

User Manual

Prototype synchronization service schedules -
VTCAL

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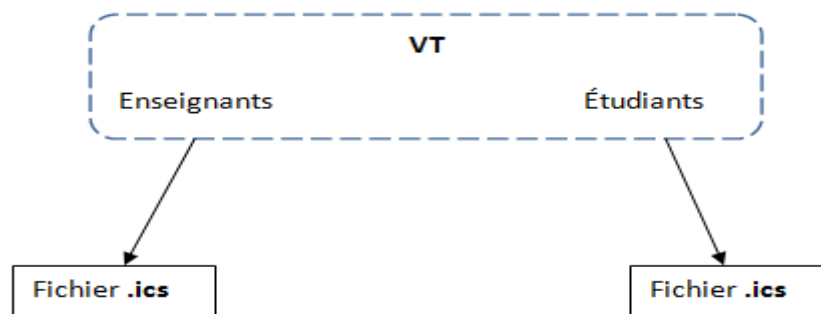
Presentation

The University of Evry Val d'Essonne currently uses the proprietary **Celtat** software for creating and managing schedules of students and teachers. Given that the university contributes to the development of free software. It was therefore decided to use the **Visual Timetabling** free software (VT) that will replace the Celtat software. VT has been designed to easily create schedules based on different profiles.

The primary need is that different users can synchronize their calendar (on smartphones or other) with ICS files generated by the software. The synchronization is done through a CalDAV server.

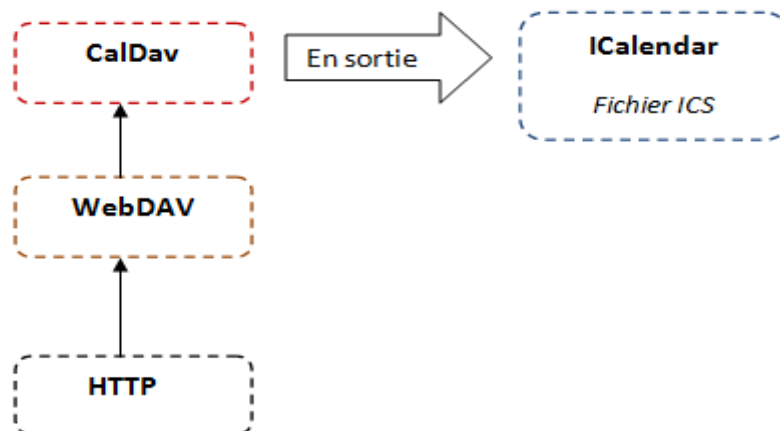
To do this, the tasks to be performed are:

- To study in depth the operation of VT: rights, storage, import, manage users, plugins and more.



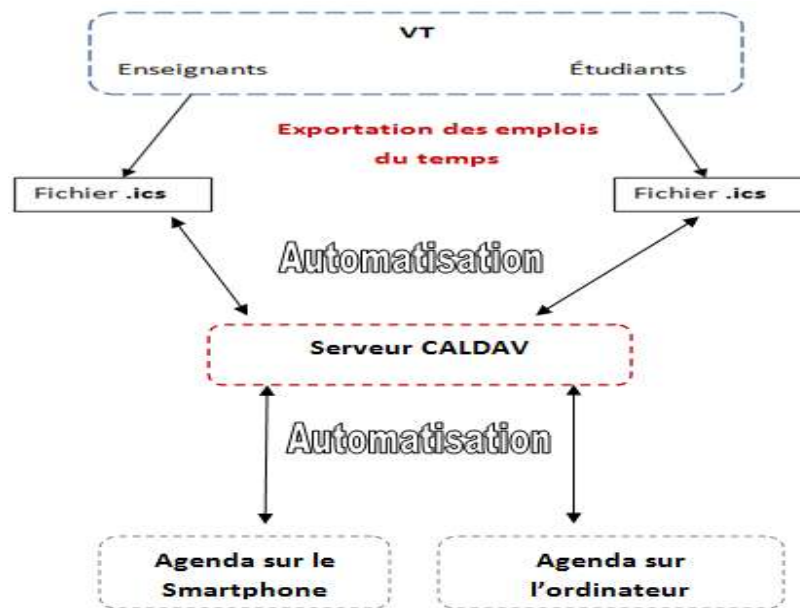
Schema export timetables

- To understand the functioning of the CalDAV protocol which is over WebDAV and HTTP. This will our thereafter choose the CalDAV server.



