Chicago Interface Group, Inc.

Installation Guide Breeze and Cloud 9 for Endevor

V 12.0

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Installation Overview

Manual Scope

This manual contains the Cloud 9 version 12.0 and Breeze 12.0 installation procedures to be used with CIG product files and readme.txt files FTP'ed from the CIG FTP site.

It is an integrated install which combines standard z/OS install procedures with Unix System Services (USS), IBM's HTTP server, and Breeze HTTP server configuration. The steps in this manual are organized into seven major sections:

- Before you begin
- FTP, Unpack the CIG product files and perform global edits
- Create demo databases and product initialization file
- Configure Cloud 9 Unix and HTTP server components
- Perform Cloud 9 Installation Verification Procedures (IVP)
- Configure Breeze Unix and HTTP server components
- Perform Breeze Installation Verification Procedures (IVP)

These steps should be followed in the order that they are presented. Once you have successfully completed all of the steps and executed all IVP jobs, you will be ready to set up profiles and use the products.

Who Should Use This Book

This manual is written for systems programmers who will be configuring and administering the IBM HTTP Server and Breeze HTTP servers and product components. Readers should be familiar with the Unix System Services (USS) environment, Hierarchical File System (HFS) structure, Resource Access Control Facility (RACF) profiles needed to super USS and started tasks (or equivalent for the installed security product), and the IBM HTTP server.

Where to Find More Information

Where necessary, this book references information in other publications that may be of use. The following table lists various manuals and redbooks that may be used for reference.

Hardcopy Publications

Title of Publication	Order Number
IBM HTTP Server for OS/390: HTTP Server Planning, Installing, and Using	SC31-8690-xx
OS/390 UNIX System Services Planning	SC28-1890-xx
OS/390 UNIX System Services Messages and Codes	SC28-1908-xx
OS/390 UNIX System Services Command Reference	SC28-1892-xx

Reference Publications

Separate Database Installation

This manual does not cover the implementation of Adhoc Reporter, FastLIST, Greenhouse, Merge Tool, or Package Utilities.

C1DEFLTS

During the IVP's you will need to ensure that an active C1DEFLTS for your environment is included in the STEPLIB concatenation.

C1UXSITE Support

The Breeze and Cloud 9 supports alternate C1DEFLTS switching. The CGI member CLZREXIT will need to be reviewed and implemented. For more information on this topic as it relates to Endevor action processing and the Suite components, refer to the *Breeze and Cloud 9 Administration Guides*.

Temporary Dataset Customization

Both Cloud 9 and Breeze utilize temporary datasets to pass information from the host to the browser. Your site may have restrictions or standards in the area. To address this requirement, the SCM Suite gives you, the System Administrator, an opportunity to setup the temporary dataset rules. The CLZREX00 CGI member is needed for Cloud 9 and the CIGBRPRT JCLLIB member will need to be reviewed for the Breeze interface. For more information on customizing this area of the product, refer to the *Cloud 9 and Breeze Administration Guides*.

Global Modification and Case Sensitive Unix Values

During this installation, you will globally modify several JCL members and Unix files. Some of these files contain case-sensitive values. It is imperative that prior to globally modifying the JCL and Unix members, you issue the CAPS OFF command to ensure that automatic upper casing of the Unix members does not occur. For your convenience, the following icon will be placed in each step where case-sensitive Unix values are an issue.

Product Components Utilized during Installation

The following JCL and HTML members are modified during the installation process. The names are provided here as an overview of CIG naming standards and component functionality.

JCL Members (located in JCL) Modified During Installation:

CIGC9CA	JCL shell for CA-Endevor
CIGV2SRV	JCL for the HTTP server task
CIGBRSRV	JCL for Breeze server task
CIGBRPRT	JCL for Breeze JCL shell
CIGBRPKG	JCL for Breeze JCL shell
CIGV2UNX	JCL to create and upload product to USS
CIGV2EX1	JCL to extract and build JCL PDS members
CIGV2EX2	JCL to extract and build case sensitive JCL
CIGV2INI	JCL to build the CIGINI file
CIGV2IVP	JCL to for PRINTINI and ELEMENT IVP
CIGV2CHM	REXX input to CIGV2UNX
CIGV2DBS	JCL to allocate all of the demo databases
CIGV2IX2	JCL to expand VSAM index levels.
CIGV2XIT	JCL to compile Endevor C1UEXITS

Parameters (located in HTML and JAVALIB library) Modified During Installation:

Cloud 9 Parameter and Control Files

C9CNFG	Sample HTTPD.CONF file
C9EVARS	Sample HTTPD.ENVVARS file
INDEX	HTML member used for Welcome Screen

Breeze Parameter and Control Files

$$HTML	Body of email message
$$$$SMTP	SMTP server information
BREEZE	Breeze invocation HTML

A Step-by-Step Approach

BEFORE YOU BEGIN…	
◆	Review system, software, and hardware considerations.
◆	Implement site standards.
CREATE AND POPULATE LIBRARIES	
1.	FTP and Unpack CIG product files as per the readme.txt file
2.	Make global JCL changes to the JCLLIB library.
3.	Extract all JCL members from CIGJCL99
4.	Make Case Sensitive global JCL changes
5.	Extract all Case Sensitive JCL members from CIGSCJCL
CREATE DEMO DATABASE AND PRODUCT INITIALIZATION MODULE	
6.	Allocate and populate all the three databases, (Breeze, SLR, and optionally, FastLIST)
7.	Compile C1UEXITS TABLE with Products required.
8.	Compile the CIGINI initialization file.
Cloud 9: CONFIGURE UNIX AND HTTP SERVER COMPONENTS	
9.	Review and perform Rexx Run Time Module renames, if needed.
10.	Review C9HTTPD and C9EVARS
11.	Modify Unix environment members – C9HTTPD and C9EVARS
12.	Authorize loadlib, review and customize the CIG Cloud 9 server JCL CIGV2SRV and CIGC9CA browser JCL shell.
13.	Create root directories and copy product to Cloud 9 Unix directories.
14.	Ensure that permission authorization is turned on for the CA-Endevor interface module, C9REDRV.
Cloud 9: PERFORM INSTALLATION VERIFICATION PROCEDURES (IVPs)	
15.	Run the CIG Cloud 9 HTTP server invocation IVPs
16.	Run the CIG Cloud 9 Batch Setup IVPS.
17.	Run the CIG Cloud 9 invocation and logon IVP.
18.	Perform Profile Setup
19.	Perform Batch and Interactive IVPs.

20.	Run the SDSF Viewer invocation IVP.
21.	Invoke the SCM Suite Welcome Selection Menu
Breeze: CONFIGURE BREEZE SERVER AND EMAIL COMPONENTS	
22.	Authorize loadlib, review and customize the CIG Breeze server JCL CIGBRPKG, CIGBRPRT, and CIGBRSRV members.
23.	Test the CTS Server IVP
24.	Invoking the Breeze Applet using the Breeze.html member
25.	Modify $$$$SMTP, $HTML, and $APINDX email support members.

Figure 1.1 CIG Product Installation Step-by-Step

Before You Begin: Review Software and Hardware Considerations

In this step you will review the system, software, and hardware requirements for product installation.

System Requirements

To successfully install Breeze and Cloud 9 for Endevor, the following system requirements must be in place at your installation:

z/OS Operating System	Version 1.1
CA-Endevor	Version 3.9 – Version 12.0
IP Address	Numerical IP address of mainframe or named server on mainframe
2 Port Numbers	1024 or higher*
Product Load Library	One authorized load library
Web Application Server	IBM HTTP must be installed and configured on the mainframe. Only the z/OS HTTP server component is needed from the HTTP Suite. Additionally, you will need access to the HTTP Server Administrator at your location.
Web Browser	Industry supported web browser.
REXX RunTime Libraries	Cloud 9 CGI processing requires the IBM Rexx Run Time environment. The alternate Run Time environment is shipped with Cloud 9 in the Loadlib. If you have the full Rexx Run Time configured, then you will want to run a post install job to delete the alternate run time modules. (CIGV2RRT).
SMTP Email Server	Breeze email requires a SMTP server. This is a standard IBM server available with the z/OS operating system.

Figure 1.2 Core System Requirements

*This port number must be higher than 1024, as port numbers lower than this are reserved for internal system services.

Software Requirements

Cloud 9 and Breeze requires that CA-Endevor 3.9 or higher is implemented on your system. Contact your systems administrator to ensure that these requirements are in place.

VSAM Exclusion

CIG products must be excluded from all VSAM buffering products. This should be done on a global basis. Failure to exclude CIG databases may result in file corruption.

Authorization Requirements Note

The Cloud 9 HTTP server and the Breeze server must run from an authorized library. This is because the server performs various logon and Endevor access functions that require authorization. If the target product load library used during the CIG product file "unpack' procedure is not an authorized dataset, then you must copy the product load library into the authorized library for server execution.

Demo Data Note

The demo data provided is not meant to be valid, but rather meant to show be used during the IVP process only.

To delete the data in the demo databases, you will need to review, modify, and execute the JCL members CIGV2FLT, CIGV2PKG, and CIGV2SLR.

Product Passwords

The product passwords are provided from CIG support. If you did not receive the product passwords from your account representative, please contact CIG support at 1-773-524-0998 Ext.2 for information on temporary and permanent passwords for the products. These passwords will be required to invoke the products.

Product Space Requirements

The table below outlines the space requirements for the Cloud 9 and Breeze product software and supporting libraries. Note that the following estimates are based on 3390 track allocations.

Data Set Names	Primary	Secondary	Directory Blocks	Record format	Record Length
Flhq1.flhq2.LOADLIB	110	10	60	U	0
Flhq1.flhq2.CGI	30	15	45	VB	256
Flhq1.flhq2.JCLLIB	30	10	45	FB	80
Flhq1.flhq2.JCLLIB.CASE	30	10	10	FB	80
Flhq1.flhq2.HTML	30	10	45	VB	256
Flhq1.flhq2.DEMODATA	15	15	0	VB	4096
Flhq1.flhq2.JAVALIB	45	45	10	VB	--
Flhq1.flhq2.PRF	15	15	10	FB	256
Flhq1.flhq2.JPG	15	15	10	VB	--

Figure 1.3 Space Requirements

Before You Begin: Implement Site Standards

Site-Specific Placeholders

The following placeholders represent values that are customer-specific.

Flhq1	*Qual1*	*User 1*
Flhq2	*Qual2*	*User2*
Dvolser	*Pwd-brz*	*Portno-brz*
Dunit	*Rootdir*	
Tdisk	*Webjobname*	
Pwd-c9	*Portno-c9*	

Figure 1.4 Global Symbolics

These placeholders (see the worksheet on the next page for definitions) are indicated in this chapter by the use of lowercase italics in the reproduced JCL. Substitute your site-specific values in all installation and implementation JCL. The password placeholder values are provided by CIG Support. Complete the third column on the Placeholder worksheet on the following page for easy reference during installation.

Endevor Dataset Names

Additionally, identify the dataset names for your current Endevor set up as per the Dataset worksheet on the following page. These dataset names will be needed for batch JCL updates.

Remove this worksheet from the manual for easy reference during later installation steps.

Placeholder Worksheet

Place Holder	Definition	Your Site Value
Dvolser	Volume serial number of the disk used to store permanent data sets (if needed).	
Dunit	Unit label for permanent disk data sets (usually SYSDA).	
Tdisk	Unit label for temporary disk data sets: usually SYSDA).	
Flhq1	High-level qualifier for the CIG Product datasets.	
Flhq2	Second-level qualifier for the CIG Product datasets.	
Pwd-brz	Breeze Password	
Pwd-pu	Package Utilities Password	
Pwd-c9	Cloud 9 Password	
Pwd-fl	Fastlist Password (optional)	
Qual1	High-level qualifier for Endevor datasets.	
Qual2	Second-level qualifier for Endevor datasets.	
Portno-brz	Port number for Breeze server	
Rootdir	Root directory for Cloud 9 HTTP Server	
IP-ADDR	IP address for accessing the HTTP Server	
User1	Primary User Id for HTTP tasks	
User2	Secondary User Id for HTTP tasks	
Webjobname	HTTP server job name	
Portno-c9	Port number for Cloud 9 server	

Figure 1.5 Site-specific Customization

Dataset Worksheet

DDNAME	Dataset / File Names Examples	Your Dataset / File Names
CA-Endevor LOADLIB	SYS3.ENDEVOR.AUTHLIB	
CA-Endevor CONLIB	SYS3.ENDEVOR.CONLIB	
CA-Endevor SYSLIB	SYS3.ENDEVOR.SOURCE	

Figure 1.6 Endevor Dataset Names

Step 1. FTP and Unpack the CIG Software

Installation Files

Product components are now downloaded from the CIG FTP site. There are two files to download, the readme.txt and the cig.bin product file.

Please contact CIG support to get access and instructions for downloading the most current readme.txt and product file. The support access number is 1-773-524-0998 ext. 2.

Unpack the software

Follow the instructions in the readme.txt file downloaded from the CIG FTP site for unpacking the compressed CIG product files.

Required software

The IBM TRSMAIN utility is used to expand the compressed installation libraries. If your installation does not have the TRSMAIN utility, then you can get a copy of the utility from the following website:

http://techsupport.services.ibm.com/390/trsmain.htm

Step 2: Make Global JCL changes

In this step you will make global changes to many of the JCLLIB members. The JCL source to be modified is contained in the JCL member called CIGJCL99. Additional modification will be required for the case sensitive JCL members associated with Cloud 9 and Breeze.

Edit CIGJCL99

Using the worksheet information you specified in Step 2, issue the following change commands against the member CIGJCL99:

CHANGE ALL DVOLSER	*dvolser*
CHANGE ALL DUNIT	*dunit*
CHANGE ALL TDISK	*tdisk*
CHANGE ALL FLHQ1	*flhq1.flhq2*
CHANGE ALL QUAL1.QUAL2.	*qual1.qual2*
CHANGE ALL PORTNO-BRZ	*portno-brz*

If you wish to modify each JCL member separately, skip this step. Instructions on modifying each JCL member are shown as comments in the individual JCL members.

As a final task in this step, you should edit the member called JOBCARD located in the JCL library. This member can be copied at the top of each JCL member that you will be executing in subsequent steps.

Step 3: Extract all JCL members from CIGJCL99

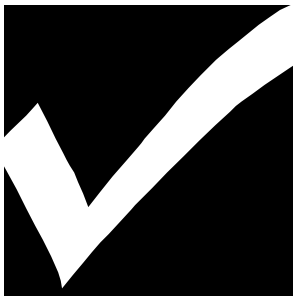
In this step you will extract all JCL contained in the member CIGJCL99.

To accomplish this extraction, edit the member CIGV2EX1 located in the JCL library, which is shown below. After making the necessary changes as described in the member, submit the job.

All remaining steps in this JCL should terminate with COND CODE=0

```
//**(JOBCARD)
//**
//* --------------------------------------------------------------------
//*         * * *   N O T I C E   * * *
//*    THIS PROGRAM IS A PROPRIETARY PRODUCT OF CHICAGO INTERFACE
//*    GROUP, INC. @ COPYRIGHT 2002 CHICAGO INTERFACE GROUP, INC.
//*    ALL RIGHTS RESERVED.
//* ------------------------------------------------------------------ *
//*                                                                    *
//* CIGV2EX1 - THE PURPOSE OF THIS JCL IS TO TAKE THE SEQUENTIAL       *
//*            JCL FILE AND POPULATE THE JCL PARTITIONED               *
//*            DATASET.                                                *
//*                                                                    *
//* MODIFY THIS JCL TO MEET YOUR SITE'S JCL NAMING STANDARDS.          *
//*                                                                    *
//*   1) INCLUDE A JOBCARD                                             *
//*   2) CHANGE FLHQ1 AND FLHQ2 AS PER WORKSHEET.                      *
//* ------------------------------------------------------------------ *
//STEP1   EXEC  PGM=IEBUPDTE
//SYSIN  DD DSN=flhq1.flhq2.JCLLIB(CIGJCL99),DISP=SHR
//SYSUT1 DD DSN=flhq1.flhq2.JCLLIB,DISP=SHR
//SYSUT2 DD DSN=flhq1.flhq2.JCLLIB,DISP=SHR
//SYSPRINT DD  SYSOUT=*
```

Figure 1.7 CIGV2EX1



CHECKPOINT #1

At this point the following libraries should be allocated and populated. Using ISPF 3.4, verify that these files have been created and contain data.

Data Set Names	Completed?
Flhq1.flhq2.CGI	
Flhq1.flhq2.DEMODATA	
Flhq1.flhq2.JAVALIB	
Flhq1.flhq2.HTML	
Flhq1.flhq2.JCLLIB	
Flhq1.flhq2.JCLLIB.CASE	
Flhq1.flhq2.JPG	
Flhq1.flhq2.LOADLIB	
Flhq1.flhq2.PRF	

Figure 1.8 Checkpoint 1

At this point, you should also have completed the following tasks:

Task	Completed?
Reviewed the systems requirements for Cloud 9 and Breeze?	
Reviewed the authorization requirements for Cloud 9 and Breeze?	
FTP'ed and unpacked CIG product files?	

Figure 1.9 Checkpoint 1

Step 4: Make Case Sensitive Global JCL Changes

In this step you will make global changes to all JCL members that are case sensitive. All JCL source is contained in the JCL member called CIGCSJCL. Because these members contain case-sensitive values, **please issue the CAPS OFF command** to ensure that automatic upper casing does not occur. The lists below denote which values must be upper case and which values can be either upper or lower case.

If you wish to modify each JCL member separately, skip this step. Instructions on modifying each JCL member are shown as comments in the individual JCL members.

Edit CIGCSJCL

Using the worksheet information you specified in the "Before you Begin" section, issue the following change commands against the member CIGCSJCL, located in the flhq1.flhq2.JCLLIB.CASE dataset.

Step 1. Issue the CAPS OFF command to ensure case sensitivity
Step 2. Using ISPF edit the CIGCSJCL enter the following global changes being careful to follow the Case Rule.

The following values must be Upper Case:

- ❑ CHANGE ALL FLHQ1.FLHQ2 *flhq1.flhq2*
- ❑ CHANGE ALL QUAL1.QUAL2 *qual1.qual2*
- ❑ CHANGE ALL USER1 *user1*
- ❑ CHANGE ALL USER2 *user2*
- ❑ CHANGE ALL WEBJOBNAME *WEBJOBNAME*

The following values are case sensitive and can be either upper or lower case—type them EXACTLY as they appear on your Placeholder Worksheet:

- ❑ CHANGE ALL portno-c9 *portno-c9*
- ❑ CHANGE ALL portno-brz *portno-brz*
- ❑ CHANGE ALL rootdir *rootdir*

Note: Substitution of rootdir should always be in the format /x/xxxx/ after changing. Please double check substitutions to ensure that a '/' is at the beginning and end of the changed values. Duplicate slashes ('//') should not appear in the final copy.

Step 5: Extract All JCL Members from CIGCSJCL

In this step, you will extract all JCL members contained in the member CIGCSJCL.

Modify and Submit CIGV2EX2

To accomplish this extraction, you must perform the following actions.

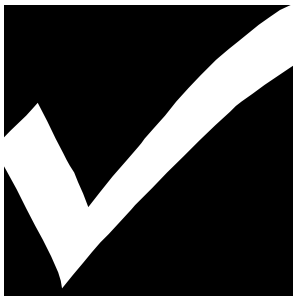
1. Using ISPF EDIT, access member CIGV2EX2 in the flhq1.flhq2.JCLLIB.CASE dataset.
2. Copy your job card values at the top of the JCL member.
3. Substitute your site-specific values (identified on the Installation Worksheet.) for those values shown below in bold Italics.
4. Submit the job.

Note that this job should terminate with COND CODE=0. If it does not:

1. Review your job card parameters and the JCL for errors.
2. Resubmit the job.

```
//**(JOBCARD)
//**
//* ---------------------------------------------------------------------
//*         * * *   N O T I C E   * * *
//*    THIS PROGRAM IS A PROPRIETARY PRODUCT OF CHICAGO INTERFACE
//*    GROUP, INC. @ COPYRIGHT 2002 CHICAGO INTERFACE GROUP, INC.
//*    ALL RIGHTS RESERVED.
//* ------------------------------------------------------------------ *
//*                                                                    *
//* CIGV2EX2 - THE PURPOSE OF THIS JCL IS TO TAKE THE SEQUENTIAL       *
//*            JCL FILE AND POPULATE THE JCL PARTITIONED DATASET,      *
//*            AFTER GLOBAL EDITS HAVE BEEN PERFORMED.                 *
//*            CASE SENSITIVE JCL ONLY.                                *
//*                                                                    *
//* MODIFY THIS JCL TO MEET YOUR SITE'S JCL NAMING STANDARDS.          *
//*                                                                    *
//*   1) INCLUDE A JOBCARD                                             *
//*   2) CHANGE FLHQ1 AND FLHQ2 AS PER WORKSHEET.                      *
//* ------------------------------------------------------------------ *
//STEP1   EXEC  PGM=IEBUPDTE
//SYSIN  DD DSN=FLHQ1.FLHQ2.JCLLIB.CASE(CIGCSJCL),DISP=SHR
//SYSUT1 DD DSN=FLHQ1.FLHQ2.JCLLIB.CASE,DISP=SHR
//SYSUT2 DD DSN=FLHQ1.FLHQ2.JCLLIB.CASE,DISP=SHR
//SYSPRINT DD  SYSOUT=*
```

Figure 1.10 CIGV2EX2



CHECKPOINT #2

At this point, you should have completed the following tasks:

Task	Completed?
Performed global edits on case sensitive JCL member?	
Expanded the contents of the Case Sensitive JCLLIB using the CIGV2EX2 utility?	

