



ABSSolute Management Scripts for Linux x64

Created for:

“ABSSolute’s System Administrators”

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Scope

This document describes the ABSSolute Management Script for Linux Operating System.

The set of script is created to support consistent deployment of ABSSolute software stack from a central repository. It also features fast deployment of supported release version, patch, license, among others.

Background

The set of script supports deployment of ABSSolute v9.09.00 and segregation of web applications on Tomcat9 and Tomcat10 pertaining to the compatibility matrix for ABSSolute's Web Applications.

The script is also backward compatible for ABSSolute versions (v9.0+).

Notes for absmenu release 9.09.00_20241104

New features/fixes:

- Support for ABSSolute v9.09.00 and earlier versions.
- Support for Java v21 (zulu_21_38_21_9e657f56db5a).
- ABS Web Service for mobile is deprecated.
- "plugins" folder moved from Report Server "lib" directory to Reportserver directory
- Added "-cp \$ABS_HOME/Server/Lib/server-impl.jar:\$ABS_HOME/Server/Lib/*" to classpath parameter for application server process startup line"
- Added new absmenu option to Restart Report Server processes for the environment.

Compatibility Matrix

ABSolute Web Application – compatibility matrix:

In order to support the web applications, part of the ABSolute v9.08.01+ will be deployed into Tomcat v9 and the remaining on Tomcat v10.

The following table shows the distribution of the web applications:

Web Application Name	Web Server Version
ABSGenericWebService	Tomcat 9
ABSMobileFireBaseServices	Tomcat 10
ABSMobileRestServices	Tomcat 9
ABSRestServices	Tomcat 9
ABSWebPortal	Tomcat 10
ABSWS4MobileApps	Tomcat 9
UHFMonitor	Tomcat 10
WebClientCleanroomPackingInstructions	Tomcat 10
WebClientReplaceSmartBarcode	Tomcat 10
WebClientResidentialDelivery	Tomcat 10
WebClientRouteReturns	Tomcat 10
WebClientX	Tomcat 10

For ABSolute v9.07.00.RELEASE.p23, a new Tomcat v9 (9.0.88.0) is be used. This bundle is used to deploy all of the web applications:

Web Application Name	Web Server Version
ABSGenericWebService	Tomcat9 (9.0.88.0)
ABSMobileFireBaseServices	Tomcat9 (9.0.88.0)
ABSMobileRestServices	Tomcat9 (9.0.88.0)
ABSRestServices	Tomcat9 (9.0.88.0)
ABSWebPortal	Tomcat9 (9.0.88.0)
ABSWS4MobileApps	Tomcat9 (9.0.88.0)
UHFMonitor	Tomcat9 (9.0.88.0)
WebClientCleanroomPackingInstructions	Tomcat9 (9.0.88.0)
WebClientReplaceSmartBarcode	Tomcat9 (9.0.88.0)
WebClientResidentialDelivery	Tomcat9 (9.0.88.0)
WebClientRouteReturns	Tomcat9 (9.0.88.0)
WebClientX	Tomcat9 (9.0.88.0)

References:

<https://confluence.internal.abslbs.com/pages/viewpage.action?pageId=294977714>

<https://confluence.internal.abslbs.com/display/AID/ABSolute+Technical+Compatibility+Matrix>

Requirements

Software	File	From
64-bit Linux	-	RHEL 7/8, OLE 7/8 oracle linux - Microsoft Apps
Java 17	zulu_17_44_15_0e4a26618b62.zip zulu_21_38_21_9e657f56db5a	ABS FTP/ABS NAS http://ftp.abssolute.net/Java/java17/Zulu_17_44_15_0e4a26618b62_linux.zip http://ftp.abssolute.net/Java/java21/zulu_21_38_21_9e657f56db5a-linux_x64.tar.gz
Oracle 19c full/instant Client	-	ABS FTP http://ftp.abssolute.net/Oracle/Client/Oracle_19c_Lin64/LINUX.X64_193000_client.zip
Password-less inter-server ssh	Setup User Equivalence on Linux_v1.pdf	Confluence https://confluence.internal.abslbs.com/download/attachments/14811833/Set%20up%20user%20equivalence%20on%20Linux.pdf?api=v2
ABSSolute Software	Update_Linux_9.08.XX.build_*.zip	ABS Release 9.08.00 or higher ftp://ftp.abssolute.net/ABSSolute
ABSSolute Management Script	ABSSolute Management Scripts for Linux x64	ftp.abssolute.net/ /Tools/absmenu/
Linux ABSSolute Management Script Manual	ABSSolute_Management_Scripts_v9.09.00_v1.pdf	Confluence ftp.abssolute.net/Tools/absmenu/v9.09.00/20241108/Docs

- One or multiple Linux servers supporting bash shell / interpreter.
 - Server validation per standard procedure
 - Consideration: System configuration, RAM, SWAP, disk partitions, libraries, etc
- Create local user typically: abssolute
- User Equivalence: password less secure shell inter-server access.

Pre-installation Installation consideration

1. When installing the Linux operating system, please ensure that the system is installed with the 'default rpm base' needed for the Oracle client. Referring to the installation manual of the Oracle client, it heavily depends on a specific Linux library base. In the manuals, it is often spoken about the dependency of the 'default rpm base'.
2. Check the Oracle client installation manual for the Linux distribution of your choice and do an install of the 'default rpm base'.

Standard Linux Installation

During OS installation take care of the following conditions:

1. Check the documentation to define the default rpm during package section. Install the required software groups & packages recommended by Oracle.
2. Disk layout:
 - /tmp - should be at least 4GB
 - /abs - used for ABS software, at least 60GB
3. Linux Firewall
 - Disable the firewall in case network firewall is used
 - Configure all ports per supported port ranges for ABSolute v9.08
4. Selinux
 - Disable or enable in permissive mode
5. Keep Kdump Disabled
6. Patch OS to the latest patch level
7. For Customers:
 - Communicate Servers' Mac Addresses and IP Addresses of all servers to ABS so corresponding licenses can be provided.
8. For ABS Internal:
 - Register Servers' Mac Addresses and IP Addresses of all servers into APEX following standard procedure so corresponding licenses can be generated.

Linux Configuration for ABS

-> means as root user

\$ -> means run as "absolute" user

1. Install additional packages if not default deployed:
 - Xvfb
 - strace
 - net-snmp-utils
 - lsof
2. Change memory swapping behavior:
 - Because all middle tier processes will run as daemon processes and will be the primary tasks on the operating system we don't want swapping out used RAM used by these middle tier processes to disk. To prevent this, we change the swappiness parameter from 60 (default) to 10:
 - To check the current swappiness parameter value run the command:

```
# cat /proc/sys/vm/swappiness
```

```
60
```

This value needs to be changed to 10. This can be changed at runtime with the following command:

```
# echo "10" > /proc/sys/vm/swappiness
```

This can be set permanent by setting the line `vm.swappiness=10` in `/etc/sysctl.conf`
That can be done with command:

```
# sysctl -w vm.swappiness=10
```
3. Create Linux user named **absolute**, this will have the ownership of all ABS software and all middle tier processes will run under this account.
4. Create the folder `/abs` with ownership of the **absolute** Linux account. This folder is the root of the middle tier software.
5. The Linux servers should be accessible by ssh remote logins (putty or alternatives).
6. If multiple middle tier servers are involved, please set up user equivalence for the **absolute** Linux users.

Setup User Equivalence

User equivalence is needed to automate remote activities from a central server. Please follow document “Set up user equivalence on Linux v1.pdf” to set this up correctly.