Hierarchical diagram of the CalDAV protocol

- To take decisions regarding the communication between the different components (VT, CalDAV server, smartphone, PC). Finally, the last task will be the implementation of a prototype calendar service.



Scheme for automating a service calendar

Reflexion

After studying the functioning and operation of the VT CalDAV protocol which is over WebDAV and HTTP. We decided to work with the Radicale server for managing calendars. Latter interact with the Lightning client (computer side) and Firefox Os (mobile side).

However, given the complexity of VT software, it was decided to develop a "VTCAL" application that will communicate with the CalDAV server.

During this project, we proceed as follows:

1. Synchronize schedules between CalDAV server to the Lightning client (computer side)
2. Synchronize schedules between CalDAV server to FirefoxOs (mobile side)
3. Synchronize schedules between VTCAL application and CalDAV server
4. Prototype implementation of a service schedule

Nota:

This project will be available in a directory on GitHub linked as follows:

<https://github.com/WeLiSa/VTCAL>

Prerequisites

For this prototype synchronization service schedules work, you need the following tools :

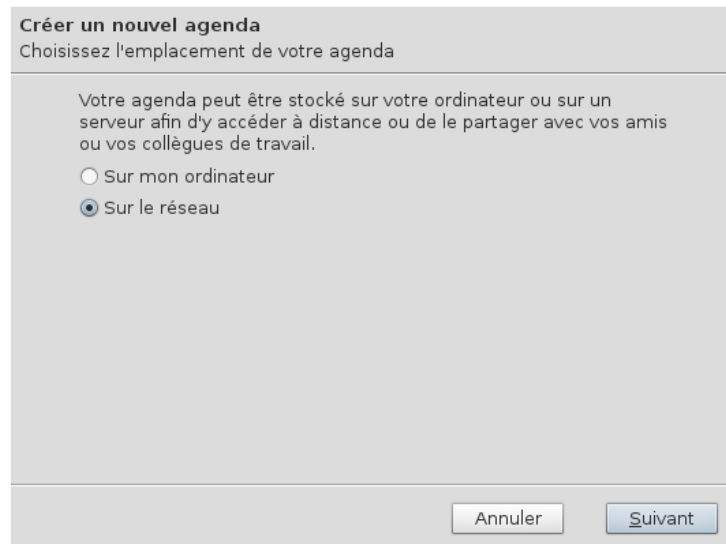
1. The email client developed by the Mozilla Foundation, **Thunderbird** with **Lightning** extension for managing calendars
2. The **Radicale** Caldav server
3. **Firefox OS simulator** or have a mobile Firefox OS
4. The **application** by us pursuant

If you do not have these tools, thank you use the Technical Manual :

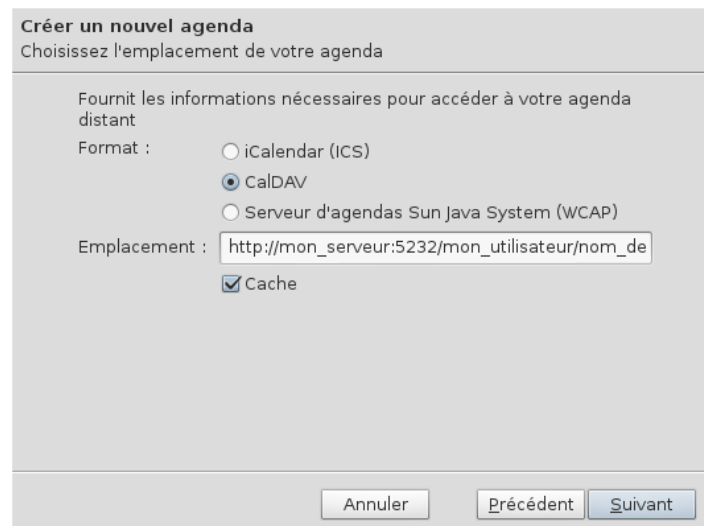
1. **Thunderbird** with **Lightning** extension, see page 5
2. The **Radicale** Caldav server, see page 5
3. **Firefox OS simulator**, see page 9
4. The application developed by us: see page 9

