



Bihar Skill Development Mission

Standard Operating Procedures for AEBAS (Aadhar Enabled Biometric Attendance System)

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1. Introduction

It has been decided to use an Aadhar enabled biometric attendance system (AEBAS) at all skill development centers (SDCs) empaneled with the Bihar Skill development mission (BSDM). The system will be installed at all the SDCs.

The AEBAS is a real time attendance monitoring system making use of Aadhar number generated by UIDAI which capture either fingerprint or Iris.

The proposed system shall capture the fingerprint at the SDCs for attendance of Learners or Learning facilitators to monitor their attendance in real time.

The AEBAS is making use of Aadhar to monitor Learner's/ Learning Facilitator's attendances across various skill development centers under BSDM.

Aadhaar Enabled Biometric Attendance System (AEBAS) is a time and attendance marking system based on biometric technology linked with the verification of Aadhaar. The system is particularly aimed at recording Learner's/ Learner Facilitator's attendance in various SDCs empaneled under BSDM.

2. Purpose

Aadhar Enabled Biometric Attendance System (AEBAS) formulated by the Government of India is a real time monitoring system that helps in improving the punctuality and productivity of government employees at large. The Aadhaar number generated by UIDAI (**Unique Identification Authority of India**) is utilized in the process of authentication carried out by AEBAS. Cloud-based BAS helps in monitoring the attendance of the employees in real-time.

In the BSDM scenario, thousands of learners and learning facilitators are involved across various skill development centres under BSDM. Tracking the attendance of these learners and learning facilitators is an arduous task. However, the presence of them on time is critical for the success of various

activities like attendance tracking, monitoring of SDCs and its impacts on training programme of the BSDM.

As of now the attendance of learners and learning facilitators was recorded with simple biometric device which was not Aadhar enabled or manually. Due to this, the SDCs can temper attendance report which later impacts on skill training quality and obviously the main moto of skill development programs. The monitoring and maintaining the entire database were proving to be difficult just not because of real-time monitoring system in skill training programs. There was also the question of reliability as records were vulnerable to tampering or there could be an entry of faulty data.

Therefore, Aadhar enabled biometric attendance system is now going to introduce to overcome the above-mentioned shortcomings. This has been proved to be the best real-time solution for marking reliable and accurate information.

As sharing of attendance data through various levels was cumbersome, the BSDM has come up with an idea to make use of the Aadhar enabled biometric attendance system for monitoring the real-time attendance through a centralized system.

3. Scope and advantages of AEBAS

There is no doubt that the deployment of biometric authentication solution is on a rise than ever before.

It wouldn't be wrong to say that with time, people are preferring their own body to be the passwords for securing sensitive information rather than cracking head on textual passwords with mandates like special characters, numbers, no special characters, person, places etc.

To keep a check on authenticating access to confidential data, biometric devices are fastly making a way into Education, electronics, BFSI, defence, home security, criminal identification, transport & logistics, and most importantly in bank sectors. It has also been brought to use by public and private offices in the form of time and attendance systems.

3.1. Advantages of AEBAS:

- a. Supports various platforms
- b. Supports centralized functions
- c. Help in real-time tracking of attendance
- d. Time saving while making the attendance
- e. Ease of sending real time notifications
- f. Help in accurately track to both login and logout to know the exact working time

4. Executive Summary

It has been decided by the Bihar Skill Development Mission under Labour Resources department, GoB to implement common Aadhaar Enabled Biometric Attendance System (AEBAS). The proposed system would enable a Learner Facilitator/ Learners/ Centre Coordinator/ Centre Owner to register attendance by presenting his/her fingerprint which will be authenticated online by doing one to one match with the bio-metric stored in the UIDAI data base against the Concern's Aadhaar number.

Labour resources department, GoB with the help of IT Department, GoB intends to install this Biometric Attendance System across all the empanelled Skill Development Centre (SDC) under Bihar Skill development Mission (BSDM). The empanelled SDC shall use the unique biometric attendance environment, hosted at the State Data Centre, department of IT.

5. About Aadhar Based Biometric Attendance System (AEBAS)

Aadhaar based biometric Authentication for the purpose of attendance would ensure that the attendance of all Learners/ Learner Facilitators/ Centre Coordinators/ Centre Owners of empanelled SDCs will be visible in real time on the Unique attendance environment ensuring transparency and accountability to

bring efficiency.

AEBAS is an Online System where authentication of fingerprints is done online, thus presence of Internet Connectivity is mandatory requirement wherever devices are installed. Internet Connectivity from all service providers is supported in AEBAS.

6. Requirements

6.1. Non- technical requirements

1. Identification of Nodal Officer within Department who is having Aadhaar number.
2. Web Portal for SDC registration as well as identification of Nodal officer.
3. Aadhaar Card for every Learners/ Learning Facilitator Registration.

6.2. Technical Requirements

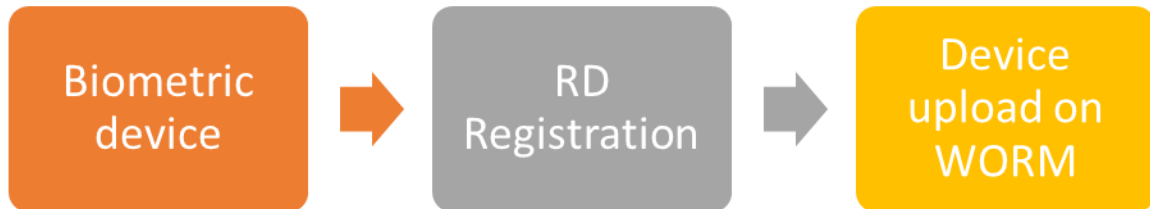
1. AEBAS Compatible Bio-Metric RD Devices.
2. Identification of Windows xxxxx based Personal Computer with dot net framework 3.5 and above.
3. Internet Connectivity with enough bandwidth for RD Devices.
4. Better response time can be achieved with high speed internet connectivity.

7. AEBAS Architecture

7.1. RD Device Registration

This integration will enable UADAI based authentication for the KYP & Domain Skilling candidates.

Process Flow



Biometric device

- SDC should have recommended any UIDAI approved biometric capturing device(s); **(We may take Mantra MFS 100 & eNBioScan biometric device as UIDAI approved device).**
- Biometric capturing devices should be in working condition.
- It is also recommended that SDCs should also have a backup device in case of any malfunction or failure of the registered device to avoid loss to the candidates learning.

RD registration

SDC will register their available device to RD services through various services providers (easily available online) For Mantra device recommended service provides is **SERVICO** from Mantra

(Note: We may take SERVICO as device registration provider for Mantra MFS 100 device)

Step1: Availability of biometric device

SDC need to check the working condition of biometric device in case of any technical issue or non-availability of biometric device purchase new device recommend Mantra MFS 100 device

Step2: RD services registration

SDC have to register biometric devices to RD services. There are multiple RD service provides available online;