An extract of the document is as follows:

```

1) Log in on server1 as user absolute

2) Generate RSA and DSA keys on both nodes

2.1) create .ssh directory
[absolute@server1 ~]$ mkdir -p ~/.ssh
[absolute@server1 ~]$ chmod 700 ~/.ssh

2.2) generate rsa and dsa public key pairs (use default filename and no passphrase, so just hit enter when asked those questions)
[absolute@server1 ~]$ /usr/bin/ssh-keygen -t rsa
[absolute@server1 ~]$ /usr/bin/ssh-keygen -t dsa

2.3) check if the files are created
[absolute@server1 ~]$ cd ~/.ssh
[absolute@server1 .ssh]$ ls -l *.pub

2.4) log in on server2 in a separate session as user absolute, and repeat steps 2.1, 2.2 and 2.3 there

3) create and fill the authorized_keys file on server1

3.1) go to server1

3.2) create and fill the file
[absolute@server1 .ssh]$ touch authorized_keys
[absolute@server1 .ssh]$ ssh server1 cat ~/.ssh/id_rsa.pub >> authorized_keys
[absolute@server1 .ssh]$ ssh server1 cat ~/.ssh/id_dsa.pub >> authorized_keys
[absolute@server1 .ssh]$ ssh server2 cat ~/.ssh/id_rsa.pub >> authorized_keys
[absolute@server1 .ssh]$ ssh server2 cat ~/.ssh/id_dsa.pub >> authorized_keys

4) copy the authorized_keys file to server2
[absolute@server1 .ssh]$ scp authorized_keys server2:~/.ssh/authorized_keys

5) set permissions
[absolute@server1 .ssh]$ chmod 600 authorized_keys
[absolute@server1 .ssh]$ ssh server2
[absolute@server2 ~]$ cd ~/.ssh
[absolute@server2 .ssh]$ chmod 600 authorized_keys

6) test connectivity
[absolute@server2 .ssh]$ ssh server1      (you should now be on server1, no password asked)
[absolute@server1 ~]$ ssh server2      (you should be on server2, no password asked)
[absolute@server2 ~]$ ssh server1      (you should be on server1, no password asked)

```

Setup Standard Software Base

Prepare the following tasks as the **absolute** linux user:

1. Install the latest Java 17 SDK. Extract the self-extractable archive (executable) zulu*.zip into location /abs.
2. Install the Oracle full Client or optionally the instant client
 - Please refer to the abs_config.sh for recommended location.
3. To configure the Oracle Full Client, edit the tnsnames.ora file (\$ORACLE_HOME/network/admin/tnsnames.ora) and add or change an entry so it points to your database.
4. Deploy abs.sh & abs_config.sh script to /abs directory and make them executable.
5. Configure abs_config.sh script by setting the following key values:
 - Needed for binding rmi traffic to one network adaptor
 - **ABSHOST="10.10.200.36" # IP-address or DNS name of the server**
 - Define location of Java home:
 - **JAVA17_44_HOME=/abs/zulu_17_44_15_0e4a26618b62**
 - Define location of Oracle home
 - **ORACLE_HOME=/abs/oracle/product/19.3.0/client_1**

Set up Standalone ABSolute Backend

Preface:

When absmenu centralized software management is being used, the creation of installation homes and defining properties is done automatically from central location. This chapter can be ignored.

Manual setup:

All files and folders of the tree **/abs** should belong to the user where the middle tier processes will run from.

1. Create the directory **/abs/1**
2. Extract the Server / Reportserver archive in directory **/abs/1**
3. Copy all customer (custom) reports to directory **/abs/1/Reportserver/CrReports/CUSTOMER** if needed
4. Copy this machine's license file to directory **/abs/1/Server/License**
5. Configure the ABSolute Server by editing the **/abs/1/Server/Config/application.properties** file
6. Configure the Reportserver by editing the **/abs/1/ReportServer/Config/ReportServer.properties properties** file
7. Start the ABSolute Application server and the Reportserver
8. Define and create necessary export/import locations if needed. These are defined in the database and can be edited using the system settings dialogue in the ABSolute application.

Managing the ABSolute Server

1. This chapter describes the basic management functionality using the `abs.sh` script for the application server process. Please lookup the full documentation for the linux management script for all possibilities.
2. Using the script `/abs/abs.sh` you can manage all the middle tiers running on a single server. With this single script it is possible to start, stop, restart, or ask the status of every abs middle tier process.
3. The script can give you a help screen that provides all possible options. To get this screen, first go to directory `/abs` (this is where the script should be) and type `./abs.sh -h`
4. This below help screen will be shown with `-h` option :

```
[abs@tomcat1 abs]$ ./abs.sh -h
Version 9.09.00_20241104
Usage: abs.sh [-h] [-u] [-v] [-x] [-r <jmxconstr>] [-l <listoption>] [-p] [-t <type>] [-c <command>] [-s <slot>] [-a <abs
home>] [-o <oracle home>] [-j <java home>] [-d <logdate>] [-f] [-w webtype:webname:webcontext:weblib]
-A      - Start server for updates unattended
-P      - Start patchrun on database. Starting scripts after given patchnumber.
-h      - Show this helpscreen
-u      - Start server for updates
-g      - Start server with GUI
-v      - verbose output while starting server
        Only use -v for debugging purposes !
-x      - enable JDBC logging
-l      - option n: show status tables for all processes/slots
        option s: Only shows running processes/slots.
-p      - Show used portnumbers in the -ls or -ln list
-b      - Used with -c deletedomain, -c createdomain, -c statusdomain and -c listdomain
        Name of the domain that will be deleted or created
        If -b is not used then the setting from abs_config.sh will
        be used (standard production)
-w      - Used for deploying web application in glassfish411/payara55-
        6/tomee8/tomee91/tomcat90/tomcat9/tomcat10
        Format: webtype:webname:webcontext:weblib
        webtype  - gws,w4m,wp2,wsr,wum,wcl,wua,wrd,wrr,wsb,wmr,wfb,wcp
        webname  - name as it appears in glassfish
        webcontext - webpath of the webapp
                i.e. / or abswebportal
                (root / is the only one with /-sign)
        weblib   - extra needed libraries
The warfile must be located in /abs/<slot>/deploy/<webtype>
The name of the warfile must be <webtype>.war
type   - app      = ABSolute application server
       - rep      = ABSolute report server
       - glass    = Glassfish application server
       - web      = Tomee8 webserver
       - tomee    = Tomee91 webserver
```

tomcat = Tomcat90 webserver
tomcat9 = Tomcat9 webserver
tomcat10 = Tomcat10 webserver
all = app + rep + glass + web + tomee91 + tomcat90 + tomcat9 + tomcat10
gws = Generic Webservice
w4m = Webservice4Mobile
wp2 = New Web Portal
wsr = REST Web Service
wum = Web UHF Monitor
wcl = Web Client
wua = webclient my uniform assistant
wrđ = webclient residential delivery
wrr = webclient route returns
wfb = absmobilefirebaseservices
wsb = webclient replace smart barcode
wmr = Mobile RestService
wcp = webclientcleanroompackinginstructions
ara = ABS Route Assistant
client = main ABSolute client
tsmats = mat scanning
tsoutscansort = residential outscan
tspresortscan = residential presort
tsoilreceiving = soil receive scan
tsspecialscans = special scan
tsweigh = weighing client
command - start = start ABSolute app/rep/glass/web/tomee/tomcat/tomcat9
server/client
stop = stop ABSolute app/rep/glass/web/tomee/tomcat/tomcat9
server/client
restart = restart ABSolute app/rep/glass/web/tomee/tomcat/tomcat9
server/client
status = show status list of ABSolute
app/rep/glass/web/tomee91/tomcat90/tomcat9/tomcat10/Xvfb server
gui = launch ABSolute app/rep server GUI
showversion = display the version of the component: for glassfish, tomee8,
tomee91, tomcat90, tomcat9 and tomcat10
log = show logfile
thread = create thread dump
dump = create heap dump (needs JDK)
monitor = monitor java process with jVisualVM
collect = collect logfiles, heapdumps and threaddumps and create a TAR-file
deletedomain = remove glassfish domain. Use -b to tell which domain
createdomain = create glassfish domain. Use -b to tell which domain
statusdomain = status glassfish domain. Use -b to tell which domain. If the domain
already exists then nothing happens