Figure 1.11 Checkpoint 2

Step 6: Allocate and Populate the Demo Databases

The purpose of this step is to allocate and populate the Cloud 9 SLR and Breeze demo databases with enough data to complete the IVP. Additionally, there is a step to allocate the FastLIST database should you also have this product.

Modify and Submit CIGV2DBS

1. Using ISPF EDIT, access member CIGV2DBS in the flhq1.flhq2.JCLLIB dataset.
2. Copy your job card values to the top of the member.
3. Substitute your site-specific values (identified on the Installation Worksheet.) for those values shown below in bold Italics. If you made global JCL changes in Step 2 of this manual, you may skip this item.

WARNING: Do not modify the VSAM parameters in this JCL. Doing so will produce unexpected results from the SCM Suite application.

4. Submit the job.

Note that this job should terminate with COND CODE=8 for the delete command the first time, then COND CODE=0 all times after that. If it does not:

1. Review your job card parameters and the JCL for errors.
2. Resubmit the job.

```
//**(JOBCARD)
//**
//*******************************************************************
//*                                                                 *
//* CIGV2DBS - THE PURPOSE OF THIS JCL IS TO ALLOCATE AND LOAD THE  *
//*            THE SAMPLE DATABASES PROVIDED ON THE CIG PRODUCT TAPE.*
//*            SLR, BREEZE DATABASE AND THE OPTIONAL FASTLIST DB.   *
//*******************************************************************
//*                                                                 *
//* REQUIRED JCL MODIFICATION:                                      *
//*   1) INCLUDE A JOBCARD                                          *
//*   2) CHANGE THE FOLLOWING AS PER THE INSTALLATION WORKSHEET.    *
//*      - FLHQ1 AND FLHQ2                                          *
//*      - VOLUMES(DVOLSER)                                         *
//*                                                                 *
//* THE FOLLOWING MAY NOT REQUIRED FOR SMS INSTALLATIONS:           *
//*   - VOLUMES(DVOLSER)                                            *
//*                                                                 *
```

```
//*******************************************************************
//*                                                                 *
//* DO NOT MODIFY THE VSAM PARAMETERS PROVIDED IN THIS JCL. DOING SO *
//* WILL PRODUCE UNEXPECTED RESULTS FROM THE FASTLIST               *
//* APPLICATION.                                                    *
//*                                                                 *
//*******************************************************************
//ALLOC   EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//INDD01   DD DSN=FLHQ1.FLHQ2.DEMODATA(V2SLR),DISP=SHR
//INDD02   DD DSN=FLHQ1.FLHQ2.DEMODATA(V2BREEZE),DISP=SHR
//INDD03   DD DSN=FLHQ1.FLHQ2.DEMODATA(V2FAST),DISP=SHR
//SYSIN   DD *
 DELETE FLHQ1.FLHQ2.SLR
 DEFINE CLUSTER -
    (NAME('FLHQ1.FLHQ2.SLR') -
    IMBED SPEED UNIQUE FREESPACE(30 30) -
    VOLUMES(DVOLSER) TRACKS(60 40) -
    SHR(4 3) -
    KEYS(254 0) -
    RECORDSIZE(512 1024)) -
  DATA  (CISZ(16000)) -
  INDEX (CISZ(4096))
 REPRO INFILE(INDD01) OUTDATASET('FLHQ1.FLHQ2.SLR')
*
 DELETE FLHQ1.FLHQ2.PKGDB
 DEFINE CLUSTER -
    (NAME('FLHQ1.FLHQ2.PKGDB') -
          SPEED UNIQUE FREESPACE(30 30) -
    VOLUMES(DVOLSER)    TRACKS(60 40) -
    SHR(4 3) -
    KEYS(80 0)  -
    RECORDSIZE(80 720)) -
  DATA  (CISZ(16000)) -
  INDEX (CISZ(4096))
 REPRO INFILE(INDD02) OUTDATASET('FLHQ1.FLHQ2.PKGDB')
*
 DELETE FLHQ1.FLHQ2.FLSTDB
 DEFINE CLUSTER -
    (NAME('FLHQ1.FLHQ2.FLSTDB') -
          SPEED UNIQUE FREESPACE(30 30) -
    VOLUMES(DVOLSER)  TRACKS(60 40) -
    SHR(4 3) -
    KEYS(72 0) -
    RECORDSIZE(100 2400)) -
  DATA  (CISZ(16000)) -
  INDEX (CISZ(4096))
 REPRO INFILE(INDD03) OUTDATASET('FLHQ1.FLHQ2.FLSTDB')
*
/*
//*******************************************************************
//*                                                                 *
//*  STEP 2: FORCE A VSAM SPLIT FOR INTEGRITY SUPPORT.              *
//*                                                                 *
//*******************************************************************
//STEP2    EXEC PGM=CIGVSM2L,PARM='FLHQ1.FLHQ2.SLR,TDISK'
//STEPLIB DD DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//*******************************************************************
//*                                                                 *
//*  STEP 3: FORCE A VSAM SPLIT FOR INTEGRITY SUPPORT.              *
//*                                                                 *
//*******************************************************************
//STEP3    EXEC PGM=CIGVSM2L,PARM='FLHQ1.FLHQ2.PKGDB,TDISK'
//STEPLIB DD DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//*******************************************************************
//*                                                                 *
//*  STEP 4: FORCE A VSAM SPLIT FOR INTEGRITY SUPPORT.              *
//*                                                                 *
//*******************************************************************
//STEP4    EXEC PGM=CIGVSM2L,PARM='FLHQ1.FLHQ2.FLSTDB,TDISK'
```

```
//STEPLIB DD DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
```

Figure 1.12 CIGV2DBS

Note that the demo data loaded into these databases is for IVP purposes only. Run the CIGV2PKG, CIGV2SLR, and CIGV2FLT JCL streams to allocate empty, initialized databases once you are ready to implement the product.

Step 7: Compile the C1UEXITS CA-Endevor Table

In this step you will compile the CA-Endevor C1UEXITS table. The purpose of this table is to tell Endevor which programs should be added to its exit table processing. If you already have CA-Endevor exits implemented then you will have to review the purpose of the exits and determine whether to call the CIG exits first or your existing exits first. The member displayed below depicts only CIG exits. Check with your Endevor Administrator about existing exits and the ramifications of merging these exits with the CIG exits.

The C1UEXITS module must reside in the Steplib or Job Pack area.

Modify and Submit CIGV2XIT

The C1UEXITS load module must be located in the Cloud 9/Breeze steplib or linklist area. Create the C1UEXITS load module by executing the JCL in member CIGV2XIT of the JCLLIB dataset. As input to the job, you will need to do the following:

1. Using ISPF EDIT, access member CIGV2XIT in the flhq1.flhq2.JCLLIB dataset.
2. Copy your job card values to the top of the member.
3. Substitute your site-specific values (identified on the Installation Worksheet.) for those values shown below in bold Italics. If you made global JCL changes in Step 2 of this manual, you may skip this substitution.
4. Verify that the SYSLMOD points to the CIG product library or intended execution library.
5. Submit the job.

Note that this job should terminate with COND CODE=0. If it does not:

1. Review your job card parameters and the JCL for errors.
2. Resubmit the job.

CIGV2XIT JCL and Input

```
//* (JOBCARD)
//* ---------------------------------------------------------------------*
//*  NAME:    CIGV2XIT                                                   *
//*  PURPOSE: COMPILE THE C1UEXITS CA-ENDEVOR EXIT TABLE.                *
//* ---------------------------------------------------------------------*
//*  TO USE THIS JCL, YOU MUST:                                          *
//*         1) INSERT A VALID JOB CARD WITH VALID CLASS                  *
//*         2) MAKE SURE THAT THE STEPLIB POINTS TO THE CIG PRODUCT      *
//*            INCLUDES THE DATASET THAT CONTAINS THE C1UEXITS AND       *
//*            CIGFEXEC.                                                 *
//*         3) CHANGE FLHQ1, FLHQ2, QUAL1 AND QUAL2 AS PER YOUR          *
//*            INSTALLATION SHEET                                        *
//*         4) MAKE SURE THE SYSLMOD POINTS TO THE CIGT PRODUCT          *
//*            LIBRARY OR INTENDED EXECUTION LIBRARY.                    *
//*         5) MAKE SURE THE SYSLIB POINTS TO THE ENDEVOR MACRO          *
//*            LIBRARY.                                                  *
//*                                                                      *
//*----------------------------------------------------------------------*
//*                                                                      *
//* STEP 1: ASSEMBLE C1UEXITS INPUT                                      *
//*                                                                      *
//*----------------------------------------------------------------------*
//*  ASMA90  (HL-ASM)
//*  IEV90   (ASSEMBLER-H)
//ASM      EXEC PGM=ASMA90,
//             REGION=3072K,
//             PARM='NODECK,OBJECT,NOTERM,LIST,XREF(SHORT)'
//SYSIN    DD  *
C1UEXITS TITLE 'SAMPLE CA-ENDEVOR EXITS'
*----------------------------------------------------------------------*
*   MULTIPLE USER EXIT SUPPORT                                         *
*                                                                      *
*   THIS MEMBER IS AN EXAMPLE OF A C1UEXITS TABLE.  HERE ARE A         *
*   FEW NOTES:                                                         *
*   1.  THIS EXAMPLE SHOWS MULTIPLE EXITS.                             *
*   2.  YOU MAY ALREADY BE USING EXITS AT YOUR INSTALLATION.  IN       *
*       THAT CASE YOU WOULD WANT TO USE YOUR OWN USER EXIT TABLE       *
*       RATHER THAN RELAYING ON THIS EXIT TABLE.                       *
*   3.  CA-ENDEVOR USER EXITS ARE DESCRIBED IN THE CA-ENDEVOR          *
*       EXITS MANUAL.                                                  *
*   4.  ALL CIG EXITS ARE DEFINED BY EXECUTING THE PROGRAM CIGFEXEC.   *
*       FOR EXAMPLE, NAME=CIGFEXEC.                                    *
*   5.  SPECIFY ANCHID=0 WHENEVER NAME=CIGFEXEC IS SPECIFIED.          *
*   6.  AUTH=NO SPECIFIES THAT THE EXITS CAN BE LOADED OUT OF EITHER   *
*       STEPLIB OR CONLIB.  AUTH=YES REQUIRES THE EXIT TO BE LOADED    *
*       OUT OF AN AUTHORIZED LIBRARY.                                  *
*   7.  TO COMMENT OUT ONE OF THE EXITS, PLACE AN "*" IN COLUMN 1.     *
*   8.  FOR PACKAGE UTILITIES USERS, EXIT 7 MUST BE DEFINED.           *
*       FOR NON-PACKAGE UTILITIES USERS, EXIT 7 MUST BE COMMENTED OUT.*
*                                                                      *
*   TYPE=START DEFINITION MUST PROCEDE ANY EXIT DEFINITION STATEMENT.  *
*----------------------------------------------------------------------*
C1UEXITS @C1UEXIT TYPE=START,XIT7BAT=YES
         @C1UEXIT EXIT#=2,NAME=CIGFEXEC,ANCHID=0,AUTH=NO
         @C1UEXIT EXIT#=3,NAME=CIGFEXEC,ANCHID=0,AUTH=NO
         @C1UEXIT EXIT#=5,NAME=CIGFEXEC,ANCHID=0,AUTH=NO
         @C1UEXIT EXIT#=6,NAME=CIGFEXEC,ANCHID=0,AUTH=NO
         @C1UEXIT EXIT#=7,NAME=CIGFEXEC,ANCHID=0,AUTH=NO
         @C1UEXIT EXIT#=7,NAME=CIGFXEM7,ANCHID=0,AUTH=NO
* ---------------------------------------------------------------------*
*   TYPE=DEFINITION DENOTES THE END OF THE EXIT TABLE.                 *
*----------------------------------------------------------------------*
         @C1UEXIT TYPE=END
         END
//SYSLIB   DD  DSN=SYS1.MACLIB,DISP=SHR
//         DD  DSN=QUAL1.QUAL2.ENDEVOR.MACLIB,DISP=SHR
//SYSLIN   DD  DSN=&&SYSLIN,
//             UNIT=TDISK,SPACE=(TRK,(3,5)),
```

```
//             DISP=(NEW,PASS,DELETE),
//             DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200)
//SYSPUNCH DD  DUMMY
//SYSUT1   DD  UNIT=TDISK,SPACE=(TRK,(5,15))
//SYSPRINT DD  SYSOUT=*
//*-------------------------------------------------------------------*
//*                                                                   *
//* STEP 3: LINK EDIT THE C1UEXITS MODULE                             *
//*                                                                   *
//*  NOTE: CHOOSE THE DESTINATION OF YOUR C1UEXITS FILE. IF YOU ARE   *
//*        PLANNING ON USING AN ALTERNATE C1UEXITS MODULE, YOU MUST   *
//*        FIRST BUILD A C1UEXITS THAT RESIDES IN A STEPLIB DATASET.  *
//*-------------------------------------------------------------------*
//LINK     EXEC PGM=IEWL,
//             REGION=2048K,
//             PARM='LIST,NCAL,XREF,LET,RENT,REUS',
//             COND=(0,NE)
//SYSPRINT DD  SYSOUT=*
//SYSLIN   DD  DSN=&&SYSLIN,
//             DISP=(OLD,DELETE,DELETE)
//SYSLMOD  DD  DSN=FLHQ1.FLHQ2.LOADLIB(C1UEXITS),DISP=SHR
//SYSUT1   DD  UNIT=TDISK,SPACE=(TRK,(5,15))
```

Figure 1.13 CIGV2XIT

Step 8: Set Up the CIGINI Initialization File

In this step you will create the CIGINI member, a text format file that contains various product parameters such as product password, database names, and the product load library name. For test purposes we will create a new version of the module.

Modify and Submit CIGV2INI

The CIGINI load module must be located in the Cloud 9/Breeze steplib or linklist area. Create the CIGINI load module by executing the JCL in member CIGV2INI of the JCLLIB dataset. As input to the job, you will need to do the following:

1. Using ISPF EDIT, access member CIGV2INI in the flhq1.flhq2.JCLLIB dataset.
2. Copy your job card values to the top of the member.
3. Substitute your site-specific values (identified on the Installation Worksheet.) for those values shown below in bold Italics. If you made global JCL changes in Step 2 of this manual, you may skip this item.
4. Update the Breeze, Package Utilities and Cloud 9 passwords.
3. Verify that the STEPLIB includes the dataset that contains the CIGINI and CIGFEXEC modules.
4. Verify that the SYSLMOD points to the CIG product library or intended execution library.
5. Submit the job.

Note that this job should terminate with COND CODE=0. If it does not:

6. Review your job card parameters and the JCL for errors.
7. Resubmit the job.

CIGV2INI JCL and Input

```
//* (JOBCARD)
//* ---------------------------------------------------------------*
//*  NAME:    CIGV2INI                                             *
//*  PURPOSE: PARSE, COMPILE AND LINK THE CIGINI MODULE.           *
//*           CREATE CIGINI FOR CLOUD 9 AND BREEZE PRODUCTS.       *
//* ---------------------------------------------------------------*
//*  TO USE THIS JCL, YOU MUST:                                    *
//*         1) PERFORM MODIFICATION ON CIGINI INPUT.               *
//*            SAMPLE PROVIDED BY CIG WILL NOT COMPILE AS DELIVERED.  *
//*         2) INSERT A VALID JOB CARD WITH VALID CLASS            *
```

```
//*         3) MAKE SURE THAT THE STEPLIB POINTS TO THE CIG PRODUCT   *
//*            INCLUDES THE DATASET THAT CONTAINS THE CIGINI AND      *
//*            CIGFEXEC.                                              *
//*         4) CHANGE FLHQ1, FLHQ2, QUAL1 AND QUAL2 AS PER YOUR       *
//*            INSTALLATION SHEET                                     *
//*         5) CHANGE THE UNIT=TDISK TO THE APPROPRIATE UNIT          *
//*            NAME FOR TEMPORARY FILES.                              *
//*         6) CHANGE THE PWD-PU, PWD-BRZ, PWD-C9 AND OPTIONALLY,     *
//*            THE PWD-FL PASSWORDS AS PER INFORMATION PROVIDED       *
//*            BY CIG.                                                *
//*         7) MAKE SURE THE SYSLMOD POINTS TO THE CIGT PRODUCT       *
//*            LIBRARY OR INTENDED EXECUTION LIBRARY.                 *
//*                                                                   *
//*-------------------------------------------------------------------*
//*                                                                   *
//* STEP 1: PARSE CIGINI SYNTAX.  BUILD INPUT FOR ASSEMBLER.          *
//*                                                                   *
//*-------------------------------------------------------------------*
//PARSE    EXEC PGM=ICOMPILE
//STEPLIB  DD  DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//CIGIN    DD  *
************************************************************
*  THE FOLLOWING IS THE INPUT TO THE CIGINI COMPILER.
*  THE SECTIONS INCLUDED ARE FASTLIST AND CLOUD9.
************************************************************
* !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
* ! NOTE THAT THERE ARE TWO PRODUCT LOADLIB STATEMENTS IN     !
* ! THE INPUT. THIS IS BECAUSE, THE CLOUD9 SERVER REQUIRES    !
* ! AN AUTHORIZED LOADLIB. IF THE DATASET USED IN THE SERVER  !
* ! JCL IS DIFFERENT THAN THE INSTALL LIBRARY, THE CIGINI     !
* ! WILL HAVE TO BE COMPILED  POINTING TO THE AUTHORIZED      !
* ! LOAD LIBRARY.                                            !
* !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
************************************************************
DEFINE COMMON SECTION
  PRODUCT LOADLIB     = 'FLHQ1.FLHQ2.LOADLIB'
* PRODUCT LOADLIB     = 'FLHQ1.FLHQ2.AUTHLIB'
  WORK UNIT           = TDISK
  VIO  UNIT           = TDISK
  DO NOT ALLOW ALTERNATE CIGINI FILE
  ENDEVOR CONLIB DSNAME = 'QUAL1.QUAL2.CONLIB'
  JAVASERVERCONTROL DSNAME = 'FLHQ1.FLHQ2.JAVALIB'
  NOTIFY RULES DSNAME = 'FLHQ1.FLHQ2.JAVALIB'

************************************************************
*  KEEP THIS SECTION IF YOU ARE INSTALLING CLOUD 9.
************************************************************
DEFINE CLOUD9 SECTION
  PASSWORD ='PWD-C9'
  SLRVSAM DSNAME = 'FLHQ1.FLHQ2.SLR'
  ENDEVORMODE


************************************************************
*  NOW OPTIONAL FOR CLOUD 9 FOR ENDEVOR V2.
*  KEEP THIS SECTION IF YOU ARE INSTALLING FASTLIST
************************************************************
*EFINE FASTLIST SECTION
* FASTLIST PASSWORD   = 'PWD-FL'
* VSAM DSNAME = 'FLHQ1.FLHQ2.FLSTDB'

************************************************************
*  REQUIRED FOR BREEZE.
*  KEEP THIS SECTION IF YOU ARE INSTALLING PACKAGE UTILITIES
*  OR BREEZE FOR ENDEVOR.
************************************************************
DEFINE PACKAGE SECTION
  PASSWORD = 'PWD-PU'
  WARN
* RESOLVE
```

```
* WARN | FAIL | RESOLVE | IGNORE ELEMENT COLLISIONS
  PACKAGE LOG IS REQUIRED
  PACKAGE VSAM DSNAME = 'FLHQ1.FLHQ2.PKGDB'
  AUTOMATIC REMAKE
* USER PROGRAM BEFORE REMAKE = 'TESTPGM'
  DO NOT REMAKE EMERGENCY PACKAGES
  ACTION OPTIONS FOR
     MOVE = MOVENEXT
     GENERATE = ASIS
     TRANSFER = ASIS
     ADD = ASIS
     UPDATE = ASIS
     RETRIEVE = ASIS
     DELETE = ASIS
     PRINT = ASIS
     LIST = ASIS
     ARCHIVE = ASIS
     RESTORE = ASIS
*        ASIS DISCARD MOVENEXT
* FILTER (XXX)

************************************************************
*  KEEP THIS SECTION IF YOU ARE INSTALLING BREEZE FOR ENDEVOR.
************************************************************
 DEFINE BREEZE SECTION
   PASSWORD = 'PWD-BRZ'
/*
//CIGPUNCH DD  DSN=&&TEMP,DISP=(NEW,PASS),
//            UNIT=TDISK,SPACE=(10,10),
//            DCB=(BLKSIZE=3120,LRECL=80,RECFM=FB)
//CIGLOG   DD  SYSOUT=*
//*--------------------------------------------------------------------*
//*                                                                    *
//* STEP 2: ASSEMBLE THE CIGINI INPUT CREATED IN STEP 1.               *
//*                                                                    *
//*  NOTE: CHOOSE THE DESTINATION OF YOUR CIGINI FILE.                 *
//*                                                                    *
//*--------------------------------------------------------------------*
//*  ASMA90  (HL-ASM)
//*  IEV90   (ASSEMBLER-H)
//ASM      EXEC PGM=ASMA90,
//             REGION=3072K,
//             COND=(0,NE),
//             PARM='NODECK,OBJECT,NOTERM,LIST,XREF(SHORT)'
//SYSIN    DD  DSN=&&TEMP,DISP=(OLD,DELETE)
//SYSLIB   DD  DSN=SYS1.MACLIB,DISP=SHR
//SYSLIN   DD  DSN=&&SYSLIN,
//             UNIT=TDISK,SPACE=(TRK,(3,5)),
//             DISP=(NEW,PASS,DELETE),
//             DCB=(RECFM=FB,LRECL=80,BLKSIZE=3200)
//SYSPUNCH DD  DUMMY
//SYSUT1   DD  UNIT=TDISK,SPACE=(TRK,(5,15))
//SYSPRINT DD  SYSOUT=*
//*--------------------------------------------------------------------*
//*                                                                    *
//* STEP 3: LINK EDIT THE CIGINI MODULE                                *
//*                                                                    *
//*  NOTE: CHOOSE THE DESTINATION OF YOUR CIGINI FILE. IF YOU ARE      *
//*        PLANNING ON USING AN ALTERNATE CIGINI MODULE, YOU MUST      *
//*        FIRST BUILD A CIGINI THAT RESIDES IN A STEPLIB DATASET.     *
//*--------------------------------------------------------------------*
//LINK     EXEC PGM=IEWL,
//             REGION=2048K,
//             PARM='LIST,NCAL,XREF,LET,RENT,REUS',
//             COND=(0,NE)
//SYSPRINT DD  SYSOUT=*
//SYSLIN   DD  DSN=&&SYSLIN,
//             DISP=(OLD,DELETE,DELETE)
//SYSLMOD  DD  DSN=FLHQ1.FLHQ2.LOADLIB(CIGINI),DISP=SHR
```

```
//SYSUT1   DD  UNIT=TDISK,SPACE=(TRK,(5,15))
```

Figure 1.14 CIGV2INI

Define Common Section

This section is always required. The COMMON Section describes parameters required by all CIG products.

