



RFID based Employee Attendance Terminal

available for Odoo v10 and v11



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User Guide

This guide explains step-by-step how to setup an attendance environment with Odoo using Eficent's RFID Attendance Terminal (abbreviated RAS). The terminal is able to detect Radio-frequency identification (RFID) cards operating at 13.56MHz as defined in the ISO/IEC 18000-3. These cards are relatively inexpensive and widely available. It is also possible to print them with custom designs.

The terminal needs to connect to the odoo database every time a card is swiped. This means that the Terminal can only function properly if there is a Wi-Fi connection. Check-in and check-out times are not stored in the Terminal.

Product description



Every RAS package contains

- 1x Terminal
- 1x Wall Mount
- 1x RFID Card
- 1x RFID Keychain
- 1x Screw M3x5 (to fix the Terminal into the Wall Mount)

RAS package doesn't contain

- USB micro cable connector
- USB power supply (at least 6W)
- Screws and wall plugs for fixing the Wall Mount to the wall or to a wall box

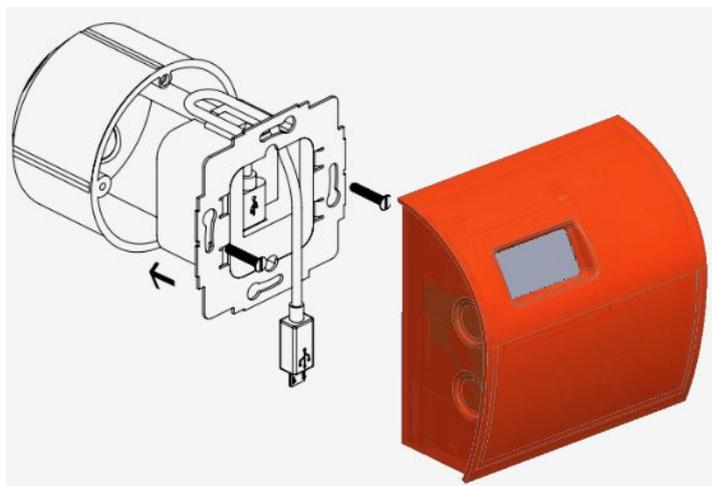
Unpacking the Terminal & Power Supply Options



When you unpack your Terminal you will notice that the Case and the Wall Mount are screwed together. To install your Terminal you will have to remove the M3x5 screw and slide the Wall Mount out.

Then you will have to fix your Wall Mount to the wall. You have two options to supply your Terminal with electrical power:

1. Use a standard wall plug and an USB Power Supply: the USB Cable will then be visible and reach the back of the Terminal through the small hole in the Wall Mount near the screw.
2. Use a standard wall box and an in-Wall USB Power Supply: no USB Cable is then visible. Please contact us if you need help to select an appropriate in-Wall Power Supply.



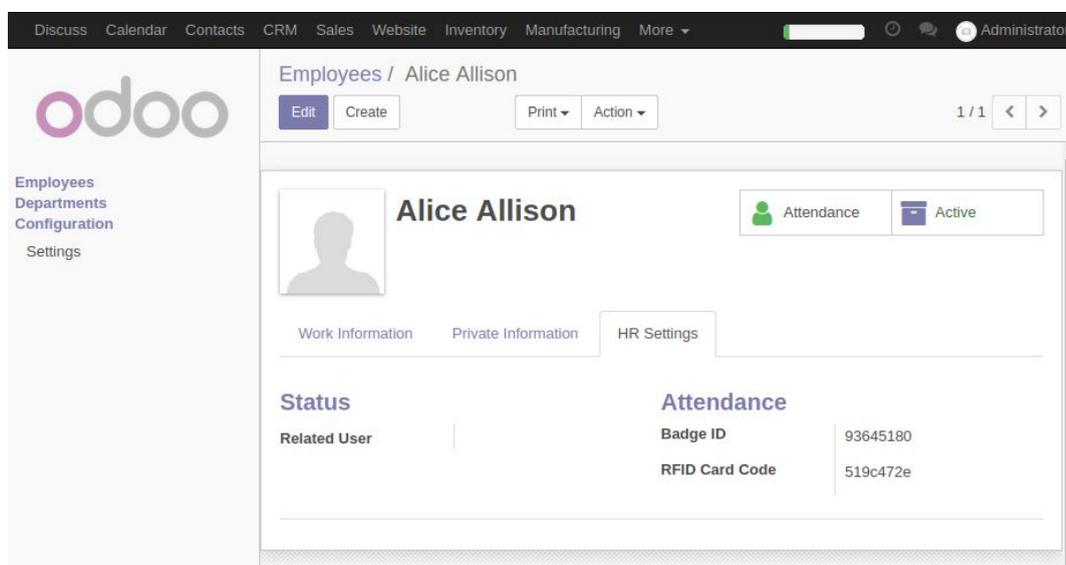
Odoo Configuration

The module that interacts with Odoo is open source and published on App Store as **hr_attendance_rfid**. You can also find it in the OCA repositories:

<https://www.github.com/OCA/hr> on branches 10.0 and 11.0

The module will add an extra field named **RFID Card Code** on the tab **HR Settings** on **Employees**. This field has to be filled with the **unique permanent identification (UID)** of the Employee's RFID Card.

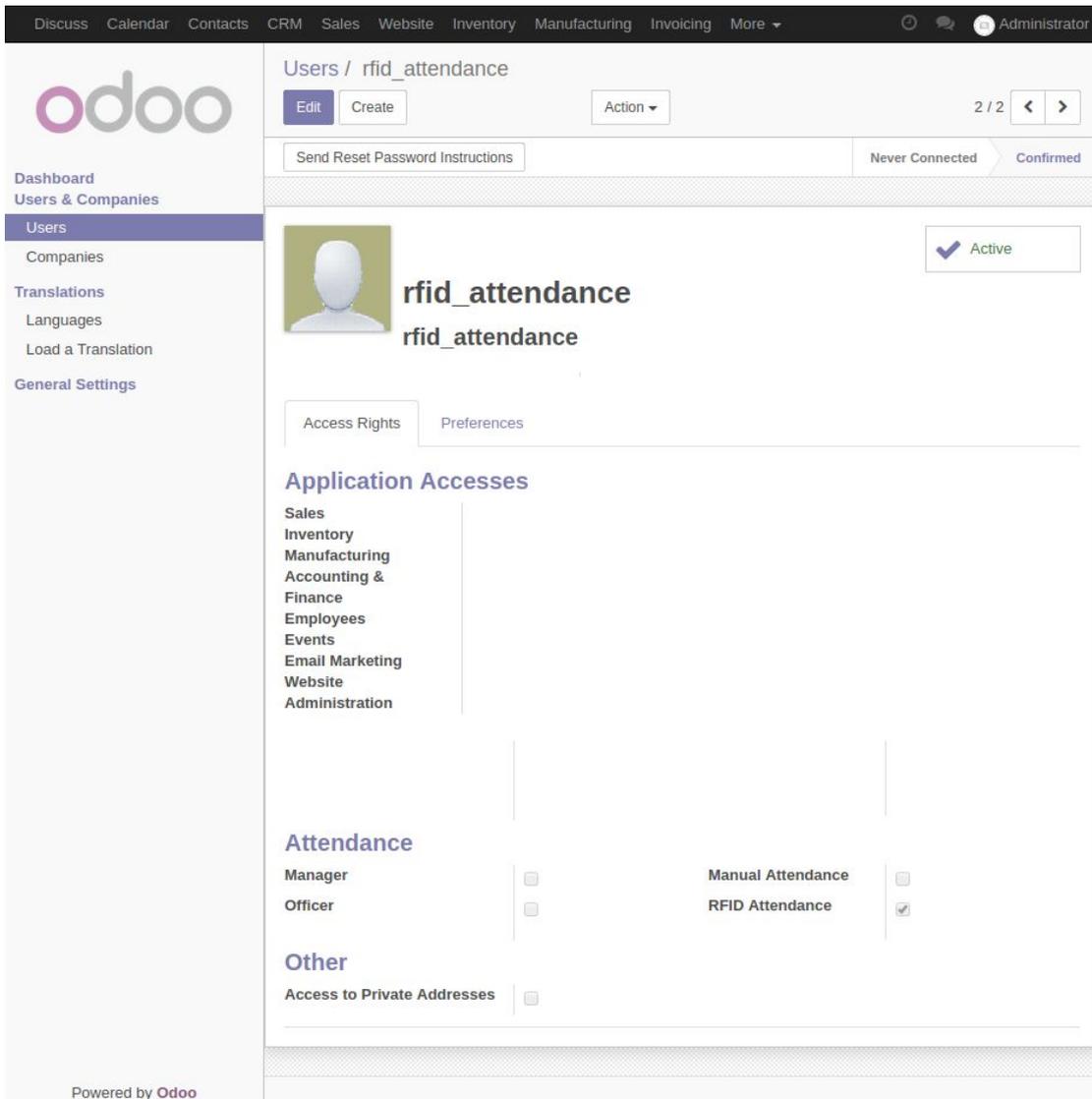
Each RFID card contains an integrated chip with a unique permanent identification (UID) number burned-in during the manufacturing process. The cards we deliver with the RFID Attendance Terminal are 4 byte UID¹. This 4 byte UID is used to fill the above mentioned RFID Card Code in an 8-digit hexadecimal format. In the example on the figure you can see that this code is "519c472e" for the Employee "Alice Allison".



