

# **Blind Rehabilitation (ANRV)**

## **Blind Rehabilitation Centralized Server Installation/Implementation Guide**



**May 2024**

**Version 1.0**

## Revision History

Date	Version	Description	Author
May 2024	1.0	Technical Update	Robert Eckstein

# Table of Contents

1.	Introduction .....	1
1.1.	Audience .....	1
1.2.	Scope/Deliverables .....	1
1.3.	Purpose .....	1
2.	Table of Server Configurations.....	2
3.	Oracle DBA Steps .....	3
3.1.	Install SDS data on Oracle Server .....	3
3.1.1.	Download and install the SDS data version by cutting and pasting the link below in your browser: .....	3
4.	WebLogic Administrator Steps .....	5
4.1.	Initial WebLogic Installation.....	5
4.2.	Install WebAgent.....	5
4.3.	Configure Apache.....	5
4.4.	On the WebLogic console: .....	7
4.5.	JMS Configuration (Clustered) .....	8
4.6.	Managed Server for MPI Integration .....	8
4.7.	Deploy Libraries and configuration files .....	9
4.8.	Deployment of Compiled *.ear File .....	11
4.9.	Roll Back *.ear File .....	12
5.	Appendix A Sample config.xml file.....	13
6.	Appendix C – sample JVM Server startup arguments.....	23
7.	Appendix D – WebLogic server commands .....	24
8.	Appendix E – Troubleshooting.....	25

# 1. Introduction

The Blind Rehabilitation Services application provides enhanced tracking, and reporting, of the blind rehabilitation services provided to veterans by: Visual Impairment Service Teams (VIST) Coordinators Blind Rehabilitation Centers (BRCs) Blind Rehabilitation Outpatient Specialists (BROS) Visual Impairment Services Outpatient Rehabilitation (VISOR) Programs Visual Impairment Center to Optimize Remaining Sight (VICTORS) Features include: Electronic referral process to track patient applications for service Notifications feature to alert users of pending referrals Encounters/Progress Notes will be automatically created Nationwide centralization of Blind Rehabilitation services data to allow nationwide reporting Ad-hoc reporting capabilities Allows ability to track BR patient care access across institutions Patients can be referred or transferred to other institutions if they move without having to recreate patient data.

## 1.1. Audience

This document has been prepared for system administrators and database administrators who need to set up pre-production and/or production environments in the VA Enterprises Cloud (VAEC). It is presumed that readers of this document understand basic concepts of the VAEC BR v5.1 environments as well as any system specialties that might pertain to the installation of the BR v5.1 software.

## 1.2. Scope/Deliverables

The scope of this plan encompasses the Blind Rehabilitation Services, and their related responsibilities. The plan specifies the steps and software necessary to install and configure BR v5.1 on a Linux server environment.

## 1.3. Purpose

The purpose of this document is to assist the IO and support in the installation/configuration of BR v5.1.

## 2. Table of Server Configurations

Environment	Domain Name	Admin Server	Managed Servers	DB name: port
<b>Dev (Single VM)</b>	brs-dev	AdminServer(admin)	ManagedServer001 ManagedServer002	?:1542
<b>SQA (Single VM)</b>	brs-sqa	AdminServer(admin)	ManagedServer001 ManagedServer002	?:1542
<b>Pre-Prod</b>	brs-ppd	Region 1 AdminServer(admin)	Region 1 ManagedServer001 ManagedServer002 ManagedServer003 ManagedServer004	DBA has Info
<b>Production</b>	brs-prd	Region 1 AdminServer(admin)	Region 1 ManagedServer001 ManagedServer002 ManagedServer003 ManagedServer004	DBA has Info

### 3. Oracle DBA Steps

#### 3.1. Install SDS data on Oracle Server

3.1.1. Download and install the SDS data version by cutting and pasting the link below in your browser:

<https://dvagov.sharepoint.com/sites/VHASTS/SDS/Forms/AllItems.aspx?id=%2Fsites%2FVHASTS%2FSDS%2FRelease%2FSDS%5FIR%5F14&viewid=936e8623%2D8829%2D479e%2Daff3%2D11176378552e>

1. Download the files.
2. Unzip the files in each directory in NUMBER ORDER one at a time.
3. Edit the SDSconfig.sql file for the correct values per the example below:

```
REM
```

```
REM Parameter file to define values for SDS scripts
```

```
REM
```

```
REM Save the DB Name for this database instance in DB_NAME
```

```
column DB_NAME noprint new_value DB_NAME
```

```
select name DB_NAME from v$database;
```

```
REM Location of the oradata directory for SDS Table and Index tablespace files
```

```
DEFINE TABLE_PATH = 'u03'
```

```
DEFINE INDEX_PATH = 'u03'
```

```
REM ASM Disk Groups for the SDS Table and Index tablespaces
```

```
DEFINE TABLE_DG = '+DATADG'
```

```
DEFINE INDEX_DG = '+INDEXDG'
```

```
REM Create tablespace parameters
```

```
DEFINE TABLESPACE_NAMES = 'S_DATA_01', 'S_INDEX_01'
```

```
DEFINE TABLESPACE_TYPES = 'TABLE', 'INDEX'
```

```
DEFINE TS_DATAFILES = '2, 2'
```

```
DEFINE DATAFILE_SIZE = '1024, 512'
```

```
DEFINE DATAFILE_NEXT = '256, 128'
```

```
DEFINE DATAFILE_MAX = '2048, 2048'
```

```
DEFINE EXTENT_SIZE = '128K', '128K'
```

```
REM Path to where SDSADM can write generated scripts on the server
```

```
DEFINE DIR_PATH = 'u02/oradata/SDS-install/sql'
```

```
REM Default location for the master SDS site. Used to create Database
```

```
REM Links and Materialized Views
```

```
REM IDSDEVBP Connection
```

```
DEFINE DBLINKNAME = 'SDS02'
```

```
DEFINE HOSTNAMES = 'eamd2.cvsxemdaerfr.us-gov-east-1.rds.amazonaws.com'
```

```
DEFINE DBSERVICE = 'SDS02.aac.va.gov'
```

```
DEFINE DBPORTNUM = '1542'
```

```
set echo off  
set feedback off
```

```
REM Initial password for the SDS Table Owner Service ID.  
DEFINE SDSADM_PASSWD = 'SDS-TEST1'
```

```
REM Password for the MVIEW_PROXY Service ID. This password must be known  
REM to all databases that replicate from this master.  
DEFINE PROXY_PASSWD = 'SSGN-728'
```

```
REM Initial password for the SDS Maintenance App Service ID.  
REM This password must be known to the App Server Admin that sets up  
REM the JDBC Connection pool for the Maintenance App.  
DEFINE SDSMGR_PASSWD = 'SDS-MGR1'
```

```
REM Initial password for the SDS API Service ID.  
REM This password must be known to the App Server Admin that sets up  
REM the JDBC Connection pool for any Consuming App.  
DEFINE SDSUSR_PASSWD = 'SDS-USR1'
```

```
set feedback on  
set echo on
```

