



Gemalto RDSservice Installation User Guide for Windows

Table of Contents

| | | |
|----------|---|----------|
| 1 | INTRODUCTION | 3 |
| 1.1 | DOCUMENT OBJECTIVES..... | 3 |
| 1.2 | INSTALLATION AND CONFIGURATION OF RD SERVICE | 3 |
| 1.2.1 | <i>Pre-Requisites</i> | 3 |
| 1.2.2 | <i>RD Service Installation</i> | 3 |
| 1.2.3 | <i>Configuration for Pre-Production Environment</i> | 3 |
| 1.2.4 | <i>Configuration for moving from Pre-Production Environment to Production Environment</i> | 4 |
| 1.3 | RUNNING THE RD SERVICE | 4 |
| 2 | TESTING THE RD SERVICE..... | 5 |
| 2.1 | OPEN URL..... | 5 |
| 2.2 | OTP VERIFICATION | 5 |
| 2.3 | RESULTS - MESSAGE..... | 5 |
| 2.4 | TEST HTTP PROTOCOL RDSERVICE CALLS FROM APPLICATION | 5 |
| 3 | HTTPS PROTOCOL (OPTIONAL) | 6 |
| 3.1 | TESTING HTTPS PROTOCOL | 6 |
| 4 | SAMPLE RDSERVICE CLIENT APPLICATION | 8 |
| 4.1 | RUNNING SAMPLE CLIENT APPLICATION | 8 |
| 5 | FAQS AND COMMON ERRORS..... | 9 |

1 INTRODUCTION

1.1 Document Objectives

The purpose of this document is to provide a brief description of steps of how to register **CSD200i/CSD200** device using **GEMALTO RD SERVICE**. The default option of calling the **GEMALTO RD SERVICE APIs** is via Http protocol. An option of calling the **Gemalto RD Service** in **Https** is also provided. A Sample Client Application along with the source code of how to **make RD Service calls** is also provided. A list of **FAQ** and answers along with common errors are also stipulated in this user guide.

1.2 Installation and Configuration of RD Service

1.2.1 Pre-Requisites

- JDK 1.7
- CSD200i/CSD200 Device.
- Good Internet Connection.
- Valid One Time password (OTP) for Device registration. Please note that one OTP would be required for one device registration and cannot be used for multiple Device registrations.

1.2.2 RD Service Installation

- Download Installable file viz **RD_SETUP.exe**
- Run **RD_SETUP.exe** to install on the Windows Host machine.

1.2.3 Configuration for *Pre-Production* Environment

- Go to **C** drive – Update **config.property** file which available in “**C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE\source**”
- Configure the values of the parameters as follows:

dpld=GEMALTO.GEMALTO

complianceLevel=L0

modelId=CSD200i

rdsId=GEMALTO.WIN.001

rdsVer=1.0.0

bioCapType=FMR

pidVer=2.0

port=11100

environment=PRE_PROD

1.2.4 Configuration for moving from Pre-Production Environment to Production Environment

- Go to C drive – Update **config.property** file which available in “C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE\source\”
- Configure the values of the parameters as follows:

dpId=GEMALTO.GEMALTO

complianceLevel=L0

model Id=CSD200i

rdsId=GEMALTO.WIN.001

rdsVer=1.0.0

bioCapType=FMR

pidVer=2.0

port=11100

environment=PRODUCTION

Note: The OTPs for Pre production and Production environment are different and cannot be used interchangeably. Use New OTP for device registration when you are moving from Pre-Production Environment to Production Environment.

1.3 Running the RD Service

Open **Services.msc** and check whether **GEMALTORDSERVICE** is running. If service is not running then manually start the service.

Note: Please check any Precision Service is running. If so, Please stop Precision Service and then restart GEMALTORDSERVICE again.

