

For **3-step authentication** to strengthen the security of information assets

BaroPAM Solution Installation Summary (Tomcat console)

Dec, 2023

III. BaroPAM Tomcat console integration

1. BaroPAM integration API

1) Tomcat security vulnerabilities

- Tomcat provides a web environment manager console.
- If the administrator console is invaded from the outside, all privileges related to the web may be leaked, so care must be taken in management.
- Vulnerable when the page for administrator authentication is easily recognizable or accessed by analogy.
- Security is vulnerable because Username/Password used for administrator authentication is stored in unencrypted original text (plain text) (~/.conf/tomcat-users.xml).

2) Integration API "barokey.jar" is located in the ~/.lib directory or set in the classpath

```
[root] /home/tomcat/lib > ls -al
합계 4908
drwxr-xr-x 2 root root 4096 5월 8 11:25 .
drwxr-xr-x 5 root root 4096 5월 9 15:12 ..
-rw----- 1 root root 116 3월 13 2015 .bash_history
-rw-r--r-- 1 root root 26074 6월 20 20:49 barokey.jar
```

3) Replace the Tomcat manager console login module (BasicAuthenticator.class)

In the "~/.lib/catalina.jar" file, replace the "BasicAuthenticator.class" file in the "org.apache.catalina.authenticator" directory with a file suitable for the Tomcat version.

4) Set the "BAROPAM" environment variable used in the interlocking API "barokey.jar" in ".bash_profile"

```
export BAROPAM=/home/tomcat/conf/.baro_nurit
export BAROCONF=/home/tomcat/conf/baropam.conf
```

Note) When changing the contents of the ".baro_nurit" file, a one-time authentication key verification error occurs. In addition, ".baropam.conf" has a structure of "Secure key, cycle time, last login time, logging status (Y/N)".

Since the **OTA key**, which is the authentication code used by **BaroPAM**, is written based on **Java**, the latest **JDK 6.x** or higher must be installed.

If it is not installed, you must install the latest JDK.

III. BaroPAM Tomcat console integration

2. Install the BaroPAM app and set up information

BaroPAM App Download

BaroPAM configuration file(.baropam.conf)

```
j!q!cHbVqdpj7b4PzBpM2DileBvmHFV/,30,55915874,Y
```

Secure key
Cycle time
Last login time
Logging flag(Y/N)

Register server information

Server name
Tomcat console

Secure key
j!q!cHbVqdpj7b4PzBpM2DileBvmHFV/

Auth key cycle time(3-60 Second)
30

Save

BaroPAM app can be used on Android 6.0 (Marshmallow) API 23, iOS 13.0 or higher, and does not support landscape mode.

After installing the **BaroPAM** app, launch the **BaroPAM** app, click the "Verification Code" button on the menu selection screen, and set the "Secure key, Cycle time" set in the **BaroPAM** configuration file ".baropam.conf" to the "You must enter the same information on the "Register server information" screen. If you set the app code (kr: Korean, en: English, jp: Japanese, cn: Chinese) on the **BaroPAM** app settings -> change screen settings screen, the **BaroPAM** app changes accordingly.

Message: The "OTA key" is incorrect because the date and time of the Android phone or iPhone are different from the current time.

Cause: This is caused by not using the time provided by the network for the Android or iPhone's date and time.

Action: For Android phones, go to "Settings" -> "General management" -> "Date and time" -> "Automatic date and time" and "Automatic time zone" -> "Allow" For iPhone, go to "Settings" -> "Date & Time" -> "Set Automatically" -> "Allow"

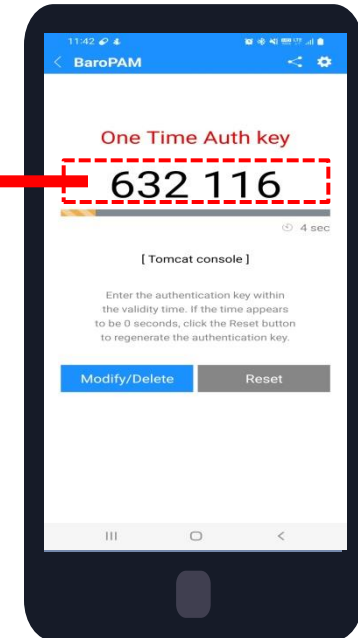
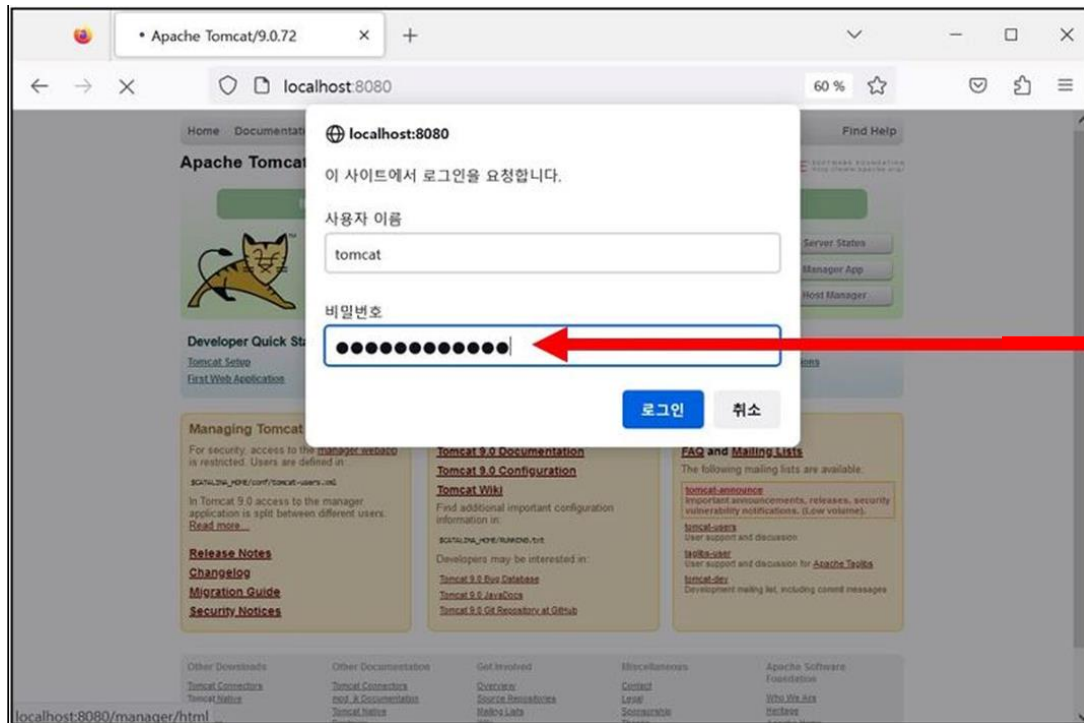
Message: If you cannot log in because the OTA key does not match.