Syntax	Purpose	Usage
DEFINE PRODUCT LOADLIB = *flhq1.flhq2.LOADLIB*	Defines the name of the CIG product load library. Default: None	Required
WORK UNIT = *tdisk*	Defines DASD unit name for temporary disk files. Default: None	Required
VIO UNIT = *tdisk*	Defines DASD unit name for temporary disk files in those situations where CIG products can take advantage of VIO disk access.	Required
Endevor CONLIB DSNAME = *qual1.qual2.CONLIB*	Defines the Endevor CONLIB dataset.	Required.
JAVASERVERCONTROL DSNAME = *flhq1.flhq2.JAVALIB*	Contains the various Breeze control files. Default is to use the same dataset for the Breeze applet.	Required.
NOTIFY RULES DSNAME = *flhq1.flhq2.JAVALIB*	Contains the approver to email mapping for the email interface.	Required.

Define Breeze Section

Syntax	Purpose	Usage
PASSWORD = *pwd-brz*	This required keyword and variable is checked during invocation of the product. It must be a valid temporary or permanent password provided by CIG. Default=none	Required.

Define Cloud 9 Section

Syntax	Purpose	Usage
PASSWORD = *pwd-*	This required keyword and	Required.

c9	variable is checked during invocation of the product. It must be a valid temporary or permanent password provided by CIG.	
SLRVSAM DSNAME = *flhq1.flhq2.SLR*	This optional keyword and variable is checked when transferring files from and to the browser. The SLR is for supporting long names for distributed types.	Required.

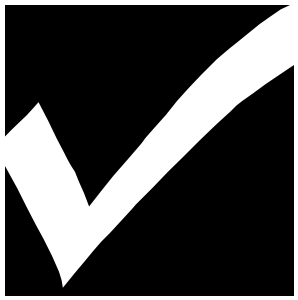
Define Package Utilities Section

Syntax	Purpose	Usage
PASSWORD = *pwd-fl*	This required keyword and variable is checked during invocation of the product. It must be a valid temporary or permanent password provided by CIG. Default=none	Required.
WARN | FAIL | RESOLVE | IGNORE ELEMENT COLLISIONS	Collision rules. This tells the Breeze exits what to do if an element has a collision with another package.	Warn
PACKAGE LOG IS |IS NOT REQUIRED	Tells Breeze to log all activity	IS Required
PACKAGE VSAM DSNAME = *'flhq1.flhq2.PKGDB'*	The Breeze database name	Required.
AUTOMATIC | NO AUTOMATIC REMAKE	Instructs the post execution exit to "remake" the SCL and reposition the package at the next cast point.	Automatic
USER PROGRAM BEFORE REMAKE = 'TESTPGM'	Name of user exit program to be executed.	Optional.
DO NOT REMAKE EMERGENCY PACKAGES	Restrict REMAKE to Standard packages	All packages eligible for remake.
ACTION OPTIONS FOR MOVE = MOVENEXT	Instructions on how to handle each action SCL during a package REMAKE function.	Default is ASIS.

GENERATE = ASIS TRANSFER = ASIS ADD = ASIS UPDATE = ASIS RETRIEVE = ASIS DELETE = ASIS PRINT = ASIS LIST = ASIS ARCHIVE = ASIS RESTORE = ASIS *ASIS DISCARD MOVENEXT		
FILTER (XXX)	Optional filter to limit activity to only packages that match the filter.	All packages are eligible for processing.

Define FastLIST Section

Syntax	Purpose	Usage
PASSWORD = *pwd-fl*	This required keyword and variable is checked during invocation of the product. It must be a valid temporary or permanent password provided by CIG. Default=none	Required.
VSAM DSNAME = *Flhq1.flhq2.FLSTDB*	This required keyword and variable is how the FastLIST product knows what database to use. This file must be allocated prior to compiling the CIGINI or the compilation will fail.	Required.



CHECKPOINT #3

At this point the demo database should be created and populated; the C1UEXITS table and the CIGINI initialization module should be created and stored in the product load library.

Task	Completed?
Allocated and populated the Breeze and Cloud 9 demo databases?	
Compiled the C1UEXITS table?	
Built a CIGINI file that points to the demo databases?	

Figure 1.15 Checkpoint 3

Step 9: Rename Alternate Rexx Run Time Modules (optional)

In this optional step, you will rename the Alternate Rexx Run Time Libraries to remove them from the CIG product loadlib. Run this step only if you have the full Rexx Run Time Library installed or a new version of the alternate modules installed at your site. These alternates are only included for those users who have not licensed the full Rexx Run Time Libraries from IBM.

Modify and Submit CIGV2RRT

1. Using ISPF EDIT, access member CIGV2RRT in the flhq1.flhq2.JCLLIB dataset.
2. Copy your job card values at the top of the JCL member.
3. Substitute your site-specific values (identified on the Installation Worksheet.) for those values shown below in bold Italics. If you made global JCL changes in Step 2 of this manual, you may skip this item.
4. Review the DVOLSER value for accuracy. The volser in DD1 and in the parm cards must match the volume where the CIG product loadlib resides. If the volume is not correct you will receive 'obtain macro failures'.
5. Submit the job.

Note that this job should terminate with COND CODE=0. If it does not:

1. Review your job card parameters, the DVOLSER and the JCL for errors.

2. Resubmit the job.

```
//**(JOBCARD)
//**
//*********************************************************************
//*                                                                   *
//* CIGV2RRT - THE PURPOSE OF THIS JCL IS TO RENAME THE ALTERNATE     *
//*            REXX RUN TIME MODULES SHIPPED IN THE PRODUCT LIBRARY.  *
//*            RUN THIS JOB ONLY IF THE INSTALLATION ALREADY HAS      *
//*            THE FULL REXX RUN TIME LIBRARIES OR IF IT HAS          *
//*            IMPLEMENTED A NEWER VERSION OF THE ALTERNATE REXX      *
//*            RUN TIME LIBRARIES.                                    *
//*                                                                   *
```

```
//* NOTE     - THIS SHIPMENT CONTAINS THE ALTERNATE REXX RUN TIME    *
//*            MODULES AT V1R3M0 RELEASE LEVEL.                      *
//*                                                                  *
//********************************************************************
//*                                                                  *
//* REQUIRED JCL MODIFICATION:                                       *
//*   1) INCLUDE A JOBCARD                                           *
//*   2) CHANGE THE FOLLOWING AS PER THE INSTALLATION WORKSHEET.     *
//*      - FLHQ1 AND FLHQ2                                           *
//*      - DUNIT                                                     *
//*      - DVOLSER                                                   *
//*   3) REVIEW THE DVOLSER NUMBER, IT MUST MATCH THE VOLSER WHERE   *
//*      THE CIG PRODUCT RESIDES.                                    *
//*                                                                  *
//*                                                                  *
//********************************************************************
//*********************************************************************
//*                                                                    *
//*  RENAME THE ALTERNATE REXX RUN TIME MODULES.                       *
//*                                                                    *
//*********************************************************************
//RENAME   EXEC PGM=IEHPROGM
//SYSPRINT DD SYSOUT=*
//DD1      DD VOL=SER=DVOLSER,DISP=OLD,UNIT=DUNIT
//SYSIN    DD *
 RENAME VOL=DUNIT=DVOLSER,DSNAME=FLHQ1.FLHQ2.LOADLIB,                  X
               NEWNAME=ZAGKCPT,MEMBER=EAGKCPT
 RENAME VOL=DUNIT=DVOLSER,DSNAME=FLHQ1.FLHQ2.LOADLIB,                  X
               NEWNAME=ZAGRTALT,MEMBER=EAGRTALT
 RENAME VOL=DUNIT=DVOLSER,DSNAME=FLHQ1.FLHQ2.LOADLIB,                  X
               NEWNAME=ZAGRTPRC,MEMBER=EAGRTPRC
 RENAME VOL=DUNIT=DVOLSER,DSNAME=FLHQ1.FLHQ2.LOADLIB,                  X
               NEWNAME=ZAGRTPRQ,MEMBER=EAGRTPRQ
 RENAME VOL=DUNIT=DVOLSER,DSNAME=FLHQ1.FLHQ2.LOADLIB,                  X
               NEWNAME=ZAGRTXIN,MEMBER=EAGRTXIN
 RENAME VOL=DUNIT=DVOLSER,DSNAME=FLHQ1.FLHQ2.LOADLIB,                  X
               NEWNAME=ZAGRTXLD,MEMBER=EAGRTXLD
 RENAME VOL=DUNIT=DVOLSER,DSNAME=FLHQ1.FLHQ2.LOADLIB,                  X
               NEWNAME=ZAGRTXTR,MEMBER=EAGRTXTR
 RENAME VOL=DUNIT=DVOLSER,DSNAME=FLHQ1.FLHQ2.LOADLIB,                  X
               NEWNAME=ZAGRTXVH,MEMBER=EAGRTXVH
 RENAME VOL=DUNIT=DVOLSER,DSNAME=FLHQ1.FLHQ2.LOADLIB,                  X
               NEWNAME=ZRXCMPTM,MEMBER=IRXCMPTM
```

Figure 1.16 CIGV2RRT

Step 10: Review the C9HTTPD and C9EVARS Configuration Members

In this step you will review and modify the C9HTTPD member found in the *flhq1*.*flhq2*.HTML file. This member is referred to as the rules file in the HTTP configuration terminology and is pointed to by the server JCL parameter list. Because many of the members contain case-sensitive values, **please issue the CAPS OFF command** to ensure that automatic upper casing does not occur.

HTTP Administrator Review

The HTTP administrator will want to have a hand in configuring the final C9HTTPD and C9EVARS files, as many of the parameters are site specific. The two members shipped contain many default values that may have been changed in your actual HTTP server implementation. This step and the next point out Cloud 9 specific changes only. Please review these steps with your HTTP administrator.

It is advised to test the base install of the HTTP server and Cloud 9 using a stand alone HTTP server. Once the basic Cloud 9 IVP has been completed, your administrator may want to add the Cloud 9 product paths to a central HTTP server.

Rootdir and Portno Values

The following shows only those lines that will change in the rules file (C9HTTPD) based on the rootdir and portno-c9.

```
****************************** Top of Data ******************************
 - - -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  1 Line(s) not Displayed
 ==CHG> ServerRoot     rootdir/
 ==CHG> Port           portno-c9
 - - -  -  -  -  -  -  -  -  -  -  -  -  -  -   -  - 21 Line(s) not Displayed
 ==CHG> PidFile       rootdir/httpd-pid
 ==CHG> #AccessLog     rootdir/logs/httpd-log
 ==CHG> #AgentLog      rootdir/logs/agent-log
 ==CHG> #RefererLog    rootdir/logs/referer-log
 ==CHG> #ErrorLog      rootdir/logs/httpd-errors
 ==CHG> #CgiErrorLog   rootdir/logs/cgi-error
 - - -  -  -  -  -  -  -  -  -  -  -  -  -  -  -  - - 11 Line(s) not Displayed
 ==CHG> AccessReportRoot rootdir/reports
 - - -  -  -  -  -  -  -  -  -  -  -  -  -  -  - -  - 48 Line(s) not Displayed
 ==CHG> Exec            /cgi-bin/*       rootdir/cgi-bin/*
 000091 Pass            /html/*          rootdir/html/*
 ==CHG> Pass            /*               rootdir/*
```

Figure 1.17 Member C9HTTPD showing all the rootdir references.

```
#-------------------------------------------------------------------------
#  Name:      C9EVARS   (Will be named /rootdir/httpd.envvars in UNIX.)
#  Purpose:   Cloud9 Server Environment variable parameters
#  Usage:     This file is pointed to in the CIGV2SRV JCL.
#-------------------------------------------------------------------------
#To customize this file change rootdir as per
#  the Cloud9 installation worksheet.
#
#Various install and configuration paths are currently set /usr/...
#  This and all other parms using /usr/ must be reviewed with
#  the HTTP administrator as these set up issues are global
#  in nature versus CIG Cloud9 specific usage.
#-------------------------------------------------------------------------
PATH=/bin:.:/usr/sbin:/usr/lpp/internet/bin:/usr/lpp/internet/sbin:/usr/lp
p/ldap/bin:/rootdir/bin:<JAVA_HOME>/bin
SHELL=/bin/sh
TZ=EST5EDT
LANG=C
LC ALL=en US.IBM-1047
NLSPATH=/usr/lib/nls/msg/%L/%N:/usr/lpp/internet/%L/%N:/usr/lpp/ldap/lib/n
ls/msg/%L/%N
LIBPATH=/usr/lpp/internet/bin:/usr/lpp/internet/sbin:/usr/lpp/ldap/lib:<JA
VA HOME>/lib/mvs/native threads
JAVA_HOME=<JAVA_HOME>
CLASSPATH=.:/usr/lpp/internet/server root/CAServlet:<JAVA HOME>/lib/classe
s.zip
STEPLIB=CURRENT
SERVER_ROOT=/rootdir/
```

Figure 1.18 C9EVARS

ADDTYPEs

This rules file also contains ADDTYPE definitions that control the MIME commands and file transfer defaults between the browser and the mainframe. As the implementation continues, these ADDTYPES may need to be expanded to accommodate additional file types and requirements.

Log File Review

There are several logs available to the user for audit and diagnostic purposes. The Figure 1.19 above shows the logs commented out. The comment is denoted by'#' in the first position. During initial install and IVP testing, it may be necessary to activate these logs for diagnostic or security purposes. To activate the various log files, delete the '#' in column one, and shift the log keyword over to begin in column one. If the rules file is modified while the server is active, it will be necessary to recycle the server task to activate changes.

Step 11: Modify the C9HTTPD and C9EVARS Configuration Members

In this step you will review and modify the C9HTTPD and C9EVARS member found in the *flhq1.flhq2*.HTML file. These members are named the rules file in the HTTP configuration terminology and are pointed to by the server JCL parameter list. Because these members contain case-sensitive values, **please issue the CAPS OFF command** to ensure that automatic upper casing does not occur.

Modify and Save C9HTTPD

1. Issue the CAPS OFF command to ensure case sensitivity.
2. Using ISPF EDIT, access member C9HTTPD in the flhq1.flhq2.HTML dataset.
3. Issue the following global commands against the member:

   - ❑ X ALL
   - ❑ F rootdir ALL
   - ❑ F portno-c9 ALL

	Format
❑ Change rootdir ALL *rootdir*	/x/xxxxx
❑ Change portno-c9 ALL *portno-c9*	xxxx

4. Save the member.

Once you have modified all of the UNIX components associated with the install, you will copy them to the appropriate Unix directory—which is covered in Step 14.

Modify and Save C9EVARS

1. Issue the CAPS OFF command to ensure case sensitivity.
2. Using ISPF EDIT, access member C9EVARS in the flhq1.flhq2.HTML dataset.
3. Perform the following global commands against the member:

	Format
❑ Change rootdir ALL *rootdir*	x/xxxxx

4. Save the member.

```
#--------------------------------------------------------------------
#  Name:      C9EVARS   (Will be named /rootdir/httpd.envvars in UNIX.)
#  Purpose:   Cloud9 Server Environment variable parameters
#  Usage:     This file is pointed to in the CIGV2SRV JCL.
#--------------------------------------------------------------------
#To customize this file change rootdir as per
#  the Cloud9 installation worksheet.
#
#Various install and configuration paths are currently set /usr/...
#  This and all other parms using /usr/ must be reviewed with
#  the HTTP administrator as these set up issues are global
#  in nature versus CIG Cloud9 specific usage.
#--------------------------------------------------------------------
PATH=/bin:.:/usr/sbin:/usr/lpp/internet/bin:/usr/lpp/internet/sbin:/usr/lp
p/ldap/bin:/rootdir/bin:<JAVA HOME>/bin
SHELL=/bin/sh
TZ=EST5EDT
LANG=C
LC ALL=en US.IBM-1047
NLSPATH=/usr/lib/nls/msg/%L/%N:/usr/lpp/internet/%L/%N:/usr/lpp/ldap/lib/n
ls/msg/%L/%N
LIBPATH=/usr/lpp/internet/bin:/usr/lpp/internet/sbin:/usr/lpp/ldap/lib:<JA
VA_HOME>/lib/mvs/native_threads
JAVA_HOME=<JAVA_HOME>
CLASSPATH=.:/usr/lpp/internet/server root/CAServlet:<JAVA HOME>/lib/classe
s.zip
STEPLIB=CURRENT
SERVER_ROOT=/rootdir/
```

Figure 1.19 C9EVARS

Step 11a: Modify the INDEX Welcome Page Members

In this step you will review and modify the INDEX member found in the *flhq1*.*flhq2*.HTML file. This member is the "Welcome Screen" for the SCM Suite and is pointed to in the HTTPD.CONF file. Because this member contains case-sensitive values, **please issue the CAPS OFF command** to ensure that automatic upper casing does not occur.

Modify and Save C9HTTPD

1. Issue the CAPS OFF command to ensure case sensitivity.
2. Using ISPF EDIT, access member INDEX in the flhq1.flhq2.HTML dataset.
3. Issue the following global commands against the member:

   - ❑ X ALL
   - ❑ F rootdir ALL
   - ❑ F portno-c9 ALL
   - ❑ F portno-brz ALL

	Format
❑ Change rootdir ALL *rootdir*	/x/xxxxx
❑ Change portno-c9 ALL *portno-c9*	xxxx
❑ Change portno-brz ALL *portno-brz*	xxxx

4. Save the member.

Once you have modified all of the UNIX components associated with the install, you will copy them to the appropriate Unix directory—which is covered in Step 14.

Step 12: Customize the Cloud 9 HTTP Server JCL and Supporting Control Files

Step 12(a): Copy Product Load Library into Authorized Library

The Cloud 9 server must run from an authorized library. If the product load library used to unpack the CIG loadlib is not an authorized dataset, then you must copy the product load library into the authorized library for server execution.

Step 12(b): Modify CIGV2SRV

The CIGV2SRV member is the recommended JCL for invoking the SCM Cloud 9 HTTP server. It uses many default HTTP settings that may be modified and tailored by your HTTP administrator. We recommend that you invoke the server "as is" for initial installation and customize it later.

Timeout Parameter

WARNING: This job may be run in batch, but it must not time out. If you choose to run the job in batch, then you must not remove the TIME=NOLIMIT parameter on the EXEC statement. This job can also be made a started task.