For security purposes the module **hr_attendance_rfid** also adds a group called **rfid_attendance**. In order to avoid security breaks we encourage you to:

1. Create a new user (this new user should not have any permissions in Odoo),
2. Add this new user to the group **rfid_attendance**.

¹ ISO 14443-3A defines 3 types of UID: single (4 byte), double (7 bytes) and triple (10 bytes). If you use other cards than the ones we deliver you with, you could find 7 or 10 bytes UIDs.



The screenshot shows the Odoo web interface for managing users. The breadcrumb trail is 'Users / rfid_attendance'. The user profile for 'rfid_attendance' is displayed, showing a placeholder image and the name 'rfid_attendance'. The user is marked as 'Active'. Below the profile, there are tabs for 'Access Rights' and 'Preferences'. The 'Access Rights' section is expanded, showing a list of application categories: Sales, Inventory, Manufacturing, Accounting & Finance, Employees, Events, Email Marketing, Website, and Administration. Under the 'Attendance' section, there are checkboxes for 'Manual Attendance' (unchecked) and 'RFID Attendance' (checked). Under the 'Other' section, there is a checkbox for 'Access to Private Addresses' (unchecked). The footer of the interface says 'Powered by Odoo'.

Once the **RFID Card Codes** of all the employees have been introduced in the database, your Odoo instance is ready to support attendance record.

Terminal Configuration

0. Make sure the Wi-Fi you are planning to use is working.

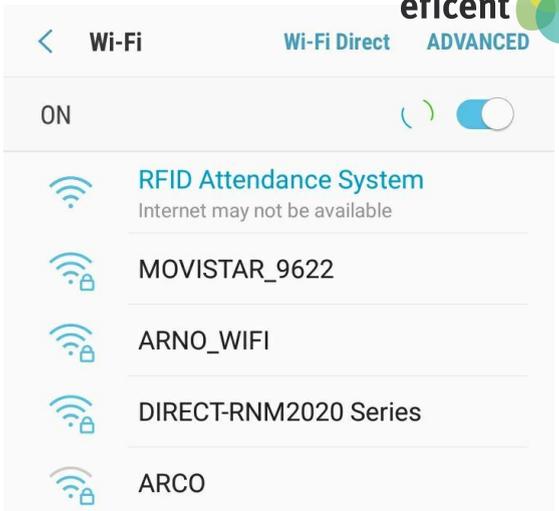
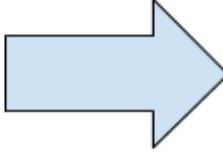
1. Plug a micro USB connector in the back side of the terminal.

2. If you are setting up the terminal for the first time, there could be a delay of about 4 minutes because of initial file system configurations.

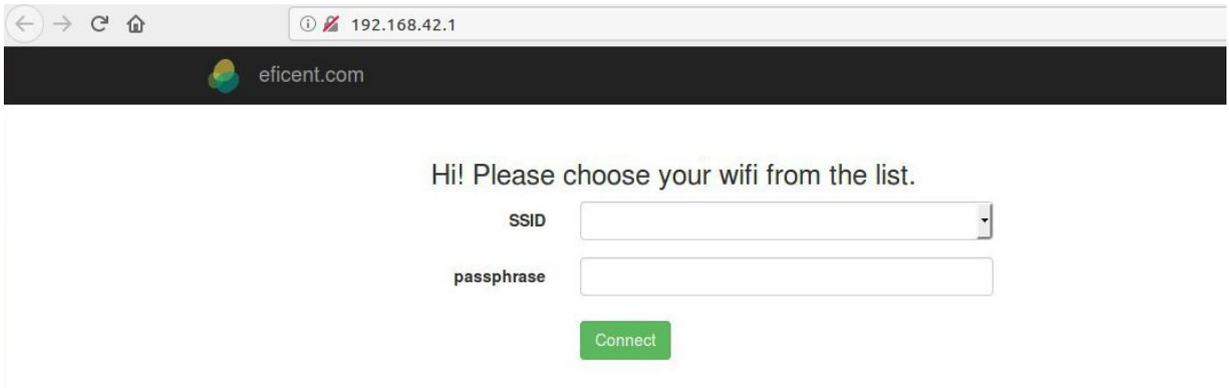
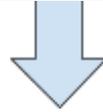
Configure the Wi-Fi connection

