BPM:PS V8.5 for z/OS Workshop
System Information for BPM:PS z/OS Labs

This handout contains information you need for the labs to customize IBM Business Process Manager Advanced for z/OS: Process Server (BPM:PS.)

Table of Contents
- Basic z/OS system information: ................................................................. 1
- TCP/IP Information: (Substitute your team # for 'b#'). ................................ 1
- Userid Information: .................................................................................. 1
- WebSphere V85 Library Information: ......................................................... 2
- WebSphere Configuration Information: ...................................................... 2
- DB2 Information: ....................................................................................... 2
- Workstation Set-up (This all needs verification – things have changed...) .... 3
- Sample Files on WG31 Systems: ............................................................... 3
- Web URLs: ............................................................................................... 4
- Handy MVS Commands: .......................................................................... 5
- Useful TSO Commands: ............................................................................ 6
- Useful Unix Commands: .......................................................................... 6
- Visual Editor (vi) cheat-sheet: ................................................................. 7
- Re-Cloning the VM Guest: ....................................................................... 8
- Re-IPLing z/OS on the VM Guest: ............................................................ 8
- IPLing the zLinux machine: ................................................................. 8

Basic z/OS system information:
- System name: WG31
- Sysplex name: WSLPLEX
- Operating System Level: z/OS 1.13
- System proclib: SYS1.PROCLIB
- System EXEC library: SYSS.WSC.SYSEXEC
- System parmlib: SYSS.PARMLIB

TCP/IP Information: (Substitute your team # for 'b#'.)
- TCPIP host name: wg31.washington.ibm.com, WG31
- FTP port: 21
- SSH: 22
- TN3270 port: 23
- Telnet port to USS: 1023
- Windows 2K hosts file location: C:\WINNT\system32\drivers\etc\hosts
- TCP/IP addresses for hosts: (verify with “ping wg31” from TSO command line)
  - Team 1: 192.168.17.201 or 192.168.17.211
  - Team #: 192.168.17.20# or 192.168.17.21#

Userid Information:
The following TSO UserIDs are already defined for you. (pw = userid.)

<table>
<thead>
<tr>
<th>USERID</th>
<th>GROUPID</th>
<th>UID</th>
<th>Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2 SYSADM authority &amp; SuperUser</td>
<td>SYSADM1</td>
<td>SYS1</td>
<td>0</td>
</tr>
<tr>
<td>User with RACF Special authority</td>
<td>USER1</td>
<td>SYS1</td>
<td>8470391</td>
</tr>
<tr>
<td>Other TSO user</td>
<td>USER2</td>
<td>SYS1</td>
<td>8470392</td>
</tr>
<tr>
<td>WAS Administrator</td>
<td>B#ADMIN</td>
<td>B#CFG</td>
<td>8501 or auto-assigned</td>
</tr>
</tbody>
</table>
WebSphere V8.5 Library Information:

- WAS for z/OS level: Version 8.5.5.0
- BPM Adv.PS level: Version 8.5.0.0
- WAS & BPM Adv.PS V8 SMP/E home dir: /shared/zWebSphere/V8R55BASEBPM850

WebSphere Configuration Information:

WAS standalone server is already configured for these labs with the following settings:

- **zFS Configuration file-systems:**
  - DMgr OMS B#CELL.B#DMNODE.CONFIG.ZFS at /wasv8config/b#cell/b#dmnode
  - NodeA OMS B#CELL.B#NODEA.CONFIG.ZFS at /wasv8config/b#cell/b#nodea

- **Cell name:** B#CELL (long name = b#cell)
- **Node name:** B#NODEA (long name = b#nodea)
- **Server name:** B#SR01A (long name = B#sr01a)
- **Admin Userid:** B#ADMIN (pw = b#admin)
- **Ports:** 7500 – 7599

  Guideline:
  - Start Deployment Manager and Node Agent:
    s b#dcr,env=b#cell.b#dmnode.b#dmgr,jobname=b#dmgr
    s b#acra,env=b#cell.b#nodea.b#agnta,jobname=b#agnta

DB2 Information:

- **DB2 level:** Version 10
- **DB2 subsystem name:** DSNX
- **DB2 communication char string:** -DSNX
- **DB2 location name:** WG31DB2
- **DB2 library names:** DSN1010.** (In Linklist)
- **DB2 customized SDSNEXIT library:** DSN1010.SDSNEXIT
- **DB2 customized RUNLIB library:** DSN1010.RUNLIB.LOAD
- **DB2 home directory:** /shared/db21010/jdbc
- **Start DB2 (MVS) Command:** /-dsnxx start db2
- **Display DB2 Tracing:** /-dsnxx disply trace (*)
- **Stop Tracing:** /-dsnxx stop trace (acctg)
- **Start tracing:**
  - /-dsnxx start trace (acctg) class(1,2,3,7,8)
  - /-dsnxx start trace (stat) class(1,3,4,5,6)