Security Level for User ID/Password

The job card for the server must contain a supervisor-level user id and password.

Review and Modify CIGV2SRV

To start the Cloud 9 server, perform the following tasks:

1. Issue the CAPS OFF command to ensure case sensitivity.
2. Using ISPF EDIT, access member CIGV2SRV in the flhq1.flhq2.JCLLIB.CASE dataset.

3. Copy a Unix Supervisor-Level job card with password to the top of the member. This jobcard **REQUIRES** a userid and password with enough authority to load the HTTP application. If the userid authority is not sufficient, then the server task will end with an 'insufficient authority' message on the console.

4. Change Jobname to equal WEBJOBNAME. This should be the value from your placeholder worksheet and *must* match the WEBJOBNAME in the C9HTTPD member or rootdir/httpd.conf file.

A sample job card is provided in the JCL member below.

5. Substitute your site-specific values (identified on the Installation Worksheet.) for those values shown below in bold italics. If you made global JCL changes in Step 2 of this manual, you may skip this item.

6. Save the member (Do not submit this job).

```
//* (Sample Jobcard)
//*
//*WEBJOBNAME JOB (ACCT#),'COMMENT',CLASS=A,REGION=0M,
//*    MSGCLASS=H,MSGLEVEL=(1,1),USER=XXXX,PASSWORD=XXXXXXX
//*
//*  !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
//*  ! This jobcard REQUIRES the userid and password with enough   !
//*  ! authority to load the Websphere application.  If the userid !
//*  ! authority is not sufficient, then the server task will end  !
//*  ! with an 'insufficient authority' message on the console.    !
//*  !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
//*  ! WEBJOBNAME - The value from the placeholder worksheet.      !
//*  !  (The server job name must match the WEBJOBNAME             !
//*  !  in the c9httdp member or rootdir/httpd.conf file.)         !
//*  !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
//*
//*CIGWEB  PROC
//*******************************************************************
//* THIS IS THE CHICAGO INTERFACE GROUP DEFAULT IBM HTTP WEB SERVER
//* PROC.
//*
//* Instructions:
//*   1. Change flhq1.flhq2 to the value in the cloud9 worksheet.
//*   2. Change rootdir to the value in the cloud9 worksheet.
//*   3. Change portno-c9 to the value in the cloud9 worksheet.
//*   4. Change qual1.qual2 to value in the cloud9 worksheet.
//*   5. Change WEBJOBNAME to value in the cloud9 worksheet.
//*   6. Be careful to use the proper case when changing values.
//*   7. If the flhq1.flhq2.loadlib is not authorized, then
//*      copy current contents of flhq1.flhq2.loadlib into existing
//*      authorized dataset or get flhq1.flhq2.loadlib authorized.
//*   8. Review the Endevor dataset names and modify to meet your
//*      site standards. If your installation uses CONLIB, it must
//*      be authorized and it must be in the steplib.
```

```
//*   9. After changing the rootdir and port values, review the
//*      execution parm. The parm string should go up through col 71
//*      and then continue in col 16 on the next line.
//*
//*********************************************************************
//*                                                                   *
//*  PRINTINI: PRINT THE CIGINI DEFINITIONS FOR DIAGNOSTIC PURPOSES.  *
//*                                                                   *
//*********************************************************************
//PRINTINI EXEC PGM=PRINTINI
//STEPLIB  DD DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//CIGPRINT DD SYSOUT=*
//*-------------------------------------------------------------------
//*  The parm variable on the EXEC statement is of the format:
//*  (LEPARMS/ICSPARMS).
//*
//*  Refer to the following manuals for more information:
//* 1. HTTP Server Planning,Installing, and Using SC31-8690-02
//* 2. Redbook:OS/390 e-business Infrastructure: IBM HTTP Server 5.1
//*   - Customization and Usage  SG24-5603-00
//*-------------------------------------------------------------------
//CIGWEB  EXEC PGM=IMWHTTPD,TIME=NOLIMIT,
//     ACCT=(ACCT#),
//     PARM=('ENVAR("_CEE_ENVFILE=rootdir/httpd.envvars")/-r rootdir/
//             httpd.conf -B -p portno-c9')
//*********************************************************************
//* This JCL requires an authorized dataset.  Review instruction     *
//*  number 7 above.                                                  *
//*********************************************************************
//STEPLIB  DD DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//         DD DSN=QUAL1.QUAL2.ENDEVOR,DISP=SHR
//         DD DSN=QUAL1.QUAL2.CONLIB,DISP=SHR
//*        DD DSN=TCPIP.SEZATCP,DISP=SHR  * Uncomment if not in     *
//*                                       * LINKLST or LPA.         *
//SYSIN    DD DUMMY
//OUTDSC   OUTPUT DEST=HOLD
//SYSPRINT DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//SYSERR   DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//STDOUT   DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//STDERR   DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//SYSOUT   DD SYSOUT=*,OUTPUT=(*.OUTDSC)
//CEEDUMP  DD SYSOUT=*,OUTPUT=(*.OUTDSC)
```

Figure 1.20 CIGV2SRV

Step 12(c): Review the CIGC9CA and CIGC9DYN Browser JCL Shells

JCL for Job Submission from the Cloud 9 Server

There are two JCL shells used by the Cloud 9 application, CIGC9CA and CIGC9DYN. These members are JCL shells that set certain controls used by Cloud 9 to submit CA-Endevor SCL, batch package jobs or extract ISPF statistics. These members will be copied to the Unix Root directory in Step 14.

Modify CIGC9CA

1. Using ISPF EDIT, access member CIGC9CA in the flhq1.flhq2.JCLLIB dataset. (This member is NOT case sensitive.)
2. Skip the step of adding your job card values. The Cloud9 server will dynamically assign job card information.
3. Substitute your site-specific values (identified on the Installation Worksheet.) for those values shown below in bold italics. If you made global JCL changes in Step 2 of this manual, you may skip this item.

Do not insert bstipt01 or enpsclin ddnames. These are generated by the Cloud 9 server.

---

4. Save the member.

WARNING: Do not reorder the JCL. Doing so may produce unexpected results.

```
)DOT
%JOBCARD%
)ENDDOT
//*  ------------------------------------------------------------------
//*    NAME....: CIGC9CA
//*    PURPOSE : ENDEVOR BATCH SHELL FOR CLOUD9 V2.
//*
//*  ------------------------------------------------------------------
//*         * * *   N O T I C E   * * *
//*    THIS PROGRAM IS A PROPRIETARY PRODUCT OF CHICAGO INTERFACE
//*    GROUP, INC. @ COPYRIGHT 2000 CHICAGO INTERFACE GROUP, INC.
//*    ALL RIGHTS RESERVED.
//*  ------------------------------------------------------------------
)IF VARIABLE=
//*
//*  **                                  **
```

```
//*  ** PRODUCT INSTALLATION/SETUP ISSUES **
//*  **                                   **
//*  THE FOLLOWING IS A LIST OF MODIFICATIONS REQUIRED DURING PRODUCT
//*  INSTALLATION AND INITIAL SETUP:
//*
//*     1. IMPORTANT!! DO NOT INSERT A JOB CARD. CLOUD9 SERVER
//*        WILL PROVIDE JOB CARD INFORMATION.
//*     2. CHANGE THE STEPLIB AND CONLIB TO POINT TO THE
//*        CURRENT ENDEVOR LIBRARIES AT THE YOUR INSTALLATION.
//*     3. CHANGE THE FLHQ1.FLHQ2 TO POINT TO THE PRODUCT LIBRARY.
//*     4. CHANGE THE QUAL1.QUAL2 TO POINT TO THE ENDEVOR LIBRARIES.
//*     5. CHANGE TDISK UNIT AS PER WORKSHEET VALUES.
//*     6. DO NOT INSERT ENPSCLIN OR BSTIPT01, CLOUD 9 DOES THIS.
//*     7. REMEMBER IF THE PRODUCT LIBRARY WAS COPIED INTO AN AUTHORIED
//*        LIBRARY, YOU WILL NEED TO CHANGE THE REFERENCE TO THE
//*        AUTHORIZED LIBRARY.
//*     8. REMEMBER TO REFRESH THE COPIES OF THIS MEMBER IN THE UNIX
//*        CLOUD 9 ROOT DIRECTORY AFTER MAKING MODIFICATIONS.
//*********************************************************************
)ENDIF
)IF VARIABLE=COPYFILES
//*********************************************************************
//*  INVOKE IF ADDING FROM UNIX
//*********************************************************************
//ALLOCATE EXEC PGM=IEFBR14
//TEMPFILE DD DSN=%WORKDATASET%,
//   DISP=(NEW,CATLG,DELETE),
//   SPACE=(CYL,(1,1,50)),UNIT=TDISK,
//   DCB=(LRECL=256,BLKSIZE=0,RECFM=VB)
//IEBCOPY  EXEC PGM=IKJEFT01
)DOT
%COPYFILES%
)ENDDOT
//SYSTSPRT  DD   SYSOUT=*
//SYSTSIN   DD   *
)DOT
%OCOPYSYNTAX%
)ENDDOT
)ENDIF
)IF VARIABLE=ENPSCLIN
//*********************************************************************
//*  INVOKE ENDEVOR PACKAGES
//*********************************************************************
//CLOUD9  EXEC PGM=NDVRC1,PARM='ENBP1000',DYNAMNBR=1500,REGION=0M
)ENDIF
)IF VARIABLE=BSTIPT01
//*********************************************************************
//*  INVOKE ENDEVOR
//*********************************************************************
//CLOUD9  EXEC PGM=NDVRC1,PARM='C1BM3000',DYNAMNBR=1500,REGION=0M
)ENDIF
//STEPLIB DD DISP=SHR,DSN=FLHQ1.FLHQ2.LOADLIB
//        DD DISP=SHR,DSN=QUAL1.QUAL2.ENDEVOR
//CONLIB  DD DISP=SHR,DSN=QUAL1.QUAL2.CONLIB
)IF VARIABLE=ENPSCLIN
//ENPSCLIN DD   *
)DOT
%ENPSCLIN%
)ENDDOT
/*
//CIGSCLIN DD   *
)DOT
%CIGSCLIN%
)ENDDOT
/*
)ENDIF
)IF VARIABLE=BSTIPT01
//BSTIPT01 DD *
)DOT
%BSTIPT01%
```

```
)ENDDOT
/*
)ENDIF
//SYSPRINT DD SYSOUT=*
//C1MSGS1  DD SYSOUT=*
//C1MSGS2  DD SYSOUT=*
//*********************************************************************
//*  BREEZE - PACKAGE UTILITIES REMAKE SUPPORT
//*********************************************************************
//CIGINRDR DD SYSOUT=(A,INTRDR)
//CIGJCLPK DD DISP=SHR,DSN=FLHQ1.FLHQ2.JCLLIB(CIGJCL56)
//*********************************************************************
)DOT
%WORKFILES%
)ENDDOT
)IF VARIABLE=WORKDATASET
//*********************************************************************
//*  INVOKE IF ADDING FROM UNIX
//*********************************************************************
//DELETE  EXEC PGM=IEFBR14
//TEMPFILE DD DSN=%WORKDATASET%,
//  DISP=(OLD,DELETE)
)ENDIF
```

Figure 1.21 CIGC9CA Endevor Batch Shell

Modify CIGC9DYN

1. Using ISPF EDIT, access member CIGC9DYN in the flhq1.flhq2.JCLLIB dataset. (This member is NOT case sensitive.)
2. Review the names of the ISPF dataset names included in this member. Modify the ISP.xxxxxx dataset names if your naming standards are different than those provided.

```
/* ------------------------------------------------------------- */
/* NAME:    CIGC9DYX  TO BE RENAMED TO CIGC9DYN WHEN SHIPPED.    */
/* PURPOSE: ENDEVOR VERSION OF THE DYNAMIC ALLOCATION FOR ISPF   */
/*          STATISTICS.                                          */
/* ------------------------------------------------------------- */
/* DESTINATION: ROOTDIR/CLOUD9/JCL/CIGC9DYN                      */
/* ------------------------------------------------------------- */
/* INSTRUCTIONS:                                                 */
/* 1. REVIEW THE NAMES OF THE STANDARD ISPF LIBRARIES AND MODIFY */
/*    TO MEET YOUR SITE NAMING STANDARDS.                        */
/* ------------------------------------------------------------- */
    ALLOC FI(ISPTLIB) +
        DSN('%TEMPNAME%' +
        'ISP.SISPTENU') SHR
    ALLOC FI(ISPMLIB) DSN('ISP.SISPMENU') SHR
    ALLOC FI(ISPSLIB) DSN('ISP.SISPSENU') SHR
    ALLOC FI(ISPPLIB) DSN('ISP.SISPPENU') SHR
    ALLOC FI(ISPTLIB) DSN('%TEMPNAME%', +
        'ISP.SISPTENU') SHR REUSE
/* ------------------------------------------------------------- */
/* THE FOLLOWING ARE REQUIRED WORK FILES FOR ISPF SERVICES.      */
/* ------------------------------------------------------------- */
    ALLOC FI(ISPTABL) NEW DELETE DSORG(PO) CYLINDERS,+
        SPACE(1,1) DIR(5) LRECL(80) BLKSIZE(19040) RECFM(F,B)
    ALLOC FI(ISPPROF) NEW DELETE DSORG(PO) CYLINDERS,+
        SPACE(1,1) DIR(5) LRECL(80) BLKSIZE(19040) RECFM(F,B)
    ALLOC FI(ISPLOG) NEW DELETE DSORG(PS) CYLINDERS,+
        SPACE(1,1) LRECL(120) BLKSIZE(2400) RECFM(F,B)
    ALLOC FI(ISPCTL1) NEW DELETE DSORG(PS) CYLINDERS,+
        SPACE(1,1) LRECL(80) BLKSIZE(800) RECFM(F,B)
    ALLOC FI(SCLMEXIT) NEW DELETE DSORG(PS) CYLINDERS,+
        SPACE(1,1) LRECL(160) BLKSIZE(3200) RECFM(F,B)
    ALLOC FI(SYSPRINT) NEW DELETE DSORG(PS) CYLINDERS,+
        SPACE(1,1) LRECL(120) BLKSIZE(2400) RECFM(F,B)
```

Figure 1.22 CIGC9DYN ISPF Allocation Shell

Step 13: Create and Populate the Unix Cloud 9 Directories.

In this step, you will create Unix Root and product directories and populate them with the Cloud 9 product and configuration files modified in the previous steps. Because these members contain case-sensitive values, **please issue the CAPS OFF command** to ensure that automatic upper casing does not occur.

Modify and Save CIGV2CHM

1. Issue the CAPS OFF command to ensure case sensitivity.
2. Using ISPF EDIT, access member CIGV2CHM located in the flhq1.flhq2.JCLLIB.CASE dataset. This is not JCL, rather it is a REXX exec.

WARNING: Unix files are case sensitive—do not change the case on any file names contained in this REXX exec.

3. Substitute your site-specific values (identified on the Installation Worksheet.) for those values shown below in bold italics. If you made global JCL changes in Step 5 of this manual, you may skip this item.
4. Save the member.

The following is the REXX exec CIGV2CHM that will be input to the second step of CIGV2UNX.

```
/* ******************************* REXX ************************** */
/* Cloud 9 for Endevor V2                                          */
/* ******************************* REXX ************************** */
/* THIS REXX WILL MODIFY THE SECURITY ATTRIBUTES OF EVERY          */
/*   UNIX BASED COMPONENT FOR CLOUD 9.                             */
/* MODIFY THE rootdir VARIABLE AS PER THE WORKSHEET VALUES.        */
/* ******************************* REXX ************************** */
 trace all
 call syscalls 'ON'
 address syscall
 CHMOD 'rootdir/cloud9/jcl/cigc9ca'              777
 CHMOD 'rootdir/cloud9/jcl/CIGC9DYN'             777
 CHMOD 'rootdir/httpd.conf'           777
 CHMOD 'rootdir/httpd.envvars'        777
 CHMOD 'rootdir/httpd.mvsds'          777
 CHMOD 'rootdir/httpd-pid'            644
 CHMOD 'rootdir/cgi-bin/C9RADD'       777
 CHMOD 'rootdir/cgi-bin/C9RADDE'      777
 CHMOD 'rootdir/cgi-bin/C9RARCH'      777
```

```
CHMOD 'rootdir/cgi-bin/C9RDEL'       777
CHMOD 'rootdir/cgi-bin/C9REDRV'      777 0 0 1
CHMOD 'rootdir/cgi-bin/C9RENDVR'     777
CHMOD 'rootdir/cgi-bin/C9RGEN' 777
CHMOD 'rootdir/cgi-bin/C9RINDXE'      777
CHMOD 'rootdir/cgi-bin/C9RLMBR'      777
CHMOD 'rootdir/cgi-bin/C9RLUNIX' 777
CHMOD 'rootdir/cgi-bin/C9RMENUE' 777
CHMOD 'rootdir/cgi-bin/C9RMLIST' 777
CHMOD 'rootdir/cgi-bin/C9RMOVE'      777
CHMOD 'rootdir/cgi-bin/C9RPACK'      777
CHMOD 'rootdir/cgi-bin/C9RPACKV' 777
CHMOD 'rootdir/cgi-bin/C9RPACK2' 777
CHMOD 'rootdir/cgi-bin/C9RPDSA'      777
CHMOD 'rootdir/cgi-bin/C9RPDSR'      777
CHMOD 'rootdir/cgi-bin/C9RPDSRE' 777
CHMOD 'rootdir/cgi-bin/C9RPROF'      777
CHMOD 'rootdir/cgi-bin/C9RQRY2'      777
CHMOD 'rootdir/cgi-bin/C9RQUERY' 777
CHMOD 'rootdir/cgi-bin/C9RRET' 777
CHMOD 'rootdir/cgi-bin/C9RSCL'       777
CHMOD 'rootdir/cgi-bin/C9RSCLA'      777
CHMOD 'rootdir/cgi-bin/C9RSCLD'      777
CHMOD 'rootdir/cgi-bin/C9RSCLM'      777
CHMOD 'rootdir/cgi-bin/C9RSCLMA'     777
CHMOD 'rootdir/cgi-bin/C9RSDRV'      777
CHMOD 'rootdir/cgi-bin/C9RSIGN'      777
CHMOD 'rootdir/cgi-bin/C9RTRAN' 777
CHMOD 'rootdir/cgi-bin/C9RULIST' 777
CHMOD 'rootdir/cgi-bin/CIGRSDSF' 777
CHMOD 'rootdir/cgi-bin/CIGRSDSM' 777
CHMOD 'rootdir/cgi-bin/CLZREX00' 777
CHMOD 'rootdir/cgi-bin/CLZREXIT' 777
CHMOD 'rootdir/cloud9.htm'           777
CHMOD 'rootdir/c9ivp.htm'            777
CHMOD 'rootdir/sdsf.htm'             777
CHMOD 'rootdir/index.htm'            777
CHMOD 'rootdir/v21news.htm'          777
CHMOD 'rootdir/v21faqs.htm'          777
CHMOD 'rootdir/cloud9/c9menu.htm'    777
CHMOD 'rootdir/cloud9/c9splash.htm'  777
CHMOD 'rootdir/cloud9/CIGHSDSB.htm'  777
CHMOD 'rootdir/cloud9/CIGHSDSM.htm'  777
CHMOD 'rootdir/cloud9/CIGHSDSS.htm'  777
CHMOD 'rootdir/cloud9/profiles/user1.jpg' 777
CHMOD 'rootdir/cloud9/profiles/user1.prf' 777
CHMOD 'rootdir/cloud9/profiles/user2.jpg' 777
CHMOD 'rootdir/cloud9/profiles/user2.prf' 777↵
```

Figure 1.23 CIGV2CHM

Modify and Submit CIGV2UNX

1. Issue the CAPS OFF command to ensure case sensitivity.
2. Using ISPF EDIT, access member CIGV2UNX located in the flhq1.flhq2.JCLLIB.CASE dataset.

3. Copy your job card values to the top of the member.
4. **WARNING**: Unix files are case sensitive—do not change the case on any file names contained in this JCL.
5. Substitute your site-specific values (identified on the Installation Worksheet.) for those values shown below in bold italics. If you made global JCL changes in Step 5 of this manual, you may skip this item.
6. Submit the job.