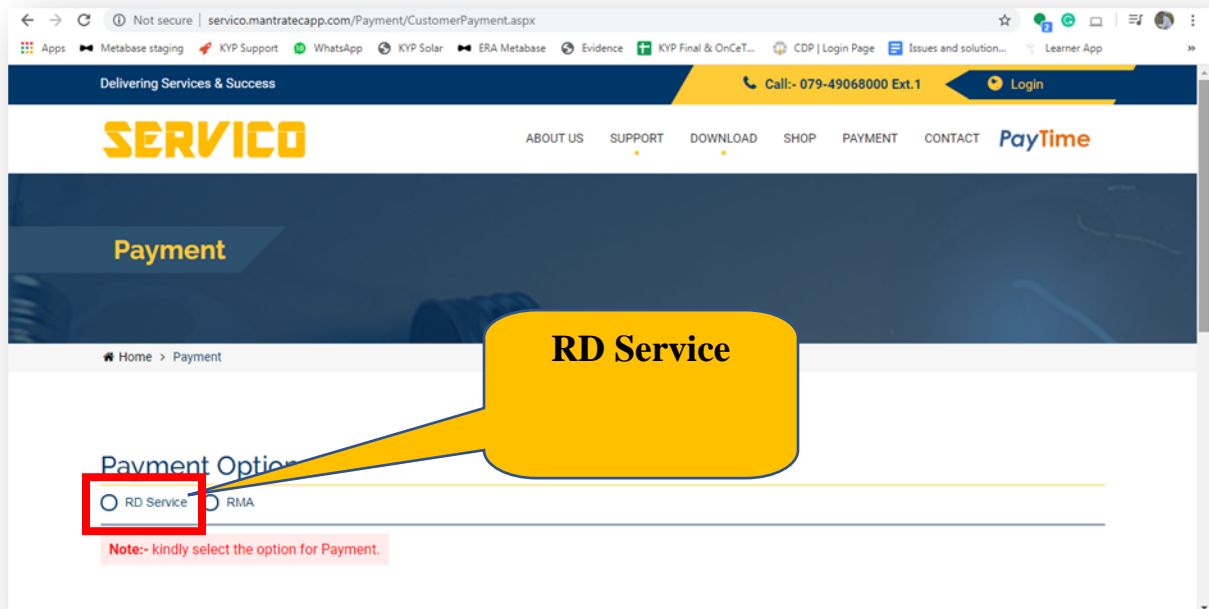
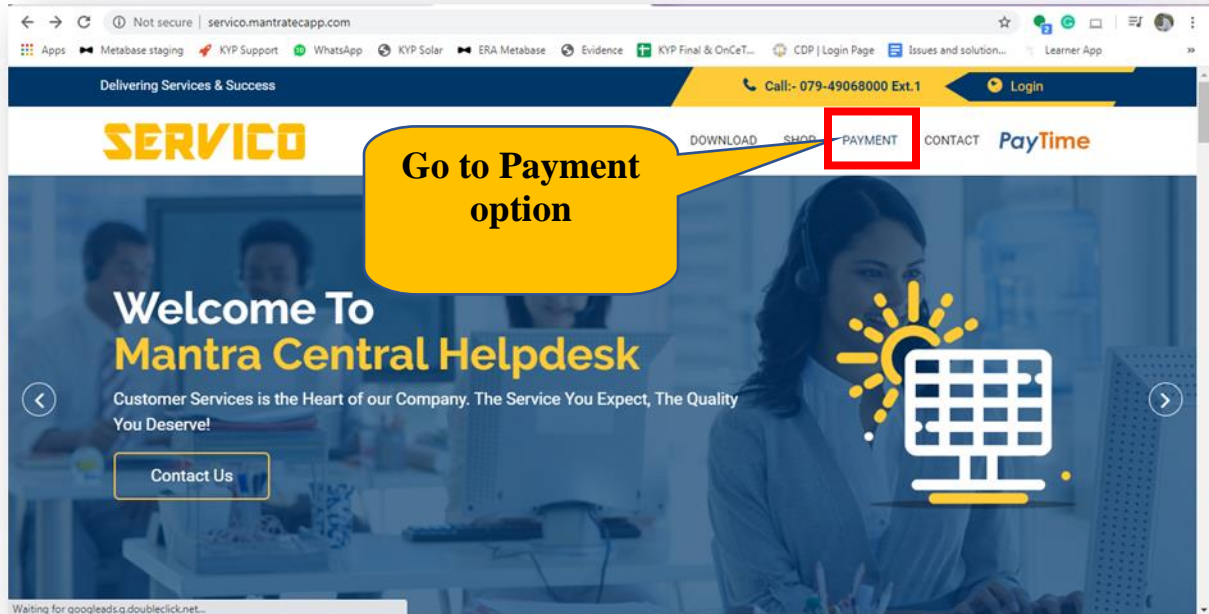
For Mantra device recommended service provides is **SERVICO** from Mantra

Link: <http://servico.mantratecapp.com/Payment/CustomerPayment.aspx>

Video link for RD registration:

<https://www.youtube.com/watch?v=UmNI4c4UmJw&t=39s>

Refer shared Document:



servico.mantratecapp.com/Payment/CustomerPayment.aspx

SERVICO ABOUT US SUPPORT DOWNLOAD SHOP PAYMENT CONTACT PayTime

Payment Options

Fill all required details

Use Company Name

Use "Kushal Yuva Program" or "Domain Skilling" as Application Name

Payment ID: Has Payment ID ?

Name: Mobile No.: Email:

Company Name: Company GST No.: Application Name:

Serial Number:

For One Year RD Subscription (Rs. 100)
 For One Year RD Subscription + Warranty (Rs. 190)

servico.mantratecapp.com/Payment/CustomerPayment.aspx

SERVICO ABOUT US SUPPORT DOWNLOAD SHOP PAYMENT CONTACT PayTime

Name: Mobile No.: Email:

Company Name: Company GST No.: Application Name:

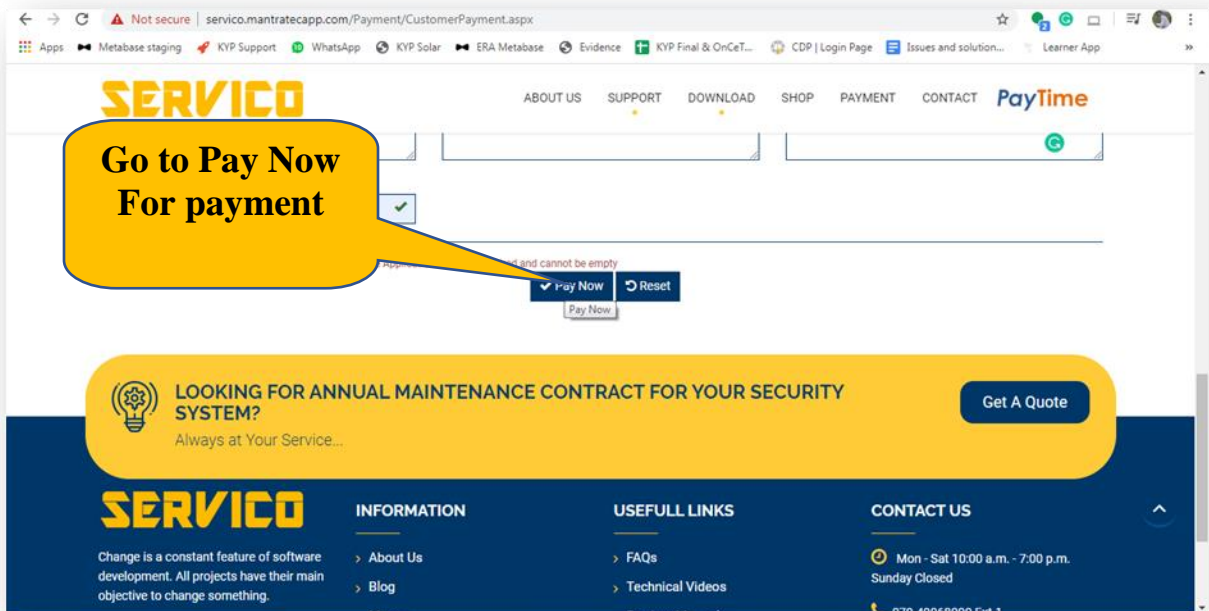
Serial Number:

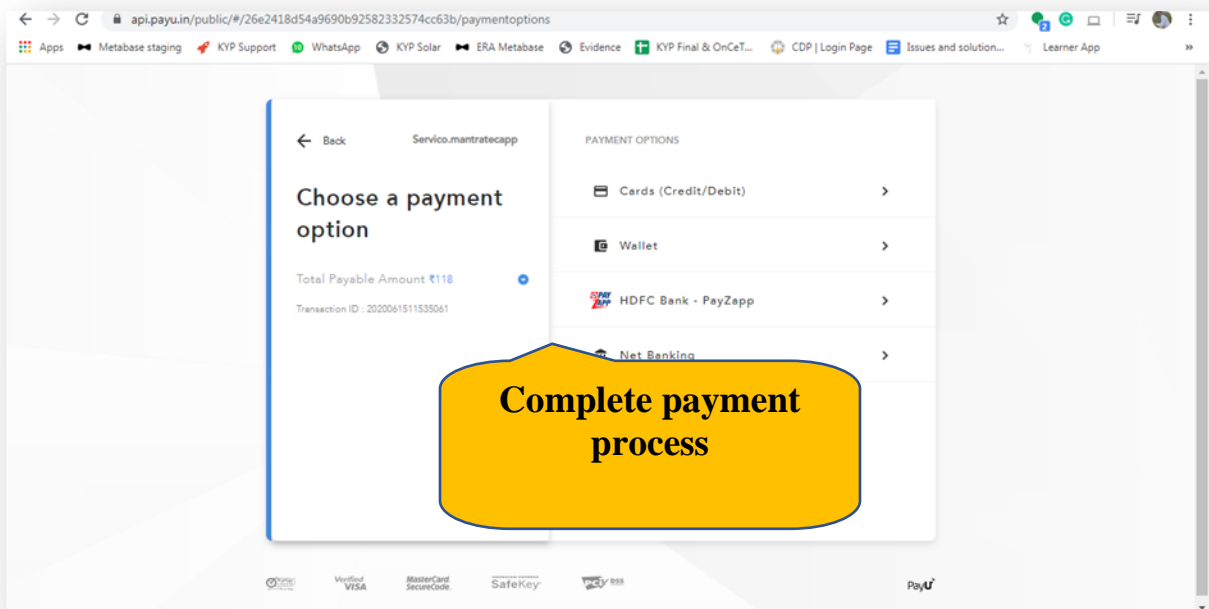
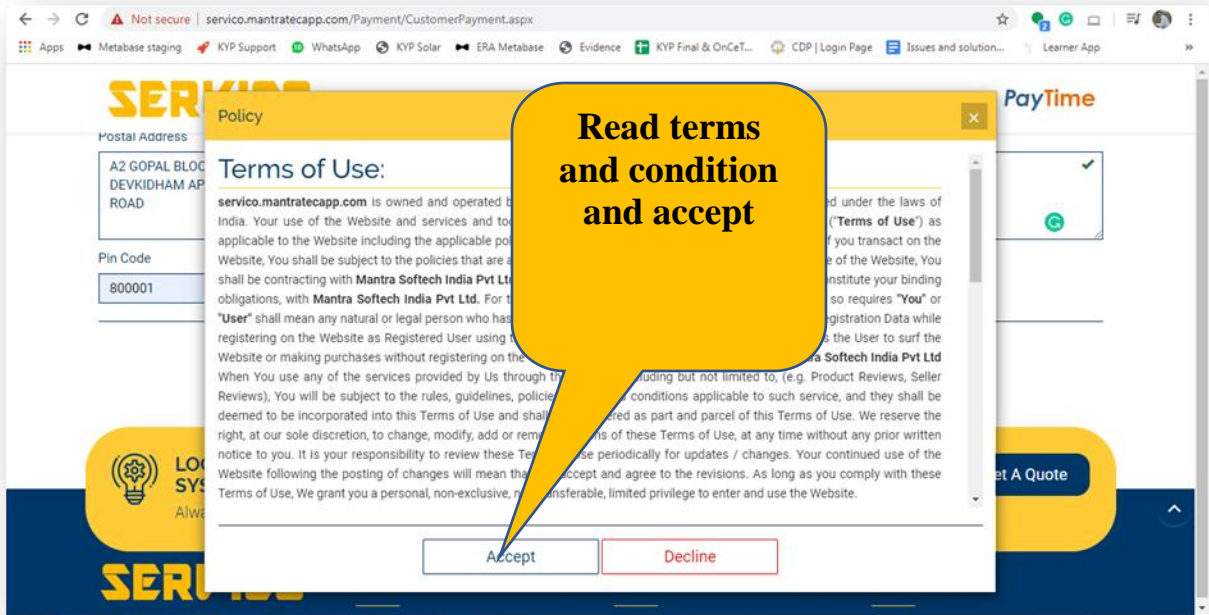
Click on ADD for Device Serial Number

Amount: GST (%): Total Amount:

Country: State: City:

Postal Address: Pay For: Remarks:





Note: Sometimes after completing RD service registration process it take 24 to 48 hours to get activated

Step3: Check functionality of RD services

SDC can test the RD service working condition with the help of below link (for Mantra device)

Link: <https://rdtest.aadhaardevice.com/>

Video: <https://www.youtube.com/watch?v=mBCdxRckH0>

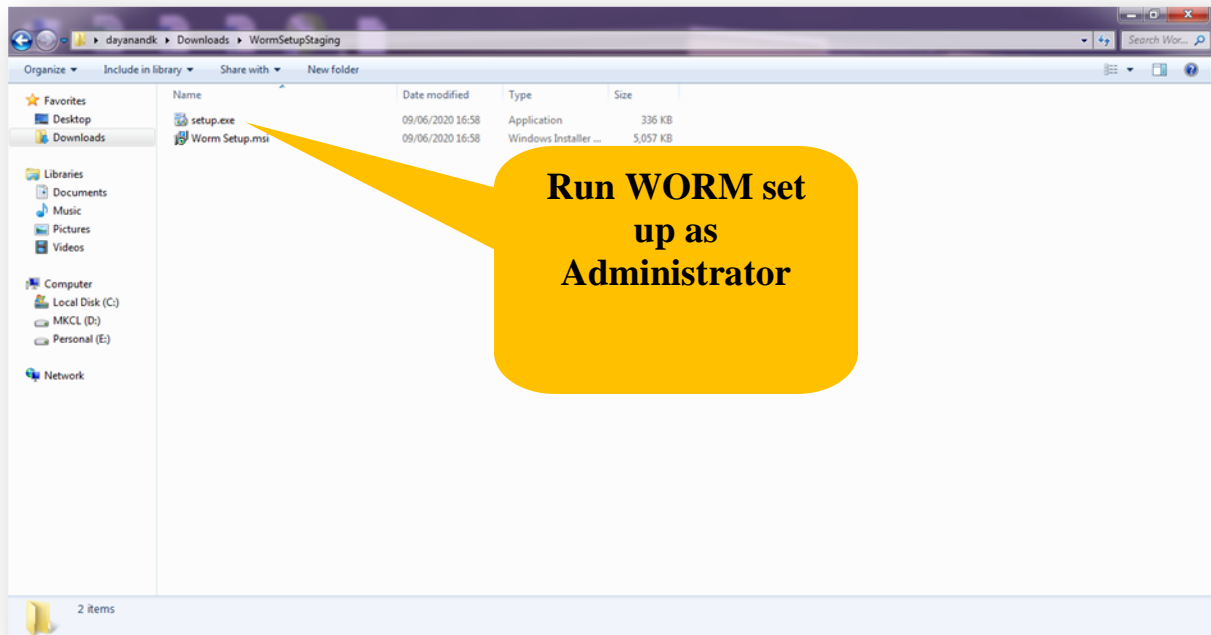
7.2. Upload biometric device data through WORM on SOLAR

You can download WORM from SDC SOLAR login

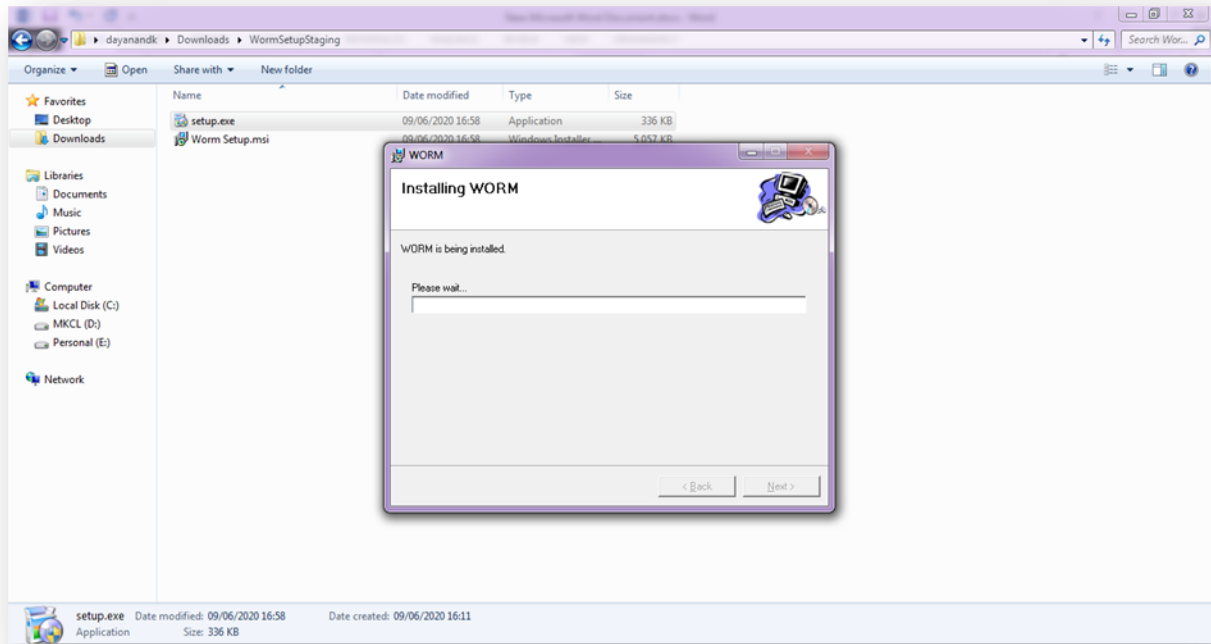
Go to SOLAR login >> Downloads >> WORM software