TCP/IP - z/OS Console Commands:

- D TCPIP, {proccone},HELP - display list of options.
  - DISPLAY, VARY, OMPROUTE, SYSPLEX, STOR.
- D TCPIP, {proccone},Netstat,ALLCONN|CONN
- D TCPIP, {proccone},Netstat,ARP
- D TCPIP, {proccone},Netstat,DEVlinks
- D TCPIP, {proccone},Netstat,HOME
- D TCPIP, {proccone},Netstat,ROUTE

TCP/IP - TSO Commands:

- NETSTAT option {TCP proccone} - Display network status of local host. Use ? for list of options.
- NETSTAT ALLCONNCONN - Display port connections for the TCP/IP stack.
- NETSTAT ARP ALLipaddress - Display ARP cache for the TCP/IP stack.
- NETSTAT DEV - Display the status of the device(s) and link(s) for the TCP/IP stack.
- NETSTAT GATEROUTE - Display routing information for the TCP/IP stack. (Different views)
- NETSTAT HOME - Display IP address(es) for the stack.
- PING hostname - Send echo request to a host name to determine if the computer is accessible.
- TELNET hostname {port} - Log on to remote host. By default, port 23 is used.
- TRACERTE hostname - Trace hops from this host to destination host. Use ? for list of options
Workstation Set-up (This all needs verification – things have changed...)

- C:\wpswork\ folder for Spreadsheet and work files (or is it C:\bpmwork\ ??)
- WCT V8
- Set HOSTS file to use unique WG31 host address
  
  - C:\WINDOWS\system32\drivers\etc\hosts
  
  192.168.17.2y# wg31.washington.ibm.com wg31
- PCOM 3270 sessions (WG31.WS profiles):
  - Make sure Icons are on the desktop for ‘user’
  - Fix PCOM profiles for good keyboard and char-set mapping to display brackets & braces:
    - Wide WG31.WS – Large screen 50 x 132
    - kens.KMP – keyboard mapping
  - TCPIP profile for large screen – in DSN=SYS1.TCPPARMS(PROFILEx)
    TELNETDEVICE DYNAMIC,D4C32XX3
  - (See Techdoc TD102151 “Creating dynamic 3270 screen sizes”)
  - TeraTerm - correct backspace in Setting- Keyboard - uncheck Bksp
  - Putty - correct backspace in Settings - Keyboard – Bksp = Ctl-H
  - PFE Editor
  - FileZilla, and WS_FTP LE – GUI FTP clients

Sample Files on WG31 Systems
– Use for work files, and Sample apps:

HFS: /u/user1/wpswork

- BookOrderServiceEAR.ear
- DB2JccConfiguration.properties
- LabData – directory for Labs?
- ParticipatingTaskPrepare.zip
- WPSHumanTask.ear
- ZOSBookOrderApp.ear
- addNewDS.py
- addNewDS.sh
- db2setup.sh
- favicon.ear
- oeascii
- updNewServer.py
- verifyDS.py
- verifyDS.sh
- viascii

USER1.WAS.CNTL:

- B#ADDVAR – Add WAS Env. Variables
- B#BOOTST – Run bootstrapDataBase.sh
- B#CELZFS – Created small Cell zFS
- B#CRDB2 – Create StoGrop & Databases
- B#EJBROL – EJBROLE profiles for BPM
- B#GRANTS – GRANTs for Cell database
- B#GRTSEQ – GRANTs for Sequences
- B#PORTS2 – Fix Port #s for 2nd Cluster
- B#RACUID – Define BPM Users, Groups
- B#RAC800 – Define WAS users, Profiles
- B#SIBRES – Reset the SIB DB2 tables
- B#WSADM – Run wsadmin.sh
- B#ZFSBAK – Backup Config zFS
- B#ZFSRST – Restore Config zFS
Web URLs:
BPM Information Center:
http://publib.boulder.ibm.com/infocenter/dmndhelp/v8r5/index.jsp

BPM Wiki: http://wiki.lombardi.com/display/Dashboard/HOME

WASv8 wg31 ISC:

BPE Explorer:

Business Space:

Process Admin Console:

ProcessCenter (on wpspctr.wsclab.washington.ibm.com):
ISC for Process Center:
http://9.82.31.232:9060/ibm/console
(pcadmin or root/pr0cess)

Process Center:
http://192.168.17.232:9080/ProcessCenter

Process Administration:

Starting everything:
ulimit -n 9000
~/start.sh

Stopping everything:
~/stop.sh

Starting PC AppServer:
/opt/IBM/WebSphere/AppServer/profiles/pcnodea/bin/startServer.sh pcsr01a

Stopping PC AppServer:
/opt/IBM/WebSphere/AppServer/profiles/pcnodea/bin/stopServer.sh pcsr01a -username pcadmin -password pcadmin

Server logs:
/opt/IBM/WebSphere/AppServer/profiles/pcnodea/logs/pcsr01a/SystemOut.log
Dmgr logs: /opt/IBM/WebSphere/AppServer/profiles/PCDmgr01/logs/dmgr/SystemOut.log

Process Designer:
In the PD directory (C:\IBM\ProcessDesigner\v8)
The file eclipse.ini has this:
Handy MVS Commands
Here are a few useful MVS commands you may find helpful. Type a slash (/) before them when issued from SDSF command line, but not if entered from the SDSF “System Command Extension.”