Note that this job should terminate with COND CODE=0. If it does not:

1. Review your job card parameters and the JCL for errors.
2. Resubmit the job.

```
//*(JOBCARD)
//*  -------------------------------------------------------------------
//*  NAME:    CIGV2UNX
//*           CLOUD 9 for ENDEVOR  V2
//*  PURPOSE: JCL TO CREATE AND POPULATE THE CLOUD 9 UNIX DIRECTORIES.
//*  USAGE:   Make sure profile of 'caps off' prior to modifying this
//*           member. Unix directory and file names are case sensitive.
//*  -------------------------------------------------------------------
//*         * * *   N O T I C E   * * *
//*    THIS PROGRAM IS A PROPRIETARY PRODUCT OF CHICAGO INTERFACE
//*    GROUP, INC. @ COPYRIGHT 2002 CHICAGO INTERFACE GROUP, INC.
//*    ALL RIGHTS RESERVED.
//*  -------------------------------------------------------------------
//*
//*  **                                    **
//*  ** PRODUCT INSTALLATION/SETUP ISSUES **
//*  **                                    **
//*  THE FOLLOWING IS A LIST OF MODIFICATIONS REQUIRED DURING PRODUCT
//*  INSTALLATION AND INITIAL SETUP:
//*
//* 1) ADD A VALID JOB CARD
//* 2) CHANGE rootdir to the root directory value in the
//*    in your worksheet.
//* 3) Change USER1 and USER2 to actual userids. Use Upper Case.
//*    These files are demo profile files for the IVP.
//* 4) DO NOT change the case on the file names. Unix files are
//*    case sensitive.
//*
//CMD0     EXEC PGM=IKJEFT01,REGION=4096K,TIME=1439,DYNAMNBR=200
//*-------------------------------------------------------------------
//* TSO OUTPUT FILE
//*-------------------------------------------------------------------
//SYSTSPRT DD SYSOUT=(*)
//*-------------------------------------------------------------------
```

```
//* TSO INPUT FILE
//*--------------------------------------------------------------------
//SYSTSIN  DD *
 MKDIR 'rootdir/'        MODE(7,7,7)
 MKDIR 'rootdir/cgi-bin' MODE(7,7,7)
 MKDIR 'rootdir/cloud9'  MODE(7,7,7)
 MKDIR 'rootdir/cloud9/jcl'  MODE(7,7,7)
 MKDIR 'rootdir/cloud9/profiles'  MODE(7,7,7)
 MKDIR 'rootdir/logs'  MODE(7,7,7)
 MKDIR  'rootdir/reports'  MODE(7,7,7)
 OPUT 'flhq1.flhq2.JCLLIB(CIGC9CA)'          +
                  'rootdir/cloud9/jcl/cigc9ca'
 OPUT 'flhq1.flhq2.JCLLIB(CIGC9DYN)'         +
                  'rootdir/cloud9/jcl/CIGC9DYN'
 OPUT 'flhq1.flhq2.HTML(C9PID)'   +
                  'rootdir/httpd-pid'
 OPUT 'flhq1.flhq2.HTML(C9HTTPD)'   +
                  'rootdir/httpd.conf'
 OPUT 'flhq1.flhq2.HTML(C9EVARS)'   +
                  'rootdir/httpd.envvars'
 OPUT 'flhq1.flhq2.HTML(C9MVSDS)'   +
                  'rootdir/httpd.mvsds'
 OPUT 'flhq1.flhq2.CGI(C9RADD)'   +
                  'rootdir/cgi-bin/C9RADD'
 OPUT 'flhq1.flhq2.CGI(C9RADDE)'   +
                  'rootdir/cgi-bin/C9RADDE'
 OPUT 'flhq1.flhq2.CGI(C9RARCH)'   +
                  'rootdir/cgi-bin/C9RARCH'
 OPUT 'flhq1.flhq2.CGI(C9RDEL)'   +
                  'rootdir/cgi-bin/C9RDEL'
 OPUT 'flhq1.flhq2.CGI(C9REDRV)'   +
                  'rootdir/cgi-bin/C9REDRV'
 OPUT 'flhq1.flhq2.CGI(C9RENDVR)'   +
                  'rootdir/cgi-bin/C9RENDVR'
 OPUT 'flhq1.flhq2.CGI(C9RGEN)'   +
                  'rootdir/cgi-bin/C9RGEN'
 OPUT 'flhq1.flhq2.CGI(C9RINDXE)'   +
                  'rootdir/cgi-bin/C9RINDXE'
 OPUT 'flhq1.flhq2.CGI(C9RLMBR)'   +
                  'rootdir/cgi-bin/C9RLMBR'
 OPUT 'flhq1.flhq2.CGI(C9RLUNIX)'   +
                  'rootdir/cgi-bin/C9RLUNIX'
 OPUT 'flhq1.flhq2.CGI(C9RMENUE)'   +
                  'rootdir/cgi-bin/C9RMENUE'
 OPUT 'flhq1.flhq2.CGI(C9RMLIST)'   +
                  'rootdir/cgi-bin/C9RMLIST'
 OPUT 'flhq1.flhq2.CGI(C9RMOVE)'   +
                  'rootdir/cgi-bin/C9RMOVE'
 OPUT 'flhq1.flhq2.CGI(C9RPACK)'   +
                  'rootdir/cgi-bin/C9RPACK'
 OPUT 'flhq1.flhq2.CGI(C9RPACKV)'   +
                  'rootdir/cgi-bin/C9RPACKV'
 OPUT 'flhq1.flhq2.CGI(C9RPACK2)'   +
                  'rootdir/cgi-bin/C9RPACK2'
 OPUT 'flhq1.flhq2.CGI(C9RPDSA)'   +
                  'rootdir/cgi-bin/C9RPDSA'
 OPUT 'flhq1.flhq2.CGI(C9RPDSR)'   +
                  'rootdir/cgi-bin/C9RPDSR'
 OPUT 'flhq1.flhq2.CGI(C9RPDSRE)'   +
                  'rootdir/cgi-bin/C9RPDSRE'
 OPUT 'flhq1.flhq2.CGI(C9RPROF)'   +
                  'rootdir/cgi-bin/C9RPROF'
 OPUT 'flhq1.flhq2.CGI(C9RQRY2)'   +
                  'rootdir/cgi-bin/C9RQRY2'
 OPUT 'flhq1.flhq2.CGI(C9RQUERY)'   +
                  'rootdir/cgi-bin/C9RQUERY'
 OPUT 'flhq1.flhq2.CGI(C9RRET)'   +
                  'rootdir/cgi-bin/C9RRET'
 OPUT 'flhq1.flhq2.CGI(C9RSCL)'   +
                  'rootdir/cgi-bin/C9RSCL'
```

```
 OPUT 'flhq1.flhq2.CGI(C9RSCLA)'   +
                  'rootdir/cgi-bin/C9RSCLA'
 OPUT 'flhq1.flhq2.CGI(C9RSCLD)'   +
                  'rootdir/cgi-bin/C9RSCLD'
 OPUT 'flhq1.flhq2.CGI(C9RSCLM)'   +
                  'rootdir/cgi-bin/C9RSCLM'
 OPUT 'flhq1.flhq2.CGI(C9RSCLMA)'   +
                  'rootdir/cgi-bin/C9RSCLMA'
 OPUT 'flhq1.flhq2.CGI(C9RSIGN)'   +
                  'rootdir/cgi-bin/C9RSIGN'
 OPUT 'flhq1.flhq2.CGI(C9RTRAN)'   +
                  'rootdir/cgi-bin/C9RTRAN'
 OPUT 'flhq1.flhq2.CGI(C9RULIST)'   +
                  'rootdir/cgi-bin/C9RULIST'
 OPUT 'flhq1.flhq2.CGI(CIGRSDSF)'   +
                  'rootdir/cgi-bin/CIGRSDSF'
 OPUT 'flhq1.flhq2.CGI(CIGRSDSM)'   +
                  'rootdir/cgi-bin/CIGRSDSM'
 OPUT 'flhq1.flhq2.CGI(CLZREX00)'   +
                  'rootdir/cgi-bin/CLZREX00'
 OPUT 'flhq1.flhq2.CGI(CLZREXIT)'   +
                  'rootdir/cgi-bin/CLZREXIT'
 OPUT 'flhq1.flhq2.HTML(CLOUD9)'   +
                  'rootdir/cloud9.htm'
 OPUT 'flhq1.flhq2.HTML(C9IVP)'   +
                  'rootdir/c9ivp.htm'
 OPUT 'flhq1.flhq2.HTML(SDSF)'   +
                  'rootdir/sdsf.htm'
OPUT 'flhq1.flhq2.HTML(INDEX)'   +
                  'rootdir/index.htm'
 OPUT 'flhq1.flhq2.HTML(V21NEWS)'   +
                  'rootdir/v21news.htm'
 OPUT 'flhq1.flhq2.HTML(V21FAQS)'   +
                  'rootdir/v21faqs.htm'
 OPUT 'flhq1.flhq2.HTML(C9MENU)'   +
                  'rootdir/cloud9/c9menu.htm'
 OPUT 'flhq1.flhq2.HTML(C9SPLASH)'   +
                  'rootdir/cloud9/c9splash.htm'
 OPUT 'flhq1.flhq2.HTML(CIGHSDSB)'   +
                  'rootdir/cloud9/CIGHSDSB.htm'
 OPUT 'flhq1.flhq2.HTML(CIGHSDSM)'   +
                  'rootdir/cloud9/CIGHSDSM.htm'
 OPUT 'flhq1.flhq2.HTML(CIGHSDSS)'   +
                  'rootdir/cloud9/CIGHSDSS.htm'
 OPUT 'flhq1.flhq2.JPG(JPG01)'   +
                  'rootdir/cloud9/profiles/user1.jpg'
 OPUT 'flhq1.flhq2.JPG(JPG02)'   +
                  'rootdir/cloud9/profiles/user2.jpg'
 OPUT 'flhq1.flhq2.PRF(PRF01)'   +
                  'rootdir/cloud9/profiles/user1.prf'
 OPUT 'flhq1.flhq2.PRF(PRF02)'   +
                  'rootdir/cloud9/profiles/user2.prf'
/*
//CHMOD0   EXEC PGM=IRXJCL,PARM=(CIGV2CHM)
//*-------------------------------------------------------------------
//* REXX STANDARD FILES
//*-------------------------------------------------------------------
//SYSTSPRT DD SYSOUT=(*)
//SYSTSIN  DD DUMMY
//*-------------------------------------------------------------------
//* THE FOLLOWING DATASET MUST CONTAIN THE REXX MEMBER CIGV2CHM.
//*-------------------------------------------------------------------
//SYSEXEC  DD  DSN=FLHQ1.FLHQ2.JCLLIB.CASE,DISP=SHR
```

Figure 1.24 CIGV2UNX

After this job has been submitted and executes successfully, the Cloud 9 directories should be populated and ready for testing.

Step 14: Review Authorization Requirements for C9REDRV

The module C9REDRV is the interface module for requesting authorized processes in the HTTP server.

To check the attributes of the C9REDRV authorized program interface module:

1. Access Unix System services
2. Drive a list of Unix files.
   a. For example, if you are using an ISPF Unix shell, issue the following command:

      tso % ish

   b. When the command line appears, type

      rootdir/cgi-bin/
3. Issue the attribute ‘a’ line command for C9REDRV.

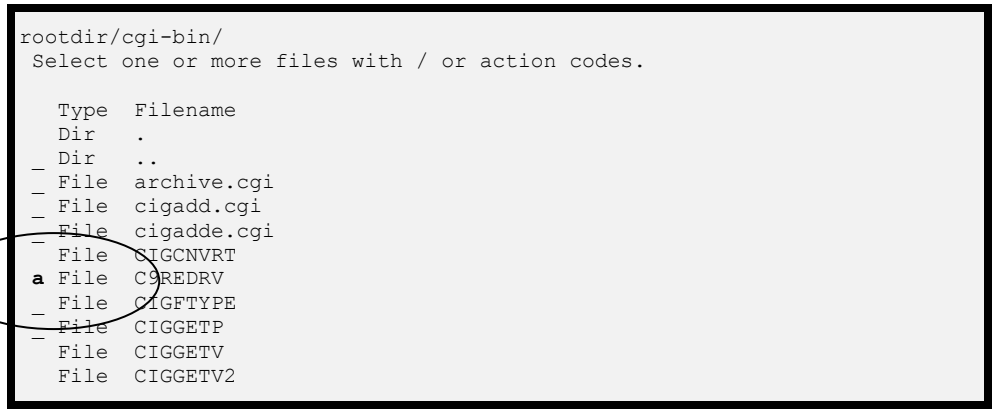


Figure 1.25 Using the attribute line command.

4. From the Edit pulldown menu, select Option 1 Mode Fields.

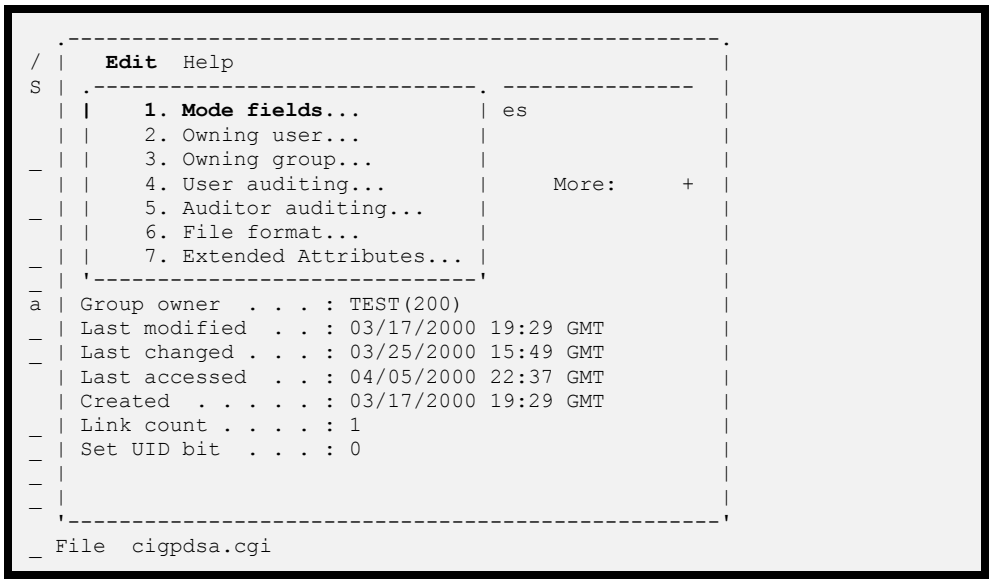


Figure 1.26 List of Attribute Change Options.

5. From the "Change the Mode" panel (shown below), ensure that the sticky bit (the access permission setting) is set to 1.

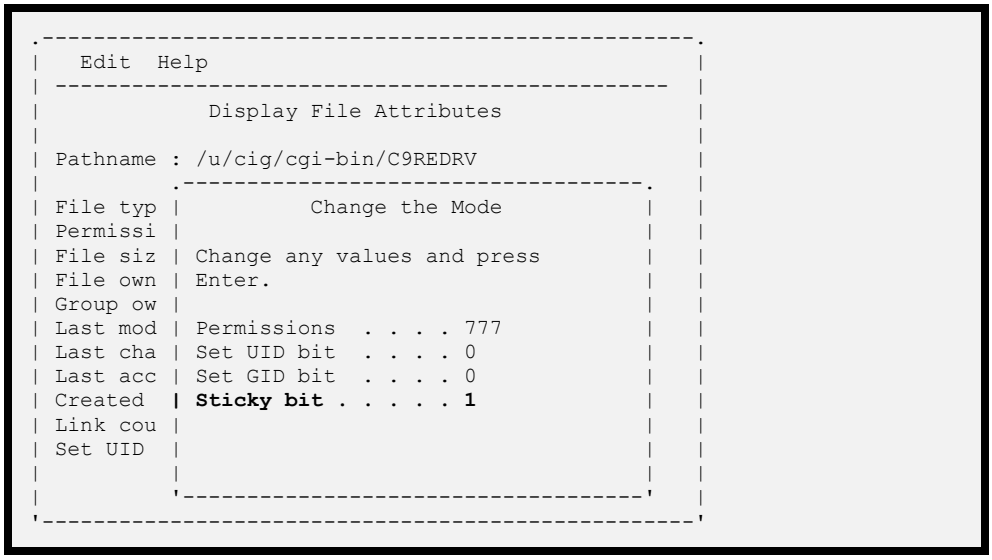


Figure 1.27 Mode Value Display

Troubleshooting

If you encounter problems with accessing Endevor from Cloud 9, double-check that the following items are in place:

- The real module C9REDRV resides in the linklist or the STEPLIB.
- A dummy stub entry, with a length of zero, resides in the CGI directory.
- The C9REDRV file has the access permission enabled (referred to as "sticky bit" in Unix terminology).

Step 15: Cloud 9 Server Installation Verification

To Test the Cloud 9 Server:

Start the Server

1. Submit the CIGV2SRV job, located in the flhq1.flhq2.JCLLIB.CASE dataset.

2. View the //SYSPRINT DD and //SYSOUT DD in the job output and verify that it looks like the output below.

```
******************************** TOP OF DATA *******
IMW0234I Starting.. httpd
IMW0235I Server is ready.
******************************** BOTTOM OF DATA *****

******************************** TOP OF DATA *********************
..... This is IBM HTTP Server V5R1M0
..... Built on Feb 17 1999 at 20:10:29.
..... Started at Sat Mar 25 16:17:31 2000
..... Running as "P390", UID:0, GID:0.
******************************** BOTTOM OF DATA ******************
```

Figure 1.28 SYSPRINT and SYSOUT DD Output

Diagnostics

If the server does not initialize there are two probable problems:

1. RC=3000 usually means the user has insufficient authority to initialize a Web Server Task. There will also be a message on the MVS console to this effect. Also there will be load error messages in the Sysout dataset.

2. RC=0001 usually means that parameter string inputted to the task had en error. Check the JCL submitted and verify that the parm string extends through column 71 and continues in column 16.

3. Check the SYSPRINT and SYSOUT messages for more diagnostic data.

Shut Down the Server

To quiesce the server job, enter one of the following commands:

If entered on an MVS console:

STOP *cloud9-job-name*

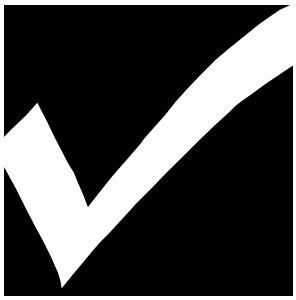
If entered via a console interface, such as SDSF:

/STOP *cloud9-name*

Because the Cloud 9 server uses TCP/IP stack and a cancel does not always clean up storage, CIG recommends the MVS console command method over simply canceling the job. Issuing the console command will allow the HTTP server job to end cleanly.

Restart the Server

1. Re-submit the server JCL (CIGV2SRV) for the next test.



CHECKPOINT #4

At this point, you should have successfully completed the following tasks:

Task	Completed?
Alternate Rexx Run Time Modules Renamed or Approved?	
Modified the CIGV2SRV JCL as per instructions?	
Modified the CIGC9CA JCL shell as per instructions?	
Reviewed and modified the C9HTTPD and C9EVARS members as per specifications.	
Created and populated the Cloud 9 Unix directories with product and configuration files.	
Does the CIGV2SRV JCL userid and password have the appropriate authority to submit a server task?	
Is the server jobname the same as the WEBJOBNAME parameter in the C9HTTPD file?	
Reviewed the continuation on the server parameter list? (extend through 71 continue in 16)?	
Submitted the server JCL – CIGV2SRV?	
Reviewed the sysout files showing the port # and verifying that this is port # you expected?	
Issued a Quiesce of the server to test command and clean up?	
Resubmitted the server for the next test?	

Figure 1.29 Checkpoint 4

Step 16: Verify Setup Using Batch IVPS

Prior to invoking the Cloud 9 server, run the CIGV2TST JCL stream to verify authorization requirements have been met.

Modify and Submit CIGV2TST

1. Using ISPF edit, review, and modify member CIGV2TST in the flhq1.flhq2.JCLLIB dataset.

2. If you have not performed global edits, modify the member as per instructions.

3. Add a valid job card.

4. Submit member.
5. Review results .

```
//**(JOBCARD)
//**
//*********************************************************************
//*                                                                   *
//* CIGV2TST - THE PURPOSE OF THIS JCL TO RUN ENVIRONMENTAL           *
//*            DIAGNOSTICS FOR THE CLOUD 9 AND BREEZE INSTALLS.       *
//*            STEP 1 WILL TEST AUTHORIZATION, TCP/IP ACCESS AND      *
//*                   REXX RUN TIME SETUP.                            *
//*                                                                   *
//*********************************************************************
//*                                                                   *
//* REQUIRED JCL MODIFICATION:                                        *
//*   1) INCLUDE A JOBCARD                                            *
//*   2) MAKE SURE THAT THE STEPLIB IS EXACTLY THE SAME AS THE ONE    *
//*      USED IN THE BREEZE AND/OR CLOUD 9 SERVER TASKS.              *
//*                                                                   *
//*********************************************************************
//*                                                                   *
//*  STEP 1: PERFORM ENVIRONMENTAL TESTS.                             *
//*                                                                   *
//*********************************************************************
//STEP1   EXEC PGM=CIGATEST
//STEPLIB  DD DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//* DD DSN=REXX.V1R3M0.SEAGALT,DISP=SHR
//* DD DSN=TCPIP.SEZALIB,DISP=SHR
//CIGRPT  DD SYSOUT=*
```

Figure 1.30 CIGV2TST

If the REXX Run Time, TCP/IP access and authorization level is correct, then you will receive the following message:

```
FST0001I INVOKING THE CLOUD9/BREEZE SETUP TEST.
FST0001I ******************************************
FST0001I
FST0001I INVOKING THE STEPLIB AUTHORIZATION TEST.
FST0001I YOUR STEPLIB APPEARS TO BE AUTHORIZED.
FST0001I CLOUD 9 USERS - ALSO REVIEW YOUR ENVVARS STEPLIB STATEMENT FOR
STEPLIB
FST0001I ******************************************
FST0001I
FST0001I INVOKING THE TCP/IP DATASET ACCESS TEST.
FST0001I PERFORMING OS/LOAD ON TCP/IP EZAMAIN MODULE.
```

```
FST0001I TASK APPEARS TO HAVE TCP/IP LIBRARY ACCESS.
FST0001I ********************************************
FST0001I
FST0001I INVOKING THE REXX RUN TIME ACCESS TEST.
FST0001I PERFORMING OS/LOAD ON REXX IRXCMPTM MODULE.
FST0001I TASK APPEARS TO HAVE THE REXX RUNTIME OR ALTERNATE ENVIRONMENT
ENABLED.
FST0001I ********************************************
FST0001I
FST0001I TASK HAS PASSED THE THREE SETUP TESTS.
FST0001I CONTINUE WITH INSTALL OR DIAGNOSTICS.
```

Figure 1.31 Expected Output from CIGV2TST

Prior to invoking the Cloud 9 browser application, run the JCL streams that will verify the contents of the CIGINI, verify that the Cloud 9 demo database has been built, verify that the SLR demo database has been built, and verify that you can add definitions to the SLR database.