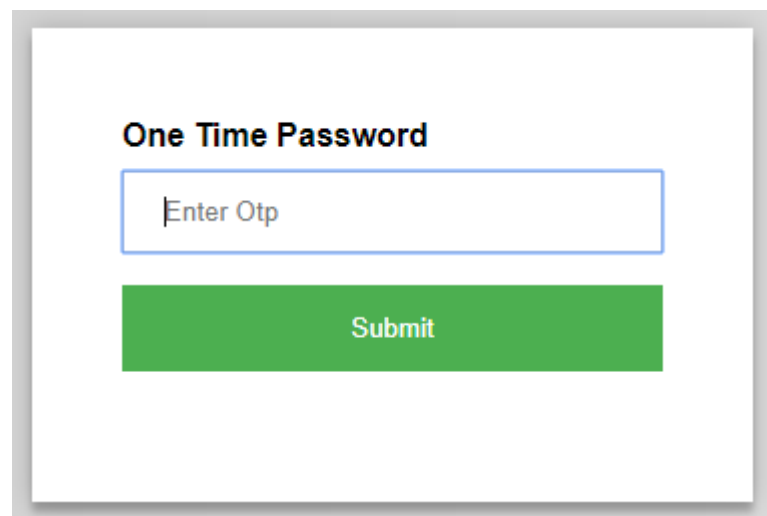
2 TESTING THE RD SERVICE

2.1 Open URL

Open the browser and check with URL [127.0.0.1:\[GemaltoRdService running port\]/rd/index](http://127.0.0.1:[GemaltoRdService running port]/rd/index) URL will show window to enter One Time password (OTP).
Default GemaltoRdService running port is 11100

2.2 OTP Verification

Please procure the valid OTP , first, from Gemalto to begin the device registration.
Enter Valid OTP provided for the device and click on Submit Button.



The screenshot shows a web form titled "One Time Password". It contains a text input field with the placeholder text "Enter Otp" and a green "Submit" button below it.

2.3 Results - Message

- If the device is registered successfully - Registration successful message will display.
- If the device registration fails – It shows error message.
- If the device is registered successfully , then the RD service is ready for capture operation.

User needs to call RD service from their own Client application which they are using/developing to capture the biometric information.

2.4 Test Http Protocol RdService Calls from Application

- <http://127.0.0.1:<port>/> (Method Name- **RDSERVICE**)
- <http://127.0.0.1:<port>/rd/info> (Method Name-**DEVICEINFO**)
- <http://127.0.0.1:<port>/rd/capture> (Method Name-**CAPTURE**)

Note: Above URL's are tested in Internet Explorer, Chrome and Mozilla Firefox browsers.

3 HTTPS PROTOCOL (OPTIONAL)

3.1 Testing Https Protocol

- a) After downloading zip file from the link, extract the zip file into folder.
- b) Run **InstallService.bat** file from the folder.
- c) **RDSERVICEWrapper** Service is installed in **Services.msc**.
- d) As of now , the default port is **55501** for Https Protocol. This port number is configurable. In case any other port is required to be set, go to the extracted folder, open config.properties file and search "**WrapperPort**", replace "**55501**" with desired port number and then run **InstallService.bat** file again.

Note: Port Numbers should not be given in range of 11100 to 11120.

- e) Generating Self-Signed Certificate for Https Protocol:

- a. **Generate Keystore:**

First, use "keytool" command to create a self-signed certificate. During the keystore creation process, you need to assign a password and fill in the certificate's detail.

\$Tomcat\bin>keytool -genkey -alias myApp -keyalg RSA -keystore c:\myAppkeystore

```
Enter keystore password:
```

```
Re-enter new password:
```

```
What is your first and last name?
```

```
[Unknown]:
```

```
What is the name of your organizational unit?
```

```
//omitted to save space
```

```
[no]: yes
```

```
Enter key password for <myApp>
```

```
(RETURN if same as keystore password):
```

```
Re-enter new password:
```

```
$Tomcat\bin>
```

Here, you just created a certificate named "**myAppkeystore**", which locate at "**c:**"

b. Certificate Details:

You can use same “**keytool**” command to list the existing certificate’s detail

```
$Tomcat\bin>keytool -list -keystore c:\myAppkeystore

Enter keystore password:

Keystore type: JKS

Keystore provider: SUN

Your keystore contains 1 entry

myApp, Jul 20 2016, PrivateKeyEntry,
Certificate fingerprint (SHA1): C8:DD:A1:AF:9F:55:A0:7F:6E:98:10:DE:8C:63:1B:A5

$Tomcat\bin>
```

- f) Go to the extracted Folder, Replace **selfsigned.jks** file with the newly created self-signed certificate. Open **config.properties** file and search “**keystoreName**”, replace “**selfsigned.jks**” with newly created self-signed certificate file name and then search “**keystorePwr**”, replace “**gemalto**” with newly created self-signed certificate file password and then run **InstallService.bat** file.
- g) Test Https Protocol RDService calls from Application:
 - a. <https://127.0.0.1:<port>/> (Method Name- **RDSERVICE**)
 - b. <https://127.0.0.1:<port>/rd/info> (Method Name-**DEVICEINFO**)
 - c. <https://127.0.0.1:<port>/rd/capture> (Method Name-**CAPTURE**)

