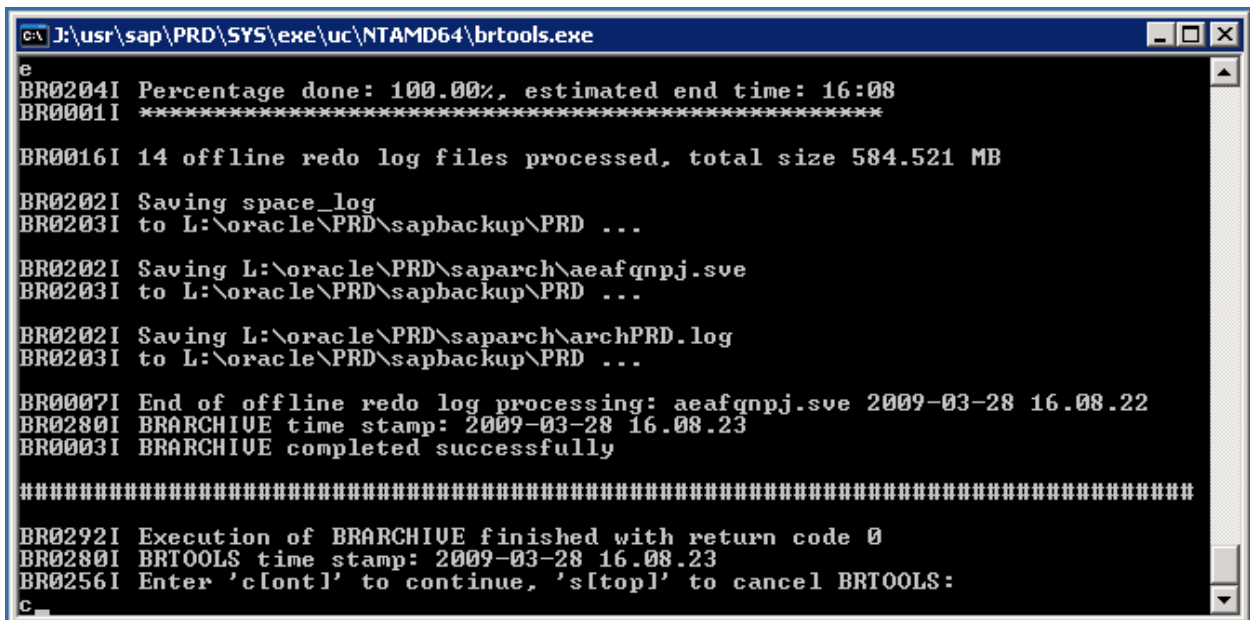
```
c:\j:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
BR0670I Enter 'c[ontl]' to continue, 'b[ack]' to go back, 's[top]' to abort:
c
BR0280I BRTOOLS time stamp: 2009-03-11 18.39.53
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

#####

BR0002I BRARCHIVE 7.00 (18)
BR0006I Start of offline redo log processing: aeacmlf.sve 2009-03-11 18.39.55
BR0477I Oracle pfile K:\oracle\PRD\ORA_102\database\initPRD.ora created from spf
ile K:\oracle\PRD\ORA_102\database\spfilePRD.ora

BR0280I BRARCHIVE time stamp: 2009-03-11 18.40.01
BR0008I Offline redo log processing for database instance: PRD
BR0009I BRARCHIVE action ID: aeacmlf
BR0010I BRARCHIVE function ID: sve
BR0048I Archive function: save
BR0011I 10 offline redo log files found for processing, total size 366.394 MB
BR0112I Files will not be compressed
BR0130I Backup device type: disk
BR0106I Files will be saved on disk in directory: L:\oracle\PRD\sapbackup
BR0280I BRARCHIVE time stamp: 2009-03-11 18.40.01
BR0256I Enter 'c[ontl]' to continue, 's[top]' to cancel BRARCHIVE:
c_
```

STEP- 16 ENTER C FOR CONTINUE AS BACKUP OF OFFLINE REDO LOGS
HAVE BEEN COMPLETED SUCCESSFULLY.



```
c:\j:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
e
BR0204I Percentage done: 100.00%, estimated end time: 16:08
BR0001I *****

BR0016I 14 offline redo log files processed, total size 584.521 MB

BR0202I Saving space_log
BR0203I to L:\oracle\PRD\sapbackup\PRD ...

BR0202I Saving L:\oracle\PRD\saparch\aeafqnpj.sve
BR0203I to L:\oracle\PRD\sapbackup\PRD ...

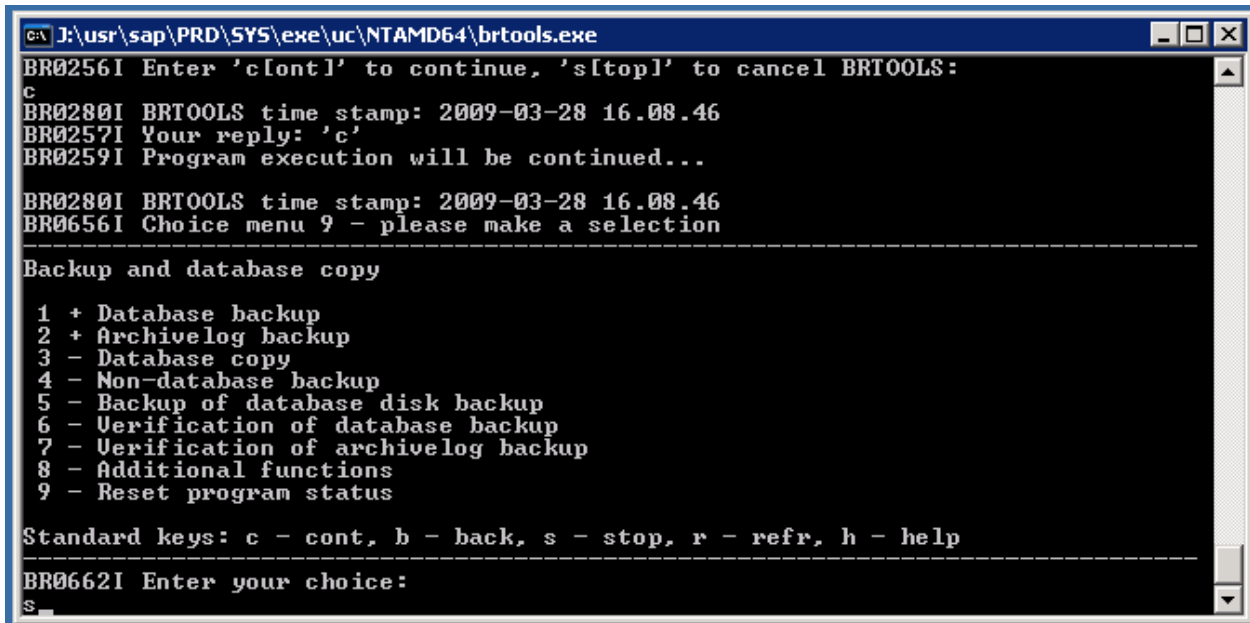
BR0202I Saving L:\oracle\PRD\saparch\archPRD.log
BR0203I to L:\oracle\PRD\sapbackup\PRD ...

BR0007I End of offline redo log processing: aeafqnpj.sve 2009-03-28 16.08.22
BR0280I BRARCHIVE time stamp: 2009-03-28 16.08.23
BR0003I BRARCHIVE completed successfully

#####

BR0292I Execution of BRARCHIVE finished with return code 0
BR0280I BRTOOLS time stamp: 2009-03-28 16.08.23
BR0256I Enter 'c[ontl]' to continue, 's[top]' to cancel BRTOOLS:
c_
```