Modify and Submit CIGV2IVP

1. Using ISPF edit, review, and modify member CIGV2IVP in the Cloud 9 flhq1.flhq2.JCLLIB dataset.

2. If you have not performed global edits, modify the member as per instructions.

3. Add a valid job card.

4. Submit member.

5. Review results

Note that this job should terminate with COND CODE=0. If it does not:

1. Review your job card parameters and the JCL for errors.

2. Resubmit the job.

```
//**(JOBCARD)
//**
//*******************************************************************
//*                                                                 *
//* CIGV2IVP - THE PURPOSE OF THIS JCL IS TO RUN THE SLR IVP.       *
//*            STEP 1 WILL PRINT THE CIGINI DEFINITIONS.            *
//*            STEP 2 WILL LIST IVP SLR RULE DEFINITIONS.           *
//*            STEP 3 WILL ADD ENDEVOR                              *
//*                   TYPE DEFINITIONS AND THEN LIST ALL RULES      *
//*                   IN THE DATABASE.                              *
//*
//* NOTE:    - SEE THE CLOUD 9 V2 PLANNING AND ADMINISTRATION GUIDE *
//*            FOR MORE INFORMATION ON LONGNAME SETUP AND USAGE.    *
//* NOTE:    - THE SYNTAX PROVIDED IS FOR AN EXAMPLE ONLY.          *
//*            IT IS RECOMMENDED THAT STEP3 SYNTAX BE TAILORED TO   *
//*            ACTUAL LOCAL VALUES AND SCLM TOOL.                   *
//*******************************************************************
//*                                                                 *
```

```
//* REQUIRED JCL MODIFICATION:                                          *
//*   1) INCLUDE A JOBCARD                                              *
//*   2) CHANGE THE FOLLOWING AS PER THE INSTALLATION WORKSHEET.        *
//*      - FLHQ1 AND FLHQ2                                              *
//*                                                                     *
//*********************************************************************
//*                                                                     *
//*  STEP 1: PRINT THE CIGINI DEFINITIONS.                              *
//*                                                                     *
//*********************************************************************
//STEP1    EXEC PGM=PRINTINI
//STEPLIB  DD DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//CIGPRINT DD SYSOUT=*
//*********************************************************************
//*                                                                     *
//*  STEP 2: LIST THE CURRENT CONTENTS OF THE SLR DATABASE              *
//*                                                                     *
//*********************************************************************
//STEP2    EXEC PGM=C9LSLR
//STEPLIB DD DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//CIGPUNCH DD SYSOUT=*
//CIGLOG   DD SYSOUT=*
//CIGIN   DD *
 LIST NAME RULES.
/*
//*********************************************************************
//*                                                                     *
//*  STEP 3: ADD DATASET AND TYPE DEFINITIONS TO SLR DATABASE.          *
//*          USE AS IS OR TAILOR WITH LOCAL VALUES.                     *
//*                                                                     *
//*********************************************************************
//STEP3    EXEC PGM=C9LSLR
//STEPLIB  DD DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//CIGPUNCH DD SYSOUT=*
//CIGLOG   DD SYSOUT=*
//CIGIN    DD *
 ADD NAME RULE FOR ENDEVOR TYPE HTML   CASE SENSITIVE.
 ADD NAME RULE FOR ENDEVOR TYPE JAVA   CASE SENSITIVE.
 ADD NAME RULE FOR ENDEVOR TYPE UNIXMAKE CASE SENSITIVE .
 ADD NAME RULE FOR ENDEVOR TYPE DOC    CASE INSENSITIVE .
 LIST NAME RULES.
/*
```

Figure 1.32 CIGV2IVP

Review CIGV2IVP Outputs

Step1, file CIGPRINT should look like the following, but with your site-specific information:

```
****************** TOP OF DATA **********************
---------------
|   COMMON    |
---------------
EYECATCHER..... CIG2
LOAD LIBRARY... FLHQ1.FLHQ2.LOADLIB
WORK UNIT...... SYSDA
VIO UNIT....... SYSDA
ALT INI ALLOWED N
USING ALTERNATE NO
CONLIB......... QUAL1.QUAL2.CONLIB
LOCK MECHANISM. ENQ
JAVALIB DSN.... FLHQ1.FLHQ2.JAVALIB
$CONTROL MEMBER
EMAIL DSN......
```

```
LSERV SUBSYS…   (none)
---------------

---------------
|  BREEZE (E) |
---------------
SECTION DEFINED
---------------
|CLOUD9 (E-E) |
---------------
SECTION DEFINED
SLR...... FLHQ1.FLHQ2.SLR
ENDEVORMODE

---------------
|   PACKAGE   |
---------------
VSAM FILE...... FLHQ1.FLHQ2.PKGDB
CAST ELEMENT... WARN
AUTO REMAKE?... Y
LOG RECORDING?. Y
REMAKE EMG PKG? N
USER PGM.......
ACTION=
   MOVE........ M
   GENERATE.... A
   TRANSFER.... A
   ADD......... A
   UPDATE...... A
   RETRIEVE.... A
   DELETE...... A
   PRINT....... A
   LIST........ A
   ARCHIVE..... A
   RESTORE..... A
FILTERS........ (NONE)
 .  .  .  .  .  .  .  .  .  .  .  .
****************************** BOTTOM OF DATA **********
```

Figure 1.33 Printini Output

Step 2 and Step 3 CIGPUNCH files should look like the following:

```
ADD NAME RULE FOR DATASET AAAA.CASE.INSENSITIVE
    CASE SENSITIVE .

ADD NAME RULE FOR DATASET AAAA.CASE.SENSITIVE
    CASE INSENSITIVE .

ADD NAME RULE FOR DATASET AAAA.DEFAULT
    CASE INSENSITIVE .

ADD NAME RULE FOR DATASET CIGT.DEMO.LONGNAME
    CASE INSENSITIVE .

ADD NAME RULE FOR DATASET CIGT.DEMO.LONG256
    CASE INSENSITIVE .
```

Figure 1.34 SLR List Rules Output

Step 17: Invoking and Logging On to Cloud 9

C9ivp.htm

The c9ivp.htm HTML file should have been copied to the rootdir of your HTTP configuration. Run this IVP to verify the basic HTTP install and security access. If you can't get through this step, you have not set up the HTTP task or security correctly.

Access C9IVP.HTM directly from HTTP directories:

1. On your desktop, launch your browser.
2. Modify the following statement with your IP address and port number and type it in the browser's address window (labeled "Location" in Netscape Navigator and "Address" in Internet Explorer):
   http://**ip-address:portno-c9/**c9ivp.htm

You should see the following message on your browser:

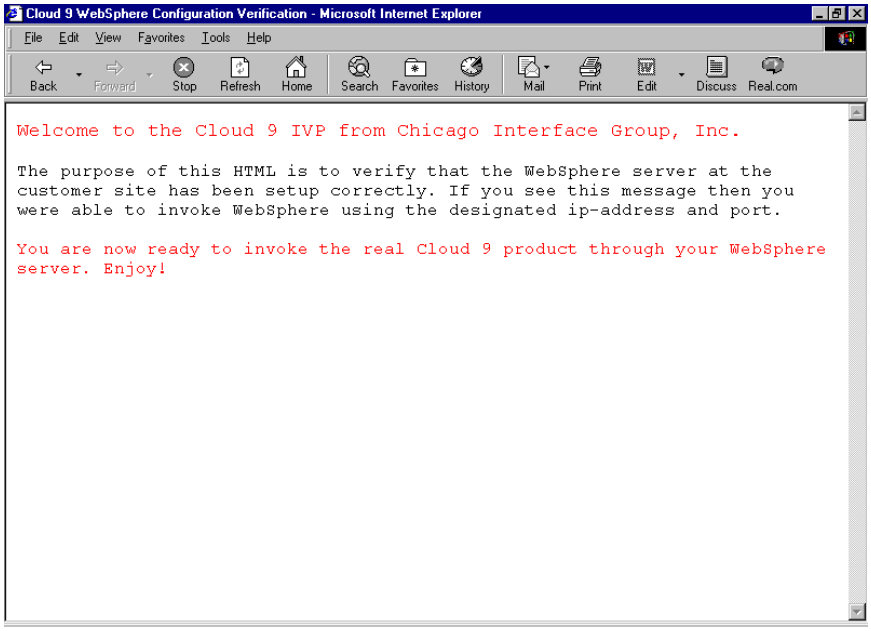


Figure 1.35 c9ivp.htm Invocation

Cloud9.htm

If you were successful invoking the c9ivp.htm, then you are ready to invoke the actual Cloud 9 product.

To test installation of the application, execute the cloud9.htm file in one of the two following ways:

Access Cloud 9 directly from HTTP directories:

1. On your desktop, launch your browser.

2. Modify the following statement with your IP address and port number and type it in the browser's address window (labeled "Location" in Netscape Navigator and "Address" in Internet Explorer):
3. http://**ip-address:portno-c9/**cloud9.htm
4. The browser will request the html file directly from HTTP and execute the Cloud 9 application.
5. When the Cloud 9 product is invoked you will be prompted with a log-in panel. Enter your TSO user id and password and click "ok" to begin using Cloud 9.

From a file on your desktop:

1. Download the cloud9.htm file and save the file as cloud9.htm to your C:\Windows\Desktop directory. Windows will create a desktop icon for the file (samples of which are shown below).

2. From your desktop, double-click on the cloud9htm icon. This will launch your web browser and execute the Cloud 9 application.

3. When the Cloud 9 product is invoked you will be prompted with a log-in panel, shown below. Enter your TSO user id and password and click “ok” to begin using Cloud 9.

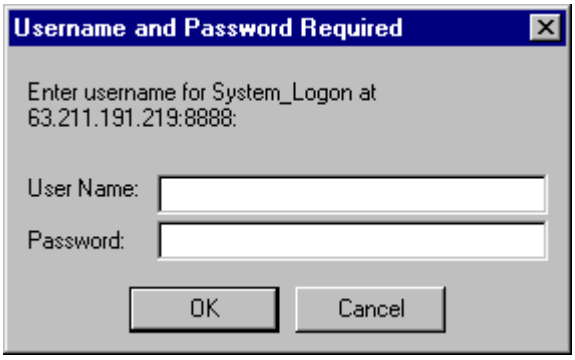


Figure 1.36 Network Logon Screen

Step 18: Perform Profile Setup

During the execution of CIGV2UNX a profile and picture for two userids was stored in the Cloud 9 HTTP server root directory. If you are logged on as one of those userids, then you can view the profile at this time.

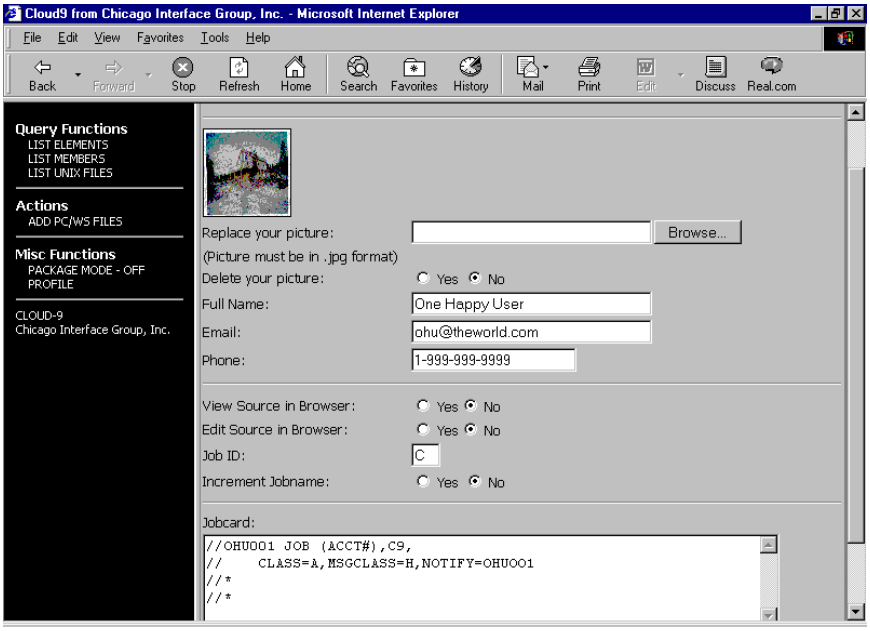


Figure 1.37 Cloud 9 Profile Screen

Setup your profile at this time with real values and JOB CARD information.

Step 19: Perform Batch and Interactive IVPS

To test the connection with Endevor, you should now list some elements from a known Endevor location.

1. Ensure that a valid C1DEFLTS module is in the steplib or jobpack area.
2. Select **List Elements** from the menu.
3. At the Basic Search panel, fill in valid Endevor locations for your environment.
4. Click **Submit**.

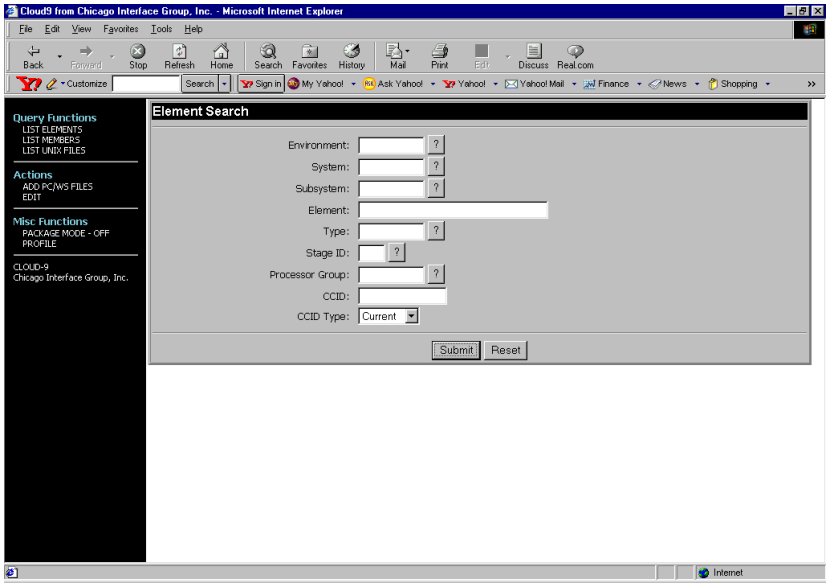


Figure 1.38 Cloud 9 Query Screen

Use the resultant list to perform batch and interactive IVP processes.

Test the Batch SCL Interface

- Check an element
- Select Retrieve.
- Fill in all options and click on Submit.
- Check the expansion of the JCL in the held queue to validate that CIGC9CA was modified correctly. Since you are working against demo data, the SCL created should work on your system.

- Review the batch JCL that was submitted and ensure CIGC9CA was found and modified correctly.

Test the Batch Package Interface

- Perform the same test as above, but have the Package mode checked. You should get a package option fill in screen prior to submitting the JCL.
- Review the batch JCL that was submitted and ensure CIGC9CA was found and modified correctly.

Test the Interactive Interface

- Select an element and request edit. You will receive the edit option panel. This test is to very that we are actually getting to the main Endevor task through a Unix process.

Exit Cloud 9

To close your browser, either:

1. Select **Close** from the file pull-down menu

Or

2. Click on the "X" in the upper right hand corner of the browser window.

Step 20: Invoking the JES2 SDSF Viewer

Sdsf.htm

The sdsf.htm HTML file should have been copied to the rootdir of your HTTP configuration. Run this IVP to verify the basic SDSF access.

Access sdsf.htm directly from HTTP directories:

1. On your desktop, launch your browser.
2. Modify the following statement with your IP address and port number and type it in the browser's address window (labeled "Location" in Netscape Navigator and "Address" in Internet Explorer):
   http://**ip-address:portno-c9/**sdsf.htm

You should see the following application on your browser:

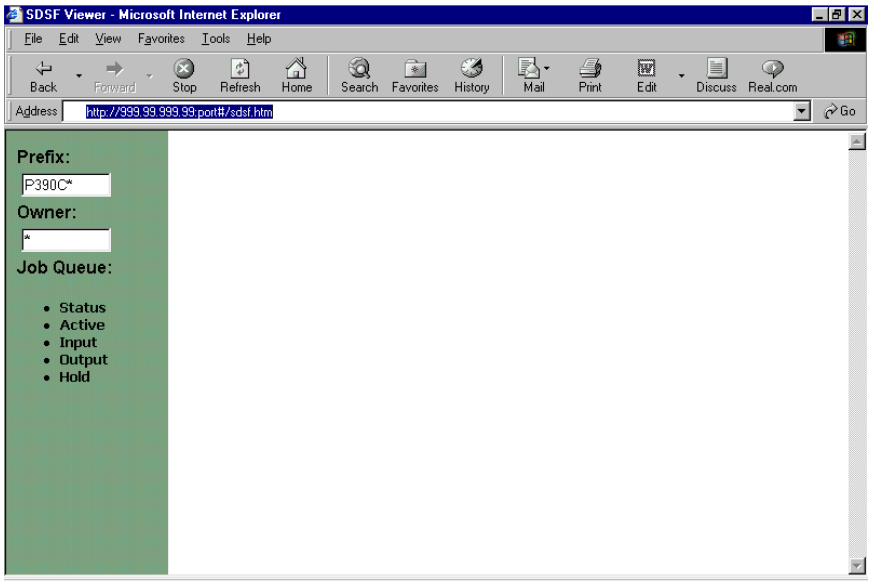


Figure 1.39 sdsf.htm Invocation

Click on Status menu option to receive an sample list of jobs in the queue. Note the following figure is an example only. Your results will vary based on your job queue. For more information on the SDSF viewer, please see the **CIG JES2 Viewer Guide.**

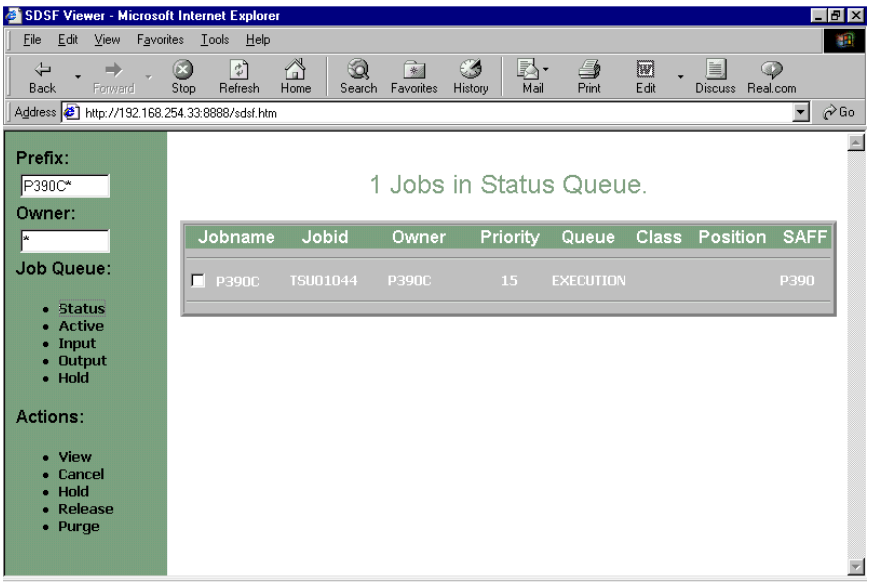


Figure 1.40 SDSF List Example

Step 21: Invoking the SCM Suite Welcome Menu

Index.htm

The index.htm HTML file should have been copied to the rootdir of your HTTP configuration. Use this Welcome Menu to provide your users with a single place to access all of the SCM Suite links and other important information. This is the default screen that will be invoked if only the ip-address and port are entered.

