Foreword

Thank you for choosing the ZKBIOOnline. Before using the ZKBIOOnline, read this document carefully so that you can quickly learn how to use the ZKBIOOnline.

Privacy Statement

You are authorized by ZKTeco to use this software, but you must promise not to use, duplicate, modify, lease, or transfer the system or any part of the system unless otherwise specified in this agreement.

System Requirements

- Operating system: Windows XP or later version
- Supported hardware: ZK series fingerprint device (including ZK4500, ZK8000, ZK8500, FS200, FS300, ZK6000A, ZK7000A, SILKID, and so on)
- Applicable range: B/S system

System Description

- Supporting HTTP at port 22001
- Supporting HTTPS at port 22002

Interface Description

Format of the Return Value

Data format of the return value: json

```
{
    "ret":0,
   "data":"",
   "error":""
}
```

- ret: The value 0 indicates successful, and a non-9 value indicates failed.
- data: Indicates the data.
- error: Indicates the error description.

System Information

HTTP Get

```
     "http://127.0.0.1:22001/zkbioonline/info"
Or,
     "https://127.0.0.1:22002/zkbioonline/info"
```

Obtaining System Information

If the operation is successful, the output is as follows:

```
{
    "ret":0,
    "error":"",
    "data":
    {
        "server_version":"5.0.1",
        "start":"2015-10-24 18:00",
        "now":"2015-10-24 18:00",
        "biometric":
        [
            {"type":"fingerprint","engversion":"10.0","enroll_count":3}
        ]
    }
}
```

- server_version: Indicates the SDK version.
- start: Indicates the service startup time.
- now: Indicates the current time.
- biometric: Indicates that the biometric array is supported.
- type: Indicates the type.
- engversion: Indicates the algorithm version.

Starting Collection

HTTP Get

```
    "http://127.0.0.1:22001/zkbioonline/fingerprint/beginCapture?type=1&FakeFunOn=1"
Or,
    "https://127.0.0.1:22002/zkbioonline/fingerprint/beginCapture?type=1&FakeFunOn=1"
```

If the value of type is 1, the registered fingerprint is collected (the fingerprint of the same finger is collected for three times.) If the value of type is not 1, the fingerprint used for comparison is collected.

FakeFunOn, Anti-fake switch(0: Off, 1: On), if you pressed your finger too fast or it is a fake finger the function getImage will return -2009.

If the operation is successful, the output is as follows:

```
{
    "ret":0,
    "data":"",
    "error":""
}
```

Canceling Collection

HTTP Get

```
    "http://127.0.0.1:22001/zkbioonline/fingerprint/cancelCapture"
Or,
    "https://127.0.0.1:22002/zkbioonline/fingerprint/cancelCapture"
```

If the operation is successful, the output is as follows:

```
{
    "ret":0,
    "data":"",
    "error":""
}
```

Obtaining Images

HTTP Get

```
    "http://127.0.0.1:22001/zkbioonline/fingerprint/getImage"
Or,
```

```
    "https://127.0.0.1:22002/zkbioonline/fingerprint/getImage"
```

If the operation is successful, the output is as follows:

```
{
    "ret":0,
    "error":"",
    "data":
    {
        "biotype":0,
        "enroll_index":0,
        "quality":100,
        "width":280,
        "height":360,
        "jpg_base64":"",
        "raw_base64":"",
    }
}
```

- biotype: Indicates the template type. (0 indicates the fingerprint.)
- enroll_index: indicates the registration index (if enroll_index is equal to enroll_count, collection is completed. You can obtain the template by calling gettemplate). For details, see 4.2/4.6.
- quality: Indicates the fingerprint quality.
- width: Indicates the image width.
- height: Indicates the image height.
- jpg_base64: Indicates the base64 string of the jpg file data.
- raw_base64: Indicates the base64 string of the bitmap data.

Obtaining a Template

```
HTTP Get

    "http://127.0.0.1:22001/zkbioonline/fingerprint/getTemplate"
Or,

    "https://127.0.0.1:22002/zkbioonline/fingerprint/getTemplate"
```

If the operation is successful, the output is as follows:

```
{
    "ret":0,
    "error":"",
    "data":
    {
        "biotype":0,
        "length":1478,
        "template":""
    }
}
```

- biotype: Indicates the template type. (0 indicates the fingerprint.)
- length: Indicates the template length.
- template: Indicates the base64 string of the template.