4. This SDS IR18.0 database implementation is for a new LOCAL database, and it will be a Master Database.
5. Now change directory into /u02/oradata/SDS-install/vha-stddata-client-18.0/db/oracle.
6. Once in this directory you run the list of scripts below using the following command syntax:  
6.1 \$ sqlplus DBA\_USER/DBA\_PASSWORD @script\_name.sql

**Note:** Example : *\$sqlplus vhamccorb/password @STD\_create\_tablespaces.sql*

7. From the vha-stddata-client-18.0\db\oracle folder run the following scripts:
8. The scripts must each be run as the user listed in brackets prior to each command. Before you run the following commands you must add a line to the STD\_setup\_master\_sys.sql file:

```
        Create profile SERVICE_ACCOUNT limit;  
<DBA User> @STD_create_tablespaces.sql  
<DBA User> @STD_setup_master_sys.sql  
<SDSADM> @STD_setup_master_sds.sql  
<SDSADM> @load_stddata.sql  
<SDSADM> @STD_create_mvlogs.sql  
<SDSADM> @STD_set_VUID.sql  
<SDSADM> @STD_grants_edit.sql  
<SDSADM> @STD_grants_select.sql  
<SDSADM> @STD_grants_proxy.sql  
<DBA User> @STD_create_pubsysns.sql
```

## 4. WebLogic Administrator Steps

### 4.1. Initial WebLogic Installation

1. Install WebLogic server version 12.2.1.4.
2. Your WebLogic home folder will be: **/u01/app/oracle/**
3. And your WebLogic directory for your servers for:
  - a. **PreProd domain will be:**
    - i. /u01/app/oracle/user\_projects/domains/brs-ppd
  - b. **Production domain will be:**
    - i. /u01/app/oracle/user\_projects/domains/brs-prd
4. You should create a directory on the Pre-Prod environment for deploying .jar and .ear files named:
  - a. /u01/app/oracle/user\_projects/domains/brs-ppd/appStage
5. You should create a directory on the Production environment for deploying .jar and .ear files named:
  - a. /u01/app/oracle/user\_projects/domains/brs-prd/appStage
6. Use Skynet to install WebLogic
  - a. Run the following commands:
    - i. `$ skynet`
    - ii. `$ 0: drone`
    - iii. `$ 0: options`
    - iv. `$ Enter: server12.2.1.4c`
7. Use Skynet to create domain
  - a. Run the following commands:
    - i. `$ skynet`
    - ii. `$ 1: terminator`
    - iii. `$ 0: Server Install`
    - iv. `$ Enter: brs`
    - v. `$ Enter: dev/sqa/ppd/prd`
    - vi. `$ Enter: 2`
    - vii. `$ Enter: server`
    - viii. `$ Enter: aitc`

### 4.2. Install WebAgent

1. Follow the installation of the CA WebAgent per the IAM playbook found at the following URL:  
<https://dvagov.sharepoint.com/sites/OITEPMOIAM//playbooks/pages/ssoi/webagent%20install%20-%20apache%20linux.aspx>

### 4.3. Configure Apache

1. Set the following headers:

```
TraceEnable off
LimitRequestBody 15000000
Header edit Set-Cookie ^(.*)$ $1;HttpOnly;Secure
Header always append X-Frame-Options SAMEORIGIN
ServerTokens Prod
ServerSignature Off
Header always unset "X-Powered-By"
Header unset "X-Powered-By"
```



```
Header set X-XSS-Protection "1; mode=block"  
Header set X-UA-Compatible: IE=edge
```

## 2. Setup Virtual host

```
***** Sample Virtual Host ***  
<VirtualHost *:443>
```

```
    <IfModule authz_core_module>  
        <RequireAll>  
            Require expr %{HTTP:X-Azure-FDID} == '437c82cd-360a-  
4a54-94c3-5ff707647783'  
        </RequireAll>  
    </IfModule>  
  
    ServerName vac11appbrs800.va.gov  
    ServerAdmin CDCO-NSD@va.gov  
    UseCanonicalName on  
    DocumentRoot /var/www/html  
  
    ErrorLog /u01/app/log/httpd/brs_ssl_error_log  
    TransferLog /u01/app/log/httpd/brs_ssl_access_log  
    LogLevel warn  
  
    SSLEngine on  
    SSLProtocol -all +TLSv1.2  
    SSLCipherSuite RSA:!EXP:!NULL:+HIGH:-MEDIUM:-LOW  
  
    SSLCertificateFile  
/etc/httpd/conf/ssl.crt/vac11appbrs800.va.gov.pem  
    SSLCertificateKeyFile /etc/httpd/conf/ssl.key/  
vac11appbrs800.va.gov.decrypt.key  
  
    RewriteEngine On  
    RewriteCond %{DOCUMENT_ROOT}/brs-maintenance.html -f  
    RewriteCond %{REQUEST_FILENAME} !/brs-maintenance.html  
    RewriteRule ^.*$ /brs-maintenance.html [L,R=302]  
  
    RewriteRule ^/$ main [R=302,L]  
  
    <Location / >  
        SetHandler weblogic-handler  
        WebLogicCluster vac11appbrs800.va.gov:8001,  
vac11appbrs800.va.gov:8003  
    </Location>  
    <Location /console >  
        SetHandler weblogic-handler  
        WebLogicCluster vac11appbrs800.va.gov:7001  
    </Location>
```

```
</VirtualHost>  
***** Sample Virtual Host ***
```