webstatus = status tomee8 webserver.
tomeestatus = status tomee91 webserver.
tomcatstatus = status tomcat90 webserver.
tomcat9status = status tomcat9 webserver.
tomcat10status = status tomcat10 webserver.
listdomain = Returns the webname of all web application in the domain
deploy = deploy a war in glassfish. This needs option -w
deploy_web = deploy a war in tomee8. This needs option -w
deploy_tomee = deploy a war in tomee91. This needs option -w
deploy_tomcat = deploy a war in tomcat90. This needs option -w
deploy_tomcat9 = deploy a war in tomcat9. This needs option -w
deploy_tomcat10 = deploy a war in tomcat10. This needs option -w
enable = enable starting of the selected component in the selected slot
disable = disable starting of the selected component in the selected slot
isrunning = Check if selected component in the selected slot is running.
If it is, show the PID of the process
maxheap = Set the maximal heap space set with -M for the app/rep service set
with -t.
resetheap = Removes the custom maximal heap space set for the app/rep service
set with -t.
jmxconstr - remote VisualVM monitor connection string (host:port).
does not require a -s, -c or -t option
slot - ABSolute setup slot number(s)
abs home - installation root directory
oracle home - Oracle home directory
java home - Java home directory
logdate - use with -c log --> show log from week logdate
Format used: yyyy_ww, i.e. 2008_12 for year 2008 week 12
the 12th of april 2008
-f - use with -c log --> follow logfile (real-time)
-e - show script version number

Defaults: -t all

-c status
-s 01
-a /abs
-o /abs/instantclient_11_1
-j /abs/jdk1.6.0_06

5. To start the ABSolute server, you can type the following at /abs

./abs.sh -s 1 -t app -c start

The process will start as a daemon, background process

6. If you just applied an update and need to run scripts, you must add the -u parameter, so the server's GUI will be started

```
./abs.sh -s 1 -t app -c gui
```

7. You can use **./abs.sh -c status -s 1** to see the status the application processes in slot 1
8. To stop the process, use the following:

```
./abs.sh -s 1 -t app -c stop
```

Managing the ABSolute Reportserver

1. This chapter describes the basic management functionality using the `abs.sh` script for the report server process. Please lookup the full documentation for the linux management script for all possibilities.
2. Using the script that was described in the previous chapter, you can easily start/stop/restart the Report server by using the following options:

Start: the process will start as a daemon, background process

```
./abs.sh -s 1 -t rep -c start
```

Stop: the running process will be killed

```
./abs.sh -s 1 -t rep -c stop
```

Status: the process status will be displayed

```
./abs.sh -s 1 -t rep -c status
```

GUI: the application server GUI will be displayed

```
./abs.sh -s 1 -t rep -c gui
```

ABSMenu Configuration

1. Folder structure (example):

```
[abs@tomcat1 absmenu]$ tree -L 2
.
├── backups
│   ├── bde2
│   ├── EU90600
│   ├── fis_test
│   ├── ilu
│   └── production
├── bin
│   ├── absmenu_install.sh
│   ├── backup_current_environment.sh
│   ├── generate_properties.sh
│   ├── restore_current_environment.sh
│   ├── select_current_environment.sh
│   ├── service_administration.sh
│   ├── service_binrep_update.sh
│   └── unattended_deploy.sh
├── config
│   ├── absmenu_config.sh
│   ├── custom_properties.cfg
│   ├── sample_absmenu_config.sh
│   ├── sample_custom_properties.cfg
│   ├── sample_service_registration.cfg
│   ├── service_registration.cfg
│   └── service_registration.cfg_slot1digit
├── log
├── repositories
│   ├── bde2
│   ├── DPL90700
│   ├── EU90600
│   ├── fis_test
│   ├── ilu
│   ├── production
│   ├── static_zips
├── tmp
└── all_environments.tmp
```

2. The service_registration.cfg file has no major change for tomcat90/tomee91/tomcat9/tomcat10 support. The number of columns is the same.
3. ABS_WEB_VERSION column should include values as follows:

Value	Description
10	for tomcat v10
9	for tomcat v9 (9.0.88.0)
90	for tomcat v9
91	for tomee v9
8	for tomee8
55	for payara 5.2022.5
56	for payara 5.2020.6
411	for glassfish/payara

4. Sequential web deployment

- In the “absmenu_config” file, set export GFPARALLELEENABLE=N

5. Parallel web deployment

- Set export GFPARALLELEENABLE=Y
- One extra menu option has been added to deploy web in parallel mode irrespective of the value set for GFPARALLELEENABLE

```

*** ABS Laundry Business Solutions ***
--- ABSMENU Script - Release 9.08.00_20240425
--- System's Date: Tue Apr 30 10:54:26 EEST 2024
=====
Customer / Environment : BDE / bde2
Current Server version : 9.07.00.RELEASE.p07 06-22-2023_18:55 c948e8501d3a
Current Patch version  : - - -
Future Server version  : 9.07.00.RELEASE.p07 06-22-2023_18:55 c948e8501d3a
Future Patch version   : - - -
Repository home        : 172.28.2.155:/abs/absmenu/repositories/bde2
Backup home           : 172.28.2.155:/abs/absmenu/backups/bde2
=====
s Software update (actions...)
r Reports update
l License update
p Generate property files
h Maximal heap space sync

1 Start environment
2 Stop environment
3 Restart environment
4 List registered server components
5 Backup software (current environment)
6 Restore last backup

m Environment selection menu
q Quit
=====
Enter option or press ENTER to quit: s
[a] - all (app+rep+web)
[s] - servers only (app+rep)
[w] - web apps only (sequential deploy)


[p] - web apps only (parallel deploy)


[n] - web server only (parallel deploy - no web apps)
[q] - quit (or any other key)

Enter action [a|s|w|p|n|q] : █




```

- In addition, one option to deploy only the web server to all slots in parallel is available.

