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# How to use Fingerprint Credential correctly

The new sensor in BioStation 2a enables the device to capture and process much clearer fingerprint images under less-than-ideal conditions.

The new sensor offers excellent wet and dry fingerprint capture performance that allows the device to be used even in harsh environments.

This page contains instructions on how to enroll and settings the fingerprint correctly, as well as cautions for fingerprint recognition.

You can enroll your fingerprint directly on the device or in BioStar 2 as below.

Enroll Fingerprint on BioStation 2a



Enroll Fingerprint directly on BioStation 2a.

Enroll Fingerprint on BioStar 2



Enroll from the USER menu in BioStar 2.

## How to enroll a fingerprint

In order to improve the fingerprint authentication rate, register the fingerprint correctly. BioStation 2a can recognize a fingerprint even if the angle and position of a user's fingerprint input change.

If you register the fingerprint with attention to the following matters, the authentication rate can be improved.

### Selecting a finger for fingerprint input



- In preparation for the case that the fingerprint of a specific finger cannot be used, for example if the

user is lifting a load with one hand or a finger gets hurt, up to 10 fingerprints for each user can be registered.

- In the case of a user whose fingerprint cannot be recognized well, the authentication rate can be improved by enrolling the same finger twice repeatedly.
- If a finger has a cut or the fingerprint is blurry, select another finger for the fingerprint.
- It is recommended to use the index finger or the middle finger when scanning the fingerprint. The authentication rate can be reduced if it is difficult to place another finger at the center of fingerprint sensor accurately.

## Fingerprint enroll method

1. When a message saying "Scan 1st finger" is displayed on the LCD screen for enrolling the fingerprint, place the finger with the fingerprint you wish to enroll on the fingerprint authentication unit and press the finger gently for better authentication.



2. When the re-input screen is displayed after a beep sound, scan the fingerprint of the enrolled finger again. (scan the fingerprint of a finger to be enrolled twice)

### Cautions for enrolling a fingerprint

When a fingerprint is recognized, it is compared with the initially registered fingerprint, so the initial fingerprint enroll is the most important. Pay attention to the following matters when enrolling the fingerprint.

- Place the finger deep enough to contact with the sensor completely.
- Place the center of the fingerprint in the center of the sensor.
- If a finger has a cut or the fingerprint is blurry, select another finger for the fingerprint.
- Scan the fingerprint correctly without moving according to the instruction on the screen.
- If you make the finger upright so that the contact area with the sensor is decreased or the angle of finger is warped, fingerprint authentication may not be performed.



### When the fingerprint recognition fails

BioStation 2a can recognize a fingerprint regardless of a change in season or finger condition. However, the authentication rate may vary according to the external environment or fingerprint input method. If the fingerprint authentication cannot be done smoothly, it is

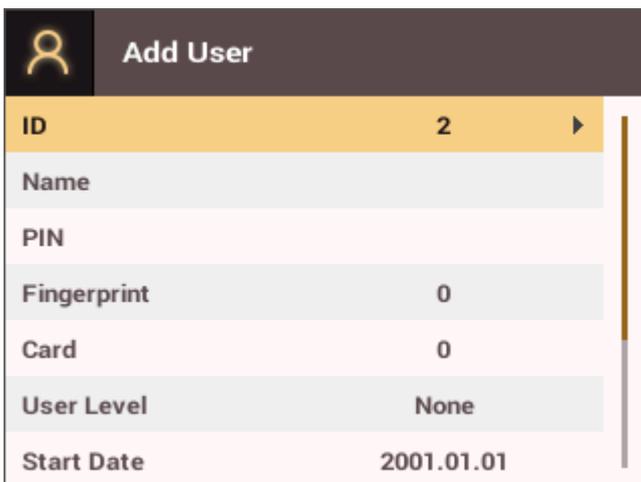
recommended to take the following measures.

- If the finger is smeared with water or sweat, dry off the finger and then scan the finger.
- If the finger is too dry, blow your breath on the fingertips and then scan the finger.
- If the finger has a cut, register the fingerprint of another finger.
- The initially enrolled fingerprint often may have not been scanned correctly, so enroll the fingerprint again according to [Cautions for enrolling a fingerprint].

## Enrolling Fingerprint

### Enrolling Fingerprint on BioStation 2a

1. Press **≡** and authenticate with the Admin level credential.
2. Select **USER** → **Add User**, then press **OK**.
3. Enter the user **ID**, then select **Fingerprint** and press **>**. After scanning the fingerprint of the registered finger, the same finger should be scanned one more time.