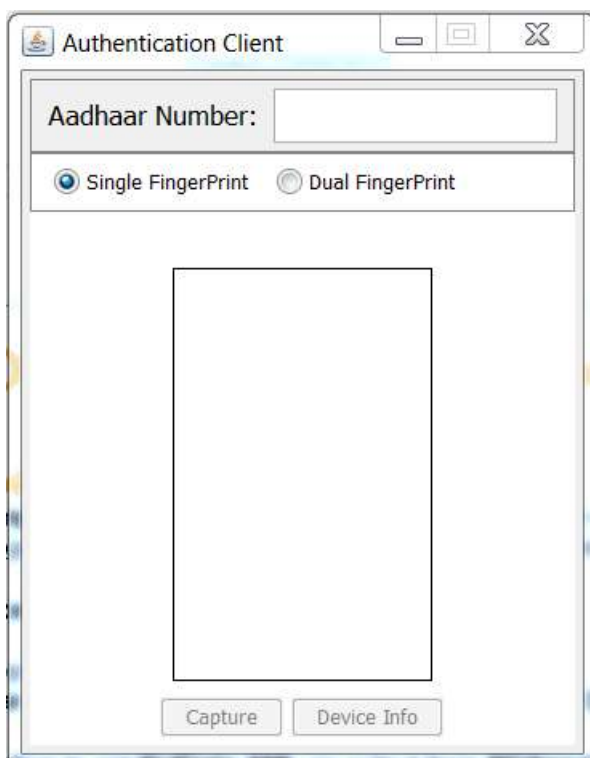
Note: Above URL’s are tested in Internet Explorer browser only.

4 SAMPLE RDSERVICE CLIENT APPLICATION

4.1 Running Sample Client Application

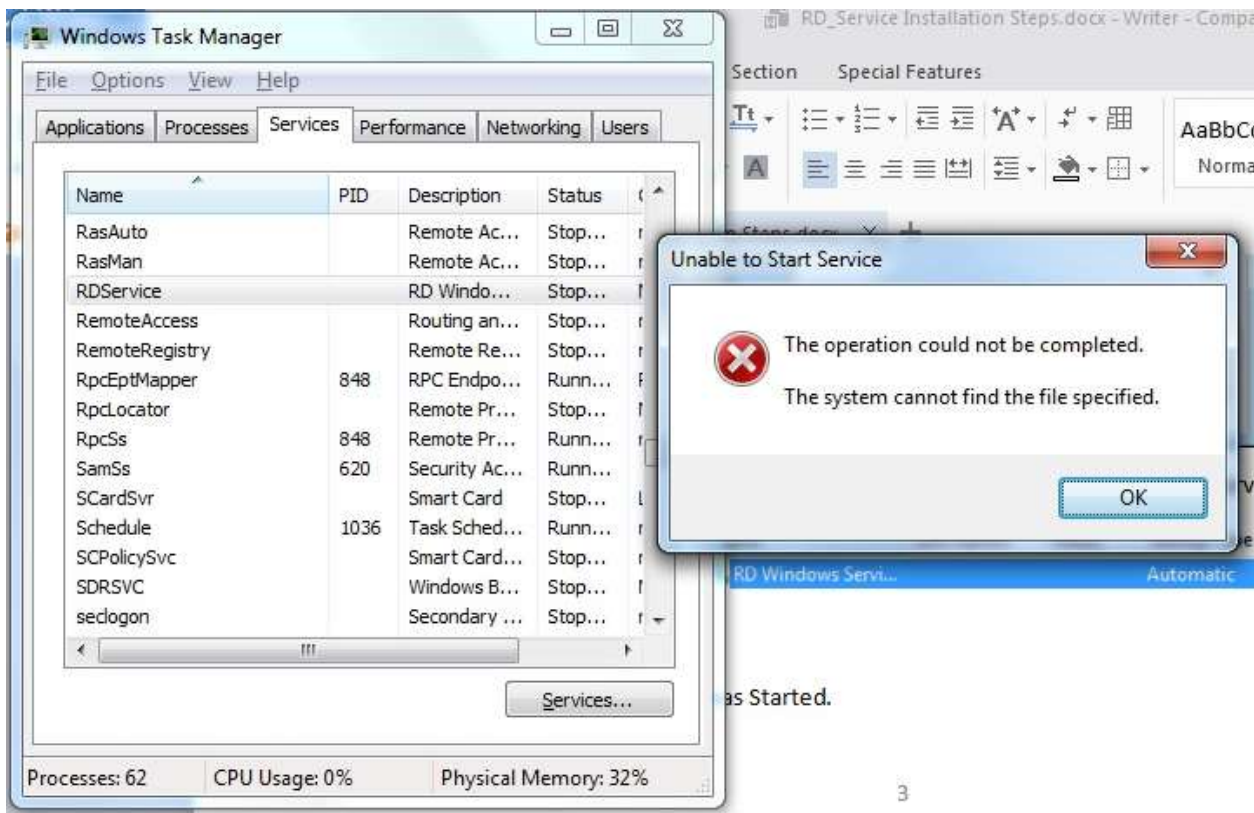
- a) Run **RDSERVICECLIENT.jar** file from command Prompt. Open Command Prompt as **Administrator** and go to the **RDSERVICECLIENT.jar** location and type the below command:
Java -jar RDSERVICECLIENT.jar and press **Enter**.
- b) Client Window will open with two buttons: **DeviceInfo** and **Capture**.
- c) Please Enter **Aadhaar Number** and click on **DeviceInfo** button to get **DeviceInfo XML** from RD Service.
- d) Click on **Capture** button to get **PidData XML** as output from RDService.
- e) For Single Capture Select **Single Fingerprint Radio Button** and click on **Capture** Button.
- f) For Dual Capture Select **Dual Fingerprint Radio Button** and click on **Capture** Button.