Display Commands:

- **d asm**
  - Page data sets & utilization of page space
- **d d**
  - Dump data sets
- **d grs,c**
  - Global resource serialization - contention
- **d iplinfo**
  - IPL time & bootstrap parms
- **d logger,l**
  - Logger logstreams
- **d m**
  - CPUs (m=cpu), Memory (m=stor) & Channels
- **d omvs,a=all**
  - UNIX address spaces (processes)
- **d omvs,f**
  - HFS/zFS file systems currently in use or mounted
- **d omvs, mf**
  - HFS/zFS Mount Failures
- **d omvs, o**
  - UNIX current configuration settings
- **d omvs, p**
  - PFS (physical file system) configuration information
- **d omvs, pid=nnnn**
  - Processes with accumulated CPU time
- **d omvs, w**
  - Delays (Waiters) for latch contention & WTORs
- **d opdata**
  - Operator command prefixes
- **d r, l**
  - Outstanding WTORs (Write To Operator with Replys)
- **d rrs**
  - Resource Recovery Services
- **d smf**
  - SMF recording dataset status
- **d symbols**
  - System symbolics
- **d t**
  - Time & Date (Local & GMT)
- **d tcpip,,n, portl**
  - TCP/IP ports being listened on
- **d tcpip,,n, routes**
  - TCP/IP routes
- **d tcpip,,n, home**
  - TCP/IP home
- **d trace**
  - All trace settings
- **d u, dasd, online,, 99**
  - Online dasd devices
- **d wlm, dynappl= * **
  - Dynamic application environments
- **d xcf, cpl**
  - XCF parameters and couple data sets
- **$dspl**
  - JES2 spool utilization

Other MVS Commands:

- **Start RRS**
  - Start atrrrs, sub=mstr
- **Stop RRS**
  - Setrrs cancel
- **Start MQ**
  - -mqsl start qmgr
- **Stop MQSeries**
  - -mqsl stop
- **Disable ARM**
  - Setxcf stop, policy, type=arm
- **Start RMF**
  - S rmf
- **Start data gathering**
  - F rmf, s iii
- **Modify RMF interval**
  - F rmf, Modify zz, SYNC(RMF, 0), interval(2M)
- **Switch SMF datasets**
  - I smf
- **Switch to new SMF parms**
  - Set smf=99
- **Clear SMF dataset**
  - S clrsmf, man=1 {or man=2}
- **Display TCP/IP V6 setting**
  - D tcpip, netstat, home
- **Refresh TCP/IP Profile parms**
  - V tcpip, o, sys1.tcpparms(profilex)
- **Send message to TSO user**
  - Send 'msg', u=(userid)
- **Add a Page dataset to relieve Aux.Storage issues**
  - PA PAGE=PAGE.WSL003.LOCAL
  * See TSO Command below to Define the new Page dataset.

12/12/2013 Wildfire Lab System Information Page 5
Useful TSO Commands:

- Define Page dataset: `DEFINE PAGESPACE (NAME('PAGE.volser.LOCAL') VOLUME(volser) CYLINDERS(nnn))`
- Turn Prefixing Off: `PROFILE NOPREFIX`
- To reverse it: `PROFILE PREFIX(HUTCH) or PREFIX(USER1)`
- Get BPX Message info: `bpxmtext 5620062`
- RACF Commands:
  - Refresh a RACF Class: `SETROPTS RACLIST(EJBROLE) REFRESH`
  - `permit QQCELL.administrator CL(EJBROLE) id(hutch) acc(read)`
  - `CONNECT hutch  group(QQCFG)`
- DASD Volume Space Info: `space vol(BP`
Visual Editor (vi) cheat-sheet

This page shows you some commonly used vi commands to edit a file. For a complete list of commands, see “Learning the vi Editor” (O’Reilly), or type “man vi” in the UNIX shell (if it works)

**Edit a file:** vi filename.ext  Edit filename.ext with the vi editor
: set all  Display settings.
: set nu  Set line numbering on (:set nonu turns it off)
: set ic  Ignore case (:set noic turns it off)
: set showmode  Show the editing mode at the bottom of the screen

: q!  Quit editing without saving.
: w  Save the file, and continue in edit.
: wq  Save the file and then exit editing.
: r fn  Get (retrieve) file named ‘fn’.
: w fn  Put (write) to file named ‘fn’.