STEP- 17 ENTER S TO CANCEL BRTOOLS

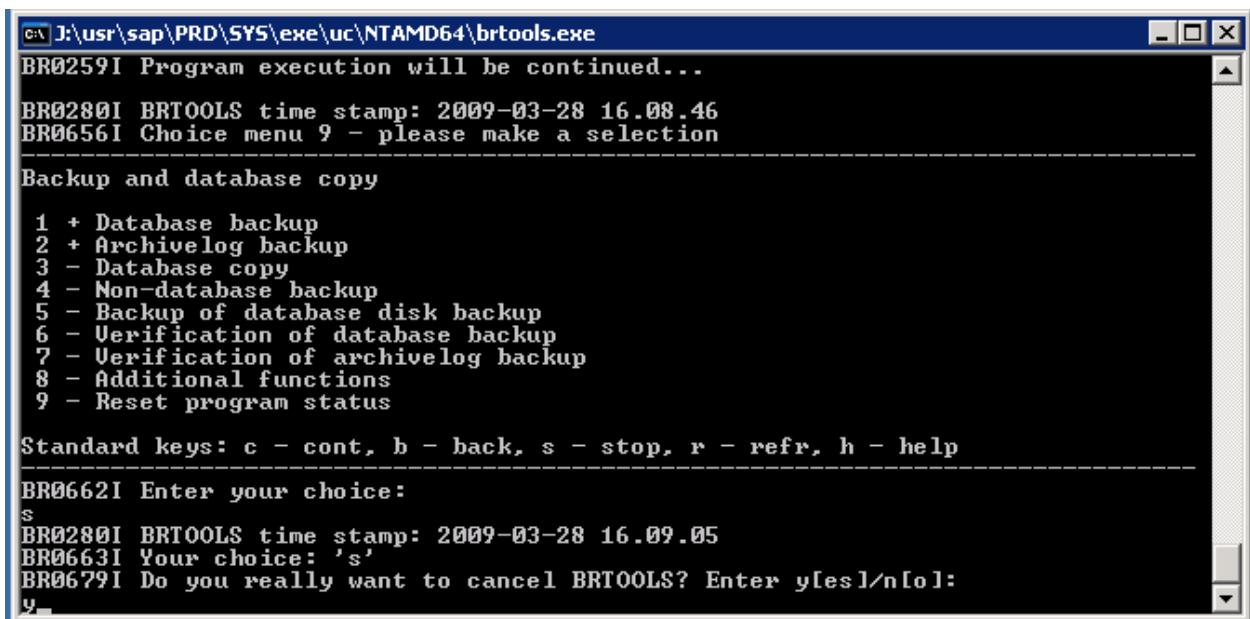


```
C:\J:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
BR0256I Enter 'c[ont]' to continue, 's[top]' to cancel BRTOOLS:
c
BR0280I BRTOOLS time stamp: 2009-03-28 16.08.46
BR0257I Your reply: 'c'
BR0259I Program execution will be continued...

BR0280I BRTOOLS time stamp: 2009-03-28 16.08.46
BR0656I Choice menu 9 - please make a selection
-----
Backup and database copy
 1 + Database backup
 2 + Archivelog backup
 3 - Database copy
 4 - Non-database backup
 5 - Backup of database disk backup
 6 - Verification of database backup
 7 - Verification of archivelog backup
 8 - Additional functions
 9 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
s
```

STEP- 18 ENTER Y TO EXIT FROM BRTOOLS

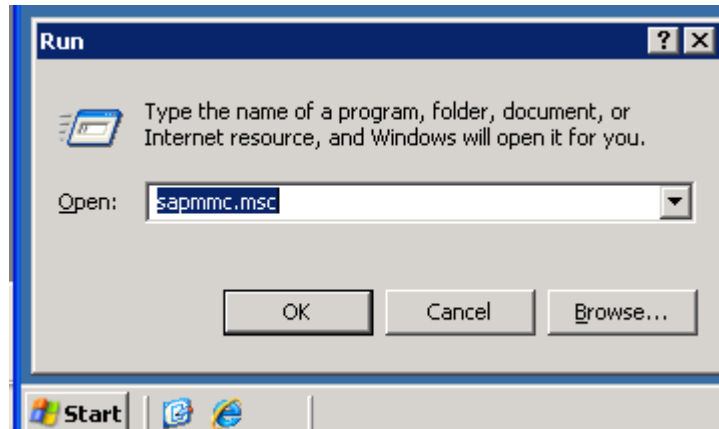


```
C:\J:\usr\sap\PRD\SYS\exe\uc\NTAMD64\brtools.exe
BR0259I Program execution will be continued...

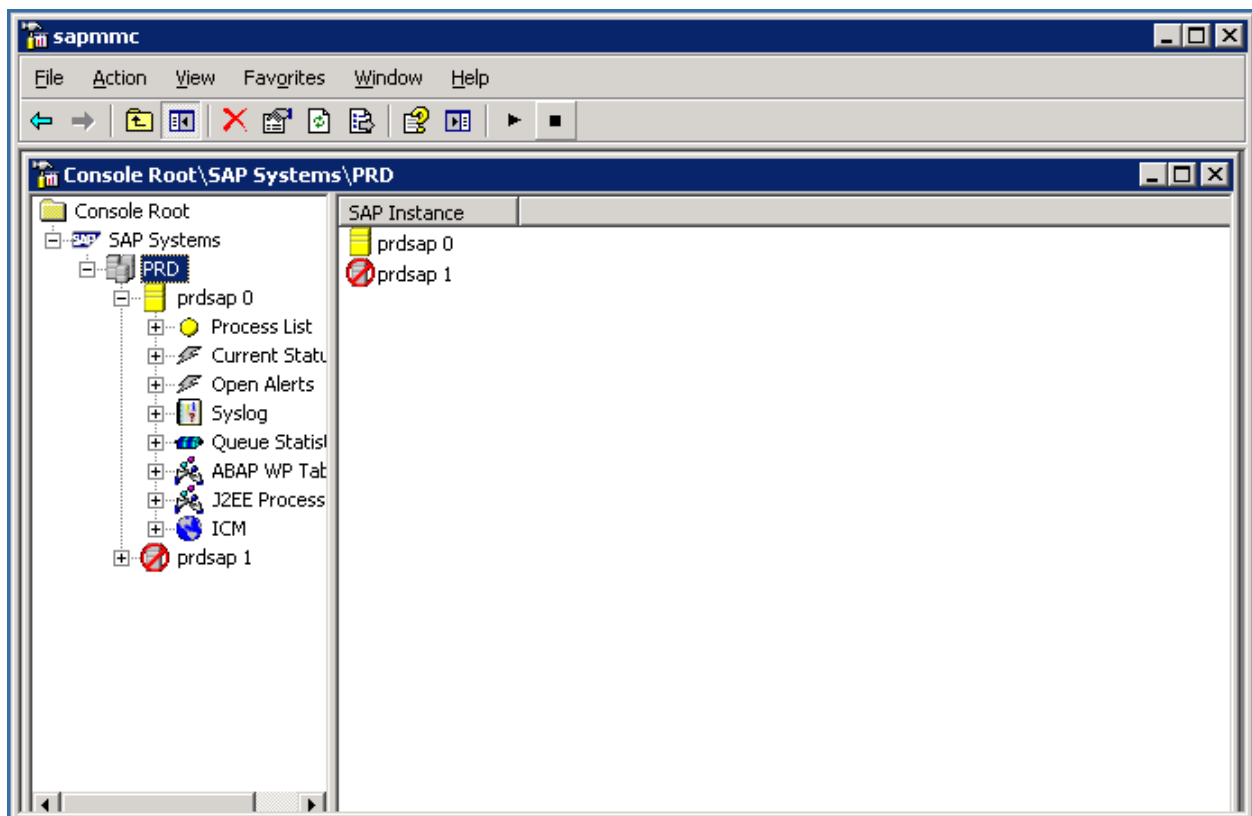
BR0280I BRTOOLS time stamp: 2009-03-28 16.08.46
BR0656I Choice menu 9 - please make a selection
-----
Backup and database copy
 1 + Database backup
 2 + Archivelog backup
 3 - Database copy
 4 - Non-database backup
 5 - Backup of database disk backup
 6 - Verification of database backup
 7 - Verification of archivelog backup
 8 - Additional functions
 9 - Reset program status

Standard keys: c - cont, b - back, s - stop, r - refr, h - help
-----
BR0662I Enter your choice:
s
BR0280I BRTOOLS time stamp: 2009-03-28 16.09.05
BR0663I Your choice: 's'
BR0679I Do you really want to cancel BRTOOLS? Enter y[es]/n[o]:
y
```