3. As the terminal is still not able to connect to your Wi-Fi, it will be temporarily configured as an Access Point called **“RFID Attendance System”**. The Terminal will prompt all the necessary instructions in order to configure the Wi-Fi connection as follows:

3.1. Switch to the **“RFID Attendance System”** hot-spot on your browser device.

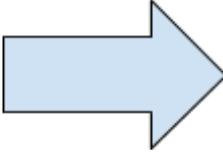


3.2. Once you are connected to the “RFID Attendance System” hot-spot. browse to **192.168.42.1**



3.3. Select the Wi-Fi SSID you want to use with the Terminal from the drop-down menu and enter its password. The Terminal uses a headless connection service and will only connect to direct password services. Wi-Fi connections that require you to enter information on a website will not work.

3.4. If the connection to Wi-Fi is successful, the main menu will appear. Otherwise the “Access Point” procedure has to be repeated until a working Wi-Fi connection is successfully set up.

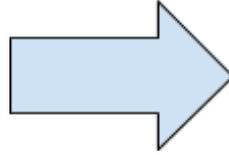


Code Update

4. You can update the RFID Attendance Terminal (RAS) to the latest version on demand. Please make sure to do an update the first time you set up the terminal. If you want to receive notifications on new versions of the code, please request it contact@eficent.com and we will add you to a mailing list. Every new release will be notified on Eficent’s website.



RFID - Odoo
RFID reader
Settings
Reboot



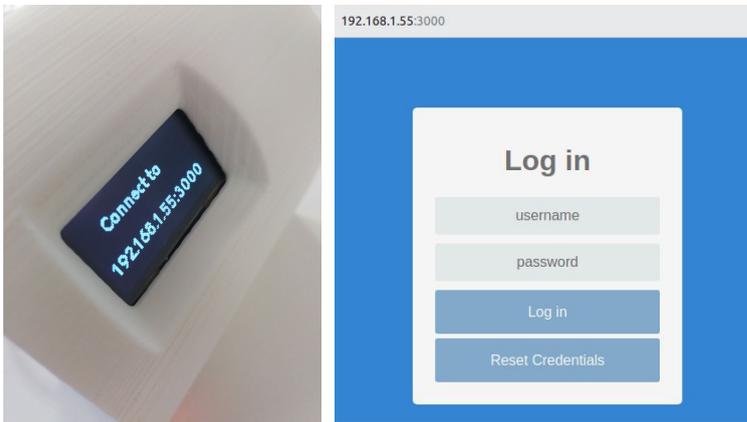
WiFi Reset
Update RAS
Reset Data
Back

Navigate to Settings and select **Update RAS**. The device will then update the code and reboot.

5. Once the Wi-Fi connection is up and running, the Terminal will show the **Main Menu**. At this point the device is able to connect to the internet but still does not know where to send the data to.

Odoo connection parameters

6. The first time you configure the Odoo parameters, you must go to the menu **RFID – Odoo**. On accessing it, the Terminal will prompt the URL of the “Odoo parameters configuration web service”. You will have then to browse to the prompted URL in order to configure the Odoo connection.



Default login credentials are:

username: admin
password: admin

We recommend to change the login credentials using the option **Reset Credentials**.

7. Fill the Odoo parameters form. The parameters include:

Parameter	Example
Odoo Host: URL pointed to Odoo Server	odoo.example.com
Odoo Port: Port used to point Odoo Server	8069
Usage of https connection (Yes/No)	No
Odoo user to be used	rfid_attendance
Odoo Password to be used	*****
Odoo database name	instance_10
Admin RIF Card Code (*)	FFFFFFFF
Timezone	(GMT +02:00) Europe/Kaliningrad

(*) If you don't know the Admin RFID Card code (UID), just swipe the Admin Card over the RFID Reader zone of the Terminal and the code will be displayed on the screen.

After submitting the Odoo parameters form the Terminal will show the **Main Menu** again. Select **RFID - Odoo** to start using the RFID Attendance Terminal.

