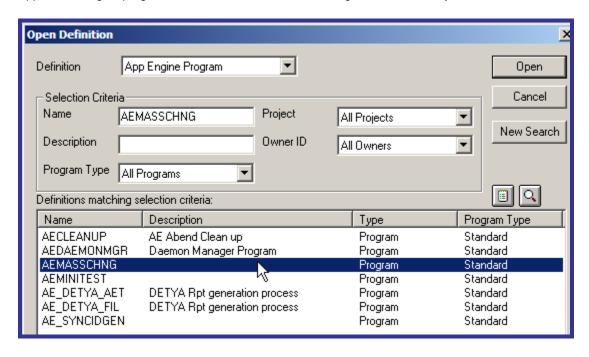
1.2.3 Application Engine

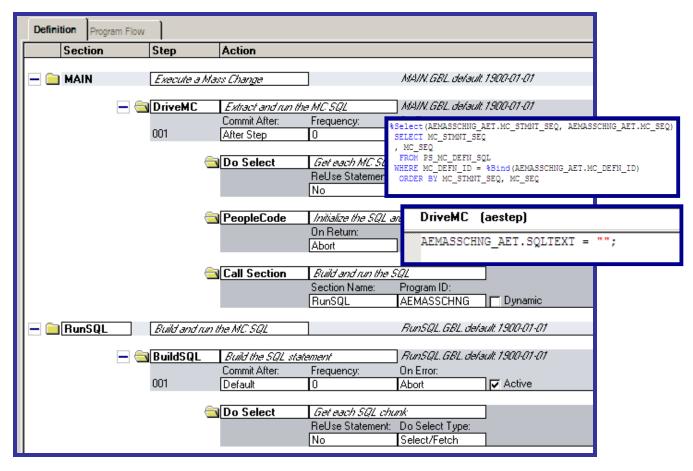
PeopleSoft Application Engine enables you to develop, test, and run Application Engine programs. You use PeopleSoft Application Engine to develop batch or online programs that perform high-volume, background processing against your data. In PeopleSoft Application Engine, a program is a set of SQL statements, PeopleCode, and program control actions that enable looping and conditional logic. You define PeopleSoft Application Engine programs in PeopleSoft Application Designer.

1.2.3.1 Environment and Architecture

Application Engine programs are stored in Tools tables, along with the SQL they execute.



The program consists of Actions, within Steps, within sections. The Actions invoke a SQL statement, invoke PeopleCode, or call another section:



Actions may include looping logic (Do Select) based on the fetching of multiple rows.

1.2.3.2 Execution

The code, logic and SQL are stored in PeopleTools tables such as PSAESECTDEFN, PSAESTMTDEFN and PSSQLTEXTDEFN.

At run time, the code, logic and SQL are retrieved from these tables, cached on disk and in memory, and executed by the driver program "psae.exe".

SQL is passed through to the I/O routine 'PSSYS.dll', and then to a platform specific conversion routine 'PSODBC.dll'. Here, ODBC calls are passed though DB2 Connect to be executed in DB2. When running on NT or UNIX, the SQL comes in through DDF. When running under USS, the calls come in through RRSAF (Resource Recovery Services Access Facility)

Application Engine programs can be executed at the command prompt or using shell scripts:

user01/hr890/bin/psae.exe -CT DB2UNIX -CS -CD HR890 -CO PS -CP * -R ADHOC -AI AEMINITEST -I 1 -OT 2 -OF 13 -OP /user01/temp/

```
export PS_HOME=/u/data006/pt810bh
export PS_DB=DB2
export PS_PLT=OS390_2_8
export PS_SERVER_CFG=/u/data006/pt810bh/pt810bh.cfg
export STEPLIB="CEE.SCEERUN:HOLROYD.PT810.USS.RUNLIB:HOLROYD.PT810.RUNLIB:GSK.SG
SKLOAD:DSN610.SDSNLOAD:$STEPLIB"
export LIBPATH=$LIBPATH:/usr/lib:$PS_HOME/bin
export PATH=$PATH:$PS_HOME/bin:$PS_HOME/bin:/usr/local/bin
DSNAOINI="/u/data006/pt810bh/dsnaoini"

//u/data006/pt810bh/bin/psae -CT DB2ODBC -CD PT810BH -CO PTADMIN -CP PTADMIN -R 0
-AI AETESTPROG -I0 -DR -TRACE 3 -TOOLSTRACESQL 31
```

Alternatively, AE can use JCL submitted from z/OS using a couple of utility programs

```
//BPXCOPY
          EXEC PGM=BPXCOPY.
// PARM='ELEMENT(AETEST1) TYPE(TEXT) PATHMODE(0,7,7,7)'
           DD DSN=HOLROYD.PT810.AETEST,DISP=SHR
//SYSUT1
           DD PATH='/u/data006/pt810bh'
//SYSUT2
//SYSTSPRT DD SYSOUT=*
                       ****************
//OEBATCH
          EXEC PGM=BPXBATCH, REGION=OM,
           PARM='SH /u/data006/pt810bh/AETEST1'
//STEPLIB
           DD DSN=CEE.SCEERUN,DISP=SHR
           DD PATH='/u/data006/pt810bh/aetest.out'
//STDOUT
           PATHOPTS=(OWRONLY,OCREAT,OTRUNC),PATHMODE=SIRWXU
//STDERR
           DD PATH='/u/data006/pt810bh/aetest.err',
//
           PATHOPTS=(OWRONLY,OCREAT,OTRUNC),PATHMODE=SIRWXU
//*
//STDENU
              DSN=HOLROYD.PT810.AETEST,DISP=SHR
```

BPXCOPY copies a member containing Environment variable settings and the psae command (AETEST1) over into an HFS file (/u/data006/pt810bh/AETEST1) in USS.

BPXBATCH then picks up this file and executes it as a shell script.

Application Engine programs can call Cobol programs. These are normal Cobol programs, but they access DB2 using the Call Attach Facility, not the TSO Attach Facility. So they have been compiled and linked with DSNALI as opposed to DSNELI, exist in a separate load library, and run using a different plan.