Below is the Screenshot of Sample RD Service Client Application:



5 FAQs AND COMMON ERRORS

- a) **RD Service Failed to start from Task Manager as well as from services.msc. It is showing below error?**

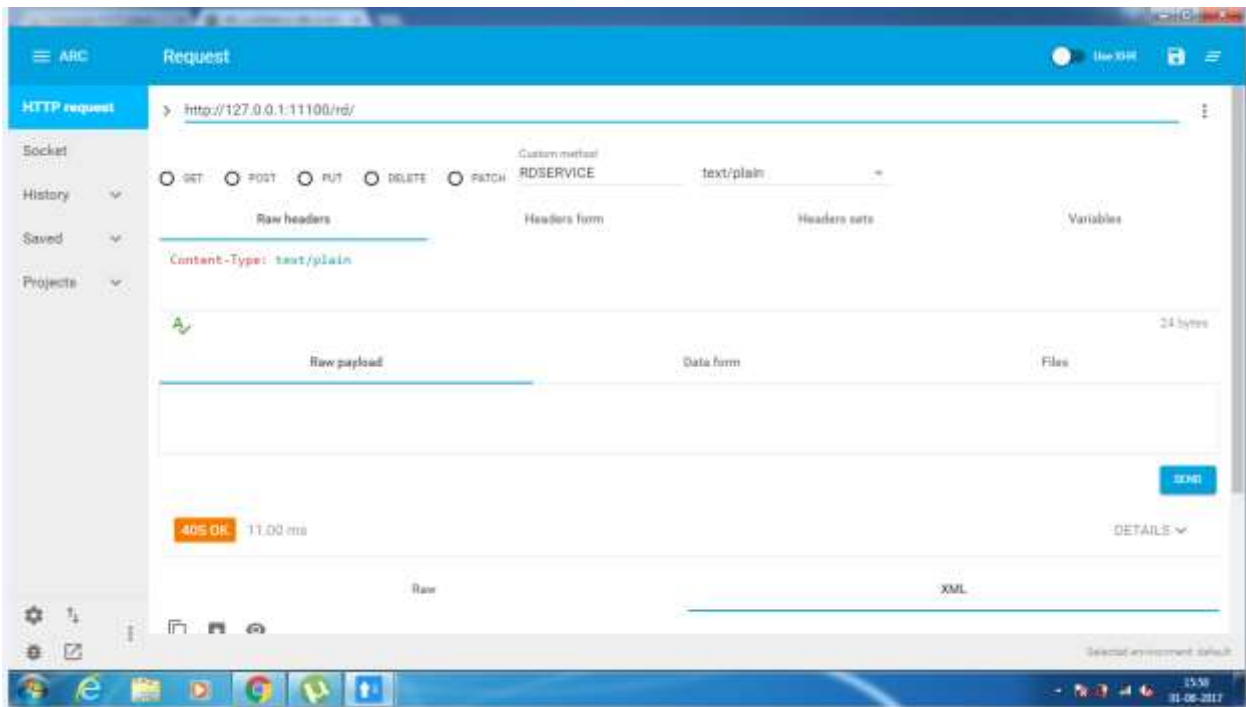


Make sure RDSERVICE is installed with Administrative Privileges and user don't need to start RD Service manually as it will start automatically after installing **RD_SERUP.exe** file. Don't uninstall RDSERVICE after device registration as it will delete all certificates created for key rotation. If RDSERVICE is uninstalled and installed again, device has to register again with new OTP. Instead of uninstall and install RDSERVICE try to restart RDSERVICE from services.msc.