#### 4.4. On the WebLogic console:

At this point we must create our managed servers. These are the JVM instances that will run our application. You create these with the following steps:

1. Open WebLogic admin console in your browser.
2. Go to Environment – Servers.
3. Click New.
4. Give your server the proper name:
  - a. **Pre-Production**
    - i. Pre\_PROD\_Server1
    - ii. Pre\_PROD\_Server2
  - b. **Production**
    - i. PROD\_Server1
    - ii. PROD\_Server2
    - iii. PROD\_Server3
5. Copy the classpath and server arguments from the appendix of this document.
6. Give it the proper port ( 1<sup>st</sup> server 8001, 2<sup>nd</sup> server 8002, 3<sup>rd</sup> server 8003, etc.)
7. Save and activate changes.
8. Next click on the Environment – machines and click new.
9. Create a machine name, then hit next.
10. Next screen accept all defaults.
11. Click Finish, Save Changes.
12. Next go back to Environment – Servers and click on the newly created server and then change the machine name from none to whatever machine you created in steps 7 – 10.
13. The nodemanager must be started using the following command:

```
$/u01/app/oracle/user_projects/domains/brs-dev/bin/startNodeManager.sh &
```

## 4.5. JMS Configuration (Clustered)

Prerequisite: A WebLogic cluster must be configured before proceeding with the following.

1. Log in to the **WebLogic Console**.
2. In **Change Center** at the top left, select **Lock & Edit**. Once selected the **Lock & Edit** option will be greyed.
3. Under **Domain Structure**, select **Environment** then **Clusters**
4. Select **Cluster001**
5. Select the **Migration** tab
6. Set the **Migration Basis** to **Consensus**
7. Save
8. Under **Domain Structure**, navigate to **Services** and expand the drop-down.
9. Select **Persistent Stores**.
10. Select **New > File Store**.
11. Set the name to **BR-FileStore**
12. Set directory to **/u01/app/oracle/user\_projects/domains/br-dev/HEV\_CONFIG/JMS\_STORE**
13. Select **Next**.
14. Set the **Target** to **ManagedServer001 (migratable)**
15. Select **Finish**
16. Confirmation that **BR-FileStore** was created successfully will appear in green.
17. Select **BR-FileStore**
18. Select the **High Availability** tab.
19. Set **Distribution Policy** to **Singleton**
20. Set **Migration Policy** to **On-Failure**
21. **Save**
22. Confirm settings updated successfully
23. Under **Domain Structure**, dropdown **Services**, then **Messaging**, and select **JMS Servers**
24. Select **New**
25. Set the **Name** to **JMSServer1**
26. Select **Next**
27. Set **Persistent Store** to **BR-FileStore**
28. Select **Next**
29. Set the target to **ManagedServer001 (migratable)** and select **Finish**.
30. Confirm JMS Server created successfully:
31. Navigate to **Services > Messaging > JMS Modules** and select **New**.
32. Set Name to **BR-JMS-Module** and select **Next**.
33. Check **Cluster001 > All servers** in the cluster and select **Next**.
34. Check “**Would you like to add resources to this JMS System Module**” and select **Finish**.
35. Confirm JMS module was created successfully:
36. Select the **Subdeployments** tab and select **New**:
37. Set Subdeployment Name to **BR-Topic-SD** and select **Next**.
38. Select **JMSServer1** and select **Finish**.
39. Confirm subdeployment create successfully, then select the **Configuration tab**.
40. On the **Configuration tab**, select **New**.
41. Select **Topic** and select **Next**.
42. Set Name and JNDI Name to **BRTopic** and select **Next**.
43. In the subdeployments dropdown, select **BR-Topic-SD**. Select **JMSServer1**. Select **Finish**.
44. Confirm JMS Topic was created successfully. Select **Active Changes**.
45. Confirm changes were activated. Restart the servers in the cluster to complete the JMS configuration.

## 4.6. Managed Server for MPI Integration

1. Navigate to **Servers**

2. Click “Lock & Edit.”
3. Click New.
4. Change server name to MpiServer. Change Server Listen Port to 8007. Ensure “No, this is a stand-alone server” is selected. Click Next.
5. Click Finish.
6. Click Activate Changes.
7. Next click on the Environment – machines and click new.
8. Create a machine name, then hit next.
9. Next screen accept all defaults.
10. Click Finish, Save Changes.
11. Next go back to Environment – Servers and click on the newly created server and then change the machine name from none to whatever machine you created in steps 7 – 10.
12. Click Lock & Edit. Select MpiServer.
13. Click Activate Changes.
14. Configure the Keystores and SSL for the MpiServer the same as the other managed servers.
15. Add the following into the Classpath entry to all server startups:
  - a. /u01/app/oracle/user\_projects/domains/brs-dev/MPI\_CONFIG/properties:  
 Example:  
 Before:  
 /u01/app/oracle/introscope/common/WebAppSupport.jar:\$CLASSPATH  
 After:  
 /u01/app/oracle/introscope/common/WebAppSupport.jar:/u01/app/oracle/user\_projects/domain  
 s/brs-dev/MPI\_CONFIG/properties:\$CLASSPATH

## 4.7. Deploy Libraries and configuration files

1. Explode **BR-domain-config-2.2.38-linux-dev.tar.gz** into the
  - a. Dev:
    - i. /u01/app/oracle/user\_projects/domains/brs-dev
  - b. SQA:
    - i. /u01/app/oracle/user\_projects/domains/brs-sqa
  - c. Pre-prod:
    - i. /u01/app/oracle/user\_projects/domains/brs-ppd
  - d. Production:
    - i. /u01/app/oracle/user\_projects/domains/brs-prd
2. Update/Overwrite `<DOMAIN_PATH>/HEV_CONFIG/vlj/gov.va.med.vistalink.connectorConfig.xml` with the needed VistALink connections.
 