**Moving around in a file:**
G  Move to bottom the file
1G  Move to the top of the file
Ctrl-F  Move forward one page (screen)
Ctrl-B  Move backwards on page
/abcd  Search forward for string “abcd”
?efgh  Search backward for string “efgh”
n  Find next occurrence (after a search command)
%  Find matching brace { -- }

**Text Insertion Commands:** (lower case and Upper Case meanings)
 a  A  Enters insert mode after the current cursor position/A= at end of line (= $a).
 i  I  Enters insert mode before the current cursor position/before 1st nonblank char (= [i)
 o  O  Opens up a new line after/before the current line and enters insert mode on it.
 r  R  Replaces characters with the next character typed/chars typed until ESC.

**Object Manipulation:**
 y  Moves the object to the appropriate buffer; the source is not changed (“yank” or “copy”)
 C  Changes to the end of the current line. = c$
 D  Deletes to the end of the current line. = d$
 x  Deletes the current character. This is equivalent to the dl command.
 Y  Yanks the current line. This is equivalent to the yy command.
 1dd  Delete the current line
 1yy  Copy (yank) the current line
:%s/old/new/g  Change all occurrences of ‘old’ to ‘new’

**Miscellaneous Commands:**
 J  Joins count lines together. (’i’ enter to split line)
 P p  Paste buffer contents after the cursor. (’p’ puts text before the cursor.)
 u U  Undoes last/all change. If repeated, you undo the undo
 ZZ  Writes the file out, if changed, and then exits.
 .  Repeats the last command.
 for s in $(ls *.jar); do echo $s; jar -tvf $s | grep xxxString; done

**Tips:**
Use the escape key to leave insert, change or append mode and enter command mode.
Always use the cursor keys (→ ↑ ← ↓) to move around in the file. (Never use the mouse!)
Re-Cloning the VM Guest
Connect to zVM at 9.82.24.186 (should have at least 60(?) lines - I used  ScreenSize=60x80)
- Logon to the clone's VM system, just as you do to IPL it, and logoff which effectively kills it.
- Logon to the master (230) system, and go into $$GEN3.SETUP.CNTL and submit these jobs: (All of the jobs run on the master start with MC so in SDSF you'll want to do PREFIX MC.)
  - WSLINITx where x is the letter designation of the clone. (See list below.)
  - After that runs successfully, you submit WSLCOPYx. That will run 15 jobs.
  - After all 15 have completed successfully (no return codes > 4) submit WSLLABLx.
- After that runs successfully, logoff of the master, and logon to VM for the respective clone WEBGEN3x.
- Hit enter and you'll be prompted for how you want to proceed.
- Reply 'Y' to IPL.
- Reply 'R 00, CONTINUE' to this message: ILR031A REPLY 'DENY' TO PREVENT ACCESS, 'CONTINUE' TO ALLOW USE OF PAGE.WSLPGE.PLPA.
- Then just wait until SOF finishes and you're done.

Re-IPLing z/OS on the VM Guest:
- Login as webgen3# (pw = webgen3#) where # = the alphabetic letter corresponding to the last two digits of your ipaddress (see chart at the bottom of this note.)
- Hit the 'clear' key to go to the MVS console. (Do NOT Log Off or the VM guest will go away.)
- To IPL, hit <PA1>, and type '#cp i cms' and take all the defaults
- Reply "Y" to IPL with no Prompts.
- Type "R 0, I" when you see this message: IXC420D REPLY I TO INITIALIZE SYSPLEX WSLPLEX, OR R TO REINITIALIZE XCF. REPLYING I WILL IMPACT OTHER ACTIVE SYSTEMS.
- Wait for all IPL start-up messages to complete. ("SOF ENDED")
- Then hit the <PA1> key and type 'disc' to disconnect.

Team Numbers and VM Guest Machine Assignments:
- 201 = a
- 202 = b
- 203 = c
- 204 = d
- 205 = e
- 206 = f
- 207 = g
- 208 = h
- 209 = i
- 210 = j
- 211 = k
- 212 = l ('el')
- 213 = m
- 214 = n
- 215 = o
- 216 = p
- 217 = q
- 218 = r
- 219 = s
- 220 = t

To Warm-Start JES2: change
SYSS.PARMLIB(COMMNDZ9) on a cloned system, and re-IPL.
COM='S JES2, SUF=5, PARM='WARM, NOREQ'"

IPLing the zLinux machine
1) Start PCOMM session to 9.82.24.186
2) Logon as "wpspctr" with password "pr0cess"
3) Reply "y" to the prompt about IPLing Linux
4) When you get to the login: prompt hit "PA1" and enter #CP DISC HOLD