6. Repositories

- Because of the compatibility requirements of the web applications, the absmenu repositories must be loaded with the following new archives (available on ABS FTP)

Name	Size	Changed	Rights	Owner
glassfish_411.zip	107,173 KB	3/21/2024 10:31:28 AM	rwxrwxrwx	user
payara_55.zip	150,336 KB	3/20/2024 4:55:24 PM	rwxrwxrwx	user
payara_56.zip	140,783 KB	3/21/2024 9:27:43 AM	rwxrwxrwx	user
tomcat_9.zip	11,345 KB	4/29/2024 3:10:09 PM	rwxrwxrwx	user
tomcat_90.zip	12,379 KB	3/13/2024 1:00:16 AM	rwxrwxrwx	user
tomee_8.zip	76,028 KB	3/23/2024 10:43:15 AM	rwxrwxrwx	user
tomee_91.zip	80,936 KB	3/22/2024 3:35:07 PM	rwxrwxrwx	user

/Tomcat/Linux/v90801-90900/				
Name	Size	Changed	Rights	Owner
 .		11/8/2024 12:51:10 PM	r-xr-xr-x	user
 tomcat_9.zip	11,345 KB	7/9/2024 2:05:20 PM	rwxrwxrwx	user
 tomcat_10.zip	14,219 KB	7/9/2024 2:04:56 PM	rwxrwxrwx	user

Using ABSMENU

1. Main Menu

- a. Run the command: `$ cd /abs; ./absmenu.sh`

```
*** ABS Laundry Business Solutions ***
--- ABSMENU Script - Release 9.09.00_20241104
--- System's Date: Fri Nov  8 12:49:20 EET 2024
=====
[1] ABS 9.09.00.RC1
[2] bde2 9.07.00.RELEASE.p07
[3] DPL90700 9.07.00.RELEASE.p23
[4] EU90600 9.06.00.RELEASE.p33
[5] ilu 9.08.00.RELEASE.p09
[6] ilu_90801 9.08.01.RELEASE
[7] production 9.08.01.RC1
[8] RDW 9.09.00.RC1
=====
Please select an [Environment] or press ENTER to quit: █
```

2. Choose the environment

- a. Enter the corresponding number:

```
*** ABS Laundry Business Solutions ***
--- ABSMENU Script - Release 9.09.00_20241104
--- System's Date: Fri Nov  8 12:49:20 EET 2024
=====
[1] ABS 9.09.00.RC1
[2] bde2 9.07.00.RELEASE.p07
[3] DPL90700 9.07.00.RELEASE.p23
[4] EU90600 9.06.00.RELEASE.p33
[5] ilu 9.08.00.RELEASE.p09
[6] ilu_90801 9.08.01.RELEASE
[7] production 9.08.01.RC1
[8] RDW 9.09.00.RC1
=====
Please select an [Environment] or press ENTER to quit: 1 █
```

3. Select an action:

```

*** ABS Laundry Business Solutions ***
--- ABSMENU Script - Release 9.09.00_20241104
--- System's Date: Fri Nov 8 12:54:37 EET 2024
=====
Customer / Environment : ABS / ABS
Current Server version : 9.09.00.RC1 11-01-2024_14:44 b6f04ef1b966
Current Patch version  : - - -
Future Server version  : 9.09.00.RC1 11-01-2024_14:44 b6f04ef1b966
Future Patch version   : - - -
Repository home        : 172.28.2.155:/abs/absmenu/repositories/ABS
Backup home           : 172.28.2.155:/abs/absmenu/backups/ABS
=====
s Software update (actions...)
r Reports update
l License update
p Generate property files
h Maximal heap space sync
f Deploy Standard Fonts to Repository

1 Start environment
2 Stop environment
3 Restart environment
4 List registered server components
5 Restart Report Server(s)
6 Backup software (current environment)
7 Restore last backup
8 Delete current environment

m Environment selection menu
q Quit
=====
Enter option or press ENTER to quit: █

```

4. When action “s” is chosen for software update, the following screen will be display for further sub actions:

```

Future Server version : 9.09.00.RC1 11-01-2024_14:44 b6f04ef1b966
Future Patch version  : - - -
Repository home       : 172.28.2.155:/abs/absmenu/repositories/ABS
Backup home          : 172.28.2.155:/abs/absmenu/backups/ABS
=====
s Software update (actions...)
r Reports update
l License update
p Generate property files
h Maximal heap space sync
f Deploy Standard Fonts to Repository

1 Start environment
2 Stop environment
3 Restart environment
4 List registered server components
5 Restart Report Server(s)
6 Backup software (current environment)
7 Restore last backup
8 Delete current environment

m Environment selection menu
q Quit
=====
Enter option or press ENTER to quit: s
[a] - Deploy all (app+rep+web)
[s] - Deploy servers only (app+rep)
[w] - Deploy web apps only (sequential)
[p] - Deploy web apps only (parallel)
[n] - Deploy web server only (parallel)
[d] - Delete web server (parallel)
[q] - quit (or any other key)
=====
Enter action [a|s|w|p|n|d|q] : █

```

- a. When [a] is entered, the environment per all the components registered in the service registration will be updated; meaning application, report, and web server (if web component is applicable).
 - b. When [s] is entered, the application and report server of environment only will be updated.
 - c. When [w] is entered, the web components will only be updated in sequential mode.
 - d. When [p] is entered, the web components will only be updated in parallel mode.
 - e. When [n] is entered, the corresponding web server will only be installed on all the servers and slots – no web applications will be deployed. This option is useful to verify if the web server installed as required.
 - f. When [d] is entered the underlying web servers will be stopped and deleted. However, the “deploy” folder will be retained, in case you want to deploy again same configuration with parallel option.
 - g. When [q] is entered (or any other key), the menu will be exited.
5. When action “r” is chosen,
- a. All the reports sitting in the environment’s repository (CUSTOMREPORTS) and the Fonts folder (first the Fonts folder on the target slots will be deleted) will be replicated to the environment’s slot.
 - b. This action will create a backup first.
 - c. Note1: The environment will not be restarted.
 - d. Note2: Report properties will not be altered.

```

Make a choice or press ENTER to quit: r
Backup binaries for application server instance
receiving incremental file list
created directory /abs/absmenu/backups/bde2/BDE_9.08.00.RC1_2024_Mar25_145709

sent 41 bytes received 56,111 bytes 112,304.00 bytes/sec
total size is 172,785,525 speedup is 3,077.10
Backup binaries for report server instance
receiving incremental file list
Reportserver/
Reportserver/Fonts/

sent 40 bytes received 19,037 bytes 12,718.00 bytes/sec
total size is 47,447,699 speedup is 2,487.17
Backup binaries for web server instance
receiving incremental file list

sent 395 bytes received 66,315 bytes 133,420.00 bytes/sec
total size is 181,872,011 speedup is 2,726.31
Backup binaries for license server instance
receiving incremental file list

sent 25 bytes received 89 bytes 228.00 bytes/sec
total size is 91,560 speedup is 803.16
Backup binaries for customreports server instance
receiving incremental file list

sent 27 bytes received 128 bytes 310.00 bytes/sec
total size is 0 speedup is 0.00
Replicating reports and fonts for report server instance on 172.28.2.155 slot 03
sending incremental file list
deleting CrReports/CUSTOMER/
deleting CrReports/ABSMODIFIED/
CrReports/

sent 14,966 bytes received 67 bytes 10,022.00 bytes/sec
total size is 4,578,869 speedup is 304.59
sending incremental file list
ABSMODIFIED/
CUSTOMER/

sent 107 bytes received 20 bytes 254.00 bytes/sec
total size is 0 speedup is 0.00
Replicating reports and fonts for report server instance on 172.28.2.156 slot 03
sending incremental file list
deleting CrReports/CUSTOMER/
deleting CrReports/ABSMODIFIED/
CrReports/

sent 14,966 bytes received 67 bytes 30,066.00 bytes/sec
total size is 4,578,869 speedup is 304.59
sending incremental file list
ABSMODIFIED/
CUSTOMER/

sent 107 bytes received 20 bytes 254.00 bytes/sec
total size is 0 speedup is 0.00
Replicate Future repository to Current repository
First check if there is ../Future/Web in the repository server 172.28.2.155 /abs/absmenu/repositories/bde2
Future web environment exists: TRUE
Check ../Current/Web => create folder Current/Web
FUTUREWEBEXISTS = TRUE rsync

Press ENTER to continue... █