Using Thunderbird / Lightning for calendar management

- Start Thunderbird;
- File> New> Calendar ...;
- Select "On the Network";



- Select the calendar format;
- Enter the URL of the Caldav server:
 - `http://my_server:5232/<my_user>/<calendar_name>`



- Replace `<my_user>` by the name specified in `/etc/radicale/users` ;
- Replace `<name_calendar>` the desired name for your calendar (example : `default.ics`) ;
- If the calendar does not exist it will be created automatically.
- Choose the name, color and associated with this agenda :

Créer un nouvel agenda
Personnaliser votre agenda

Vous pouvez donner un nom à votre agenda et affecter des couleurs aux événements.

Nom :

Couleur :

Afficher les alarmes : ☒

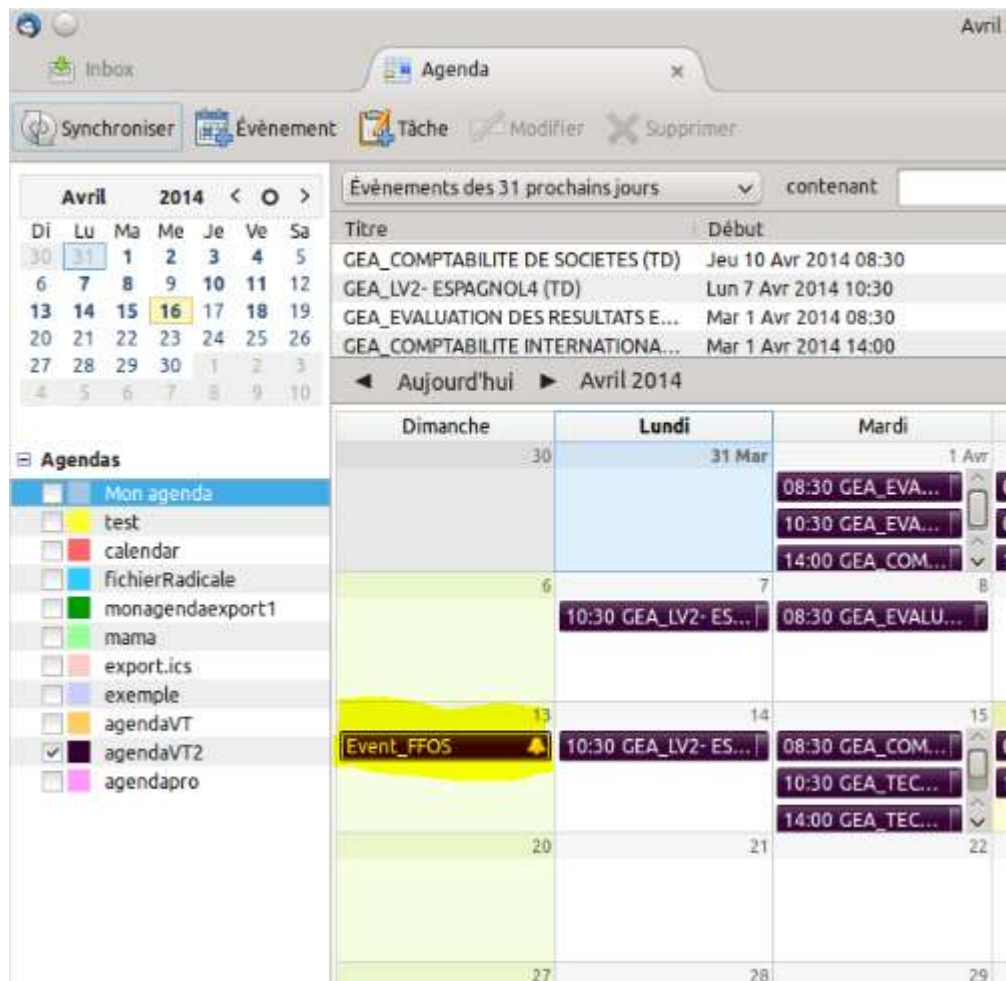
Adresse électronique :

- Click on Finish :

Créer un nouvel agenda
Agenda créé

Votre agenda a été créé.