Add User	
ID	2
Name	
PIN	
Fingerprint	0
Card	0
User Level	None
Start Date	2001.01.01

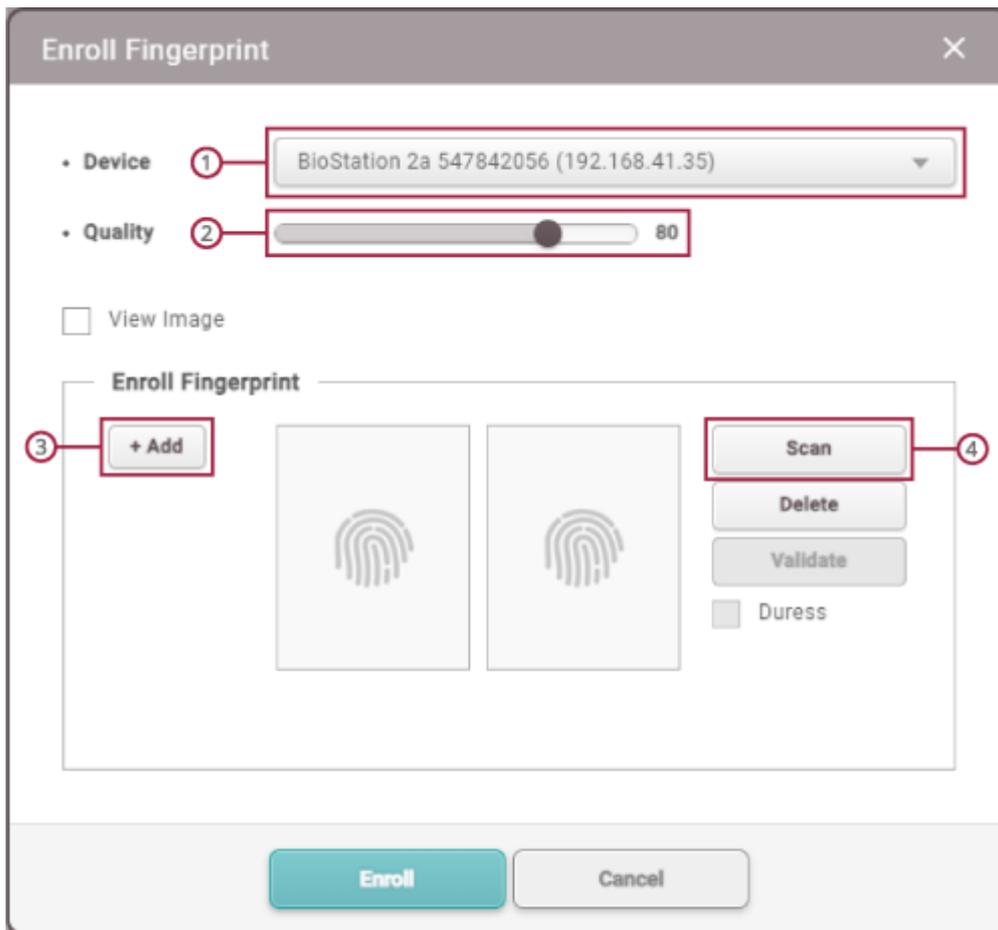
4. To save the settings, press **OK**.

### Enrolling Fingerprint on BioStar 2

1. Add BioStation 2a from the BioStar 2 **DEVICE** menu.
2. In the BioStar2 **USER** menu, select a user to whom you want to enroll Fingerprint credentials.
3. Select **Fingerprint** from the **Credential** list.