```

6. When [I] is entered, the License file in the format License.[Customer Code] will be replicated to the environment
 - a. The environment will not be restarted automatically.
 - b. A restart must be performed according to the content of the license.
 - c. A new BU/Plant necessitates a stop and start in update mode of the application server.

```

Make a choice or press ENTER to quit: l
Backup binaries for application server instance
receiving incremental file list
created directory /abs/absmenu/backups/bde2/BDE_9.07.00.RELEASE.p07_2024_Mar25_150715

sent 41 bytes  received 56,111 bytes  112,304.00 bytes/sec
total size is 172,785,525  speedup is 3,077.10
Backup binaries for report server instance
receiving incremental file list

sent 32 bytes  received 19,129 bytes  12,707.33 bytes/sec
total size is 47,447,699  speedup is 2,489.26
Backup binaries for web server instance
receiving incremental file list

sent 395 bytes  received 66,315 bytes  133,420.00 bytes/sec
total size is 181,872,011  speedup is 2,726.31
Backup binaries for license server instance
receiving incremental file list

sent 25 bytes  received 89 bytes  228.00 bytes/sec
total size is 91,560  speedup is 803.16
Backup binaries for customreports server instance
receiving incremental file list

sent 27 bytes  received 132 bytes  106.00 bytes/sec
total size is 0  speedup is 0.00
Copying new license to /abs/03/Server/License on server 172.28.2.155
sending incremental file list

sent 68 bytes  received 12 bytes  160.00 bytes/sec
total size is 573,248  speedup is 7,165.60
sending incremental file list

sent 59 bytes  received 12 bytes  142.00 bytes/sec
total size is 91,560  speedup is 1,289.58
Applying Reportserver license to in /abs/03 on server 172.28.2.155
Copying new license to /abs/03/Server/License on server 172.28.2.156
sending incremental file list

sent 68 bytes  received 12 bytes  53.33 bytes/sec
total size is 573,248  speedup is 7,165.60
sending incremental file list

sent 59 bytes  received 12 bytes  142.00 bytes/sec
total size is 91,560  speedup is 1,289.58
Applying Reportserver license to in /abs/03 on server 172.28.2.156
Replicate Future repository to Current repository
First check if there is ./Future/Web in the repository server 172.28.2.155 /abs/absmenu/repositories/bde2
Future web environment exists: TRUE
Check ./Current/Web => create folder Current/Web
FUTUREWEBEXISTS = TRUE rsync

Press ENTER to continue... █

```

7. When [p] is entered, property files will be re-generated.
 - a. The environment will not be restarted automatically.
 - b. A restart must be performed accordingly.

8. When [h] is entered, the heap space value will be resynced per column "15_heapspace" of service_registration.conf file.
 - a. No restart will be automatically performed.
 - b. New values will take effect after a restart of the component/environment.

```

c 15_heapspace

X
X
1024
1024

X
X
X
X

X

```

9. When [f] is entered, ABS standard fonts will be deployed to the Future directory of the Environment's repository as follows:

```
drwxrwxr-x. 2 abs abs 6 Nov 4 17:20 CUSTOMER
drwxrwxr-x. 2 abs abs 208 Nov 6 23:21 STANDARD
[abs@tomcat1 FONTS]$ pwd
/abs/absmenu/repositories/ABS/Future/FONTS
```

You must add manually any other CUSTOMER related fonts in the “CUSTOMER” directory.

The Fonts.zip must be present in the “/abs/absmenu/repositories/static_zip” directory:

```
-rwxrwxr-x. 1 abs abs 31089147 Jul 12 21:42 APIGateway-2.1.0.zip
-rw-r-----. 1 abs abs 2349999 May 2 2024 Fonts.zip
-rw-r-----. 1 abs abs 109744294 Mar 21 2024 glassfish_411.zip
-rw-r-----. 1 abs abs 153943424 Mar 20 2024 payara_55.zip
-rw-r-----. 1 abs abs 144160985 Mar 21 2024 payara_56.zip
-rw-rw-r--. 1 abs abs 14559692 Jul 10 18:40 tomcat_10.zip
-rw-r-----. 1 abs abs 12675871 Apr 9 2024 tomcat_90.zip
-rw-rw-r--. 1 abs abs 11616615 May 9 2024 tomcat_9.zip
-rw-r-----. 1 abs abs 77851661 Mar 23 2024 tomee_8.zip
-rw-r-----. 1 abs abs 82878459 Apr 9 2024 tomee_91.zip
[abs@tomcat1 static_zips]$ pwd
/abs/absmenu/repositories/static_zips
```

10. Action 1 – Starts the environment.
11. Action 2 – Stops the environment.
12. Action 3 – restarts the environment.
13. Action 4 – Lists the components of the environment

```

List all services for environment: bde2
** Slot 03
Date and Time: Thu Mar 28 12:02:08 EET 2024
Server Uptime: 12:02:08 up 3 days, 21:06, 1 user, load average: 0.43, 0.12, 0.07
Server Type and Hostname: Linux tomcat1 x86_64
Top Results:-
MiB Mem : 11954.9 total, 380.5 free, 9764.6 used, 1809.7 buff/cache
MiB Swap: 7980.0 total, 7330.6 free, 649.3 used. 1890.5 avail Mem

Java Home: /abs/zulu11.60.19-ca-jdk11.0.17-linux_x64

-[ SLOT 03 DB:DBSID=CUST19 Schema:DBUser=BDE2 Version: 9.07.00.RELEASE.p07 BDE ]--
process          PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb              30448     0.00    0.0   Mar25
Application server 30457    645.52  0.0   Mar25  50313  06-22-2023/18:55
Report server     31287    191.26  0.0   Mar25  50323  06-22-2023/18:53
Tomee8 webservice 32974    454.25  0.0   Mar25  50333
-----

** Slot 03
Date and Time: Thu Mar 28 12:02:10 EET 2024
Server Uptime: 12:02:10 up 3 days, 21:07, 0 users, load average: 0.32, 0.08, 0.05
Server Type and Hostname: Linux tomcat2 x86_64
Top Results:-
MiB Mem : 11954.9 total, 306.6 free, 9909.6 used, 1738.7 buff/cache
MiB Swap: 7980.0 total, 7439.7 free, 540.2 used. 1769.3 avail Mem

Java Home: /abs/zulu11.60.19-ca-jdk11.0.17-linux_x64

-[ SLOT 03 DB:DBSID=CUST19 Schema:DBUser=BDE2 Version: 9.07.00.RELEASE.p07 BDE ]--
process          PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb              28742     0.00    0.0   Mar25
Application server 28751    645.52  0.0   Mar25  50313  06-22-2023/18:55
Report server     29674    215.17  0.0   Mar25  50323  06-22-2023/18:53
Tomee8 webservice 31172    466.21  0.0   Mar25  50333
-----

Registered in the service registration file (Server - Slot - Type) :
  Server      Slot  Type
  -----
  172.28.2.155  03   app
  172.28.2.155  03   gws
  172.28.2.155  03   rep
  172.28.2.155  03   wp2
  172.28.2.156  03   app
  172.28.2.156  03   gws
  172.28.2.156  03   rep
  172.28.2.156  03   wp2

Press ENTER to continue... █