- Thunderbird then asks the user and password ;
- Validate the certificate if SSL is used ;
- Right Click Actualiser les agendas distants to take into account changes in other users.



For each calendar, tasks and events can be created.

Synchronization between the Caldav server (Radicale) and Thunderbird Lightning

I monAgenda.ics a file and I want to sync to the server Radicale.

- Create a monAgenda.ics.props file in the user /etc/radicale/data/user

```
$ sudo gedit agenda.ics.props
```

- Copy and paste the text below and save the file :

```
{"tag": "VCALENDAR"}
```

- Stop and restart the server Radicale
- Save the agenda in the same directory
- Change use group files :

```
$ sudo chown radicale:radicale monAgenda.ics.props
```

```
$ sudo chown radicale:radicale monAgenda.ics
```

- Check the access permissions with the command "ls-al" :

```
-rw-r--r-- 1 radicale radicale 146657 mars 27 21:40 monAgenda.ics  
-rw-r--r-- 1 radicale radicale 21 mars 27 21:57 monAgenda.ics.props
```

- If the rights are different, change them by « chmod » :

```
$ sudo chmod 644 agenda.ics
```

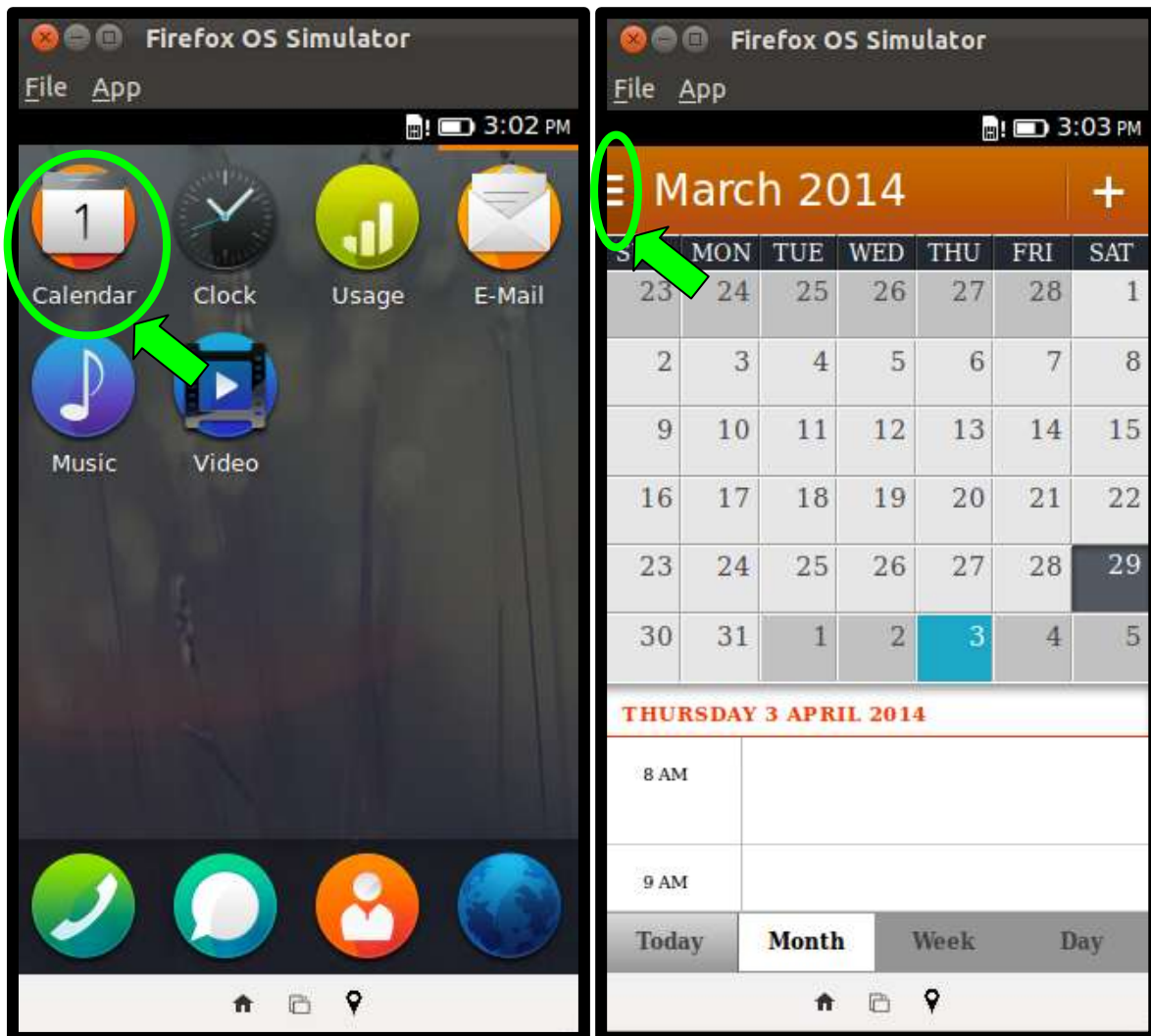
or

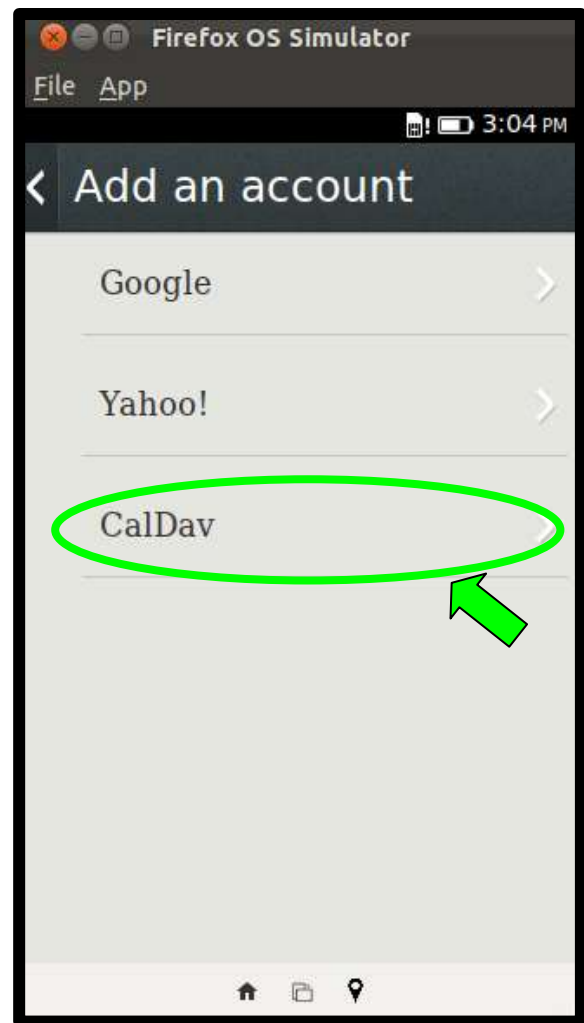
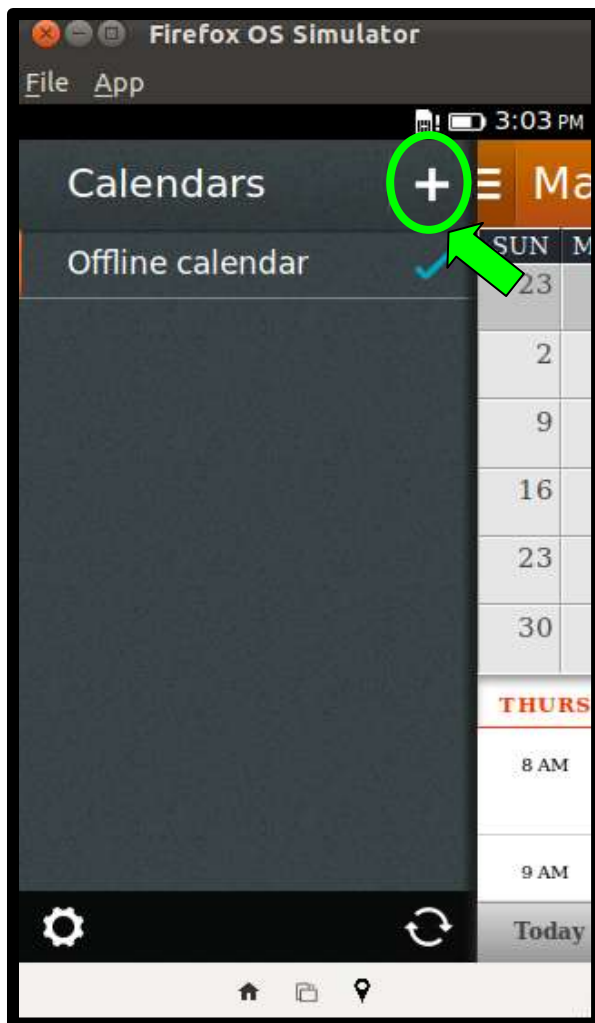
```
$ sudo chmod 644 agenda.ics.props
```