Cause: BaroPAM is a time synchronization method, so the time of the phone and Server must be the same.

Action: Check if the phone and Server time are correct.

III. BaroPAM Tomcat console integration

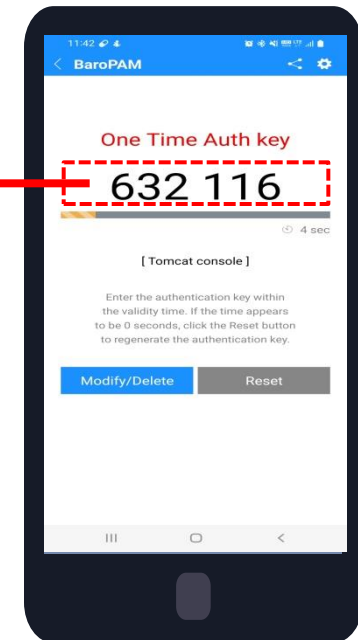
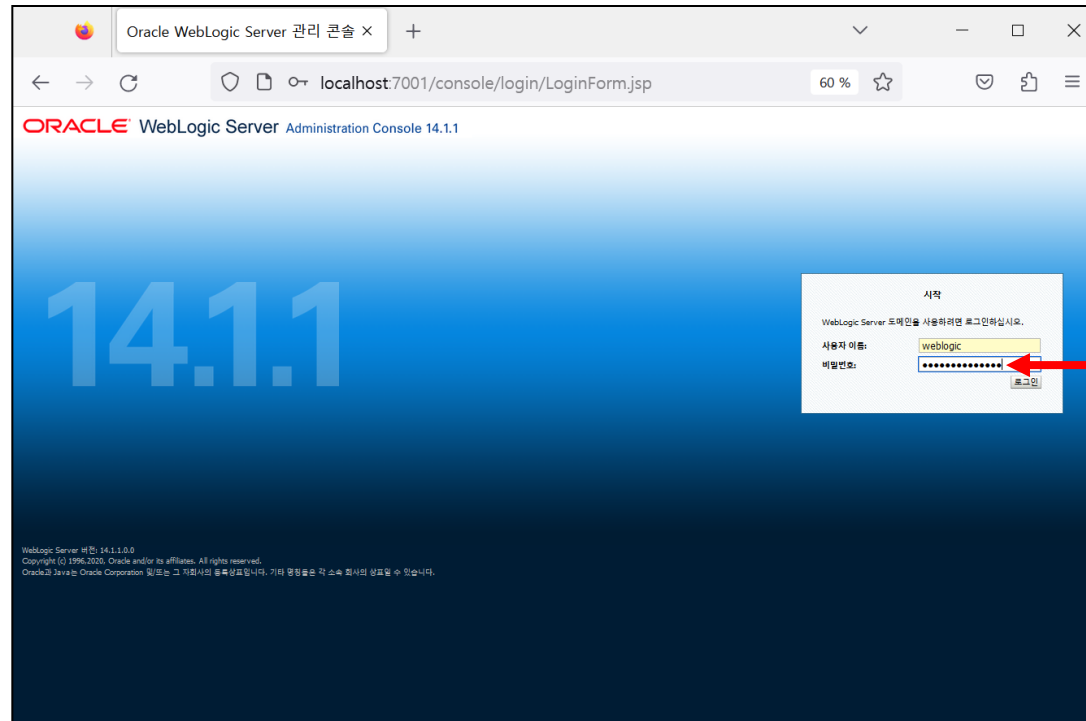
3. Tomcat console login



On the Tomcat console login screen, you must first enter your password, followed by a **OTA key** without a space. For example, if the password is "**tomcat**" and the **OTA key** is "**632116**", enter "**tomcat632116**".

III. BaroPAM Tomcat console integration

4. Weblogic console login



On the Weblogic console login screen, you must first enter your password, followed by a **OTA key** without a space. For example, if the password is "**weblogic**" and the **OTA key** is "**632116**", enter "**weblogic632116**".

Password you don't need to remember!
BaroPAM will be with you.

Thank You!

www.nurit.co.kr
mc529@nurit.co.kr