End user operation

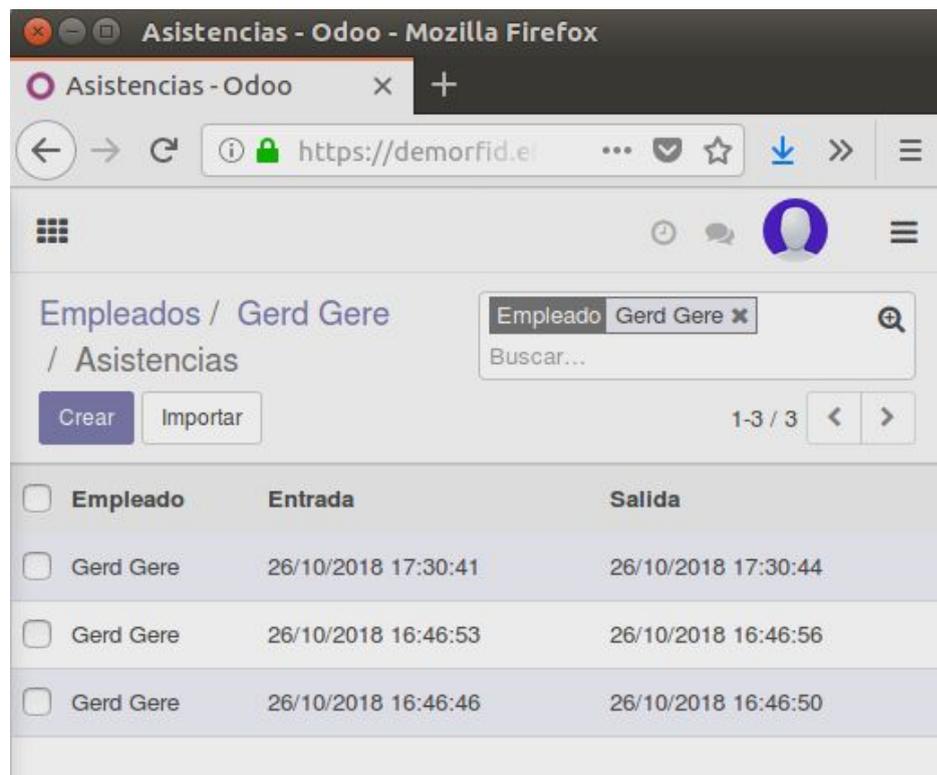
When a user swipes his card, the Terminal reads its **RFID Code**. The code is sent to Odoo and Odoo checks if the **RFID Code** is associated with an employee in its Database. If there is a match, Odoo looks for the last attendance operation performed by this user (check in/check out/none) and records correspondly a “check in” or a “check out” time stamp in the Odoo Employee Attendance Database. The employee is then informed by a message on the screen and a buzzer acoustic signal (different for check in and check out):



Otherwise, if the RFID code is not associated to any employee, a distinctive acoustic signal will be produced and the screen will prompt “Not Authorized”. The “Not Authorized” attempts are not recorded in the database.



This image is an example of the Employee Attendance View in odoo. This data can be used to issue automatized payroll checks, for example.



<input type="checkbox"/>	Empleado	Entrada	Salida
<input type="checkbox"/>	Gerd Gere	26/10/2018 17:30:41	26/10/2018 17:30:44
<input type="checkbox"/>	Gerd Gere	26/10/2018 16:46:53	26/10/2018 16:46:56
<input type="checkbox"/>	Gerd Gere	26/10/2018 16:46:46	26/10/2018 16:46:50

Administrative operations

Once the system is running on Attendance Mode, it can only register the attendances. No other actions can be performed in this mode for security reasons. Only the Admin User with the **Admin RFID Card** can return the terminal to its **Main Menu** to perform other operations.

RFID Reader

On the **Main Menu**, you can enter into the **RFID Reader** mode. The Terminal can then be used to read **RFID codes** in order to add/update them on the Odoo Database.

1. From the Main Menu, enter into the **RFID Reader** mode
2. Swipe a RFID card



3. Return to the **Main Menu** using the Admin RFID Card

Helpdesk

Please do not hesitate to contact the Eficent Team if you need any Help while setting up or using the RFID Attendance Terminal. We will be glad to help you.

If you want to receive notifications on new versions of the code, please subscribe to our mailing list (contact@eficent.com). Every new release will be notified on Eficent's website.

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