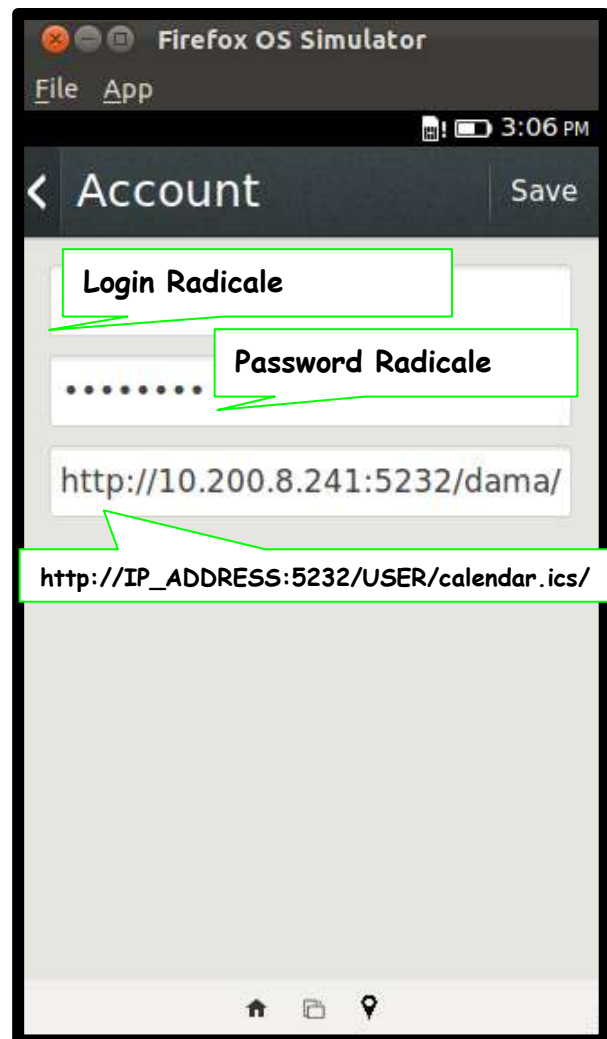
- Create a new calendar in Lightning put a link to the calendar :

```
http://localhost:5232/users/monAgenda.ics/
```