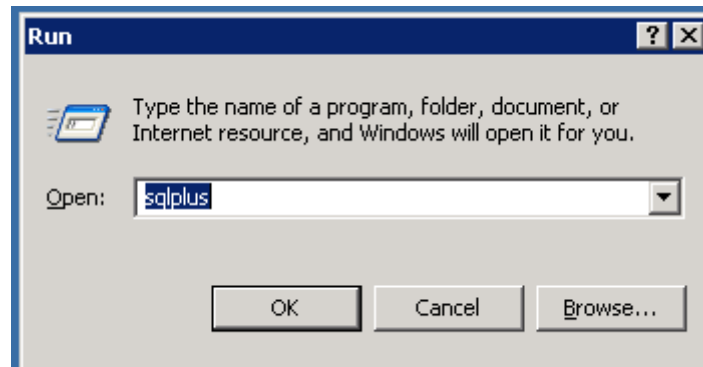
STEP- 1 **CLICK ON START - RUN AND ENTER SAPMMC.MSC IN THE INPUT BOX THEN PRESS OK BUTTON**



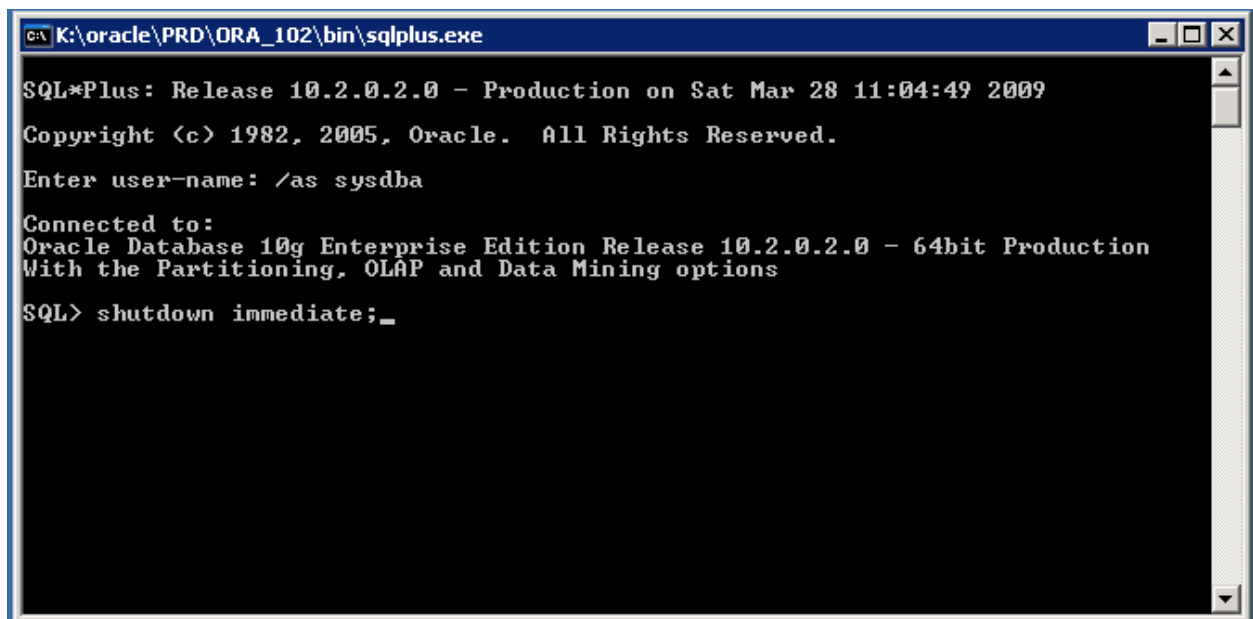
STEP- 2 **CLICK ON SAP SYSTEM (E.G. PRD,DEV,QAS) AND THEN CLICK ON STOP BUTTON TO SHUTDOWN SAP INSTANCE.**



STEP- 3 AGAIN CLICK ON START – RUN THEN ENTER SQLPLUS IN INPUT BOX AS SHOWN BELOW

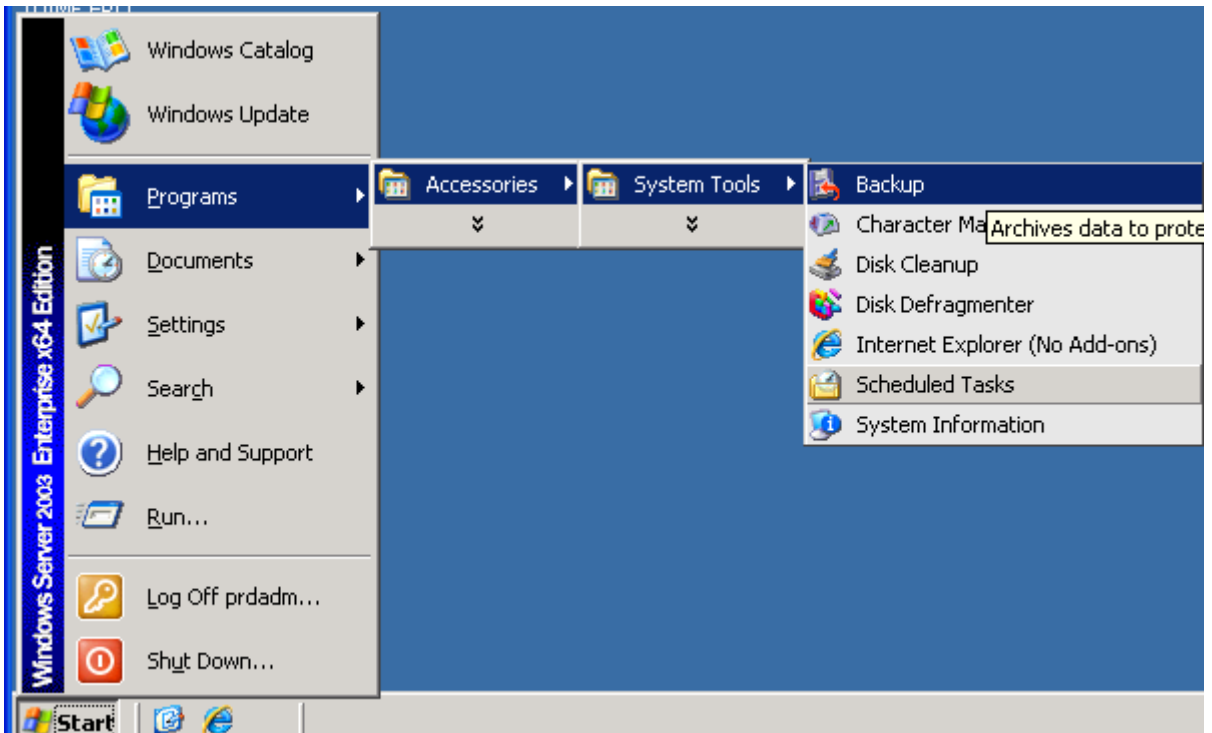


STEP- 4 ENTER USER-NAME AS “/ AS SYSDBA” AND SQL STATEMENT AS “SHUTDOWN IMMEDIATE” TO CLOSE DATABASE INSTANCE.