**Note:** *This file is a controlled file because it contains the access and verify codes. This file must be updated on the server by an BR team Administrator.*
3. The next setup is to update resource adapters for each VistALink connector. They are located in:
  - a. `<DOMAIN_PATH>/HEV_CONFIG/`

**Note:** *You must retrieve a copy of this entire directory from a production server and install it before you can proceed past this point. (This file must be uploaded to the server by the BR team admins)*

4. The .jar files that need to be deployed are inside the following directory:
  - b. <DOMAIN\_PATH>/HEV\_CONFIG/vljConnector-1.6.1.010.jar
  - c. <DOMAIN\_PATH>/HEV\_CONFIG/vljFoundationsLib-1.6.1.010.jar
5. Now deploy this file as a library in WebLogic targeting ONLY the managed servers, not the admin server.
6. Next we must install the VistaLink Console into WebLogic. The VistaLink Console .ear file is in the following location:
  - d. <DOMAIN\_PATH>/HEV\_CONFIG/VistaLinkConsole-1.6.1.010.ear
7. Deploy this .ear file to the managed servers.
8. Now you go to Deployments and click install.
9. Navigate to the <DOMAIN\_PATH>/HEV\_CONFIG directory and you will see choices listed for each of the connectors available.
10. Click each connector you want to deploy, target it at the managed server, not the admin server, and deploy.
11. Repeat for each one you want to deploy.
  - e. This must be done for all 140+ connectors on both production and pre-production.
12. You must create the vha data source.
  - f. Create a new DataSource for EDP (Services -> DataSources in the console).
  - g. Click the NEW button, to create a blank new generic datasource.

**Name:** vha-stddata-datasource  
**JNDI Name:** jdbc/gov.va.med.term.access.Database  
**Database Type:** Oracle  
Next screen accept all defaults for database driver. Click Next.  
**Database Name:**  
**Dev:** Request DB name from DBA  
**SQA:** Request DB name from DBA  
**Pre-Production:** Request DB name from DBA  
**Production:** Request DB name from DBA  
**User Name:** SDSUSR  
**Password:** Request Password from DBA  
**Target:** Specify BR Managed Server as the Target
13. You must create the brs data source.
  - h. Create a new DataSource for EDP (Services -> DataSources in the console).
  - i. Click the NEW button, to create a blank new generic datasource.

**Name:** BR-datasource  
**JNDI Name:** jdbc\_brvs  
**Database Type:** Oracle  
Next screen accept all defaults for database driver. Click Next.  
**Database Name:**  
**Dev:** Request DB name from DBA  
**SQA:** Request DB name from DBA  
**Pre-Production:** Request DB name from DBA  
**Production:** Request DB name from DBA  
**User Name:** BR\_USR  
**Password:** Request Password from DBA  
**Target:** Specify BR Managed Server as the Target

14. Restart the Admin and Managed Servers.

#### 4.8. Deployment of Compiled \*.ear File

1. The deployed BR 5.1 ear(BR\_EAR\_5.1.6.x.ear) files must be uploaded to the server by a member of the BR Team.

2. Run the following command:

- a. `$ cp BR_EAR_<version>.ear /u01/app/oracle/user_projects/domains/brs-ppd/appStage`
- b. `$ cd /u01/app/oracle/user_projects/domains/brs-ppd/appStage`
- c. `$ chown weblogic:weblogic *`

Or:

- d. `$ cp BR_EAR_<version>.ear/u01/app/oracle/user_projects/domains/brs-prd/appStage`
  - e. `$ cd /u01/app/oracle/user_projects/domains/brs-prd/appStage`
  - f. `$ chown weblogic:weblogic *`
3. Now go into WebLogic and deploy the ear file as an application.

## 4.9. Roll Back \*.ear File

1. The previously deployed BR 5.1 ear(master/BR\_EAR\_5.1.5.5.ear) file must be uploaded to the server by a member of the BR Team. (files can be obtained from Jenkins)
2. Run the following command:

- a. `$ cp BR_EAR_<version>.ear /u01/app/oracle/user_projects/domains/brs-ppd/appStage`
- b. `$ cd /u01/app/oracle/user_projects/domains/brs-ppd/appStage`
- c. `$ chown weblogic:weblogic *`

Or:

- d. `$ cp BR_EAR_<version>.ear/u01/app/oracle/user_projects/domains/brs-prd/appStage`
- e. `$ cd /u01/app/oracle/user_projects/domains/brs-prd/appStage`
- f. `$ chown weblogic:weblogic *`

3. Now go into WebLogic and deploy the ear file as an application.
4. Roll back the data base changes. Script to Rollback can be found the brvs-gui project in [github\(BLRHB\\_BRVS\\_SQL/Patch\\_AVRV\\_5.1.9\\_Rollback.sql\)](#)