- b) Device Registration Failed error after entering OTP:**

Please check your Internet Connection before registering device using Activation Code.

- c) Testing RD Service showing 405 Error code as shown below:**



Please remove rd/ from http request. Please try with URL as - <http://127.0.0.1:11100/>

d) Status Code 100: Device Registration Failed. AES_CBD_PKCS Padding Encryption Failed.

Download Latest Java Policy Files and Place under “C:\ProgramFiles\Java\jdk\jre\lib\security\” folder as well as Place under “C:\ProgramFiles\Java\jre\lib\security\” folder

e) Request is expired, please check the timestamp:

Please check the System Time is correct or not. There should not be a difference of more than 10 minutes.

f) Facing Issue in restarting GEMALTORDSERVICE from services.msc:

Please stop **GEMALTORDSERVICE** and restart **GEMALTORDSERVICE** again.

Use following steps :

Right click on **GEMALTORDSERVICE** -> **Open Properties** -> **Set startup type to – manual.**

Run “C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE\run.bat” file.

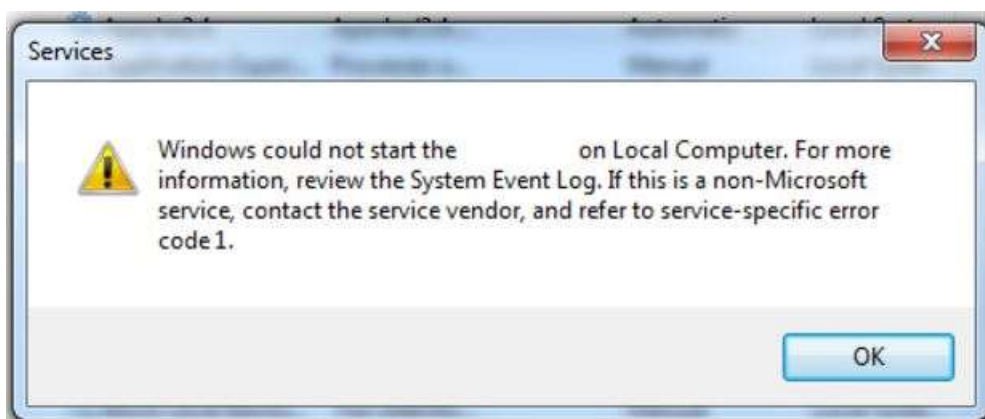
It will restart the **GEMALTORDSERVICE**.

Note:

For 32-bit Operating System, Open “C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE\run.bat” file, and replace “%cd%\java” with **JRE Path**.

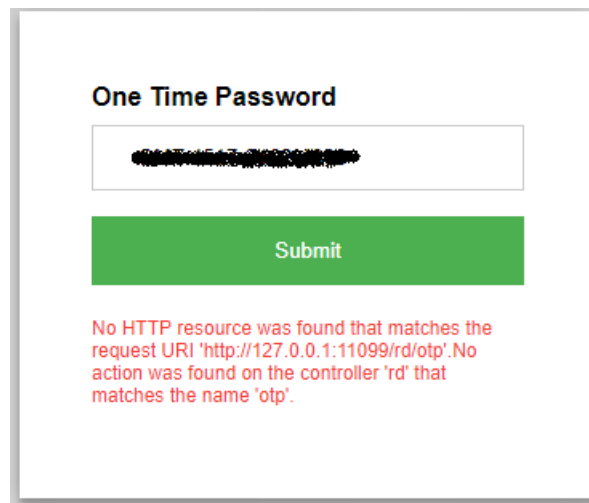
Then run open Command Prompt as Administrator and run “C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE\run.bat” instead of starting **GEMALTORDSERVICE** from **services.msc**.

g) GEMALTORDSERVICE is not started from services.msc and it is showing below error:



Update config.property file which is available in “C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE\source\” with above mentioned data and run run.bat file under which is available in “C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE\” from command line.

h) Device Registration Failed and it is showing below error:



Open “C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE\source\rd_device_register.HTML” and update xhttp.open("POST", "http://127.0.0.1:11100/rd/otp", true); port number to which port GEMALTORDSERVICE Socket is running.