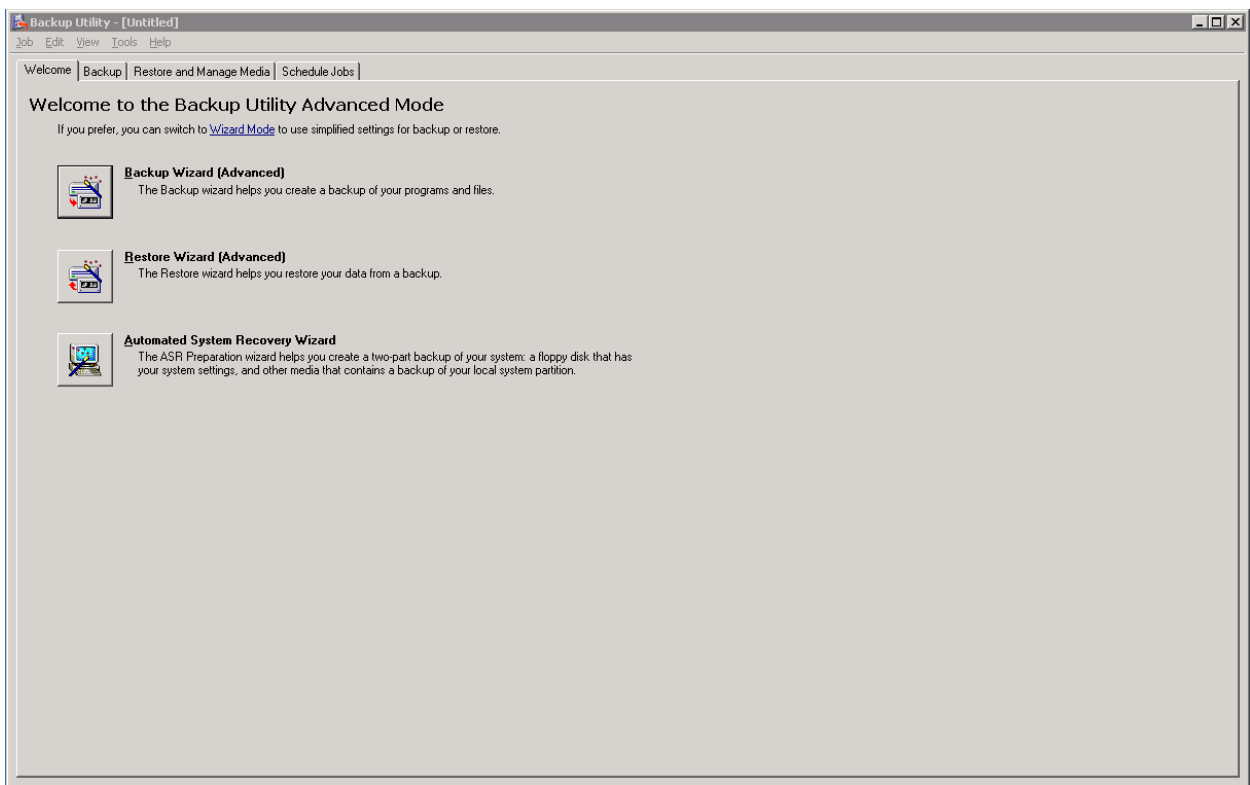
A screenshot of a terminal window titled 'C:\K:\oracle\PRD\ORA_102\bin\sqlplus.exe'. The terminal displays the following text:

```
SQL*Plus: Release 10.2.0.2.0 - Production on Sat Mar 28 11:04:49 2009
Copyright (c) 1982, 2005, Oracle. All Rights Reserved.
Enter user-name: /as sysdba
Connected to:
Oracle Database 10g Enterprise Edition Release 10.2.0.2.0 - 64bit Production
With the Partitioning, OLAP and Data Mining options
SQL> shutdown immediate;_
```