## 5. Appendix A Sample config.xml file

As you are troubleshooting BR one of the areas that commonly has issues is the default installed config.xml file. Below is a standardized config.xml file that can be copied in place of the stock one to solve some classpath and file issues.

```
***** Start of sample config.xml
*****
<?xml version='1.0' encoding='UTF-8'?>
<domain xmlns="http://xmlns.oracle.com/weblogic/domain"
xmlns:sec="http://xmlns.oracle.com/weblogic/security"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:wls="http://xmlns.oracle.com/weblogic/security/wls"
xsi:schemaLocation="http://xmlns.oracle.com/weblogic/security/wls
http://xmlns.oracle.com/weblogic/security/wls/1.0/wls.xsd
http://xmlns.oracle.com/weblogic/domain
http://xmlns.oracle.com/weblogic/1.0/domain.xsd
http://xmlns.oracle.com/weblogic/security/xacml
http://xmlns.oracle.com/weblogic/security/xacml/1.0/xacml.xsd
http://xmlns.oracle.com/weblogic/security/providers/passwordvalidator
http://xmlns.oracle.com/weblogic/security/providers/passwordvalidator/1.0
/passwordvalidator.xsd http://xmlns.oracle.com/weblogic/security
http://xmlns.oracle.com/weblogic/1.0/security.xsd">
  <name>brs-dev</name>
  <domain-version>12.2.1.4.0</domain-version>
  <security-configuration>
    <name>brs-dev</name>
    <realm>
      <sec:authentication-provider xsi:type="wls:default-
authenticatorType">
        <sec:name>DefaultAuthenticator</sec:name>
        <sec:control-flag>SUFFICIENT</sec:control-flag>
      </sec:authentication-provider>
      <sec:authentication-provider xsi:type="wls:default-identity-
asserterType">
        <sec:name>DefaultIdentityAsserter</sec:name>
        <sec:active-type>AuthenticatedUser</sec:active-type>
        <sec:active-type>weblogic-jwt-token</sec:active-type>
      </sec:authentication-provider>
      <sec:authentication-provider xsi:type="wls:active-directory-
authenticatorType">
        <sec:name>ActiveDirectoryAuthenticator</sec:name>
        <sec:control-flag>SUFFICIENT</sec:control-flag>
        <wls:host>vaaac3dc2.aac.dva.va.gov</wls:host>
        <wls:port>3268</wls:port>
        <wls:user-name-attribute>sAMAccountName</wls:user-name-attribute>
        <wls:principal>AAC\aitcwladqry</wls:principal>
        <wls:user-base-dn>DC=va,DC=gov</wls:user-base-dn>
```



```

        <wls:credential-
encrypted>{AES256}plf8YjWk+ChAaAIxWpYiWmIsJTYSblQuEtjzbahV0S4=</wls:crede
ntial-encrypted>
        <wls:user-from-name-
filter>(&amp;(sAMAccountName=%u) (objectclass=user))</wls:user-from-name-
filter>
        <wls:all-users-filter>(memberOf=CN=AITC WEBLOGIC
Admins,OU=Groups,OU=AAC,DC=aac,DC=dva,DC=va,DC=gov)</wls:all-users-
filter>
        <wls:group-base-
dn>OU=Groups,OU=AAC,DC=aac,DC=dva,DC=va,DC=gov</wls:group-base-dn>
        <wls:all-groups-filter>(distinguishedName=CN=AITC WEBLOGIC
Admins,OU=Groups,OU=AAC,DC=aac,DC=dva,DC=va,DC=gov)</wls:all-groups-
filter>
        <wls:use-retrieved-user-name-as-principal>>true</wls:use-
retrieved-user-name-as-principal>
        <wls:use-token-groups-for-group-membership-lookup>>true</wls:use-
token-groups-for-group-membership-lookup>
        </sec:authentication-provider>
        <sec:role-mapper
xmlns:xac="http://xmlns.oracle.com/weblogic/security/xacml"
xsi:type="xac:xacml-role-mapperType">
        <sec:name>XACMLRoleMapper</sec:name>
        </sec:role-mapper>
        <sec:authorizer
xmlns:xac="http://xmlns.oracle.com/weblogic/security/xacml"
xsi:type="xac:xacml-authorizerType">
        <sec:name>XACMLAuthorizer</sec:name>
        </sec:authorizer>
        <sec:adjudicator xsi:type="wls:default-adjudicatorType">
        <sec:name>DefaultAdjudicator</sec:name>
        </sec:adjudicator>
        <sec:credential-mapper xsi:type="wls:default-credential-
mapperType">
        <sec:name>DefaultCredentialMapper</sec:name>
        </sec:credential-mapper>
        <sec:cert-path-provider xsi:type="wls:web-logic-cert-path-
providerType">
        <sec:name>WebLogicCertPathProvider</sec:name>
        </sec:cert-path-provider>
        <sec:cert-path-builder>WebLogicCertPathProvider</sec:cert-path-
builder>
        <sec:name>myrealm</sec:name>
        <sec:password-validator
xmlns:pas="http://xmlns.oracle.com/weblogic/security/providers/passwordva
lidator" xsi:type="pas:system-password-validatorType">
        <sec:name>SystemPasswordValidator</sec:name>
        <pas:min-password-length>8</pas:min-password-length>

```

```

        <pas:min-numeric-or-special-characters>1</pas:min-numeric-or-
special-characters>
    </sec:password-validator>
</realm>
<default-realm>myrealm</default-realm>
<credential-
encrypted>{AES256}SLOKVPAmETBz8ksEk1ZgSsDhOxiUnBwJ0SLRM3RwUsFcqAmQhzfatOS
M6zTAX+IzqV8X4kmTSFgobhH1iR1COLd4m2fSwZVjiumg/dq2HDEsnBgMReEjDNil/gaQEKw6
</credential-encrypted>
    <node-manager-username>weblogic</node-manager-username>
    <node-manager-password-
encrypted>{AES256}JeEcne3opGZCPXSzCKcYfoAUq0piJ4uUwka1DEGJCz4=</node-
manager-password-encrypted>
</security-configuration>
<jta>
    <timeout-seconds>60</timeout-seconds>
    <abandon-timeout-seconds>86400</abandon-timeout-seconds>
    <forget-heuristics>true</forget-heuristics>
    <before-completion-iteration-limit>10</before-completion-iteration-
limit>
    <max-transactions>10000</max-transactions>
    <max-unique-name-statistics>1000</max-unique-name-statistics>
    <checkpoint-interval-seconds>300</checkpoint-interval-seconds>
    <unregister-resource-grace-period>30</unregister-resource-grace-
period>
</jta>
<log>
    <file-name>logs/brs-dev.log</file-name>
    <rotation-type>bySize</rotation-type>
    <number-of-files-limited>true</number-of-files-limited>
    <file-count>15</file-count>
    <file-min-size>65535</file-min-size>
    <rotate-log-on-startup>false</rotate-log-on-startup>
</log>
<server>
    <name>AdminServer</name>
    <web-server>
        <keep-alive-enabled>true</keep-alive-enabled>
        <keep-alive-secs>30</keep-alive-secs>
        <https-keep-alive-secs>60</https-keep-alive-secs>
        <post-timeout-secs>30</post-timeout-secs>
        <max-post-size>-1</max-post-size>
        <send-server-header-enabled>false</send-server-header-enabled>
        <wap-enabled>false</wap-enabled>
        <accept-context-path-in-get-real-path>false</accept-context-path-
in-get-real-path>
    </web-server>
    <listen-address>vac11appbrs800.va.gov</listen-address>