```

14. Action 5 – will restart all underlying report server processes of the environment.
15. Action 6 – will back up the environment’s binaries into the absmenu backups directory and create a symbolic link as “last_backup”.
 - a. Ref: From Current directory to backups/environment_name/absolute_version*
16. Action 7 – will restore the environment’s binaries from the last backup.
 - a. Restore in made into Future directory from backups.
 - b. The environment will not be restarted automatically.
 - c. An update action will be required to bring back the version into the slots.
17. Action 8 – Stops environment and wipe out all slots for the selected environment
18. Action m – Select environment / change environment
19. Action q – Exit from the menu

Managing the Web Servers - Commands

1. GLASSFISH v4 (411)
 - a. Start glassfish process
\$ /abs/abs.sh -s05 -tglass -cstart -bdomain1
 - b. Stop glassfish process
\$ /abs/abs.sh -s05 -tglass -cstop -bdomain1
 - c. Restart glassfish process
\$ /abs/abs.sh -s05 -tglass -crestart -bdomain1
 - d. Show glassfish status
\$ /abs/abs.sh -s05 -tglass -cstatusdomain -bdomain1
 - e. Display glassfish version
\$ /abs/abs.sh -s05 -tglass -cshowversion -bdomain1
 - f. List all web applications deployed under glassfish domain (domain1)
\$ /abs/abs.sh -s05 -tglass -clistdomain -bdomain1

```
[abs@tomcat1 abs]$ /abs/abs.sh -s05 -tglass -clistdomain -bdomain1
** Slot 05
absgenericwebservice <web>
absws4mobileapps <web>
abswebportal <web>
Command list-applications executed successfully.
```

- g. Deploy a war file (Examples)


```
$ /abs/abs.sh -s05 -tglass -c deploy -b domain1 -w wp2:abswebportal:abswebportal:X
$ /abs/abs.sh -s05 -tglass -c deploy -b domain1 -w w4m:absws4mobileapps:absws4mobileapps:X
$ /abs/abs.sh -s05 -tglass -c deploy -b domain1 -w gws:absgenericwebservice:absgenericwebservice:X
```
- h. Setting Heap memory


```
$ /abs/abs.sh -s05 -t w4m -M 1024 -c maxheap_glass
$ /abs/abs.sh -s05 -tglass -crestart
```
- i. Reset Heap memory


```
$ /abs/abs.sh -s05 -t w4m -c resetheap_glass
$ /abs/abs.sh -s05 -tglass -crestart
```

2. PAYARA v5 (55/56)

- a. Start payara process
`$/abs/abs.sh -s04 -tglass -cstart -bproduction`
- b. Stop payara process
`$/abs/abs.sh -s04 -tglass -cstop -bproduction`
- c. Restart paraya process
`$/abs/abs.sh -s04 -tglass -crestart -bproduction`
- d. Show payara status
`$/abs/abs.sh -s04 -tglass -cstatusdomain -bproduction`
- e. Display payara version
`$/abs/abs.sh -s04 -tglass -cshowversion -bproduction`
- f. List web applications deployed under payara domain
`$/abs/abs.sh -s04 -tglass -clistdomain -bproduction`

```
[abs@tomcat1 abs]$ /abs/abs.sh -s04 -tglass -clistdomain -bproduction
** Slot 04
absgenericwebservice <web>
absws4mobileapps <web>
abswebclient <web>
abswebportal <web>
absrestservices <web>
uhfmonitor <web>
Command list-applications executed successfully.
```

- g. Deploy a war file
`$/abs/abs.sh -s04 -tglass -c deploy -b production -w war.war`
- h. Setting Heap memory
`$/abs/abs.sh -s04 -t w4m -M 1024 -c maxheap_glass`
`$/abs/abs.sh -s04 -tglass -crestart`
- i. Reset Heap memory
`$/abs/abs.sh -s04 -t w4m -c resetheap_glass`
`$/abs/abs.sh -s04 -tglass -crestart`

3. TOMEE8

- a. Start tomee8 process
`$/abs/abs.sh -s03 -tweb -cstart`
- b. Stop tomee8 process
`$/abs/abs.sh -s03 -tweb -cstop`
- c. Restart tomee8 process
`$/abs/abs.sh -s03 -tweb -crestart`
- d. Show tomee status
`$/abs/abs.sh -s03 -tweb -cwebstatus`
- e. Display tomee version
`$/abs/abs.sh -s03 -tweb -cshowversion`

- f. List the web applications deployed
<https://172.28.2.155:50334/manager/text/list>

```
OK - Listed applications for virtual host [localhost]
/docs:running:0:docs
/host-manager:running:0:host-manager
/manager:running:0:manager
/:running:0:ROOT
/absgenericwebservice:running:0:absgenericwebservice
/abswebportal:running:0:abswebportal
```

- g. Deploy a war file
`$/abs.sh -s03 -tweb -cdeploy_web -w wp2`
- h. Setting Heap memory
`$/abs/abs.sh -s03 -t wp2 -M 1024 -c maxheap_web`
`$/abs/abs.sh -s03 -tweb -crestart`
- i. Reset Heap memory
`$/abs/abs.sh -s03 -t wp2 -c resetheap_web`
`$/abs/abs.sh -s03 -tweb -crestart`

4. TOMEE91

- a. Start tomee91 process
\$ /abs/abs.sh -s02 -ttomee -cstart
- b. Stop tomee91 process
\$ /abs/abs.sh -s02 -ttomee -cstop
- c. Restart tomee91 process
\$ /abs/abs.sh -s02 -ttomee -crestart
- d. Show tomee91 status
\$ /abs/abs.sh -s02 -ttomee -ctomeestatus
- e. Display tomee91 version
\$ /abs/abs.sh -s02 -ttomee -cshowversion
- f. List the web applications deployed
<https://172.28.2.155:50234/manager/text/list>

```
OK - Listed applications for virtual host [localhost]
/docs:running:0:docs
/host-manager:running:0:host-manager
/manager:running:0:manager
/:running:0:ROOT
/webclientx:running:0:webclientx
/webclientcleanpacking:running:0:webclientcleanpacking
/absmobilefirebase:running:0:absmobilefirebase
/abswebportal:running:0:abswebportal
/webresidentialdelivery:running:0:webresidentialdelivery
/webclientroutereturns:running:0:webclientroutereturns
/webclientbarcode:running:0:webclientbarcode
/absuhfmonitor:running:0:absuhfmonitor
```

- g. Deploy a war file
\$ /abs/abs.sh -s02 -ttomee -cdeploy_tomee -w wcl
\$ /abs/abs.sh -s02 -ttomee -cdeploy_tomee -w wcp
\$ /abs/abs.sh -s02 -ttomee -cdeploy_tomee -w wfb
\$ /abs/abs.sh -s02 -ttomee -cdeploy_tomee -w wp2
\$ /abs/abs.sh -s02 -ttomee -cdeploy_tomee -w wrd
\$ /abs/abs.sh -s02 -ttomee -cdeploy_tomee -w wrr
\$ /abs/abs.sh -s02 -ttomee -cdeploy_tomee -w wsb
\$ /abs/abs.sh -s02 -ttomee -cdeploy_tomee -w wum
- h. Setting Heap memory
\$ /abs/abs.sh -s02 -t wp2 -M 1024 -c maxheap_tomee
\$ /abs/abs.sh -s02 -ttomee -crestart
- i. Reset Heap memory
\$ /abs/abs.sh -s02 -t wp2 -c resetheap_tomee
\$ /abs/abs.sh -s02 -ttomee -crestart