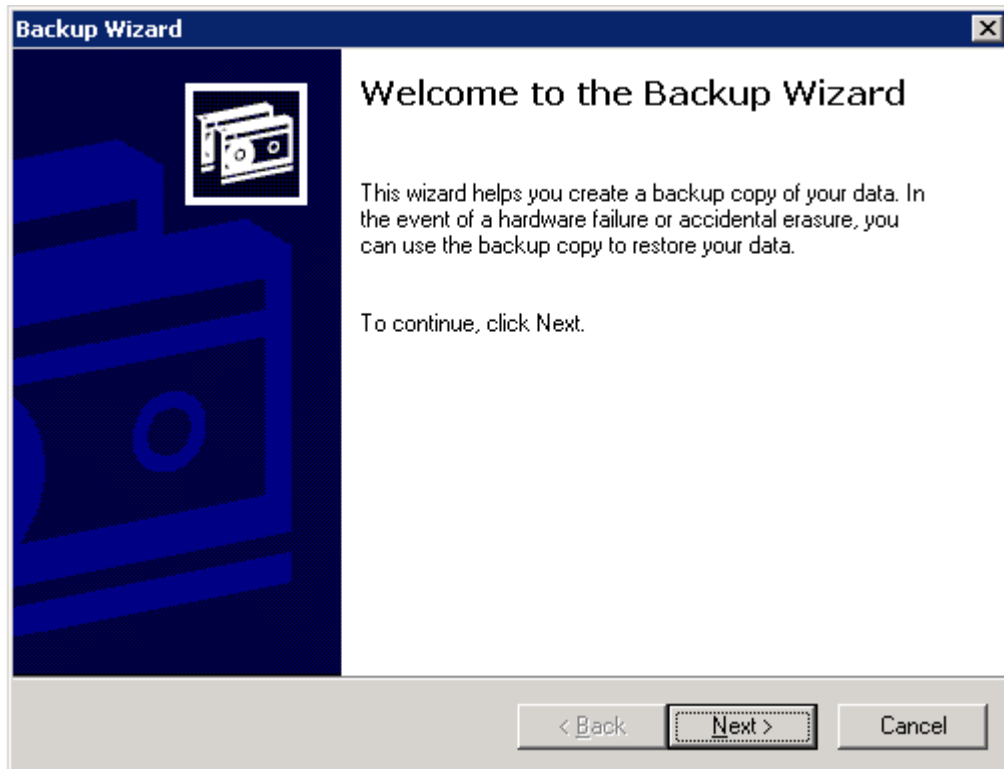
STEP- 5 **CLICK ON START-PROGRAM-ACCESSORIES-SYSTEM TOOLS-BACKUP**



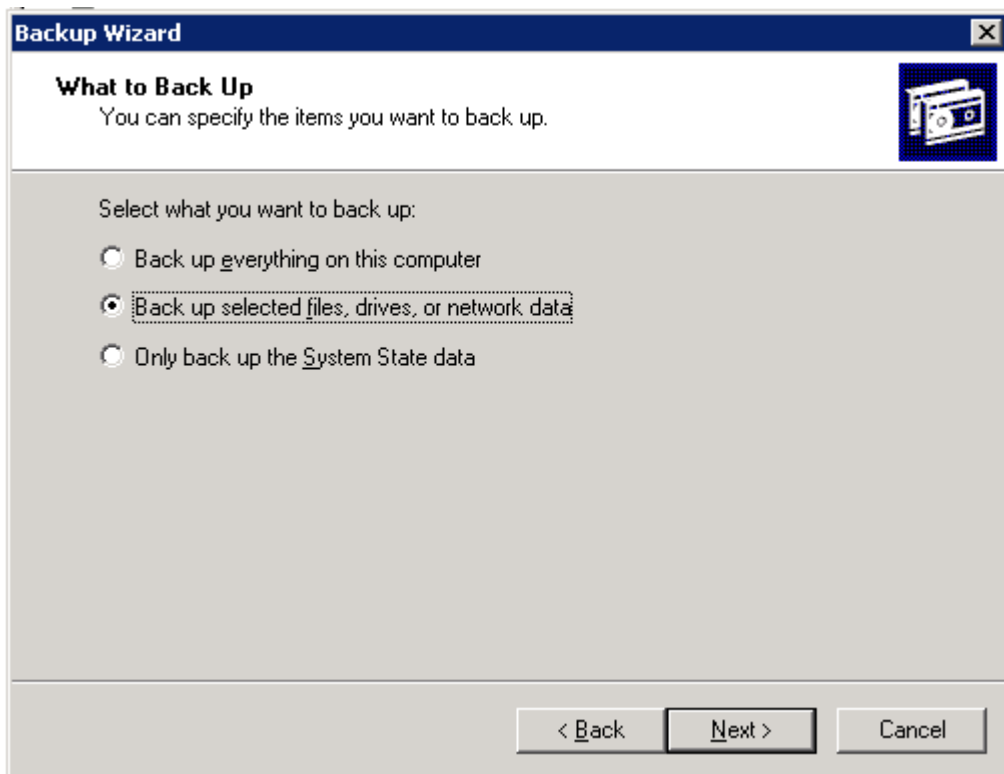
STEP- 6 **CLICK ON BACKUP WIZARD**



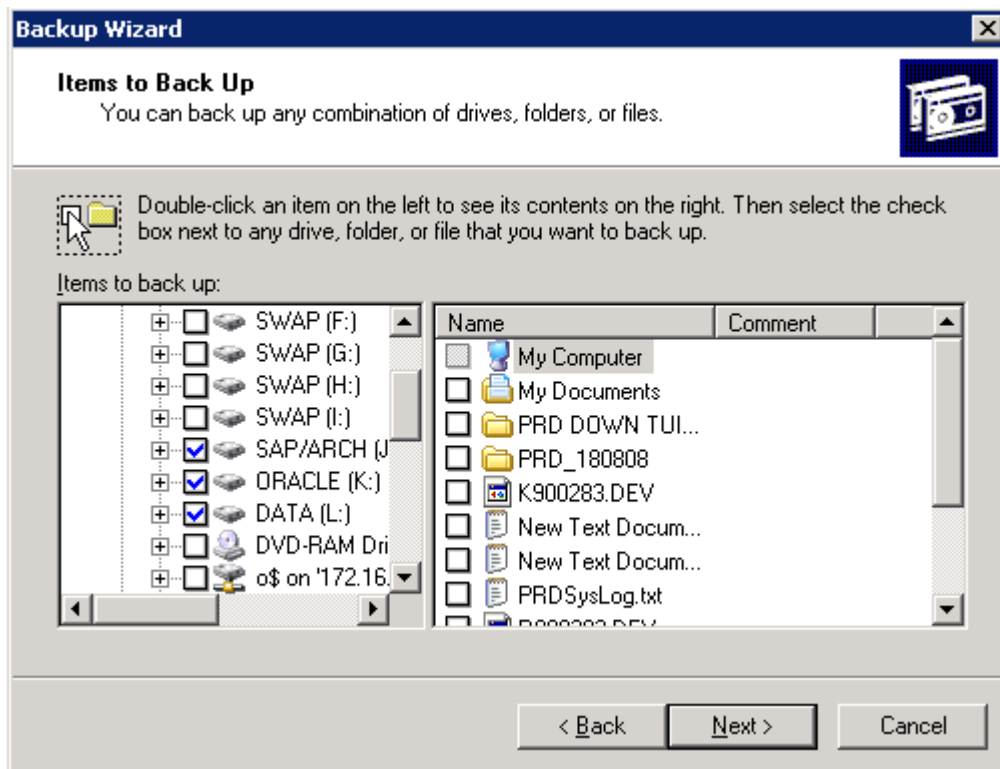
STEP- 7 **CLICK ON NEXT BUTTON**



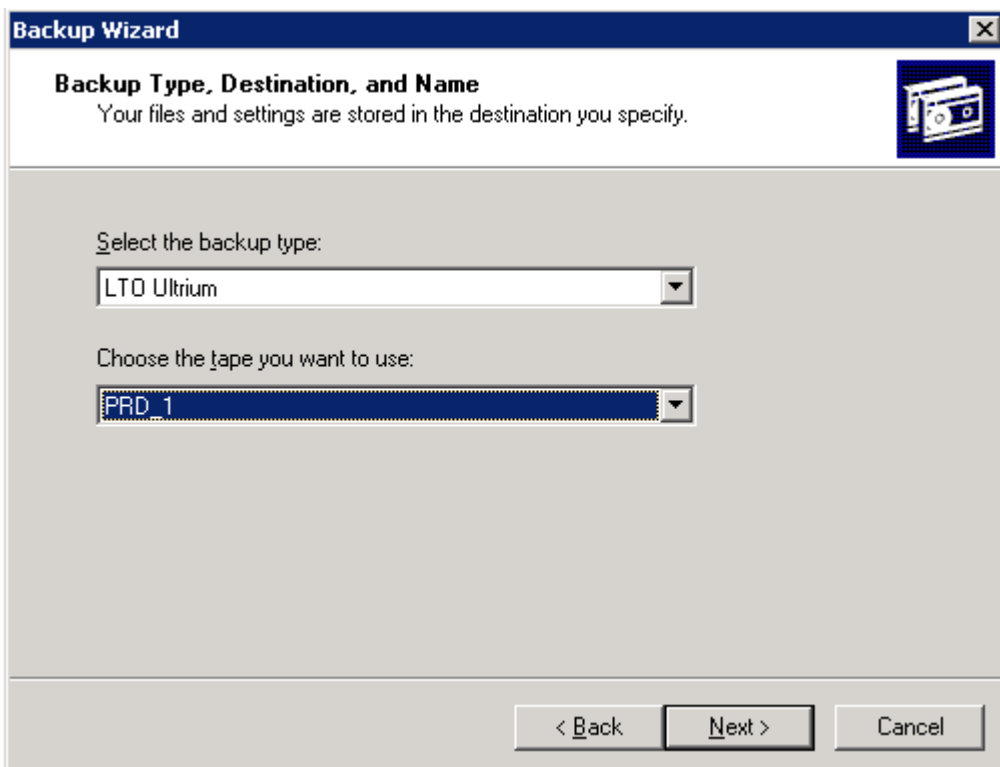
STEP- 8 **SELECT 2ND OPTION AS SHOWN BELOW**



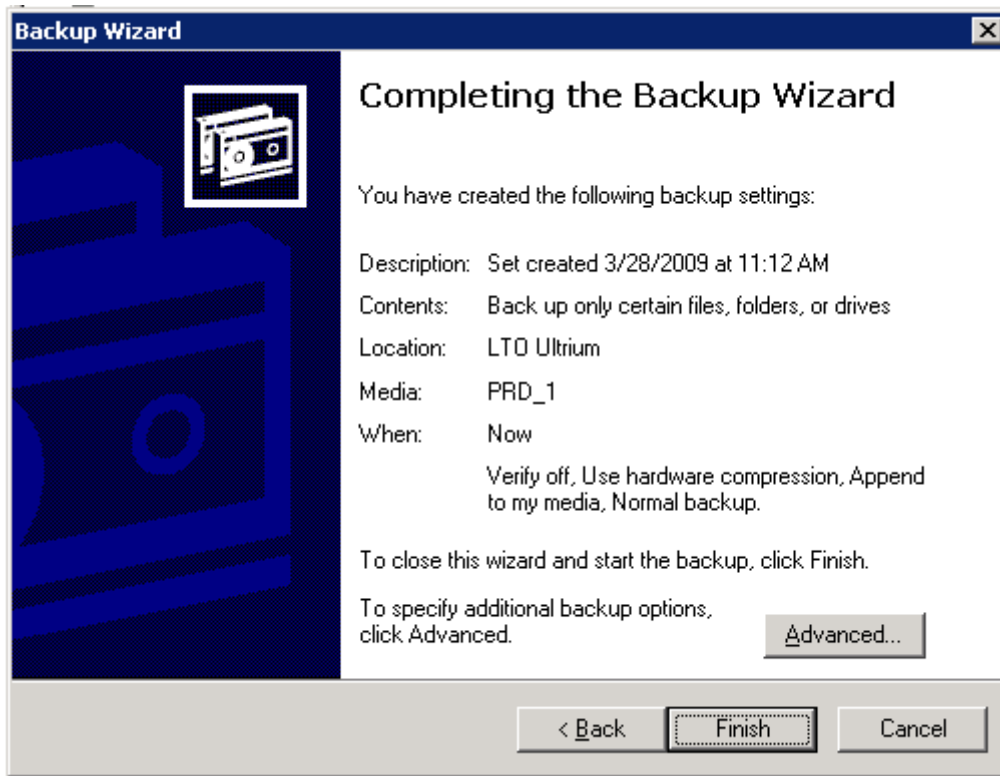
STEP- 9 SELECT DRIVES FOR SAP FILES, ORACLE FILES AND DATA FILES FOR BACKUP AND THEN CLICK ON NEXT BUTTON