Zip file will download, extract the file and follow the process given below,

Run downloaded setup as Administrator



Complete the installation process



Run WORM server as Administrator available on desktop



Enter SDC center code and password

WORM: IT Infra Asset Monitoring Framework

Welcome Center Co-ordinator!

Please take note that this software scans hardware-software details of your computers in LAN and uploads to central server for further verification as a part of authorization process. Please take note of following problem.

1. Computer should be connected through local area network. Internet connection to server is required. In some cases, Proxy settings/policies doesn't allow connectivity with server, please make sure for necessary settings on your computer.

2. Software automatically checks hardware configuration as per defined criteria and restrict user from uploading details.

3. This software also checks duplicate computers and rejects automatically.

4. This software also checks duplicate computers and rejects automatically.

Login

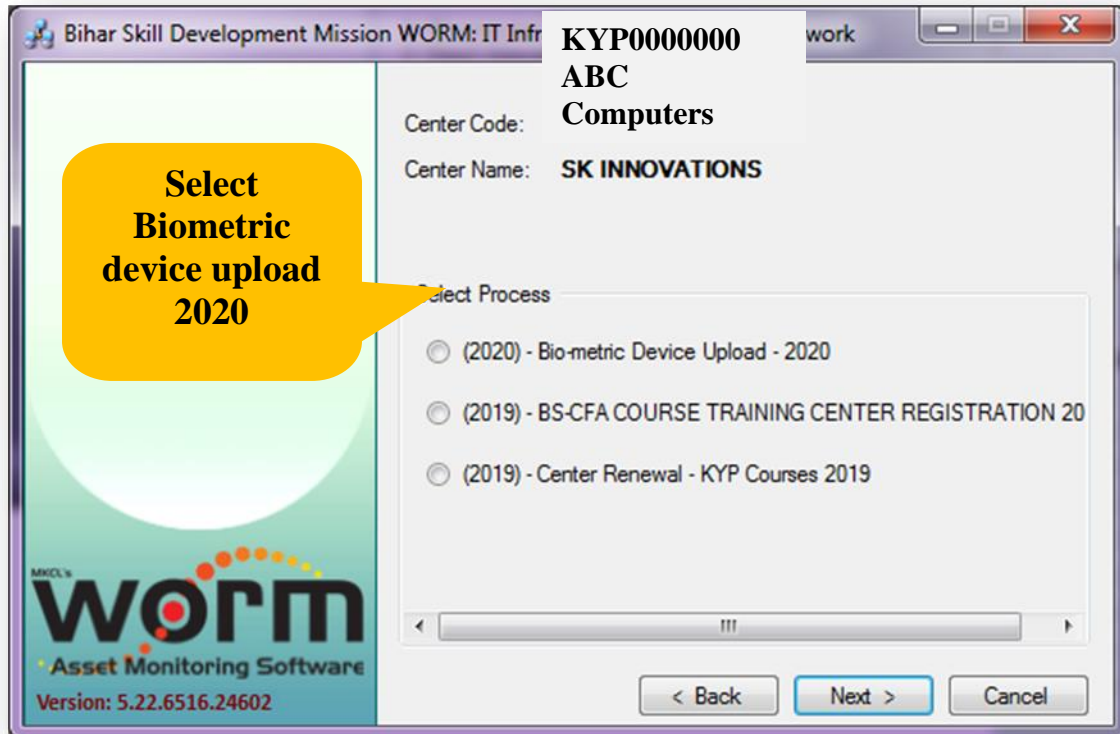
User name:

Password:

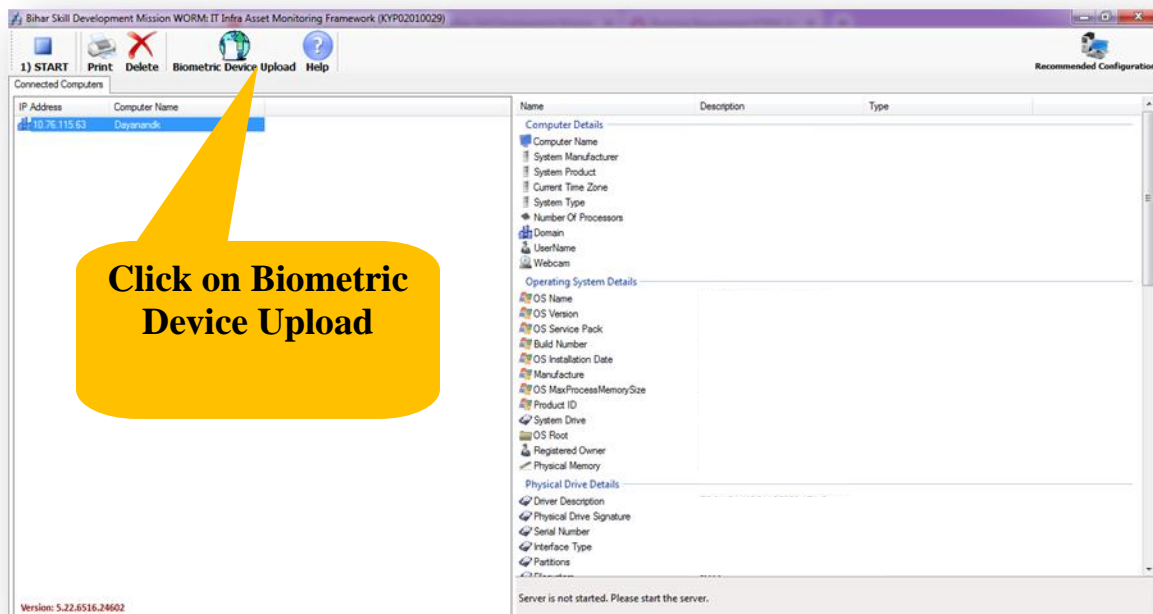
Next > Cancel

Version: 5.22.6516.24602

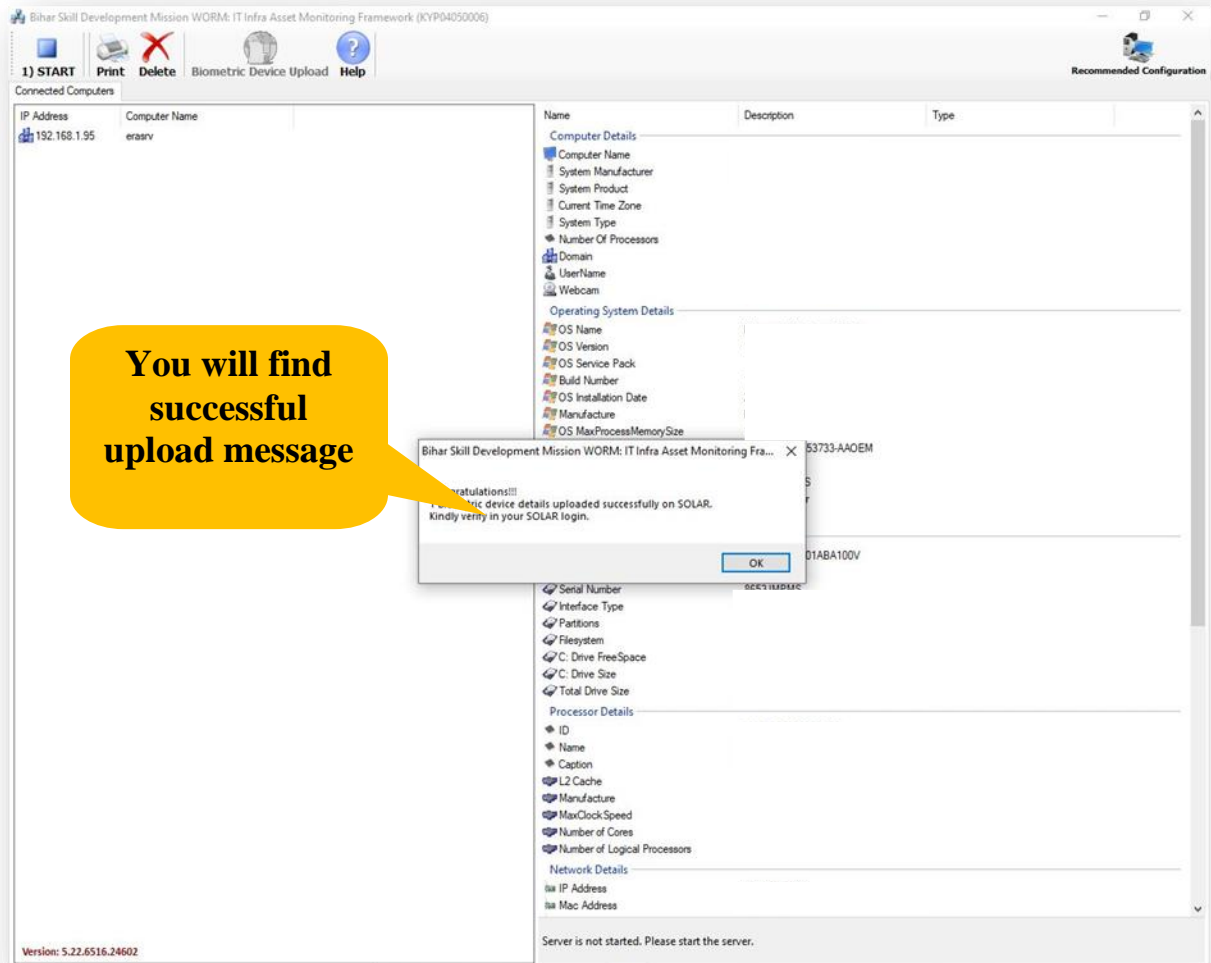
Select Process – (2020) - Bio-metric Device Upload - 2020



Upload device data - Biometric Device Upload



Note: Only RD service registered biometric device will get upload on WORM, please check RD service registration status before processing for Biometric device upload



Check Device data uploaded status in SOLAR login
Path: Report > Report > Ad hoc > Biometric Device Registration Report

Login to SOLAR Portal using Center code and Password

BIHAR SKILL DEVELOPMENT MISSION

ABC
Home Logout

Network Admission Finance Exam Settings Download Report

Report > Report > Report

[KVP Support Blog](#)

For any type of support please go through this blog on regular basis and follow the blog for regular update

Go to Report

Not eligible for final exam 140

Biometric system Attendance system not

Enquiry Details

Pending	0
Overdue	0
Todays Followup	0

BIHAR SKILL DEVELOPMENT MISSION

ABC
Home Logout

Network Admission Finance Exam Settings Download Report

Report > Report > Report

Select Report Type

Sr. No.	Report Type
1	Course Batch Wise
2	Exam Wise
3	Year Wise
4	Ad hoc

Go to Ad hoc

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BIHAR SKILL DEVELOPMENT MISSION

ABC

Home Logout

Network Admission Finance Exam Settings Download Report

Report Report Report

Select report

Sr.No.	Report
1	Performance Index
2	Attendance Upload Statistics
3	LF Login Credential Details - 2018
4	Name Correction Request and Certificate Reprinting
5	Learner Name Change Request
6	Human Resource details
7	One time validity extension report
8	Disabled PPF accounts
9	Missed Call Data Report
10	Biometric Device Registration Report

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Go to Biometric Device Registration Report

BIHAR SKILL DEVELOPMENT MISSION

ABC

Home Logout

Network Admission Finance

Report Report Report

Biometric Device Registration Report
Biometric Device Registration Report
Report Type : Ad hoc

Display 10 records

Sr. No.	Centercode	DeviceId	DeviceProvider	DeviceModel	Version	SerialNo	DeviceCode	SysId	DeviceValidityDate	UploadDate
1	KYP04050006	MANTRA.WIN.001	MANTRAMSIPL	MFS100	1.0.0	2248415	30d8feab-c82f-4108-bd53-bf2002551273	655FEBF6077CB90FBFFD	-	2020-06-11 11:48:56.0