5. TOMCAT90

- a. Start tomcat90 process
`$/abs/abs.sh -s02 -ttomcat -cstart`
- b. Stop tomcat90 process
`$/abs/abs.sh -s02 -ttomcat -cstop`
- c. Restart tomcat90 process
`$/abs/abs.sh -s02 -ttomcat -crestart`
- d. Show tomcat90 status
`$/abs/abs.sh -s02 -ttomcat -ctomcatstatus`
- e. Display tomcat90 version
`$/abs/abs.sh -s02 -ttomcat -cshowversion`
- f. List the web applications deployed
<https://172.28.2.155:50264/manager/text/list>

```
OK - Listed applications for virtual host [localhost]
/:running:0:ROOT
/absws4mobileapps:running:0:absws4mobileapps
/absgenericwebservice:running:0:absgenericwebservice
/host-manager:running:0:host-manager
/absrestservices:running:0:absrestservices
/manager:running:0:manager
/docs:running:0:docs
/absmobilerestservices:running:0:absmobilerestservices
```

- g. Deploy a war file
`$/abs/abs.sh -s02 -ttomcat -cdeploy_tomcat -w gws`
`$/abs/abs.sh -s02 -ttomcat -cdeploy_tomcat -w w4m`
`$/abs/abs.sh -s02 -ttomcat -cdeploy_tomcat -w wmr`
`$/abs/abs.sh -s02 -ttomcat -cdeploy_tomcat -w wsr`
- h. Setting Heap memory
`$/abs/abs.sh -s02 -t wp2 -M 1024 -c maxheap_tomcat`
`$/abs/abs.sh -s02 -ttomcat -crestart`
- i. Reset Heap memory
`$/abs/abs.sh -s02 -t wp2 -c resetheap_tomcat`
`$/abs/abs.sh -s02 -ttomcat -crestart`

6. TOMCAT9

- a. Start tomcat9 process
`$/abs/abs.sh -s09 -ttomcat9 -cstart`
- b. Stop tomcat9 process
`$/abs/abs.sh -s09 -ttomcat9 -cstop`
- c. Restart tomcat9 process
`$/abs/abs.sh -s09 -ttomcat9 -crestart`
- d. Show tomcat9 status
`$/abs/abs.sh -s09 -ttomcat9 -ctomcatstatus`
- e. Display tomcat9 version
`$/abs/abs.sh -s09 -ttomcat9 -cshowversion`
- f. List the web applications deployed
<https://172.28.2.155:50334/manager/text/list>

```
OK - Listed applications for virtual host [localhost]
/:running:0:ROOT
/host-manager:running:0:host-manager
/manager:running:0:manager
/docs:running:0:docs
```

- g. Deploy a war file
`$/abs/abs.sh -s09 -ttomcat9 -cdeploy_tomcat9 -w gws`
`$/abs/abs.sh -s09 -ttomcat9 -cdeploy_tomcat9 -w w4m`
`$/abs/abs.sh -s09 -ttomcat9 -cdeploy_tomcat9 -w wmr`
`$/abs/abs.sh -s09 -ttomcat9 -cdeploy_tomcat9 -w wsr`
- h. Setting Heap memory
`$/abs/abs.sh -s09 -t wp2 -M 1024 -c maxheap_tomcat9`
`$/abs/abs.sh -s09 -ttomcat9 -crestart`
- i. Reset Heap memory
`$/abs/abs.sh -s09 -t wp2 -c resetheap_tomcat9`
`$/abs/abs.sh -s09 -ttomcat9 -crestart`

7. TOMCAT10

- a. Start tomcat10 process
\$ /abs/abs.sh -s09 -ttomcat10 -cstart
- b. Stop tomcat10 process
\$ /abs/abs.sh -s09 -ttomcat10 -cstop
- c. Restart tomcat10 process
\$ /abs/abs.sh -s09 -ttomcat10 -crestart
- d. Show tomcat9 status
\$ /abs/abs.sh -s09 -ttomcat10 -ctomcat10status
- e. Display tomcat10 version
\$ /abs/abs.sh -s09 -ttomcat10 -cshowversion
- f. Deploy a war file
\$ /abs/abs.sh -s09 -ttomcat10 -cdeploy_tomcat10 -w gws
\$ /abs/abs.sh -s09 -ttomcat10 -cdeploy_tomcat10 -w w4m
\$ /abs/abs.sh -s09 -ttomcat10 -cdeploy_tomcat10 -w wmr
\$ /abs/abs.sh -s09 -ttomcat10 -cdeploy_tomcat10 -w wsr
- g. Setting Heap memory
\$ /abs/abs.sh -s09 -t wp2 -M 1024 -c maxheap_tomcat10
\$ /abs/abs.sh -s09 -ttomcat10 -crestart
- h. Reset Heap memory
\$ /abs/abs.sh -s09 -t wp2 -c resetheap_tomcat10
\$ /abs/abs.sh -s09 -ttomcat10 -crestart

```
[abs@tomcat1 abs]$ ./abs.sh -s11
** Slot 11
Date and Time: Mon Jul 15 01:03:47 EEST 2024
Server Uptime: 01:03:47 up 78 days, 23:07, 1 user, load average: 0.48, 0.34, 0.26
Server Type and Hostname: Linux tomcat1 x86_64
Top Results:-
MiB Mem : 11954.9 total, 544.1 free, 9517.4 used, 1893.3 buff/cache
MiB Swap: 7980.0 total, 6787.2 free, 1192.8 used. 2118.5 avail Mem

Java Home: /abs/zulu_17_44_15_04a26618b62

-[ SLOT 11 DB:DBSID=CUST23 Schema:DBUser=ILU_TESTRELEASE Version: 9.08.01.RELEASE ILU ]--
process          PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb             2619615   11.95    0.0   Jul12
Application server 2619628   729.19   0.0   Jul12  51113  07-08-2024/14:09
Report server    2620534   251.03   0.0   Jul12  51123  07-08-2024/14:02
Tomcat9 webserver 2626790   478.16   0.0   Jul12  51163
Tomcat10 webserver 2624303   645.52   0.0   Jul12  51133
-----
```

2. ALL SLOTS
 - a. List all slots and processes

```

$ /abs/abs.sh -ln
[abs@tomcat1 abs]$ ./abs.sh -ln
Date and Time: Tue Apr 30 11:30:24 EEST 2024
Server Uptime: 11:30:24 up 3 days, 9:34, 1 user, load average: 0.00, 0.06, 0.01
Server Type and Hostname: Linux tomcat1 x86_64
Top Results:-
MiB Mem : 11954.9 total, 500.3 free, 1608.4 used, 9846.1 buff/cache
MiB Swap: 7980.0 total, 7979.7 free, 0.3 used. 10030.9 avail Mem

Java Home: /abs/zulu11.60.19-ca-jdk11.0.17-linux_x64

-[ SLOT 03 DB:DBSID=CUST19 Schema:DBUser=BDE2 Version: 9.07.00.RELEASE.p07 BDE ]--
process      PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb         254169   11.95    0.0   Apr29
Application server <down>
Report server <down>
Appl. server GUI <down>
Report server GUI <down>
Glassfish server <down>
Tomee8 webservice <down>
Tomee91 webservice <down>
Tomcat90 webservice <down>
Tomcat9 webservice 254243  274.94   0.0   Apr29  50333
Client <down>

Java Home: /abs/zulu11.37.17-ca-jdk11.0.6-linux_x64

-[ SLOT 04 DB:DBSID=ABST Schema:DBUser=EU90600 Version: 9.06.00.RELEASE.p33 NAF ]--
process      PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb <down>
Application server <down>
Report server <down>
Appl. server GUI <down>
Report server GUI <down>
Glassfish server <down>
Tomee8 webservice <down>
Tomee91 webservice <down>
Tomcat90 webservice <down>
Tomcat9 webservice <down>
Client <down>

Java Home: /abs/jdk1.8.0_131

-[ SLOT 05 DB:DBSID=ABST Schema:DBUser=FIS_TEST Version: 9.03.00.RELEASE.p73 FIS ]--
process      PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb <down>
Application server <down>
Report server <down>
Appl. server GUI <down>
Report server GUI <down>
Glassfish server <down>
Tomee8 webservice <down>
Tomee91 webservice <down>
Tomcat90 webservice <down>