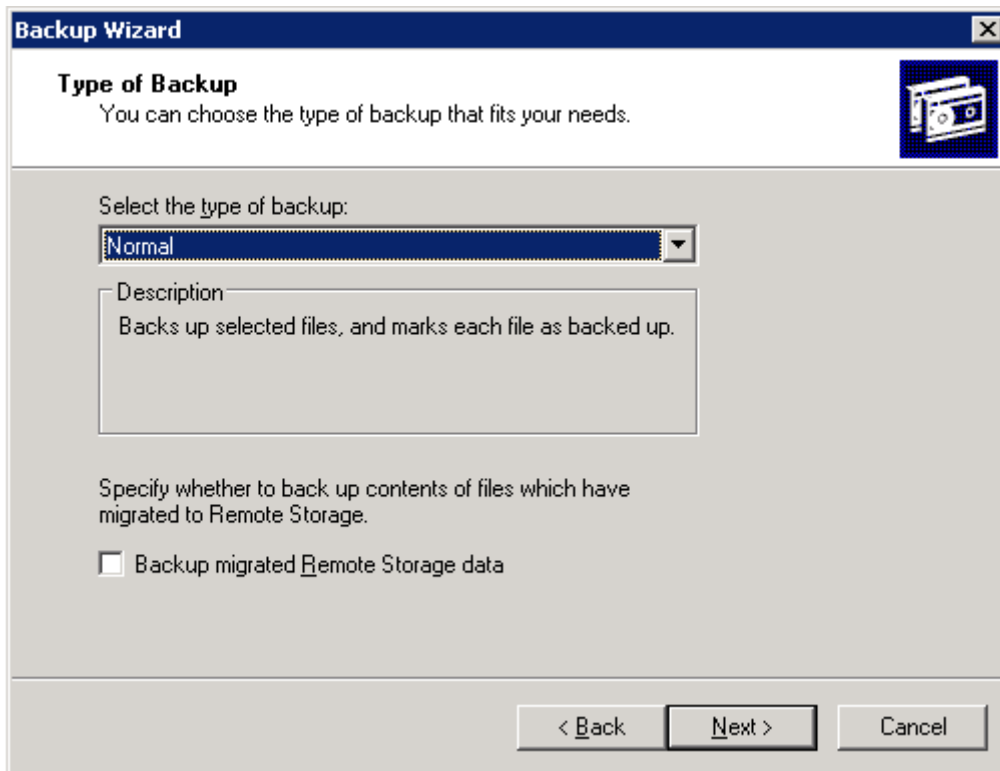
STEP- 10 SELECT BACKUP TYPE AND TAPE AND THEN CLICK ON NEXT BUTTON



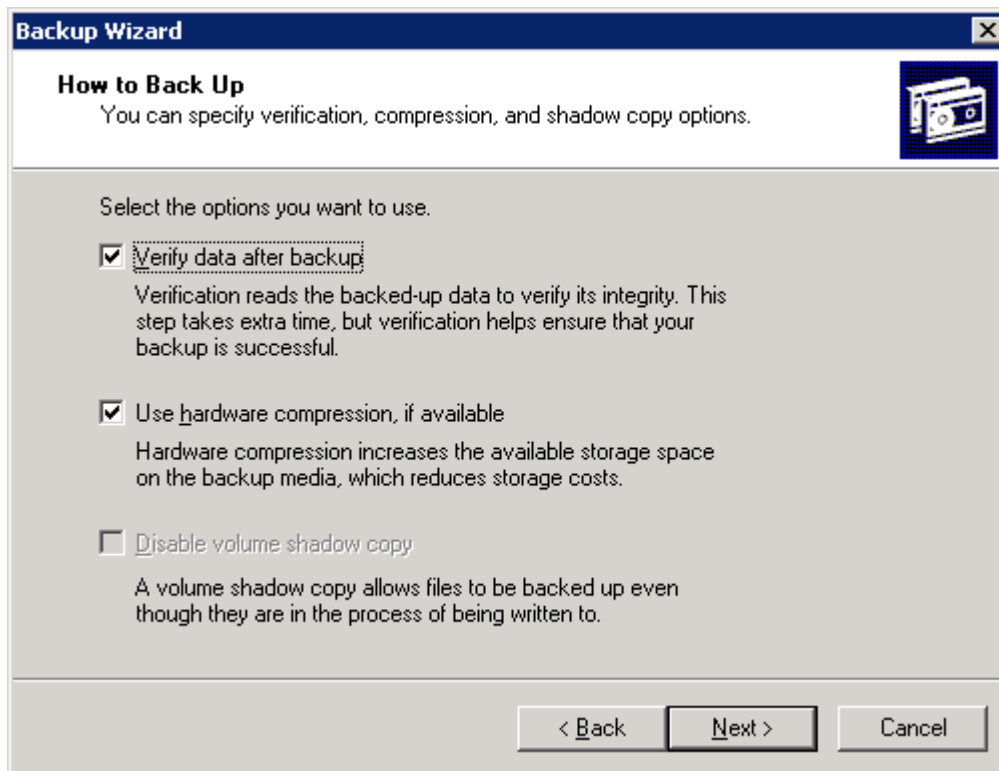
STEP- 11 **CLICK ON ADVANCE BUTTON**



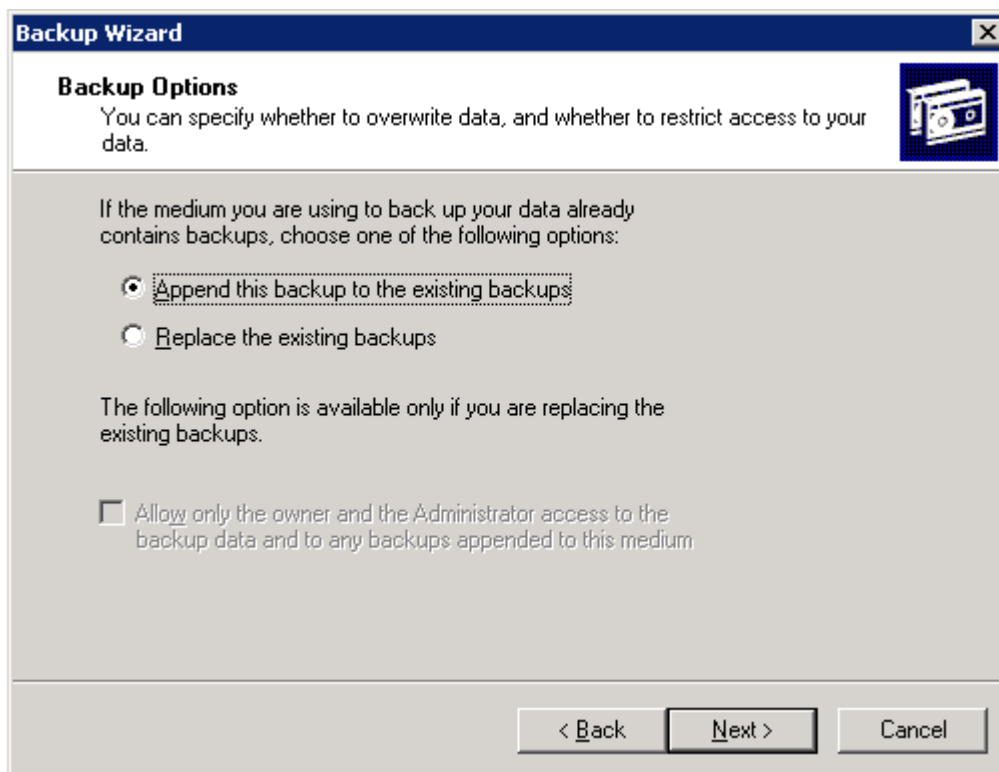
STEP- 12 **SELECT TYPE OF BACKUP AS SHOWN BELOW AND THEN CLICK ON NEXT BUTTON**



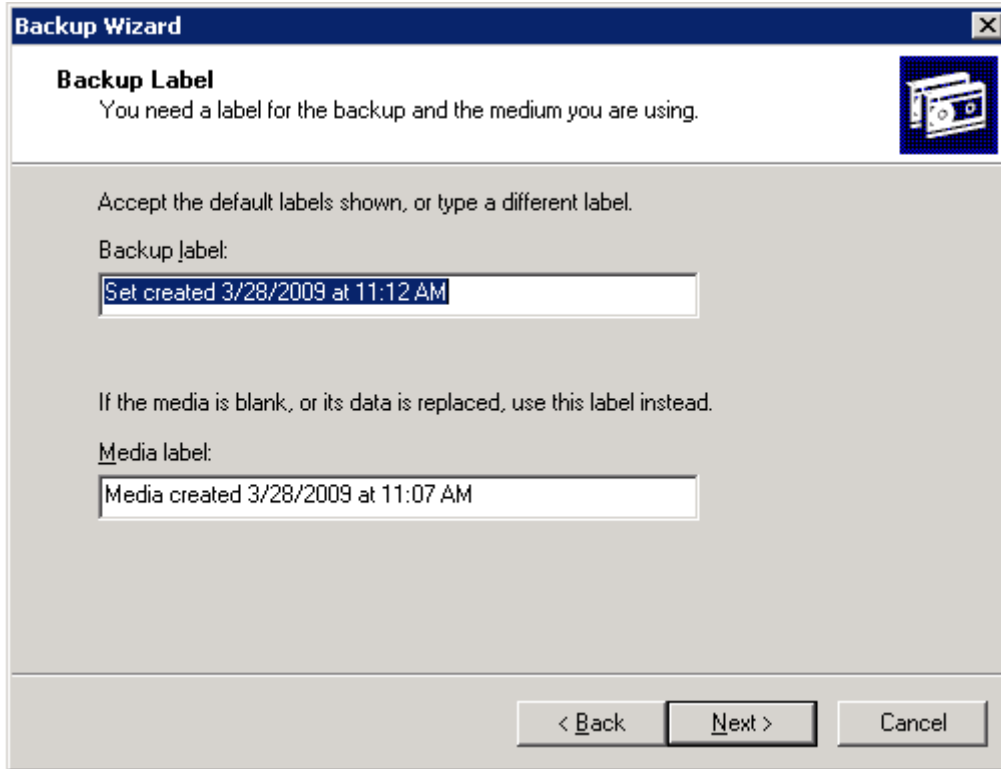