```

```

    <server-life-cycle-timeout-val>30</server-life-cycle-timeout-val>
    <startup-timeout>0</startup-timeout>
</server>
<server>
  <name>ManagedServer001</name>
  <ssl>
    <enabled>>false</enabled>
    <listen-port>8002</listen-port>
    <server-private-key-alias> vac11appbrs800.va.gov</server-private-
key-alias>
    <server-private-key-pass-phrase-
encrypted>{AES256}YkBZpAY20X8RKHwcF3FEs2pvoteUfU16j5UV6fx/m/0=</server-
private-key-pass-phrase-encrypted>
  </ssl>
  <log>
    <rotation-type>bySize</rotation-type>
    <number-of-files-limited>>true</number-of-files-limited>
    <file-count>15</file-count>
    <file-min-size>65535</file-min-size>
    <rotate-log-on-startup>>false</rotate-log-on-startup>
    <log-file-severity>Warning</log-file-severity>
    <stdout-severity>Error</stdout-severity>
    <domain-log-broadcast-severity>Error</domain-log-broadcast-
severity>
    <memory-buffer-severity>Error</memory-buffer-severity>
    <log4j-logging-enabled>>false</log4j-logging-enabled>
    <redirect-stdout-to-server-log-enabled>>false</redirect-stdout-to-
server-log-enabled>
    <domain-log-broadcaster-buffer-size>10</domain-log-broadcaster-
buffer-size>
  </log>
  <machine>Machine001 (localhost)</machine>
  <listen-port>8001</listen-port>
  <listen-port-enabled>>true</listen-port-enabled>
  <cluster>Cluster001</cluster>
  <cluster-weight>100</cluster-weight>
  <replication-group>primary</replication-group>
  <preferred-secondary-group>secondary</preferred-secondary-group>
  <web-server>
    <web-server-log>
      <number-of-files-limited>>false</number-of-files-limited>
    </web-server-log>
  </web-server>
  <listen-address> vac11appbrs800.va.gov</listen-address>
  <administration-port>9002</administration-port>
  <java-compiler>javac</java-compiler>
  <server-start>
    <class-path>$CLASSPATH</class-path>

```

```

    <arguments>-d64 -server -Xms2g -Xmx2g -
XX:+UnlockCommercialFeatures -XX:+ResourceManagement -XX:+FlightRecorder
-XX:+UseG1GC -Dweblogic.security.SSL.minimumProtocolVersion=TLSv1.2 -
Dweblogic.security.SSL.protocolVersion=TLSv1.2 -Djava.awt.headless=true -
Dweblogic.unicast.HttpPing=true</arguments>
    <username>weblogic</username>
    <password-
encrypted>{AES256}Lak1s/R9MGBGoTltG508vSKZIpun+rMpyjDe6EIK4=</password-
encrypted>
    </server-start>
    <jta-migratable-target>
    <user-preferred-server>ManagedServer001</user-preferred-server>
    <cluster>Cluster001</cluster>
    </jta-migratable-target>
    <startup-mode>RUNNING</startup-mode>
    <server-life-cycle-timeout-val>120</server-life-cycle-timeout-val>
    <startup-timeout>0</startup-timeout>
    <graceful-shutdown-timeout>0</graceful-shutdown-timeout>
    <ignore-sessions-during-shutdown>>false</ignore-sessions-during-
shutdown>
    <client-cert-proxy-enabled>>true</client-cert-proxy-enabled>
    <weblogic-plugin-enabled>>true</weblogic-plugin-enabled>
    <key-stores>CustomIdentityAndCustomTrust</key-stores>
    <custom-identity-key-store-file-
name>/u01/app/oracle/user_projects/domains/brs-
dev/HEV_CONFIG/certificate_stores/keystore.jks</custom-identity-key-
store-file-name>
    <custom-identity-key-store-type>JKS</custom-identity-key-store-type>
    <custom-identity-key-store-pass-phrase-
encrypted>{AES256}eS1gXUjTPd4JIPRniY6hSQ90cn6zFD/0milUdlQ8sDA=</custom-
identity-key-store-pass-phrase-encrypted>
    <custom-trust-key-store-file-
name>/u01/app/oracle/user_projects/domains/brs-
dev/HEV_CONFIG/certificate_stores/cacerts</custom-trust-key-store-file-
name>
    <custom-trust-key-store-type>JKS</custom-trust-key-store-type>
    <custom-trust-key-store-pass-phrase-
encrypted>{AES256}Wyq3RBjHIRtbyZvrrChWhvzHTTVVR+cit3jrp6mLQ0w=</custom-
trust-key-store-pass-phrase-encrypted>
    <server-diagnostic-config>
    <wldf-diagnostic-volume>Low</wldf-diagnostic-volume>
    </server-diagnostic-config>
  </server>
  <server>
    <name>ManagedServer002</name>
    <ssl>
    <enabled>>false</enabled>
    <listen-port>8004</listen-port>