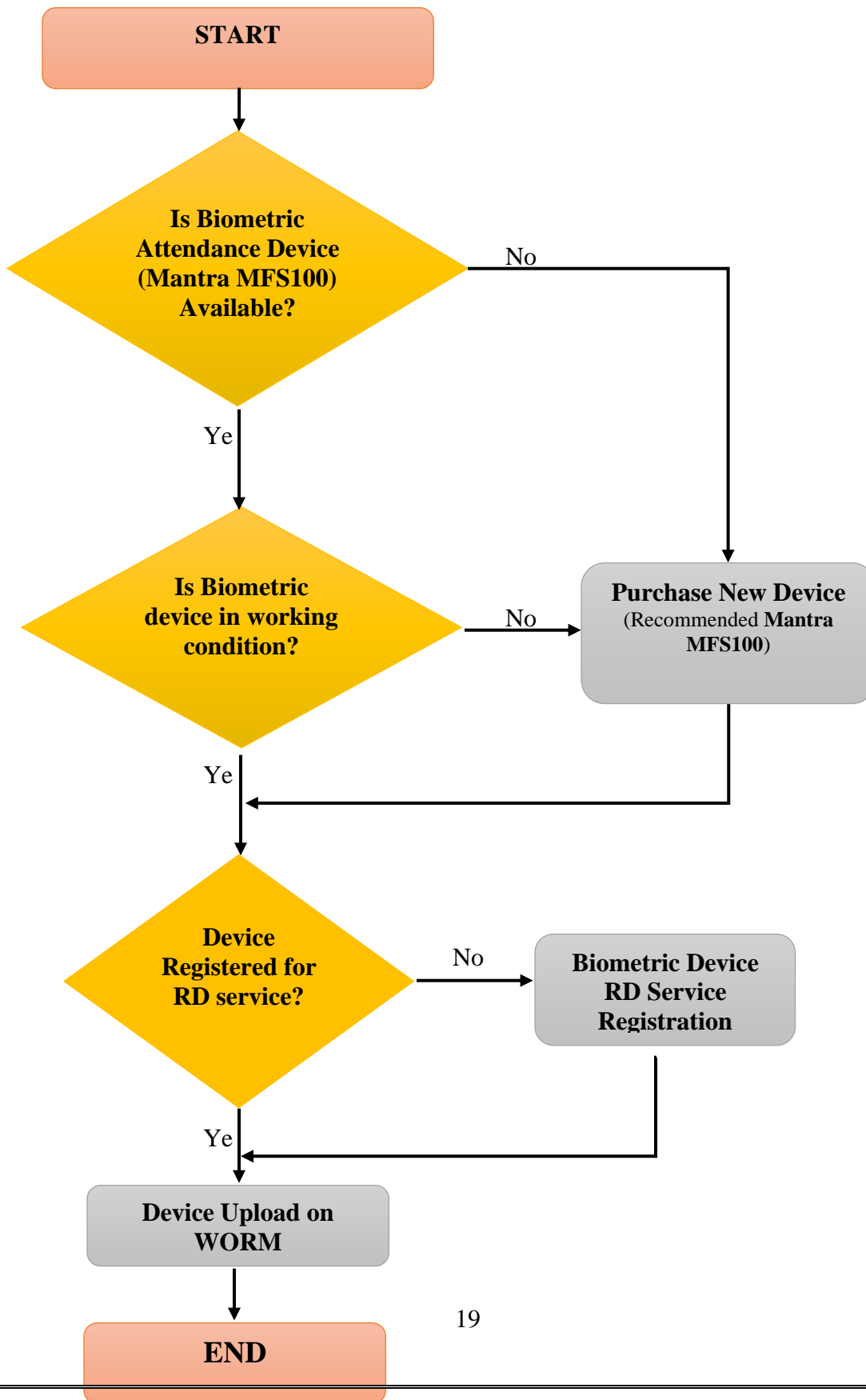
Showing 1 to 1 of 1 entries

First Previous Next Last

You will find device detail here after successful upload of biometric data

Note: Only RD Services registered device will upload through the WORM

7.3. Device upload on WORM- Process Flow chart



7.4. Integration with Local ERA for Biometric Attendance

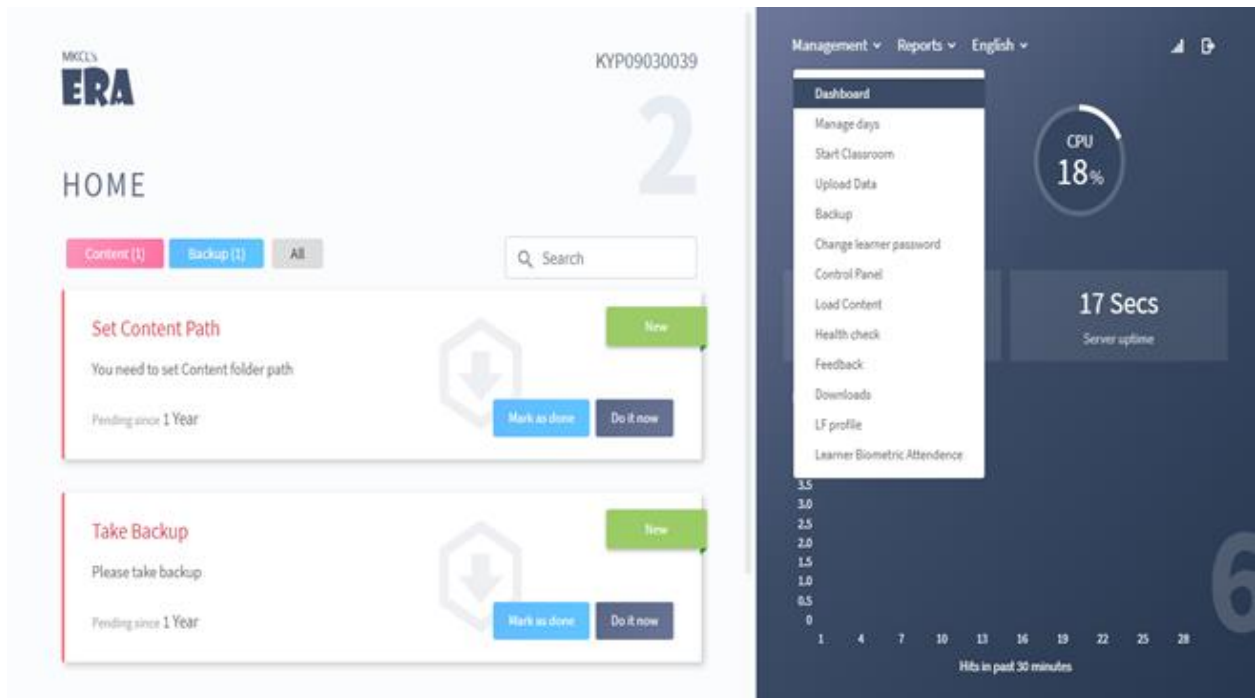
In ERA, Learner Attendance is marked through teacher client using Aadhaar Biometric Authentication.

The Following is the Process Flow:

Step 1:

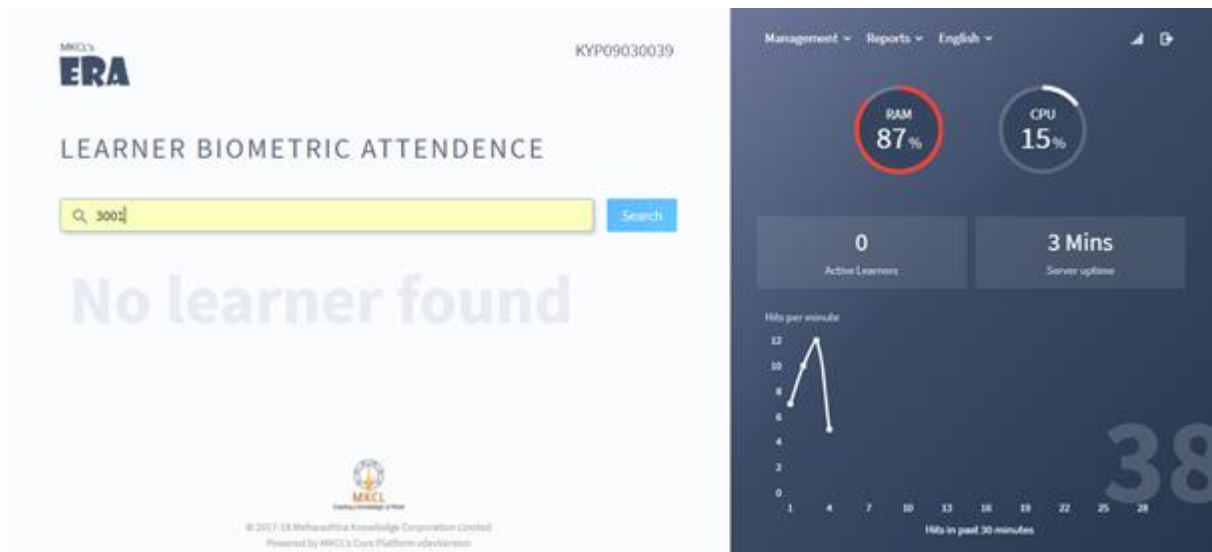
Learner Facilitator Login

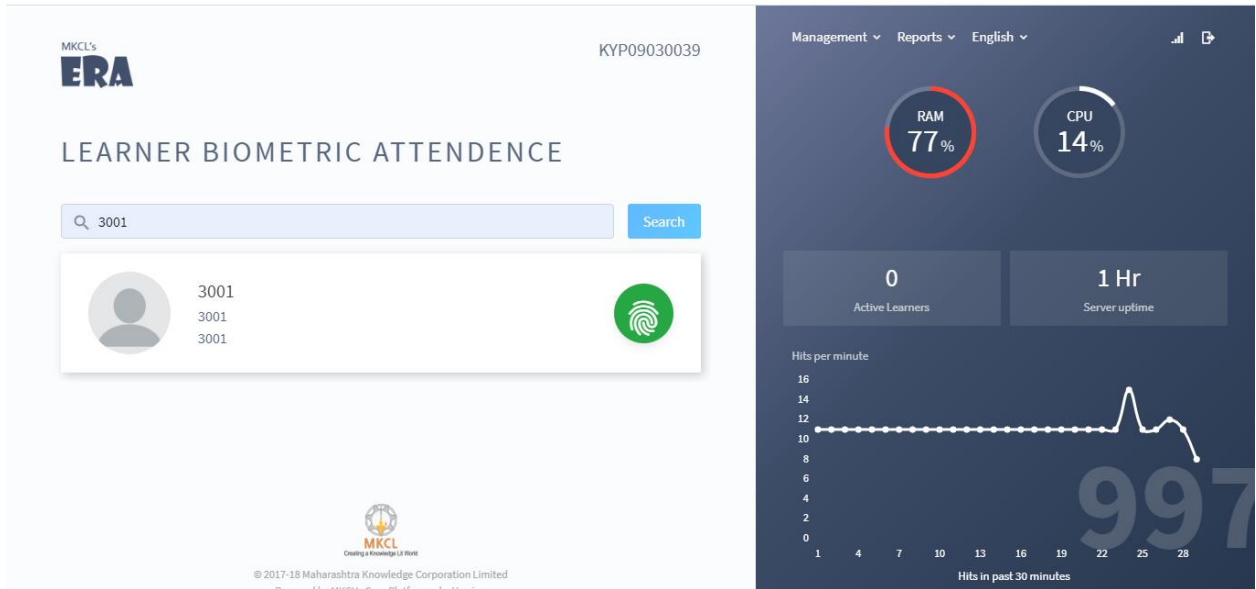




Step 2:

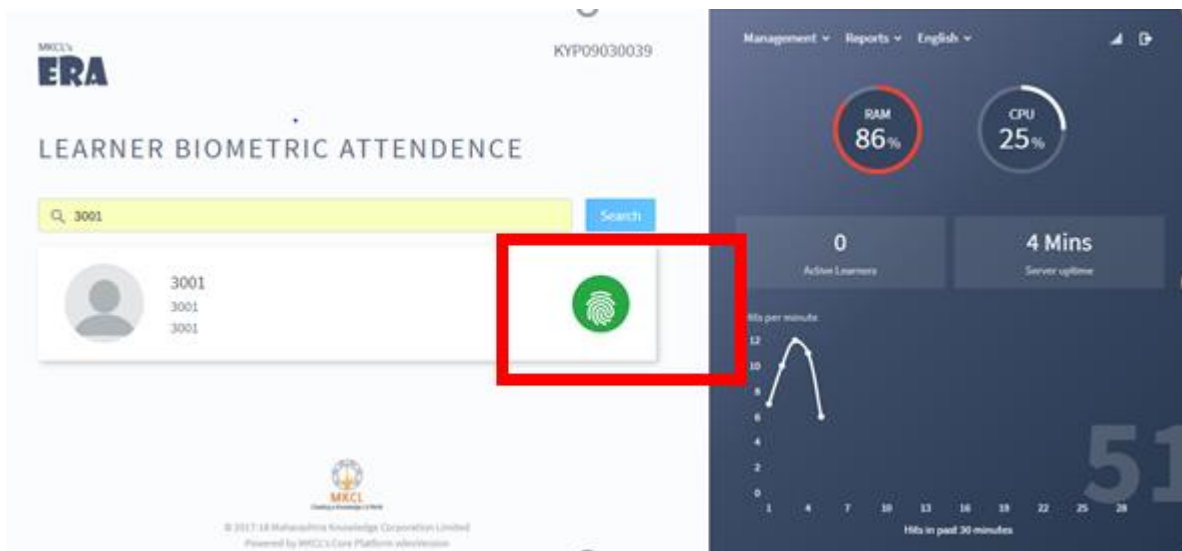
In Learner Biometric Attendance page, search a specific learner by learner Id





Step 3:

Mark Biometric Attendance by clicking on the thumb icon on Learner card



Step 4:

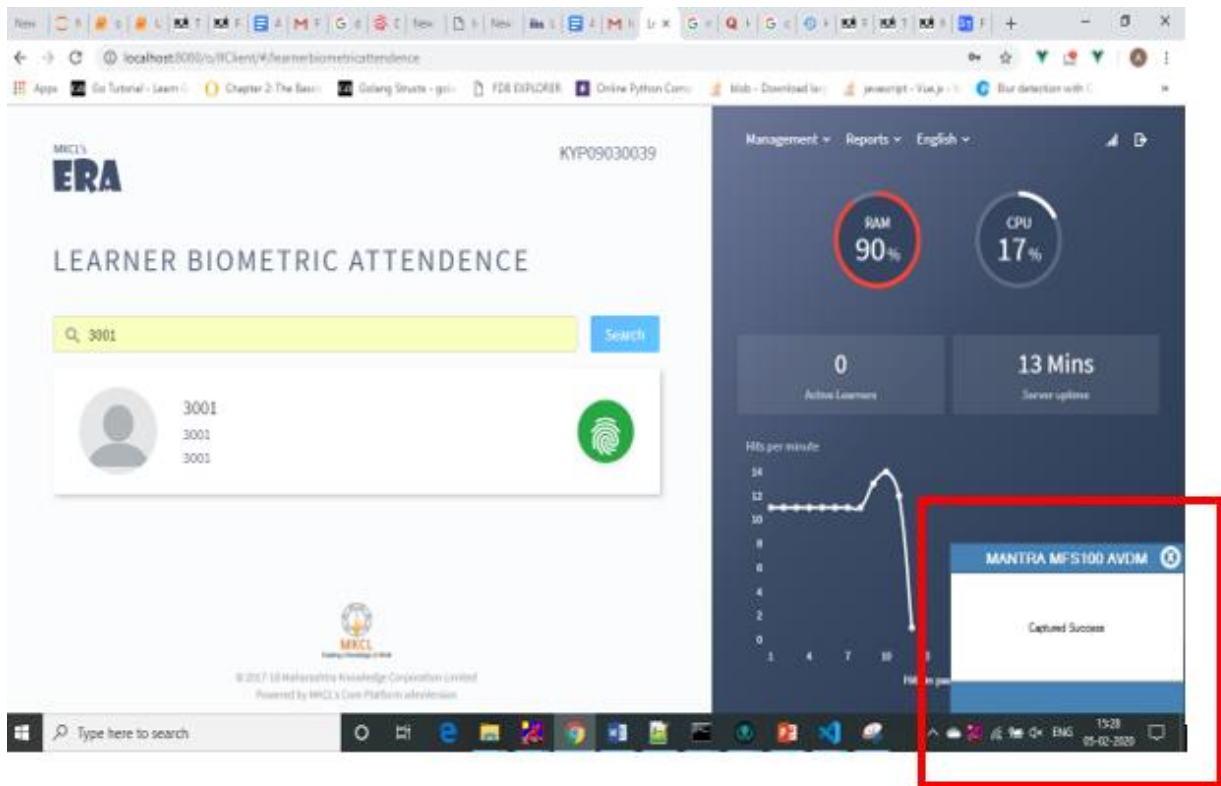
Accept the disclaimer to proceed further.

The screenshot shows the ERA Learner Biometric interface. At the top, the MKCL ERA logo is on the left, and the user ID KYP09030039 is on the right. The page title is "LEARNER BIOMETRIC". A search bar contains "3001". Below the search bar, there are three user profile cards, each with the ID "3001". A modal window titled "Disclaimer" is centered on the screen. The disclaimer text reads: "I Diksha Sharma, the holder of this Aadhaar number, hereby give my consent to this agency to obtain my Aadhaar number, Demographics and Biometrics and/or One Time Pin (OTP) data for authentication with UIDAI. This agency has informed me that my identity information would only be used for the purpose of establishing my identity and creating de-duplicated i.e. golden data by seeding my Aadhaar in agency's and MKCL database; my biometrics will not be stored / shared and will be submitted to CIDR only for the purpose of authentication. I am also informed of other identity proofs acceptable by agency as alternative to Aadhaar, and given to understand that my information submitted herewith will be protected / used as per requirements of Aadhaar Act 2016 and other laws." The modal has "Cancel" and "Accept" buttons. In the background, a dashboard shows RAM usage, CPU usage at 25%, and a 7 Mins server uptime. A "99" badge is visible in the bottom right corner.

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The screenshot shows the ERA Learner Biometric Attendance interface. At the top, the MKCL ERA logo is on the left, and the user ID KYP09030039 is on the right. The page title is "LEARNER BIOMETRIC ATTENDENCE". A search bar contains "3001" and a "Search" button. Below the search bar, there are three user profile cards, each with the ID "3001". A green fingerprint icon is visible on the right side of the profile cards. A dashboard on the right shows RAM usage at 92%, CPU usage at 21%, 0 Active Learners, and 12 Mins Server uptime. A line graph shows "Hits per minute" with a peak at 13. A red box highlights a "MANTRA MFS100 AVDM" device with the instruction "Put Your Finger".