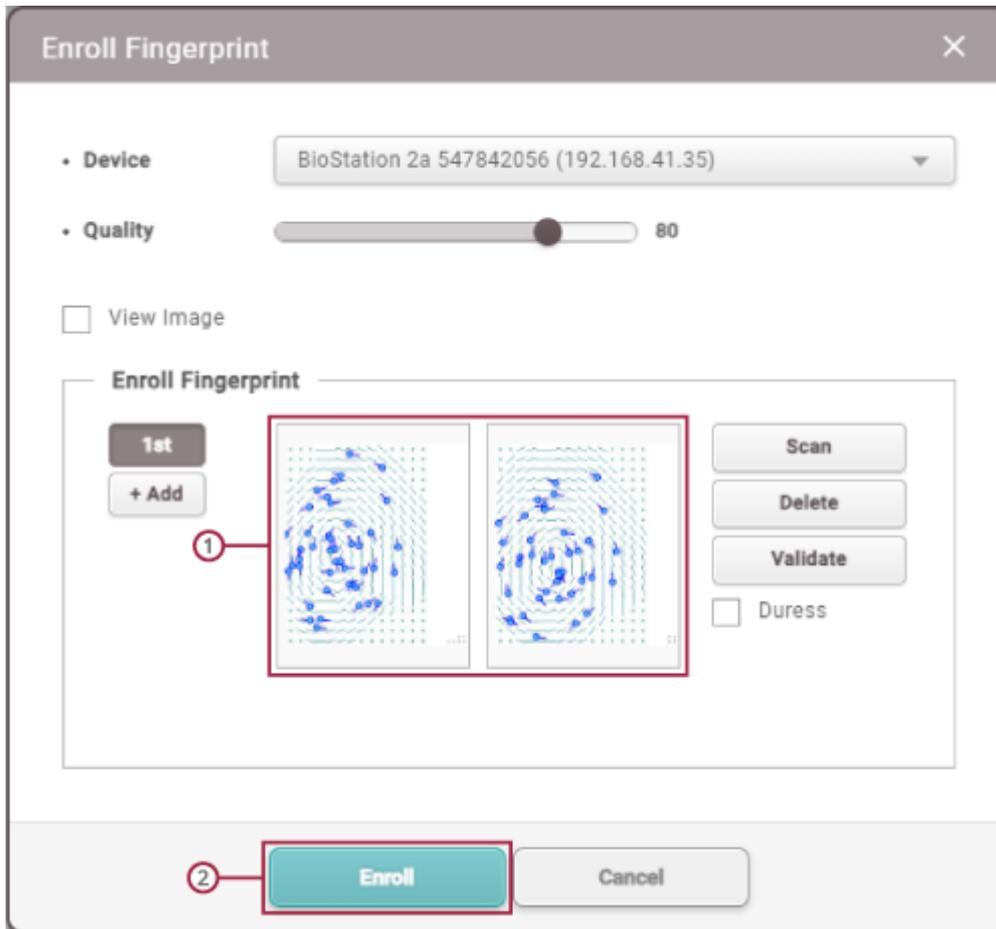


4. Select the BioStation 2a, set the fingerprint enrollment quality, and click **+ Add**. Click **Scan** to start scanning your fingerprint on your device. Scan your fingerprint in BioStation 2a.



Any fingerprint which does not meet the quality requirement will not be enrolled.

5. You can see the analysis of enrolled fingerprints. Click **Enroll** to enroll the fingerprint.



6. Set the **1:1 Security Level** and click **Apply**.

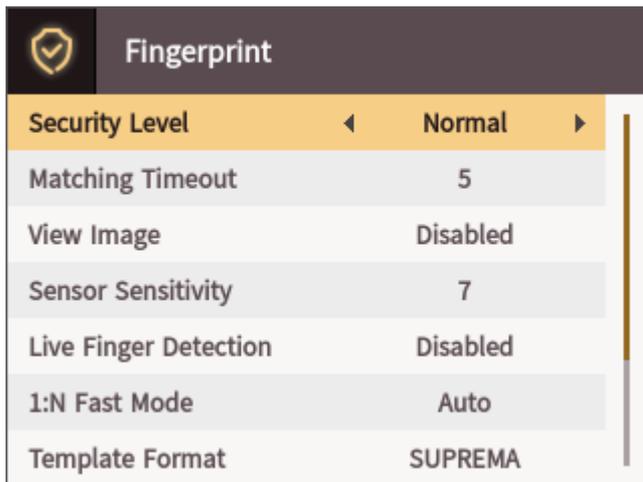
• **1:1 Security Level**  Normal

- Fingerprints used for regular access should not be registered as duress fingerprints.
- The **View Image** option shows the fingerprint image but does not store it on BioStar.
- If the fingerprint authentication rate is low, delete the existing fingerprint information and add a new fingerprint.
- Use an adequate security level. If **1:1 Security Level** is too high, the fingerprint authentication rate may be too low or the false rejection rate (FRR) may be too high.
- For best fingerprint scanning quality, make sure to cover the entire surface of the fingerprint sensor with the finger. We recommend using the index finger or the middle finger.

## Fingerprint Settings

You can change settings regarding the fingerprint authentication.

1. Press **≡** and authenticate with the Admin level credential.
2. Select **AUTHENTICATION** → **Fingerprint**, then press **OK**.



3. Select an item and press the **</>** buttons to change the settings.

- **Security Level:** Set the security level for 1:N authentication.
- **Matching Timeout:** Set the fingerprint matching timeout. If the authentication is not completed during a set time, the authentication will fail.
- **View Image:** Set to view the original image when scanning the fingerprint.
- **Sensor Sensitivity:** Set the sensitivity of the fingerprint authentication sensor. To obtain more precise fingerprint information by increasing the sensor sensitivity, set the sensor sensitivity higher.
- **Live Finger Detection:** Set the level of the fake fingerprint detection. The higher the fake fingerprint detection level, the higher the rejection rate of fingerprint.
- **1:N Fast Mode:** Set the fingerprint authentication speed. If you select **Auto**, the authentication speed will be set according to all fingerprint templates enrolled on the device.
- **Template Format:** Set the fingerprint template format. **SUPREMA** is set as the default, and if you change the template format, all fingerprints saved previously cannot be used. Use caution when changing the Template Format.

Change the template format after deleting the fingerprint information of all users. If the fingerprint information of a user has been enrolled, the template format cannot be changed.

- **Sensor Mode:** When **Auto On** is set, the fingerprint sensor recognizes a user's fingerprint and turns on. When **Always On** is set, the sensor is always on.
- **Advanced Enrollment:** Inspect the quality of a scanned fingerprint in order to save high quality fingerprint information. When **Use** is set and the quality of the fingerprint is low, it notifies such information to the user and helps the user scan the fingerprint correctly.
- **Duplicate Check:** When registering fingerprints, you can check duplicates.

4. To save the settings, press **OK**.

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