Match two fingerprint

```
HTTP Post

    "http://127.0.0.1:22001/zkbioonline/fingerprint/verify"
Or,

    "https://127.0.0.1:22002/zkbioonline/fingerprint/verify"
The format of post data(JSon):
```
```
{
    "reg":"TVFTUjIyAAAEEhAFBQUHCc7...",
    "ver":"TVFTUjIyAAAEEhAFBQUHCc7..."
}
```

If the operation is successful, the output is as follows:

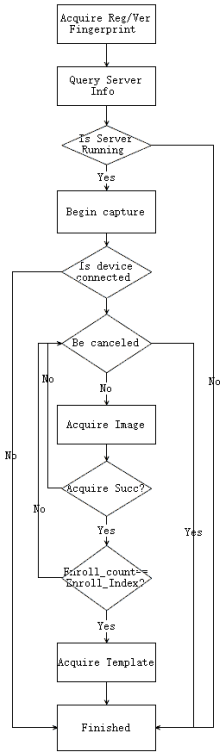
```
{
    "ret":0,
    "error":"",
    "score": 100
}
```

- score: >0 means matched.

Appendix

Calling Process

- For details, see "sample".
- Calling Process



Background Comparison (matchdll.dll)

1. Java Native API

```
public native boolean NativeToProcess(String ARegTemplate, String AVerTemplate)
```

Compare with the 9.0 and 10.0 algorithm fingerprint templates (Base64).

- Parameters

ARegTemplate

Registered template

AVerTemplate

Compared template

- Return value
  If the operation is successful, "True" is returned; otherwise, "False" is returned.

```
public native void NativeToSetThreshold(int AThreshold, int AOneToOneThreshold)
```

Set the threshold of the fingerprint comparison template.

- Parameters

Threshold

Set the identification threshold score (1-100) of the fingerprint comparison system. The default value is 10. A larger value indicates a lower misdiagnosis rate and a higher rejection rate.

AOneToOneThreshold

Set the identification threshold score (1-100) of the Biokey 1:1 low-speed fingerprint comparison. The default value is 10. A larger value indicates a lower misdiagnosis rate and a higher rejection rate.

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2. C API

```
BOOL __stdcall SetThreshold(int nThreshold, int nOneToOneThresold)
```

Set the threshold of the fingerprint comparison template.

- Parameters

Threshold

Set the identification threshold score (1-100) of the fingerprint comparison system. The default value is 10. A larger value indicates a lower misdiagnosis rate and a higher rejection rate.

AOneToOneThreshold

Set the identification threshold score (1-100) of the Biokey 1:1 low-speed fingerprint comparison. The default value is 10. A larger value indicates a lower misdiagnosis rate and a higher rejection rate

- Return value
  If the operation is successful, "True" is returned; otherwise, "False" is returned.

```
int __stdcall Verify(const char *szRegTemplate, const char *szVerTemplate);
```

Compare with the 9.0 and 10.0 algorithm fingerprint templates (Base64).

- Parameters

szRegTemplate

Registered template

szVerTemplate

Compared template

- Return value

Comparison score

```
BOOL __stdcall process(const char *szRegTemplate, const char *szVerTemplate);
```

Compare with the 9.0 and 10.0 algorithm fingerprint templates (Base64).

- Parameters
- szRegTemplate

  Registered template

  szVerTemplate

  Compared template

- Return value
  If the operation is successful, "True" is returned; otherwise, "False" is returned.

Error Description

Error code	Description
0	The operation succeeds.
4	Operating. Please try again later.
-1	The operation fails.
-2	The operation is not supported. Please confirm whether the URL is correct.
-3	Parameter incorrect (Currently not in use)
-5	Invalid data format
-6	Invalid template
-7	match exception
-2000	Calling mistake. Currently, only HTTP Get is supported.
-2001	The attempt to connect to the collector fails.
-2002	Failed to load the algorithm library.
-2003	Failed to extract the template.
-2004	Failed to collect images.
-2005	Collecting. Please press the finger or cancel collection.
-2006	Please press the finger.
-2007	Failed to allocate the memory. (Currently not in use)
-2008	Failed to cancel the operation. (Currently not in use)
-2009	Press finger too fast, or it's a fake finger