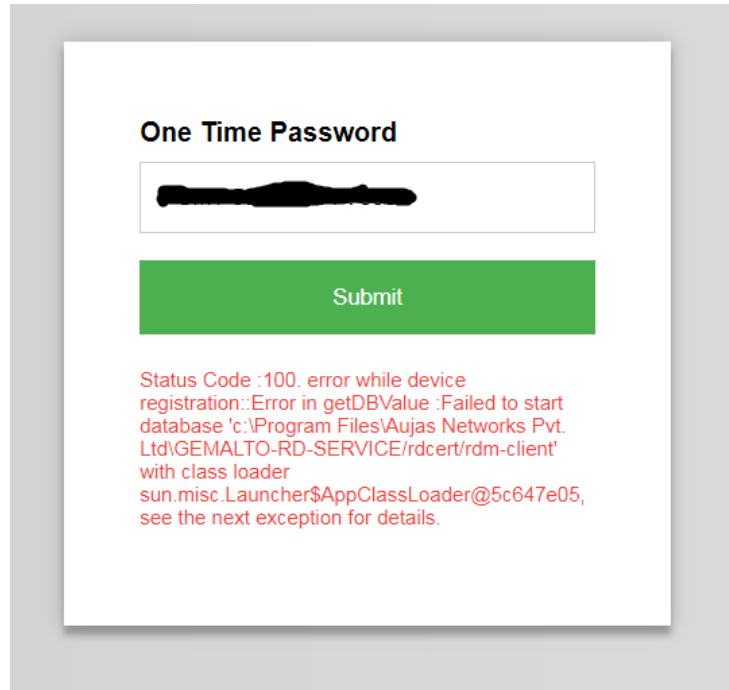
i) After running run.bat file from Command Prompt, Exception in thread “main” java.lang.UnsatisfiedLinkError: no CgtFpNative in java.library.path error is coming. Below is the Error Screenshot:

```

Administrator: C:\Windows\System32\cmd.exe
C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE>run
C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE>x'
'x' is not recognized as an internal or external command,
operable program or batch file.
C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE>rem execute this com
mand inside lib
C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE>set JAVA_HOME=C:\Pro
gram Files\Java
C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE>"C:\Program Files\Ja
va\jre7\bin\java" -cp rdservice.jar;aujas-apis-1.36.jar;CgtFpAccess-CSD200-Java.
jar;bcprov-ext-jdk15on-157.jar;commons-lang-2.3.jar;commons-codec-1.4.jar;derby.
jar;jackson-annotations-2.7.0.jar;jackson-annotations-2.8.2.jar;jackson-core-2.7
.3.jar;jackson-core-2.7.4.jar;jackson-databind-2.7.3.jar;jackson-databind-2.7.4.
jar;log4j-1.2.17.jar; con.aujas.pid.RequestListner
Exception in thread "main" java.lang.UnsatisfiedLinkError: no CgtFpNative in jav
a.library.path
    at java.lang.ClassLoader.loadLibrary(Unknown Source)
    at java.lang.Runtime.loadLibrary0(Unknown Source)
    at java.lang.System.loadLibrary(Unknown Source)
    at Cogent.FpAccess.<clinit>(FpAccess.java:14)
    at Cogent.CgtFpCaptureAccess.cgtGetConnectedScanner(CgtFpCaptureAccess.j
ava:156)
    at genalto.cogent.fpCaptureApi.CogentCSD200DeviceImpl.isDeviceConnected(C
ogentCSD200DeviceImpl.java:59)
    at con.aujas.pid.inpl.device.GemaltoWindowsDeviceInterpreterImpl.doIniti
alizeDevice(GemaltoWindowsDeviceInterpreterImpl.java:145)
    at con.aujas.pid.inpl.device.GemaltoWindowsDeviceInterpreterImpl.doCalib
rate(GemaltoWindowsDeviceInterpreterImpl.java:203)
    at con.aujas.pid.RDServer.<init>(RDServer.java:46)
    at con.aujas.pid.RequestListner.main(RequestListner.java:28)
C:\Program Files\Aujas Networks Pvt. Ltd\GEMALTO-RD-SERVICE>_

```

Make Sure **JAVA_HOME** Path is set in System Variable. Also please check if it is 64-bit Operating System, Make sure 64-bit Cogent drivers installed otherwise uninstall previous drivers and run RD Service installer.



- END OF DOCUMENT -