STEP- 13 CHECK FIRST TWO OPTION AND THEN CLICK ON NEXT BUTTON



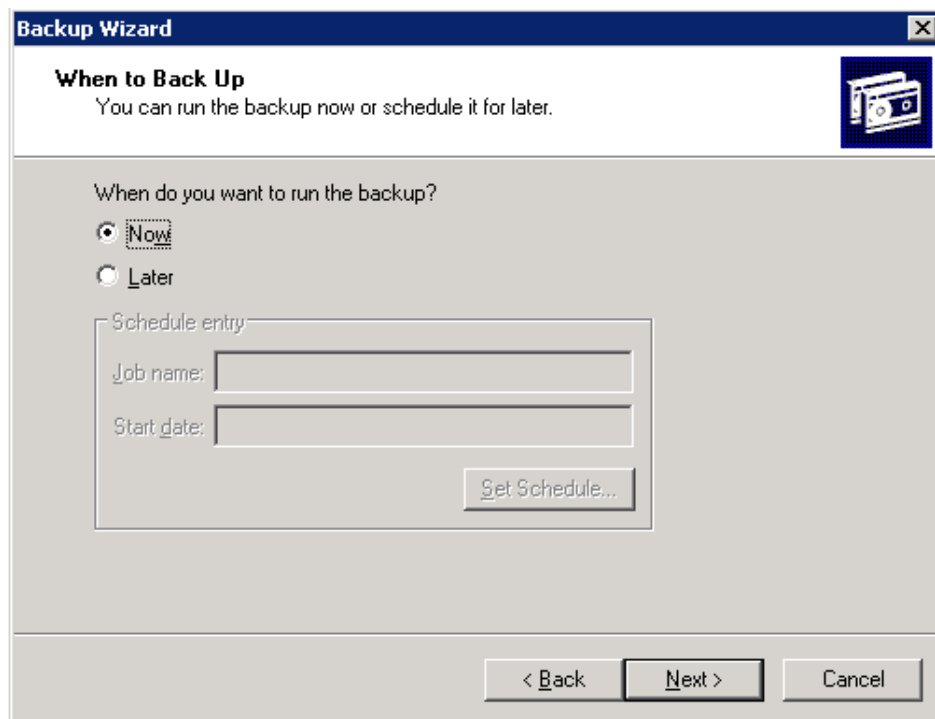
STEP- 14 SELECT 1ST OPTION WHEN TAPE IS NOT FULL AND 2ND OPTION IN CASE OF NEW TAPE OR REUSING THAT TAPE



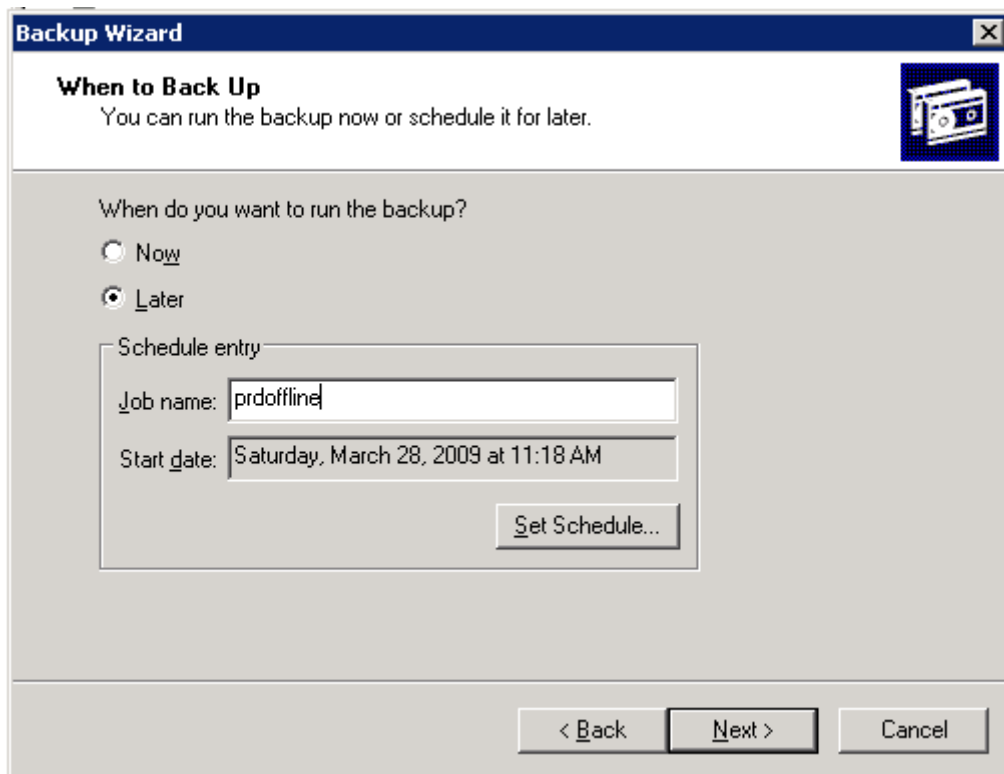
STEP- 15 **ENTER THE BACKUP LABEL AND MEDIA LABEL IN CASE OF NEW TAPE OTHERWISE LEAVE FOLLOWING OPTIONS AS IT IS AND CLICK ON NEXT BUTTON**