```

b. List all slots and running processes

\$ /abs/abs.sh -ls

```

Date and Time: Mon Mar 25 15:48:28 EET 2024
Server Uptime: 15:48:28 up 1 day, 52 min, 1 user, load average: 0.16, 0.19, 0.12
Server Type and Hostname: Linux tomcat1 x86_64
Top Results:-
MiB Mem : 11954.9 total, 218.7 free, 8753.7 used, 2982.4 buff/cache
MiB Swap: 7980.0 total, 7940.0 free, 40.0 used. 2893.5 avail Mem

Java Home: /abs/Zulu_17_44_15_0e4a26618b62

-[ SLOT 01 DB:DBSID=ABSS19 Schema:DBUser=ABSSOLUTE_V12 Version: 9.08.00.RC1 ABS ]--
process          PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb              79804    11.95     0.0   10:09
Application server 79817    729.19    0.0   10:09  50113  02-23-2024/10:29
Report server     81316    215.17    0.0   10:10  50123  02-23-2024/10:25

Java Home: /abs/Zulu_17_44_15_0e4a26618b62

-[ SLOT 02 DB:DBSID=ABSS19 Schema:DBUser=ABSSOLUTE_V12 Version: 9.08.00.RC1 ABS ]--
process          PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb              80515    11.95     0.0   10:10
Application server 80528    765.06    6.2   10:10  50213  02-23-2024/10:29
Report server     82107    239.08    0.0   10:11  50223  02-23-2024/10:25
Tomee91 webserver 86773    741.15    0.0   10:12  50233
Tomcat90 webserver 84126    430.34    0.0   10:12  50263

Java Home: /abs/zulu11.60.19-ca-jdk11.0.17-linux_x64

-[ SLOT 03 DB:DBSID=CUST19 Schema:DBUser=BDE2 Version: 9.07.00.RELEASE.p07 BDE ]--
process          PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb              30448    11.95     0.0   08:30
Application server 30457    681.38    0.0   08:30  50313  06-22-2023/18:55
Report server     31287    203.22    0.0   08:30  50323  06-22-2023/18:53
Tomee8 webserver  32974    418.39    0.0   08:32  50333

Java Home: /abs/zulu11.37.17-ca-jdk11.0.6-linux_x64

-[ SLOT 04 DB:DBSID=ABST Schema:DBUser=EU90600 Version: 9.06.00.RELEASE.p33 NAF ]--
process          PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb              168614   11.95     0.0   12:12
Application server 168623   585.75    0.0   12:12  50413  03-13-2024/11:06
Report server     169417   203.22    0.0   12:12  50423  03-13-2024/11:02
Glassfish server  179746  1183.45    0.0   12:17

Java Home: /abs/jdk1.8.0_131

-[ SLOT 05 DB:DBSID=ABST Schema:DBUser=FIS_TEST Version: 9.03.00.RELEASE.p73 FIS ]--
process          PID      mem (MB)  %CPU  start  monpt  Build date/time
-----
Xvfb              145559   11.95     0.0   11:56
Application server 145569   585.75    0.0   11:56  50513  11-23-2021/13:27
Report server     146460   239.08    0.0   11:56  50523  10-21-2020/17:42
Glassfish server  151797   657.47    0.0   12:03

```

CIS Apache Tomcat 9

1. The following recommendations have been implemented in the Tomcat and TomEE bundles:

(Reference Document : CIS Apache Tomcat 9 Benchmark v1.2.0 PDF.pdf)

- # Disable proposing tomcat runtime information to public

- 2.1 Alter the Advertised server.info String (Manual)

- 2.2 Alter the Advertised server.number String (Manual)

- 2.3 Alter the Advertised server.built Date (Manual)

- 2.4 Disable X-Powered-By HTTP Header and Rename the Server

- # Value for all Connectors (Automated)

- 2.5 Disable client facing Stack Traces (Automated)

- 2.6 Turn off TRACE (Automated)

- # Disable shutdown options

- 3.1 Set a nondeterministic Shutdown command value

- 3.2 Disable the Shutdown port (Automated)

- # Disable outdated / weak ssl protocols

- 6.5 Ensure 'sslProtocol' is Configured Correctly for Secure Connectors (Automated)

Steps Installing absmenu scripts

1. Server(s) validation
2. OS Preparation:
 - OS updates/patching
 - ABSolute Package dependency installation (Xvfb, strace, lsof, net-snmp-utils, etc)
 - Set system parameters
3. Create OS user (abssolute) and Grant Permissions on application server/s
4. User Equivalence (Passwordless login) - root server to target servers
5. Create Directory : /abs - (recommended separate partition), assign permissions
6. Create /abs/installer
7. Download required files from ABS (absmenu scripts + ABSOLUTE bundle, Oracle Client, all relevant Java JDK version) into "/abs/installer"
8. Installation abs.sh and absmenu scripts:
 - -> in /abs on root server:
 - abs.sh
 - abs_config.sh
 - absmenu.sh
 - absmenu
 - backups
 - bin
 - absmenu_install.sh
 - backup_current_environment.sh
 - generate_properties.sh
 - restore_current_environment.sh
 - select_current_environment.sh
 - service_administration.sh
 - service_binrep_update.sh
 - unattended_deploy.sh
 - config
 - sample_absmenu_config.sh
 - sample_service_registration.cfg
 - sample_custom_properties.cfg
 - log
 - tmp
 - repositories
 - static_zips
 - Fonts.zip
 - glassfish_411.zip
 - payara_55.zip
 - payara_56.zip
 - tomcat_9_zip
 - tomcat_90.zip

- tomee_8.zip
- tomee_91.zip
- tomcat_10.zip
- production
 - Current
 - Future
 - CUSTOMREPORTS
 - ABSMODIFIED
 - CUSTOMER
 - FONTS
 - STANDARD
 - CUSTOMER
 - LICENSE
 - (unzip Linux bundle)
- Oracle (full client and patched to db version and patch level)
- java jdk versions
- log

- -> in /abs on other application servers:
 - abs.sh
 - abs_config.sh (set ABSHOST)

Configuration:

- Set permissions on executables --> run /abs/absmenu/bin/absmenu_install.sh
- abs_config.sh
- absmenu
 - service_registration.cfg
 - custom_properties.cfg
 - populate repositories (per env deployed)
- custom reports
- fonts

- Firewall Configuration (allow Port Ranges v9.08.01+)
- Antivirus - Trend Micro (allow Port Ranges)
- Deploy ABSolute
- Verify Logs

Logging

9. Logs are maintained at the following locations (by default):
 - abs.sh related:
 - /abs/log
 - absmenu related:
 - /abs/absmenu/log

Troubleshooting

1. The following solutions may be applied for the related issues:
 - “TERM environment variable not set.”
`$ sudo echo 'TERM=linux >> /etc/environment`
 - In case Parallel Deployment fails due to SNMP or related errors, please use sequential deployment or manual deployment.