```

```

    <server-private-key-alias> vac11appbrs800.va.gov</server-private-
key-alias>
    <server-private-key-pass-phrase-
encrypted>{AES256}a9pXTJLJbzh5xVNNRebRc2p6rf8SVLPdH/u38l2p/FY=</server-
private-key-pass-phrase-encrypted>
    </ssl>
    <log>
    <rotation-type>bySize</rotation-type>
    <number-of-files-limited>>true</number-of-files-limited>
    <file-count>15</file-count>
    <file-min-size>65535</file-min-size>
    <rotate-log-on-startup>>false</rotate-log-on-startup>
    <log-file-severity>Warning</log-file-severity>
    <stdout-severity>Error</stdout-severity>
    <domain-log-broadcast-severity>Error</domain-log-broadcast-
severity>
    <memory-buffer-severity>Error</memory-buffer-severity>
    <log4j-logging-enabled>>false</log4j-logging-enabled>
    <redirect-stdout-to-server-log-enabled>>false</redirect-stdout-to-
server-log-enabled>
    <domain-log-broadcaster-buffer-size>10</domain-log-broadcaster-
buffer-size>
    </log>
    <machine>Machine001 (localhost)</machine>
    <listen-port>8003</listen-port>
    <listen-port-enabled>>true</listen-port-enabled>
    <cluster>Cluster001</cluster>
    <cluster-weight>100</cluster-weight>
    <replication-group>primary</replication-group>
    <preferred-secondary-group>secondary</preferred-secondary-group>
    <web-server>
    <web-server-log>
    <number-of-files-limited>>false</number-of-files-limited>
    </web-server-log>
    </web-server>
    <listen-address> vac11appbrs800.va.gov</listen-address>
    <administration-port>9002</administration-port>
    <java-compiler>javac</java-compiler>
    <server-start>
    <class-path>$CLASSPATH</class-path>
    <arguments>-d64 -server -Xms2g -Xmx2g -
XX:+UnlockCommercialFeatures -XX:+ResourceManagement -XX:+FlightRecorder
-XX:+UseG1GC -Dweblogic.security.SSL.minimumProtocolVersion=TLSv1.2 -
Dweblogic.security.SSL.protocolVersion=TLSv1.2 -Djava.awt.headless=true -
Dweblogic.unicast.HttpPing=true</arguments>
    <username>weblogic</username>

```

```

    <password-
encrypted>{AES256}mcl9pEpFrw9pQMfTrA+QCaIrh00tBGTTABigDZjj5HI=</password-
encrypted>
    </server-start>
    <jta-migratable-target>
      <user-preferred-server>ManagedServer002</user-preferred-server>
      <cluster>Cluster001</cluster>
    </jta-migratable-target>
    <startup-mode>RUNNING</startup-mode>
    <server-life-cycle-timeout-val>120</server-life-cycle-timeout-val>
    <startup-timeout>0</startup-timeout>
    <graceful-shutdown-timeout>0</graceful-shutdown-timeout>
    <ignore-sessions-during-shutdown>>false</ignore-sessions-during-
shutdown>
    <client-cert-proxy-enabled>>true</client-cert-proxy-enabled>
    <weblogic-plugin-enabled>>true</weblogic-plugin-enabled>
    <key-stores>CustomIdentityAndCustomTrust</key-stores>
    <custom-identity-key-store-file-
name>/u01/app/oracle/user_projects/domains/brs-
dev/HEV_CONFIG/certificate_stores/keystore.jks</custom-identity-key-
store-file-name>
    <custom-identity-key-store-type>JKS</custom-identity-key-store-type>
    <custom-identity-key-store-pass-phrase-
encrypted>{AES256}mbfw0v3gqttSVCEw9PG0K003RSmCMLHhNkNssbDAHCI=</custom-
identity-key-store-pass-phrase-encrypted>
    <custom-trust-key-store-file-
name>/u01/app/oracle/user_projects/domains/brs-
dev/HEV_CONFIG/certificate_stores/cacerts</custom-trust-key-store-file-
name>
    <custom-trust-key-store-type>JKS</custom-trust-key-store-type>
    <custom-trust-key-store-pass-phrase-
encrypted>{AES256}4VA1f1yS1qrEoqZ4g9P1QwLpt8R32rAdpLa2DTBndrQ=</custom-
trust-key-store-pass-phrase-encrypted>
    <server-diagnostic-config>
      <wldf-diagnostic-volume>Low</wldf-diagnostic-volume>
    </server-diagnostic-config>
  </server>
  <cluster>
    <name>Cluster001</name>
    <default-load-algorithm>round-robin</default-load-algorithm>
    <cluster-messaging-mode>unicast</cluster-messaging-mode>
    <cluster-broadcast-channel></cluster-broadcast-channel>
    <service-age-threshold-seconds>180</service-age-threshold-seconds>
    <weblogic-plugin-enabled>>true</weblogic-plugin-enabled>
    <member-warmup-timeout-seconds>30</member-warmup-timeout-seconds>
    <number-of-servers-in-cluster-address>2</number-of-servers-in-
cluster-address>
    <dynamic-servers>

```

```

        <maximum-dynamic-server-count>0</maximum-dynamic-server-count>
    </dynamic-servers>
</cluster>
<production-mode-enabled>true</production-mode-enabled>
<embedded-ldap>
    <name>brs-dev</name>
    <credential-
encrypted>{AES256}Q4pIZkAiWBxYV+0TLhFC/s6Nq6D+SZcZNtkJ9jhyFVOOjL8ow7Tvi2+
hBtIONXlL</credential-encrypted>
    <backup-hour>23</backup-hour>
    <backup-minute>5</backup-minute>
    <backup-copies>7</backup-copies>
    <cache-enabled>true</cache-enabled>
    <cache-size>32</cache-size>
    <cache-ttl>60</cache-ttl>
    <refresh-replica-at-startup>false</refresh-replica-at-startup>
    <master-first>false</master-first>
    <timeout>0</timeout>
    <anonymous-bind-allowed>false</anonymous-bind-allowed>
</embedded-ldap>
<administration-port-enabled>false</administration-port-enabled>
<configuration-version>12.2.1.4.0</configuration-version>
<cluster-constraints-enabled>false</cluster-constraints-enabled>
<app-deployment>
    <name>vlj_clinls1_502</name>
    <target>Cluster001</target>
    <module-type>rar</module-type>
    <source-path>HEV_CONFIG/vlj_clinls1_502</source-path>
    <security-dd-model>DDOnly</security-dd-model>
    <staging-mode xsi:nil="true"></staging-mode>
    <plan-staging-mode xsi:nil="true"></plan-staging-mode>
    <cache-in-app-directory>false</cache-in-app-directory>
</app-deployment>
<app-deployment>
    <name>BR_EAR_5.1.0</name>
    <target>Cluster001</target>
    <module-type>ear</module-type>
    <source-path>servers/AdminServer/upload/ BR_EAR_5.1.0.ear/app/
BR_EAR_5.1.0.ear</source-path>
    <security-dd-model>DDOnly</security-dd-model>
    <staging-mode xsi:nil="true"></staging-mode>
    <plan-staging-mode xsi:nil="true"></plan-staging-mode>
    <cache-in-app-directory>false</cache-in-app-directory>
</app-deployment>
<library>
    <name>vljConnector#1.6@1.6</name>
    <target>Cluster001</target>
    <module-type xsi:nil="true"></module-type>