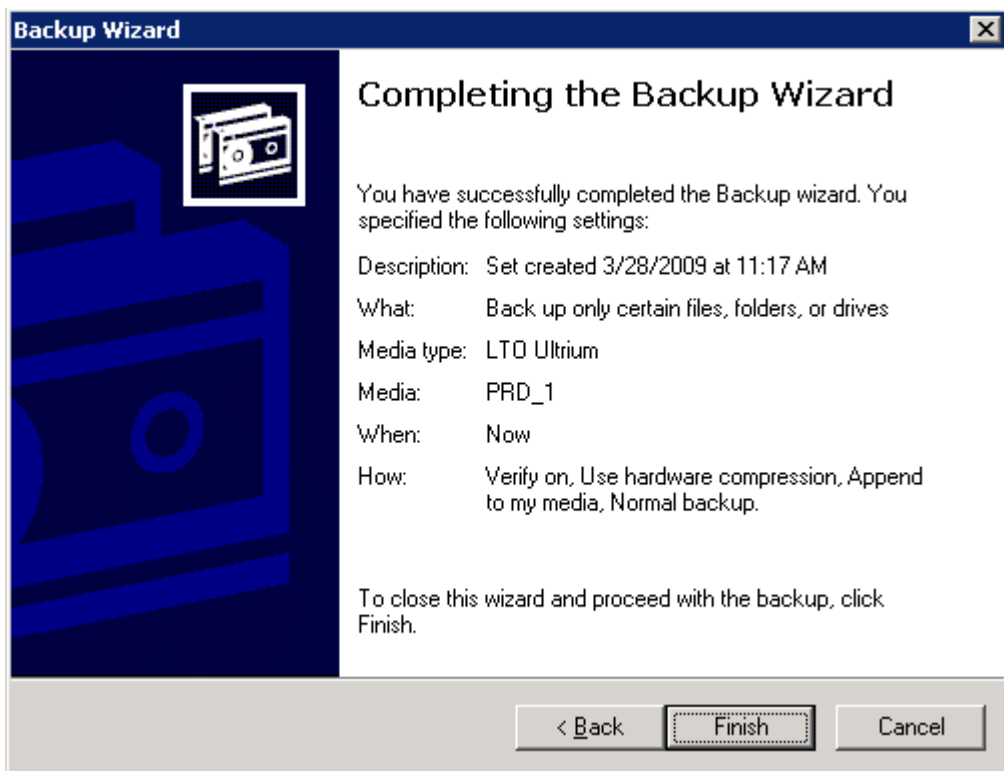
STEP- 16 **SELECT REQUIRED OPTION AS MENTIONED BELOW AND CLICK ON NEXT BUTTON**



STEP- 17 **IF YOU WANT TO SCHEDULE THE BACKUP THEN SELECT 2ND OPTION ENTER JOB NAME AND THEN CLICK ON NEXT BUTTON**



STEP- 18 **CLICK ON FINISH BUTTON TO START BACKUP NOW OR LATER**



4.2 STANDARD OPERATING PROCEDURE FOR SAP SYSTEM & DATABASE

Standard installation and post installation activities for SAP Servers:

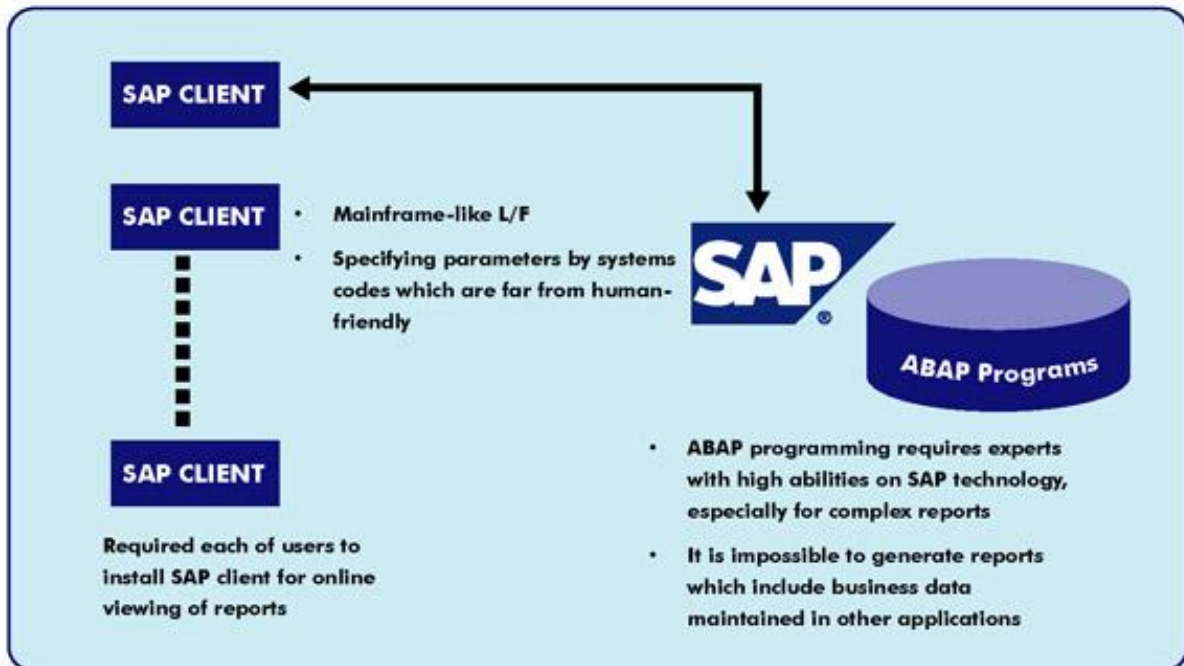
Installation Activities

- Hard Disk Partitioning according to SAP recommendation
- Swap Space Configuration
- Source creation for Database Software & its Patch
- Source creation for SAP Software ECC6 (includes SAP Kernel, SAP Installation Master CD, Exports CDS)
- Installation of Java Development Kit 1.4.2.13
- Installation of Oracle 10G
- Oracle Patch set 10.2.0.2 Installation
- Environmental Variable setting
- Installation of Database Instance
- Installation of Central Instance

Post Installation Activities

- License Installation
- Transport Management System configuration
- SAP Profiles Configuration
- SAP Client Creation
- Online SAP SYSTEM BACKUP

4.3 ABAP ACTIVITIES



- Development of Reports (Classical, Interactive & ALV's).
- Smart Forms Reporting.
- Sap Scripts
- Upload Program for Legacy System into SAP
- User Exits in all module
- Module Pools .
- Writing Technical Specs for Reports, Module Pools, etc.
- Providing Excel Transport facility in Module Pools using Excel DOI.
- Performance tuning in existing reports.
- BAPI Configuration
- Enhancement and Badi' s
- Debugging & error Tracking
- Web Portal Administration

4.4 STANDARD OPERATING PROCEDURE FOR SAP COMPLAINT SYSTEM

By user for lodging complaints

- Go to the following link <http://isb.hec.gov.pk/htmls/hectree/ttn/13/>
- Click on login button
- Enter your user name & password
- Click on “new service request”
- Search service type by writing in the input box
- Select service type from the drop down list
- Write your request / complaint in service request area
- Brows the file / screen short you want to upload and then click on upload button
- Click on post button to send this request to selected service type
- Now this request will appear into the inbox of concerned section

By administrator for resolving complaints

- The administrator of this section forward this request/complaint to related support engineer
- Support engineer resolves the issue and an automatic email has been sent to user with “yes” and “no” button
- If user’s request / complaint has been resolved then user click on “yes” button otherwise click on “no” button
- Other option like status tracking, submit request, reports and help are also available on the user’s dashboard.