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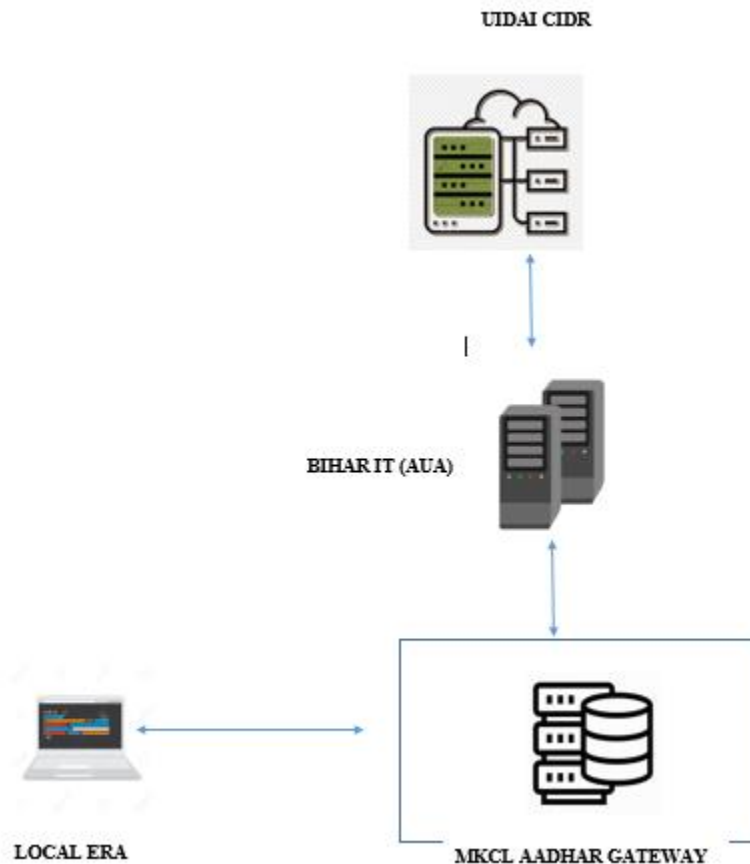


After Accepting the disclaimer, the biometric fingerprint details are captured which include the PID block. This data is sent to the **MKCL Aadhar Gateway** along with the Learner MKCL Identification Number(MIN)

- 1)Biometric Fingerprint
- 2)PID Block
- 3)MIN(mkcl Identification number)

Step 5:

Aadhaar Biometric Gateway



The MIN value that is sent from the local **ERA** is matched with the entries in the database and the Aadhar number corresponding to the MIN is retrieved and the values (Aadhar Number, PID) are sent to **Bihar IT** that provides connectivity using private secure networks to UIDAI's data centers for transmitting authentication requests.

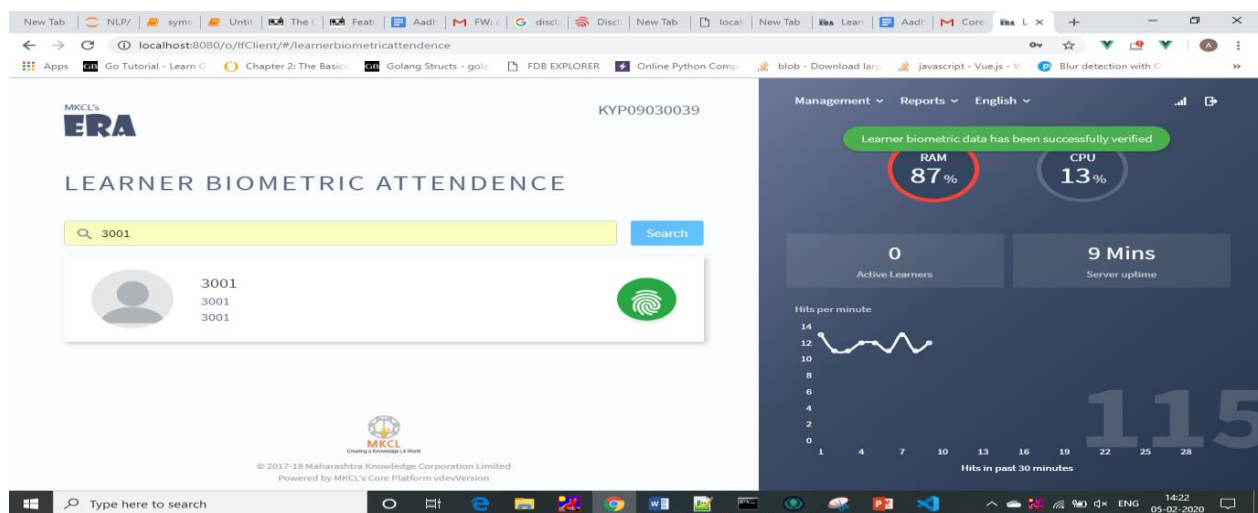
In UIDAI, the Aadhaar holder's record is first selected using the Aadhaar Number and then the demographic/biometric inputs are matched against the stored data within CIDR which was provided by the Aadhaar holder during

enrolment/update process and the response is sent back to Bihar IT Service which in turn is sent to the MKCL Aadhar Gateway. Response and logs of the transaction is stored in MKCL Aadhar gateway. The response that is received is sent to the local ERA where the attendance is marked for the specific learner if the learner is authenticated.

Step 6:

Response

On **Successful** Authentication the attendance will be marked.



The screenshot displays the MKCL ERA Learner Biometric Attendance interface. The main heading is "LEARNER BIOMETRIC ATTENDANCE" with the ID "KYP09030039". A search bar contains the number "3001" and a "Search" button. Below the search bar, there is a list of three entries, each with a person icon and the number "3001". To the right of the list is a green fingerprint icon. A green notification banner at the top right states "Learner biometric data has been successfully verified". Below this, there are two circular gauges: "RAM 87%" and "CPU 13%". Further down, there are two boxes: "0 Active Learners" and "9 Mins Server uptime". A line graph shows "Hits per minute" over the last 30 minutes, with a peak of 14 hits. The number "115" is displayed in large font at the bottom right. The footer includes the MKCL logo and text: "© 2017-18 Maharashtra Knowledge Corporation Limited. Powered by MKCL's Core Platform v16/Version".

On **Unsuccessful** Authentication

MICL's **ERA** KYP09030039

LEARNER BIOMETRIC ATTENDANCE

Search

3001

3001

3001

Mark Attendance

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Management ▾Reports ▾English ▾⌵

RAM
87%

0

Active Learners

CPU
56%

29 Secs

Server uptime

Hits per minute

Time (min)	Hits
1	8

8. Conclusion

With the BSDM having decided to put in place AEBAS at all the empaneled SDCs across Bihar, it becomes mandatory for the learners and learning facilitators of the SDCs to mark their attendance in real-time and prohibit them to temper the attendance which may finally impact the skill training quality. The monitoring and tracking of attendance would take place in real-time and overcome the case of impersonation which is being held at various SDCs.

9. Frequently asked questions (FAQs)

1. What if current biometric device is not working?

You can purchase new device from market recommended device is Mantra MFS100

2. What is RD Service Registration?

The Registered Device (RD) Service keeps security at the forefront by allowing secure registration of all devices without storing any data on the device. Without RD service registration using UIDI services is not possible.

3. What if we are getting RD registration with new biometric device?

If you purchase new biometric device with one year of RD service registration in such cases you can directly check the RD service status and upload the device on SOLAR portal.

4. Can we upload more than one device on WORM?

Currently only one device is allowed to upload, we suggest to keep one more device in spare for the use.

5. Can we register biometric device from other websites except **SERVICO?**

There are multiple online RD service registration providers we have recommended Mantra official provider for MFS100 device, you can purchase the services from any of the providers available in the market

6. Can we upload device more than one time in case of technical problem?

Yes, in case of technical issue of existing device you can upload another RD service registered device.

7. Can we upload non RD service registered device on WORM?

No, only RD service registered is allowed to upload

10. References

1. https://www.meity.gov.in/writereaddata/files/AADHAR_Enabled_Bio-metric_Attendance_System.pdf
2. <https://www.timedynamo.com/blog/aebas>
3. <https://www.matrixaccesscontrol.com/aebas.html>
4. <https://analyticsindiamag.com/understanding-biometrics-scope-india/#:~:text=In%20a%20recent%20development%20pertaining,payment%20transactions%20by%20June%2030.>
5. https://uidai.gov.in/images/tenders/rfe_attendance_system_270614.pdf

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