```

```

    <source-path>HEV_CONFIG/vljConnector-1.6.1.010.jar</source-path>
    <security-dd-model>DDOnly</security-dd-model>
    <staging-mode xsi:nil="true"></staging-mode>
    <plan-staging-mode xsi:nil="true"></plan-staging-mode>
    <cache-in-app-directory>>false</cache-in-app-directory>
</library>
<library>
    <name>vljFoundationsLib#1.6@1.6</name>
    <target>Cluster001</target>
    <module-type xsi:nil="true"></module-type>
    <source-path>HEV_CONFIG/vljFoundationsLib-1.6.1.010.jar</source-path>
    <security-dd-model>DDOnly</security-dd-model>
    <staging-mode xsi:nil="true"></staging-mode>
    <plan-staging-mode xsi:nil="true"></plan-staging-mode>
    <cache-in-app-directory>>false</cache-in-app-directory>
</library>
<machine>
    <name>Machine001 (localhost)</name>
    <node-manager>
        <nm-type>Plain</nm-type>
        <listen-address>localhost</listen-address>
        <listen-port>5556</listen-port>
        <debug-enabled>>false</debug-enabled>
    </node-manager>
</machine>
<migratable-target>
    <name>ManagedServer001 (migratable)</name>
    <notes>This is a system generated default migratable target for a
server. Do not delete manually.</notes>
    <user-preferred-server>ManagedServer001</user-preferred-server>
    <cluster>Cluster001</cluster>
</migratable-target>
<migratable-target>
    <name>ManagedServer002 (migratable)</name>
    <notes>This is a system generated default migratable target for a
server. Do not delete manually.</notes>
    <user-preferred-server>ManagedServer002</user-preferred-server>
    <cluster>Cluster001</cluster>
</migratable-target>
<admin-server-name>AdminServer</admin-server-name>
<jdbc-system-resource>
    <name>vha-stddata-datasource</name>
    <target>Cluster001</target>
    <descriptor-file-name>jdbc/vha-stddata-datasource-
jdbc.xml</descriptor-file-name>
</jdbc-system-resource>
<internal-apps-deploy-on-demand-enabled>>false</internal-apps-deploy-on-
demand-enabled>

```



</domain>

\*\*\*\*\* End of sample config.xml  
\*\*\*\*\*

## 6. Appendix C – sample JVM Server startup arguments

Along with the classpath statement the other startup parameter that must be set for a JVM server to start correctly is the startup arguments. Below is a copy of working server startup arguments from a previous install. Just like the classpath statement in Appendix B, you must make sure the paths to these files really do exist on your server or you will have issues starting the server successfully.

```
***** Start of sample SERVER ARGUMENTS
*****

-d64 -server -Xms2g -Xmx2g -XX:+UnlockCommercialFeatures -
XX:+ResourceManagement -XX:+FlightRecorder -XX:+UseG1GC -
Dweblogic.security.SSL.minimumProtocolVersion=TLSv1.2 -
Dweblogic.security.SSL.protocolVersion=TLSv1.2 -Djava.awt.headless=true -
Dweblogic.unicast.HttpPing=true

***** END of sample SERVER ARGUMENTS
*****
```

## 7. Appendix D – WebLogic server commands

Below is a listing of some useful command to use when running BR on WebLogic

1. Command to start WebLogic and Node Manager –  

```
cd $DOMAIN_HOME ; rm nohup.out ; nohup ./startWebLogic.sh &  
cd $DOMAIN_HOME/bin ; rm nohup.out ; nohup ./startNodeManager.sh  
&
```
2. Command to start the WebLogic Admin server  

```
$ /u01/app/domains/BR_DIST_DEV_DOMAIN/startWebLogic.sh &
```
3. How to mail a file from the server to someone:  

```
$ uuencode FILE Name_of_file_in_email |mailx -s 'SUBJECT'  
EMAILADDRESS
```
4. Vim command to do a global replace (example is to replace Dev with DEV):  

```
:%s/Dev/DEV/g
```
5. Command to determine if instances of WebLogic are running:  

```
$ ps aux | grep weblogic
```

## 8. Appendix E – Troubleshooting

BR is a very complicated environment that depends on many pieces to function correctly. Once set up correctly, it functions well with very few problems. But during the setup it can be hard to figure out which piece is not working, and the cryptic messages thrown in the WebLogic log files doesn't always point you in the right direction. Below are several sections that will help you determine where to hunt for an error in the system.

1. Another common error is when you try to start the managed server and it fails and gives you a message in the WebLogic console that says “Server failed to start and is not re-startable”. A lot of times this points to a bad classpath somewhere in the system. This can be a missing file that the server is looking for, or a file in a different directory than the server expects. When this happens try the following steps. Copy all the different classpath statements to notepad, format them one line each and go through every line using a locate command to make sure the files are actually there. If there is a missing jar file listed move the jar file into the expected directory as it is listed in the CLASSPATH.
2. If you are having issues with starting the server for the first time, check to make sure that there are no Introscope or other monitoring software packages installed on the server, both the host operating system(RedHat) or on the Admin/managed VMs. These types of products can cause major installation issues with BR. These types of products should only be deployed to the system after BR is functioning properly and completely installed.
3. If for some reason you did not follow the directions in the document to install and start most of the system as the weblogic user, then you will have permission issues with files throughout the system. At that point the best solution is to delete the WebLogic installation completely, delete ALL WebLogic directories and restart the installation from scratch.