Access index.htm directly from HTTP directories:

1. On your desktop, launch your browser.
2. Modify the following statement with your IP address and port number and type it in the browser's address window (labeled "Location" in Netscape Navigator and "Address" in Internet Explorer):
   http://**ip-address:portno-c9/**index.htm

You should see the following selection menu on your browser:

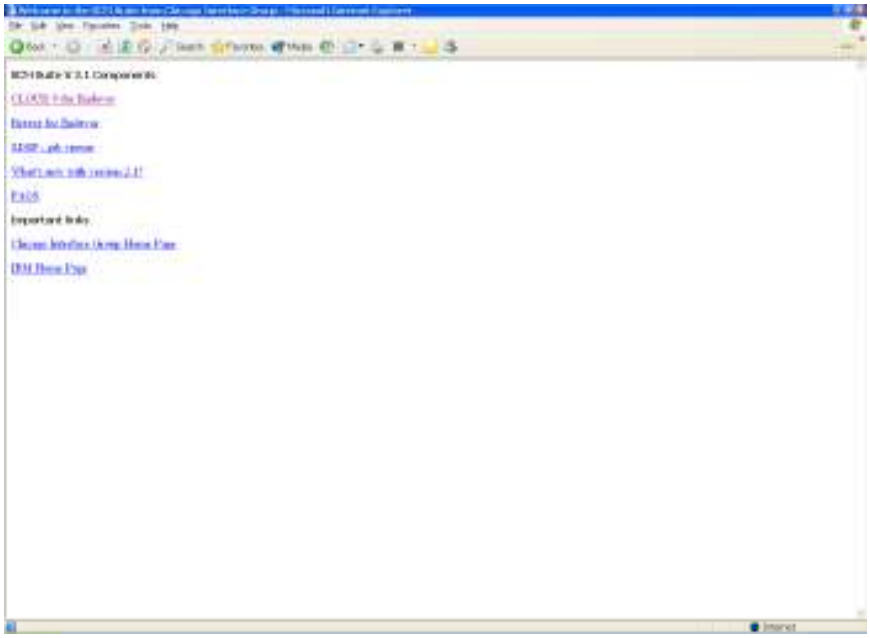
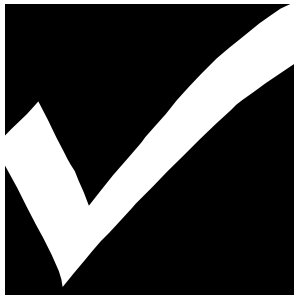


Figure 1.41 SCM Suite Selection Menu



CHECKPOINT #5

At this point, you should have successfully completed the following tasks:

Task	Completed?
Invoked the Cloud 9 HTTP server?	
Performed the two batch IVP verification routines?	
Invoked the c9ivp.htm HTTP setup verification?	
Logon onto the application, passing the security check?	
Viewed demo profile and updated with real data?	
Displayed element lists and ran Endevor IVP jobs?	
Exited successfully from Cloud 9?	
Invoked the sdsf.html SDSF Viewer?	
Invoked the index.htm to view the SCM Suite Selection Menu?	

Figure 1.42 Checkpoint 5

Step 22: Customize the Breeze HTTP Server JCL and supporting control files

Step 22(a): Modify CIGBRSRV

JCL to invoke the Breeze CTS server

The following JCL member—CIGBRSRV—to invoke the Breeze HTTP server is located in the flhq1.flhq2.JCLLIB dataset.

Even though this member may have been modified by the global change process, it is important that CIGBRSRV (as well as CIGBRPKG and CIGBRPRT) be reviewed for non-standard JCL issues.

Authorized Dataset Requirement

If the product load library used to unpack the CIG loadlib is not an authorized dataset, then you must copy the product load library into the authorized library for server execution. The Breeze HTTP server must run from an authorized library due to RACROUTE calls made at logon time.

Timeout Parameter

Note, also, that this job must not time out. If the job is being run in batch, then you must specify a time parameter of TIME=NOLIMIT on the job card. This job can also be made a started task.

Breeze Security Notes

Information about security and the Breeze HTTP Server:

The Breeze HTTP Server consists of a main listener and a dispatcher. When a user signs on to Breeze their userid is validated by the listener against the security system (via the Security Access

Facility SAF) and the user will proceed when the security check passes the validation. For this reason the Listener Task must be APF authorized.

If the security system is in warning mode the validations will always be successful and the user will continue to access Breeze. Endevor security will always be honored. When the user requests certain information from the package content or approves or denies the package the dispatcher will submit jobs under the user's id. The Breeze HTTP Server must have the ability to submit jobs under other user's ids. TopSecret requires that the server be defined as a facility and the end users must have access to that facility.

When the dispatcher submit jobs there are control directives found in the Breeze skeletons whether the dispatcher should add user= and/or password= to the submitted job.

It is not recommended that security be in warning mode.

Sample JCL to start the CTS Server:

```
//* (JOBCARD)
//*********************************************************************
//*    NAME....: CIGBRSRV                                             *
//*    PURPOSE : JCL TO INVOKE THE BREEZE SERVER.                     *
//*                                                                   *
//*********************************************************************
//*         * * *   N O T I C E   * * *                               *
//*    THIS PROGRAM IS A PROPRIETARY PRODUCT OF CHICAGO INTERFACE     *
//*    GROUP, INC. @ COPYRIGHT 2002 CHICAGO INTERFACE GROUP, INC.     *
//*    ALL RIGHTS RESERVED.                                           *
//*********************************************************************
//*
//*  **                                    **
//*  ** PRODUCT INSTALLATION/SETUP ISSUES **
//*  **                                    **
//*  THE FOLLOWING IS A LIST OF MODIFICATIONS REQUIRED DURING PRODUCT
//*  INSTALLATION AND INITIAL SETUP:
//*
//*     1. INCLUDE A VALID JOB CARD
//*     2. CHANGE THE FLHQ1.FLHQ2 TO POINT TO THE PRODUCT
//*        LOADLIB, JAVALIB AND JCL LIBRARIES.
//*     3. CHANGE THE PORTNO-BRZ TO THE VALUE IN THE WORKSHEETS.
//*     4. MAKE SURE THE TCP LIBRARY IS INCLUDED IN THE
//*        STEPLIB.
//*     5. MAKE SURE THAT ALL LIBRARIES IN THE STEPLIB
//*        ARE AUTHORIZED.
//*     6. INCLUDE THE THREE DD FILES NEEDED FOR BATCH
//*        JOB SUBMISSION:
//*          CIGJCLPK - ENDEVOR BATCH PACKAGE SHELL
//*          CIGJCLEN - ENDEVOR PRINT SERVICES SHELL
//*          CIGINRDR - INTERNAL READER
//*********************************************************************
//*                                                                   *
//*  PRINTINI: PRINT THE CIGINI DEFINITIONS FOR DIAGNOSTIC PURPOSES.  *
//*                                                                   *
//*********************************************************************
//PRINTINI  EXEC  PGM=PRINTINI
```

```
//STEPLIB   DD    DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//CIGPRINT  DD    SYSOUT=*
//*****************************************************************
//*                                                               *
//*  CIGLISTN: BREEZE SERVER JCL                                  *
//*                                                               *
//*****************************************************************
//CIGLISTN  EXEC  PGM=CIGLISTN,PARM='PORT=PORTNO-BRZ'
//STEPLIB   DD    DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//          DD    DSN=TCPIP.SEZATCP,DISP=SHR
//CIGJAVA   DD    DSN=FLHQ1.FLHQ2.JAVALIB,DISP=SHR
//CIGLOG    DD    SYSOUT=*
//CIGOUT    DD    SYSOUT=*
//CIGINRDR DD  SYSOUT=(A,INTRDR),DCB=(LRECL=80,BLKSIZE=800,RECFM=FB)
//CIGJCLPK DD  DSN=FLHQ1.FLHQ2.JCLLIB(CIGBRPKG),DISP=SHR
//CIGJCLEN DD  DSN=FLHQ1.FLHQ2.JCLLIB(CIGBRPRT),DISP=SHR
//*
//*- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
//* TO TURN ON INTERNAL TRACES UNCOMMENT THE FOLLOWING DD STATEMENTS
//* DO NOT RUN IN PRODUCTION WITH THE TRACES TURNED ON.  THE TRACES
//* WILL CAUSE PERFORMANCE PROBLEMS.
//*- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
//*CIGXLSTN  DD    SYSOUT=*
//*CIGXSUBT  DD    SYSOUT=*
//*CIGFTP    DD    SYSOUT=*
//*- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
//*- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
```

Figure 1.43 CIGBRSRV

Step 22(b): Review the CIGBRPKG and CIGBRPRT Browser JCL Shells

JCL for job submission from the Breeze CTS server

There are two JCL shells pointed to by the CIGBRSRV: CIGBRPKG and CIGBRPRT. These members are JCL shells that set certain controls used by Breeze to submit SCLM print and batch package jobs. Please review the job card portion of the JCL members to verify that the job card information is correct for your installation.

Note also the following:

1. The job name **must** remain **JC1**. The Breeze HTTP server builds the job name from browser data.

2. If your installation requires a password for email or tsosend, or if, for authorization reasons, you need to submit a job with a different userid, use the jobcard options in the Alternative section of the JCL listed below.

3. If the CIGBRPRT and CIGBRPKG JCL shells do not include a //USERID,PASSWORD directive, then the job submitted through the server may have be owned by the server id. Please review the job submission security issues with your security administrator to see how security is set up for your installation. This will determine how the jobcard on the CIGBRPRT and CIGBRPKG needs to be defined.

CIGBRPKG

The following CIGBRPKG JCL shell is located in the flhq1.flhq2.JCLLIB dataset.

```
//JC1      JOB (ACCT#),'NAME',CLASS=A,REGION=4096K,
//          MSGCLASS=H,MSGLEVEL=(1,1),
//JC1 USER,PASSWORD
//*  ------------------------------------------------------------------
//*  ALTERNATIVES
//*  ------------------------------------------------------------------
//*JC1     JOB (ACCT#),'NAME',CLASS=A,REGION=4096K,
//*         MSGCLASS=H,MSGLEVEL=(1,1), <==
//*JC1_USER
//*  ------------------------------------------------------------------
//* NOTE
//*  //JC1 IS REPLACED WITH USERID PLUS A J
//*  //JC1_USER OR //JC1_USER,PASSWORD MUST BE THE LAST JOB STATEMENT
//*  NO COMMA AFTER THE LAST VARIABLE WILL BE SET
//*  PLUS THERE MUST BE A COMMA AFTER THE SECOND OR NTH LINE OF JOB STM
//*  ------------------------------------------------------------------
//*    NAME....: CIGBRPKG
//*    PURPOSE : ENDEVOR BATCH PACKAGE JCL SHELL FOR BROWSER.
//*
//*  ------------------------------------------------------------------
//*         * * *   N O T I C E   * * *
//*    THIS PROGRAM IS A PROPRIETARY PRODUCT OF CHICAGO INTERFACE
//*    GROUP, INC. @ COPYRIGHT 1999 CHICAGO INTERFACE GROUP, INC.
//*    ALL RIGHTS RESERVED.
//*  ------------------------------------------------------------------
//*
//*  **                                    **
//*  ** PRODUCT INSTALLATION/SETUP ISSUES **
//*  **                                    **
//*  THE FOLLOWING IS A LIST OF MODIFICATIONS REQUIRED DURING PRODUCT
//*  INSTALLATION AND INITIAL SETUP:
//*
//*     1. IMPORTANT!! LEAVE JOB NAME AS //JC1. SERVER EXPECTING
//*        TO BUILD JOB NAME FROM BROWSER DATA.
//*     2. IMPORTANT!! THE //ENPSCLIN DD MUST REMAIN AN INSTREAM
//*        DD CARD. THE SERVER WILL BE BUILDING THE SCL AND
//*        INSERTING.
//*     3. INCLUDE VALID JOB CARD INFORMATION ( ACCT#, CLASS, ETC)
//*     4. CHANGE THE STEPLIB AND CONLIB TO POINT TO THE
//*        CURRENT ENDEVOR LIBRARIES AT THE YOUR INSTALLATION.
//*
//*********************************************************************
//*  BATCH PACKAGE JCL SHELL FOR BROWSER.
//*  POINT TO THIS MEMBER IN THE CIGBRSRV SERVER JCL ( DD=CIGJCLPK)
//*********************************************************************
//BPKG01  EXEC PGM=NDVRC1,PARM='ENBP1000',DYNAMNBR=1500
//STEPLIB DD DISP=SHR,DSN=QUAL1.QUAL2.LOADLIB
//CONLIB  DD DISP=SHR,DSN=QUAL1.QUAL2.CONLIB
//SYSTERM  DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
```

```
//*******************************************************************
//*  PACKAGE SCL REQUEST DATASET.
//*  INSTREAM DATA BUILT BY THE SERVER. DO NOT CHANGE DD ENPSCLIN.
//*******************************************************************
//ENPSCLIN DD   *
/*
//C1MSGS1  DD   SYSOUT=*
//C1MSGS2  DD   SYSOUT=*
```

Figure 1.44 CIGBRPKG

CIGBRPRT

The following CIGBRPRT JCL shell is located in the flhq1.flhq2.JCLLIB dataset. Note that this member is actually the standard Endevor batch JCL plus formatting and file return steps.

```
//JC1     JOB (ACCT#),'NAME',CLASS=A,REGION=4096K,
//         MSGCLASS=H,MSGLEVEL=(1,1),
//JC1_USER,PASSWORD
//*  -------------------------------------------------------------------
//*  NAME:    CIGBRPRT
//*  PURPOSE: JCL TO SUBMIT PRINT, CHANGES OR ACCOUNTING REQUESTS.
//*           RETURNS A FILE TO THE SERVER, WHICH IS WAITING FOR THE
//*           FILE FOR A PREDETERMINED AMOUNT OF TIME.
//*-------------------------------------------------------------------
//*  JOB CARD USAGE NOTE:
//*  //JC1 IS REPLACED WITH USERID PLUS A J
//*  //JC1 USER OR //JC1 USER,PASSWORD MUST BE THE LAST JOB STATEMENT.
//*  THESE DIRECTIVES WILL BE REPLACED WITH // USER=USERID OR
//*  // USER=USERID,PASSWORD.
//*-------------------------------------------------------------------
//*  -------------------------------------------------------------------
//*    NAME....: CIGBRPRT
//*    PURPOSE : ENDEVOR PRINT SERVICES JCL SHELL FOR BROWSER.
//*
//*  -------------------------------------------------------------------
//*         * * *   N O T I C E   * * *
//*    THIS PROGRAM IS A PROPRIETARY PRODUCT OF CHICAGO INTERFACE
//*    GROUP, INC. @ COPYRIGHT 1999 CHICAGO INTERFACE GROUP, INC.
//*    ALL RIGHTS RESERVED.
//*  -------------------------------------------------------------------
//*
//*  **                                  **
//*  ** PRODUCT INSTALLATION/SETUP ISSUES **
//*  **                                  **
//*  THE FOLLOWING IS A LIST OF MODIFICATIONS REQUIRED DURING PRODUCT
//*  INSTALLATION AND INITIAL SETUP:
//*
//*     1. IMPORTANT!! LEAVE JOB NAME AS //JC1. SERVER EXPECTING
//*        TO BUILD JOB NAME FROM BROWSER DATA.
//*     2. IMPORTANT!! THE //BSTIPT01 DD MUST REMAIN AN INSTREAM
//*        DD CARD. THE SERVER WILL BE BUILDING THE SCL AND
//*        INSERTING.
//*     3. INCLUDE VALID JOB CARD INFORMATION ( ACCT#, CLASS, ETC)
//*     4. CHANGE THE STEPLIB AND CONLIB TO POINT TO THE
//*        CURRENT ENDEVOR LIBRARIES AT THE YOUR INSTALLATION.
//*     5. CHANGE THE FLHQ1.FLHQ2 TO POINT TO THE PRODUCT LIBRARY.
//*     6. CHANGE TDISK TO A VALID TEMPORARY WORK UNIT.
//*     7. REVIEW THE HLQ1= DIRECTIVE AND CHANGE IT TO A HIGH LEVEL
//*        THAT WILL BE USED TO CREATE TEMPORARY WORK DATASETS
//*        READ AND DELETED BY THE SERVER.
//*        STANDARD: FLHQ1.USERID.DYYMMDD.THHMM
//*        9/12/2001 &SYSUID IS NOW SUPPORTED AS THE FIRST NODE.
//*******************************************************************
//*  JCL SHELL FOR BROWSER - ENDEVOR PRINT REQUEST
//*  POINT TO THIS MEMBER IN THE CIGBRSRV SERVER JCL, DD=CIGJCLEN
```

```
//*******************************************************************
//BREEZE  EXEC PGM=NDVRC1,PARM='C1BM3000',DYNAMNBR=1500
//STEPLIB DD DISP=SHR,DSN=QUAL1.QUAL2.LOADLIB
//CONLIB  DD DISP=SHR,DSN=QUAL1.QUAL2.CONLIB
//SYSTERM  DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//*******************************************************************
//*  DO NOT CHANGE THE //BSTIPT01 DD DEFINITION BELOW.
//*  THE INPUT TO THE PRINT WILL BE CREATED DYNAMICALLY BASED
//*  ON REQUEST FROM THE USER.
//*******************************************************************
//BSTIPT01 DD   *
/*
//*******************************************************************
//*  CAPTURE MESSAGES IN CASE OF ERROR.
//*******************************************************************
//C1MSGS1  DD   DSN=&&TEMP,
//         DISP=(NEW,PASS),
//         UNIT=TDISK,SPACE=(TRK,(45,45)),
//         DCB=(LRECL=133,BLKSIZE=26600,RECFM=FB)
//C1MSGS2  DD   SYSOUT=*
//*******************************************************************
//*  THE OUTPUT FILE NAME MUST BE CIGPRINT.
//*  THE DATASET NAME WILL BE BUILT DYNAMICALLY BASED ON USERID,
//*  DATE AND TIME. THIS FILE DEFINITION MUST BE MODELED AFTER THE
//*  FOLLOWING JCL. THE HLQ1= PARAMETER MUST BE ON THE FIRST LINE OF
//*  CIGPRINT DD AND IT MUST BE THE ONLY PARAMETER ON THE LINE.
//*  THE GENERATED NAME OF THE FILE WILL BE:
//*    HLQ1.USERID.DYYMMDD.THHMM
//*****************************************************************
//*  EFFECTIVE 9/12/2001 HLQ1=&SYSUID IS SUPPORTED.  THIS USAGE WILL
//*  CAUSE THE SERVER TO USER THE USERID AS THE FIRST NODE OF THE DSN.
//*****************************************************************
//*******************************************************************
//CIGPRINT DD   HLQ1=CIGT
//         DISP=(,CATLG,KEEP),
//         UNIT=TDISK,SPACE=(TRK,(45,45)),
//         DCB=(LRECL=133,BLKSIZE=26600,RECFM=FB)
//*
//*******************************************************************
//* IF THE RETURN CODE IS HIGHER THAN ZERO, THEN APPEND THE C1MSGS1.
//* THE SYSOUT LINE BELOW WILL BE DISGARDED.
//* THE SYSOUT LINE WILL BE BUILT FROM THE DATASET NAME ALREADY
//*  GENERATED IN A PREVIOUS STEP.
//*******************************************************************
//ERROR    EXEC  PGM=LISTFILE,COND=(0,NE,BREEZE)
//STEPLIB  DD   DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//SYSIN    DD   DSN=&&TEMP,DISP=(OLD,DELETE)
//SYSOUT   DD   DSN=*.BREEZE.CIGPRINT,
//         DISP=MOD
```

Figure 1.45 CIGBRPRT

Step 23. Breeze HTTP Server and Setup IVP

To test the Breeze HTTP server:

Start the Server

1. Submit the CIGBRSRV job.
2. View the CIGOUT DD in the job ouptut to verify that the port number listed matches the one you coded in Step 22 on the execute statement. It should look like the output below.

```
20:59:37  FST0001I P390
20:59:37  FST0001I WE ARE USING THE FOLLOWING IP NUMBER 999,999,999,999
20:59:37  FST0001I WE WILL BE LISTENING ON PORT 00001799
```

Figure 1.46 CIGOUT DD Output

brzivp.htm

The brzivp.htm HTML file should reside in the flhq1.flhq2.JAVALIB dataset. Run this IVP to verify the basic server install and security access. If you can't get through this step, you have not set up the Breeze server task or security correctly.

1. On your desktop, launch your browser.
2. Modify the following statement with your IP address and portno-brz number and type it in the browser's address window:

   http://**ip-address:portno-brz/brzivp.htm**

You should see the following message on your browser:

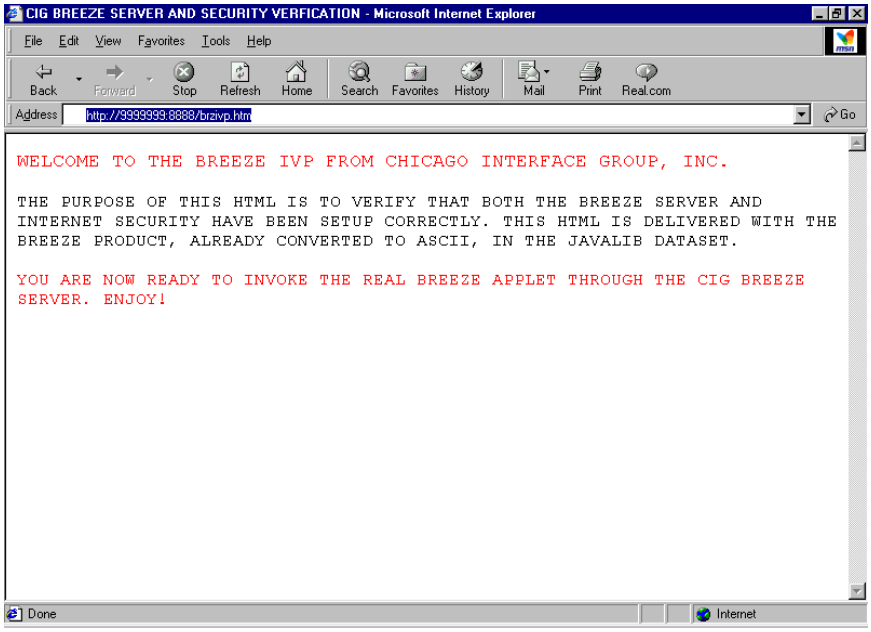


Figure 1.47 Brzivp.htm invocation

Shut down the Server

1. To quiesce the server job, enter one of the following commands:

If entered on an MVS console:

F *cts-job-name*,X

If entered via a console interface, such as SDSF:

/F *cts-job-name*,X

Because the Breeze HTTP server task utilizes the TCP/IP stack and a cancel does not always clean up storage, CIG recommends the MVS console command method over simply canceling the job. Issuing the console command will allow the CTS server job to end cleanly.

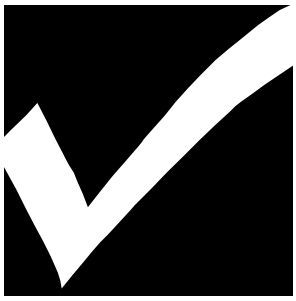
Restart the Server

1. Re-submit the server JCL (CIGBRSRV) for the next test.

Database Considerations

When the Breeze HTTP server task is started, the Breeze package database is initialized and allocated to the Breeze HTTP server task.

Note that while the Breeze HTTP server is running, users will not be able to delete, define, or reorg the database.



CHECKPOINT #6

At this point, you should have successfully completed the following tasks:

Task	Completed?
Modified the CIGBRSRV JCL as per instructions?	
Modified the CIGBRPKG and CIGBRPRT JCL shells as per instructions?	
Submitted the CTS server JCL – CIGBRSRV?	
Edited $CONTROL to reflect correct port number?	
Reviewed the CIGOUT file showing the port # and verifying that this is port # you expected?	
Executed the BRIVP.HTM to validate the ip-address and port?	
Issued a Quiesce of the server to test command and clean up?	
Resubmitted the server for the next test?	

Figure 1.48 Checkpoint 6

Step 24: Invoking, testing, and distributing Breeze

BREEZE HTML

An html file controls the execution of the Breeze applet.
The purpose of this step is to modify the html and explain different ways to invoke the applet using the html file.

A sample HTML (BREEZE) file is included in the flhq1.flhq2.JAVALIB dataset. The only customization required is that you need to add your installation's IP address and port number to both the ARCHIVE and CODEBASE http statements, shown below in bold.

Please review all HTML comments prior to making any changes.

```
<!doctype html public "-//w3c//dtd html 4.0 transitional//en">
<html>
<head>
   <meta  http-equiv="Content-Type"  content="text/html;  charset=iso-8859-
1">
   <meta name="GENERATOR" content="Mozilla/4.6 [en] (Win95; I)">
   <title>BREEZE from Chicago Interface Group</title>
</head>
<BODY BGCOLOR="#99CCFF">
<CENTER>
<! >
<! Modify ONLY the archive and codebase lines below.                >
<! Insert your ip-address:port in the two commands.                 >
<! Copy the modified member into the JAVALIB used by the Breeze     >
<! server. This is the same dataset where the BREEZEJA member       >
<! resides.  This dataset must be pointed to by the CIGJAVA dd      >
<! in the Breeze server.                                            >
<body>
<applet CODE=Breeze.class
 archive="http://ip-addr:portno-brz/breezeja.jar"
 codebase="http://ip-addr:portno-brz/"
 WIDTH=700 HEIGHT=500></applet>
</body>
</html>
```

Figure 1.49 BREEZE.HTML

Once the modifications are complete, you are ready to invoke the Breeze applet.

To test installation of the applet, execute the Breeze.html file in one of the two following ways:

From a file on the mainframe:

3. On your desktop, launch your browser.

4. Modify the following statement with your IP address and port number and type it in the browser's address window:

   http://**ip-address:portno-brz**/Breeze.html

   The browser will request the html file directly from your mainframe and execute the Breeze applet.

5. When the Breeze product is fully downloaded from the mainframe you will be prompted with a log-in panel. Enter your TSO user id and password and click "ok" to begin using Breeze.

From a file on your desktop:

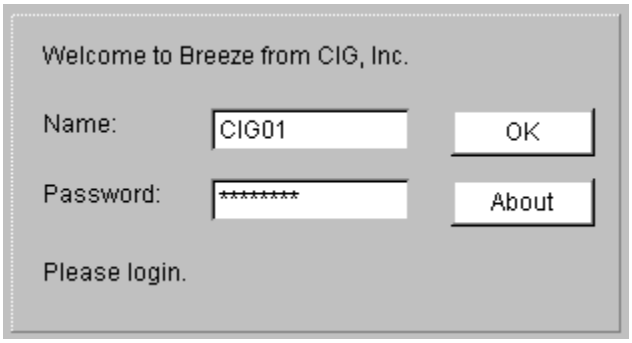
4. Download the BREEZE member from your mainframe and save the file as Breeze.html to your C:\Windows\Desktop directory. Windows will create a desktop icon for the file (samples of which are shown below).

5. From your desktop, double-click on the Breeze.html icon. This will launch your web browser and execute the Breeze applet.

6. When the Breeze product is fully downloaded from the mainframe you will be prompted with a log-in panel. Enter your TSO user id and password and click "ok" to begin using Breeze.

Logging onto Breeze And testing minimum Functions.

- Regardless of which method you selected for Breeze invocation, you should have been presented with the Breeze logon screen (shown below).



Drive a list of packages:

- Because you have not yet been identified to Breeze as an approver, your first response will be <no data returned from host >. To drive a list of packages, click on Packages by Status and a list of packages should be returned.

Exit Breeze:

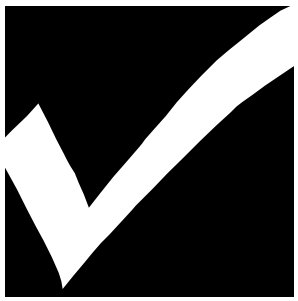
- Close your browser by either:
  - selecting “Close” from the File pull-down menu
  - clicking on the “X” in the upper right hand corner of the browser window.

How will your end-users access Breeze?

Users can access Breeze in one of two ways:

1. You can distribute the Breeze.html file as an email attachment to all approvers who need to access Breeze. Each user can then save the Breeze.html file to their C:\Windows\Destop directory and then access Breeze at any time by double-clicking on the file icon, as discussed previously.

2. If your installation takes advantage of the email notification utility discussed in the *Breeze Administration Guide*, users will receive an email when there are packages in need of their approval. Contained within this email is a link to the Breeze product.



CHECKPOINT #7

At this point, you should have successfully completed the following tasks:

Task	Completed?
Modified the BREEZE html and copied it into the CIGJAVA dataset pointed to by the Breeze server JCL?	
Invoked the IVP to test the ip-address and port number?	
Invoked the Breeze applet from a browser using the 'file from a mainframe' approach?	
Invoked Breeze applet from the desktop?	
Logon onto the application, passing the security check?	
Displayed a list of packages on the screen?	
Attempted to use browse function from content panel?	
Exited successfully from the applet?	

Figure 1.50 Checkpoint 7

Step 25: Email—optional delivery system for Breeze applet

Configure the SMTP Server to support email

The Email interface serves as a companion piece to the standard approver notification. Once selected as an approver, anytime there are packages in need of approval the user will receive an email that contains an html link to the Breeze product.

How does it work?

With its TCP/IP services, IBM bundles a Simple Mail Transfer Protocol server (SMTP). In order to enable Breeze to pass the messages to SMTP for handling, you must:

❶ Format the commands and the body of the message text
❷ Write that data to a sysout class that has the SMTP server associated with it as a sysout writer.

Configure the SMTP Interface

In order to configure the email interface, you will need to collect the following items and information from your systems programming personnel:

- The name of the SMTP address space.
- The sysout class to write the SMTP data to.
- The fully qualified machine name. (for example, p390.companyname.com)

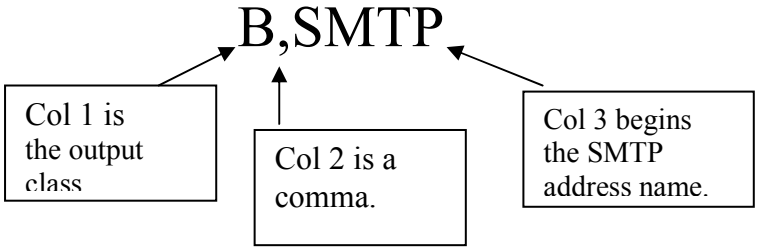
Create the configuration member $$$$SMTP

Once you have the information you need from the systems programming personnel, you will be ready to create configuration member '$$$$SMTP' in the flhq1.flhq2.javalib dataset. This member, an example of which is shown below, contains several lines of configuration information, with the data starting in the first column on both lines.

```
A,SMTP
P390.CIGI.NET
FROMUSER=JPRESTON@CAPECOD.NET
INTERNAL_READER=A,INTRDR
//*THE FROMUSER= IS THE OVERRIDE FOR SMTP MAIL FROM USER ID
//*SOME INSTALLATIONS REQUIRE A VALID SMTP MAIL ID
//*
//*THE INTERNAL_READER= IS THE CLASS AND PROGRAM THAT HANDLES THE INTERNAL
//*READER .  THIS IS USED FOR BATCH TSO SEND COMMANDS
//*
//*THE FOLLOWING (THRU THE SYSTSIN DD) IS THE REQUIRED JCL. THE FORMATTED
//*SEND COMMANDS WILL BE APPENDED TO THIS JCL AND SUBMITTED TO THE INTERNAL
//*READER
//*
//P390JEM JOB(1111),'ME NOT U',REGION=0M,MSGCLASS=H,CLASS=A,MSGLEVEL=(0,0)
//*USER ID MUST BE AUTHORIZED TO WRITE TO THE BROADCAST DATA SETS
//STEP1  EXEC PGM=IKJEFT01
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD*
```

Figure 1.51 $$$$SMTP

Line 1 contains class,addressspace name terminated by a blank. For example:



(Note that the default SMTP address name is SMTP.)

Line 2 also begins in column 1 and contains the fully qualified machine name (or IP address) terminated by a blank. For example:

local.myname.com

FROMUSER= is the override for SMTP Mail from User id. If your installation requires a valid SMTP mail id, you must code one into this syntax. If your

installation does not require a valid SMTP mail id, you may leave this blank as Breeze will default to your TSO userid.

INTERNAL_READER is the class and program that handles the internal reader for batch TSO send commands.

// Section is the REQUIRED JCL required through the SYSTSIN DD* line. Be sure to include a valid jobcard. The formatted send commands will be appended to this JCL and submitted to the internal reader.

Test the interface

❶ The sample member TESTTO is shown below. It can be found in the flhq1.flhq2 JAVALIB dataset. Modify this member called 'TESTTO'. Since the test program ('TESTMAIL') will use this member, TESTTO should contain actual email addresses, preferably ones that you can access on-site.

```
USERID1
EMAIL-ADDRESS1
USERID2
EMAIL-ADDRESS2
USERID3
EMAIL-ADDRESS3
```

Figure 1.52 Sample Member TESTTO

❷ Use the sample JCL CIGSMJX4 below for your test:

```
//**(JOBCARD)
//**
//* ---------------------------------------------------------------------
//* NAME:      CIGSMJX4                                                  *
//* PURPOSE:   THE PURPOSE OF THIS JCL IS TO TEST THE SMTP CONTROL       *
//*            MEMBER $$$$SMTP AND THE SETUP OF EMAIL.                   *
//*                                                                      *
//* ---------------------------------------------------------------------
//*         * * *   N O T I C E   * * *
//*    THIS PROGRAM IS A PROPRIETARY PRODUCT OF CHICAGO INTERFACE
//*    GROUP, INC. @ COPYRIGHT 2000 CHICAGO INTERFACE GROUP, INC.
//*    ALL RIGHTS RESERVED.
//* ---------------------------------------------------------------------- *
continued on next page…
```

```
//* MODIFY THIS JCL TO MEET YOUR SITE'S JCL NAMING STANDARDS.        *
//*                                                                  *
//*   1) INCLUDE A JOBCARD                                           *
//*   2) CHANGE FLHQ1 AND FLHQ2 AS PER WORKSHEET.                    *
//* ---------------------------------------------------------------- *
//TESTE    EXEC  PGM=TSTEMAIL
//STEPLIB  DD  DSN=FLHQ1.FLHQ2.LOADLIB,DISP=SHR
//CIGOUT   DD  SYSOUT=*
//CIGLOG   DD  SYSOUT=*
//SYSUDUMP DD  SYSOUT=*
```

Figure 1.53 CIGSMJX4

❸ Return Codes:

- When the return code is zero but no email has been received, you need to examine the output of the job. The SMTP server will periodically drain the spool queues that specify the SMTP server as the writer. If you see output for CIGEMAIL, it means that either the SMTP server has not yet drained the queue, or that the name of the SMTP started task that you specified as the writer name is incorrect.

- If the return code is *not* zero, you will need to examine the CIGLOG output for messages.

TESTTO is a sample member for the purpose of validating that the $$$$SMTP control member is configured correctly and that the SMTP server at your installation is running.

The actual Breeze notification interface utilizes email addresses that are stored in the $APINDX member.

Configure the $APINDX member

What is the $APINDX member?

The Breeze email interface expects to find a member called $APINDX in the flhq1.flhq2.JAVALIB, pointed to by the NOTIFY RULES DATASET in the CIGINI. This is a reserved member name in the Notify Rules Dataset that correlates the 16-character approver group name with a member containing a group of email addresses. Each customer will build these members based on who is to be notified per approver group.

The member below is an example of the $APINDX member:

```
************************** Top of Data ***************************
APPR01EMER LSTE01
APPR02PROD LSTP02
************************** Bottom of Data ************************
```

The data layout is not fixed. The approver group name is first; the member list name is second. The two values are separated by **ONE** blank.

What is the format of the email list?

The following is an example of the email address list pointed to in the APPR01EMER approver group entry:

```
BROWSE CIGT.PEOPLES.SRCLIB(LSTE01) - 01.01
Command ===> Scroll ===> CSR
************************** Top of Data ***************************
JLEWIS@CINDERFELLA.COM
DMARTIN@AMORE.COM
WNEWTON@VEGAS.COM
SDAVIS@CANDYMAN.COM
```

Configure the $$HTML member

The Breeze email interface expects to find a member called $$HTML in the flhq1.flhq2.JAVALIB. This is the HTML that will be sent to the approver's email userid at the time of package CAST.

$$HTML needs to be modified to include your IP address and port number as defined early in this manual. Any other changes will be cosmetic to the end user.

Please review the modification comments prior to making any modifications. In HTML comments are denoted using a '<!' as the first characters and '>' as the last.

The following $$HTML member can be found in the flhq1.flhq2.JAVALIB dataset. The bolded section of the http statement must be modified to reflect the location of your server.

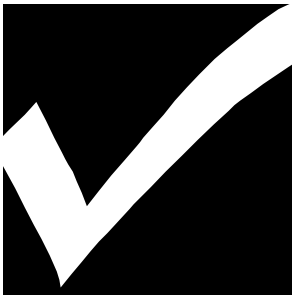
```
There are Endevor packages that need to be approved (or
denied) by you. Click on the link below to perform review
and approve/deny processing.

http://ip-addr:portno-brz/Breeze.html
```

Figure 1.54 $$HTML

Sample email output

```
HELO P390.CIGI.NET
MAIL FROM:<P390C@P390.CIGI.NET>
RCPT TO:<RLAUREN@BUTTERFLY.NET>
RCPT TO:<SFLATHEAD@BUTTERFLY.NET>
DATA
DATE:  08/02/00 16:41:09 GMT
FROM:  P390C@P390.CIGI.NET
TO:  PSYSB,
 PSYSL,
 RLAUREN@BUTTERFLY.NET,
 SFLATHEAD@BUTTERFLY.NET
SUBJECT: PLEASE APPROVE PACKAGE DEMOPK1
There are ENDEVOR packages that need to be approved (or denied) by
 you. Click on the link below to perform review and approve/deny
 processing.http://209.244.240.219:1799/Breeze.html
.
QUIT
```



CHECKPOINT #8

At this point the following email related tasks should have been successfully completed.

Task	Completed?
Modified the $$$$SMTP member and copied it to the flhq1.flhq2.javalib dataset?	
Modified the TESTTO member and copied it to the flhq1.flhq2.javalib dataset?	
Modified the CIGSMJX4 jcl and tested the EMAIL interface?	
Review the contents of the CIGEMAIL dd?	
Built the $APINDX member matching at least one approver group name to a member containing the email lists?	
Built an email list that is pointed to in the $APINDX member?	
Modified the $$HTML member and copied it to the flhq1.flhq2.javalib member?	

Figure 1.55 Checkpoint 8

Appendix A: Cloud 9 Unix Directory Structure

The following charts represent the Unix directory structure and files expected by the Cloud 9 application. The 'rootdir' value is site specific, all other directory names and file names are not. This includes the case of the file names.

Level 1 – Cloud 9 'rootdir'

/rootdir/

Type	Filename
_ Dir	.
_ Dir	..
_ Dir	cgi-bin
_ Dir	cloud9
_ File	cloud9.htm
_ File	c9ivp.htm
_ File	httpd.conf
_ File	httpd.envvars
_ File	httpd.mvsds
_ File	httpd-pid
_ File	index.htm
_ Dir	logs
_ Dir	reports
_ File	sdsf.htm
_ File	v21news.htm
_ File	v21faqs.htm

Level 2 – CGI-BIN Directory /rootdir/cgi-bin/

	Type	Filename	Row 1 of 37
_	Dir	.	
_	Dir	..	
_	File	CIGRSDSF	
_	File	CIGRSDSM	
_	File	CLZREXIT	
_	File	CLZREX00	
_	File	C9RADD	
_	File	C9RADDE	
_	File	C9RARCH	
_	File	C9RDEL	
_	File	C9REDRV	
_	File	C9RENDVR	
_	File	C9RGEN	
_	File	C9RINDXE	
_	File	C9RLMBR	
_	File	C9RLUNIX	
_	File	C9RMENUE	
_	File	C9RMLIST	
_	File	C9RMOVE	
_	File	C9RPACK	
_	File	C9RPACKV	
_	File	C9RPACK2	
_	File	C9RPDSA	
_	File	C9RPDSR	
_	File	C9RPDSRE	
_	File	C9RPROF	
_	File	C9RQRY2	
_	File	C9RQUERY	
_	File	C9RRET	
_	File	C9RSCL	
_	File	C9RSCLA	
_	File	C9RSCLD	
_	File	C9RSCLM	
_	File	C9RSCLMA	
_	File	C9RSIGN	
_	File	C9RTRAN	
_	File	C9RULIST	

Level 2 – cloud9 Directory

/rootdir/cloud9/

Select one or more files with / or action codes.

```
  Type  Filename
_ Dir   .
_ Dir   ..
_ File  CIGHSDSB.htm
_ File  CIGHSDSM.htm
_ File  CIGHSDSS.htm
_ File  c9menu.htm
_ File  c9splash.htm
_ Dir   jcl
_ Dir   profiles
```

Level 3 – Profiles Directory:

/u/cig/cloud9/profiles/

```
  Type  Filename
_ Dir   .
_ Dir   ..
_ File  P390C.jpg
_ File  P390C.prf
_ File  P390J.jpg
_ File  P390J.prf
```

Note the profiles should reflect the user ID's used during the install.

Level 3 – JCL Directory

/u/cig/cloud9/jcl/

Type	Filename
_ Dir	.
_ Dir	..
_ File	cigc9ca
_ File	CIGC9DYN