Synchronization between the Caldav server (Radicale) and Firefox OS





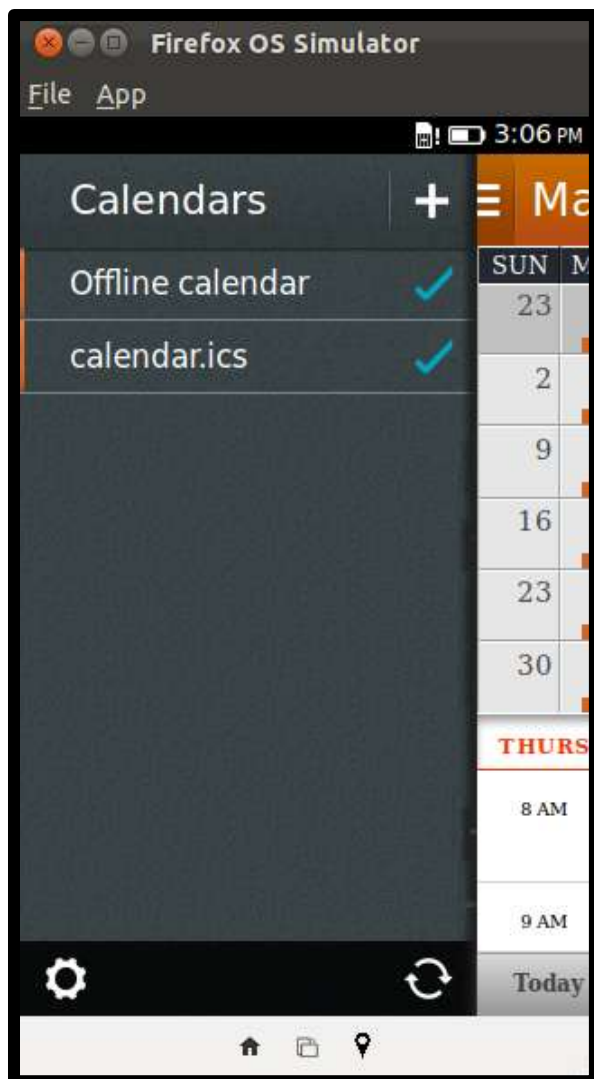


You must enter the server URL: `http://<IP_ADDRESS>:5232/<USER>/calendar.ics/`

IP_ADDRESS = IP address of server Radicale.

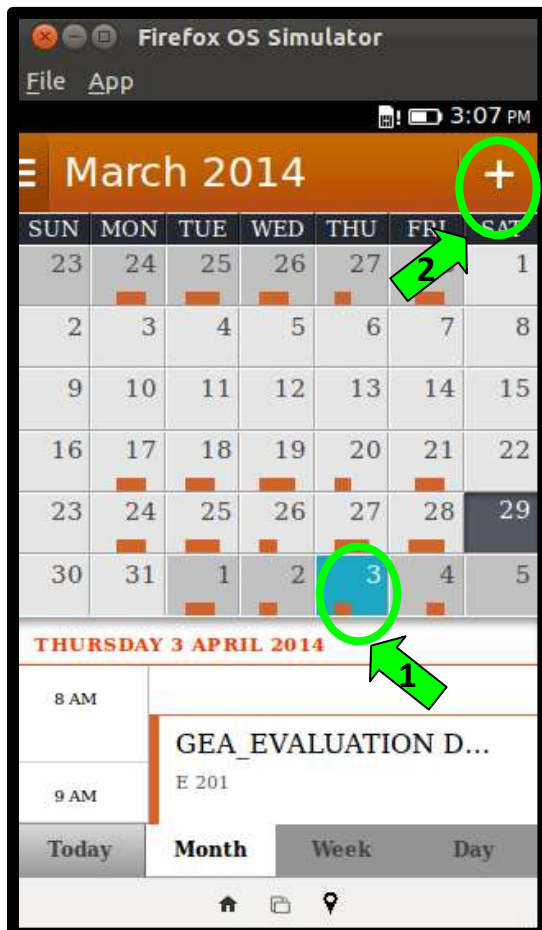
USER = user created on the server Radicale.

Warning : do not forget to add the '/' at the end of the URL, after the name of the calendar !



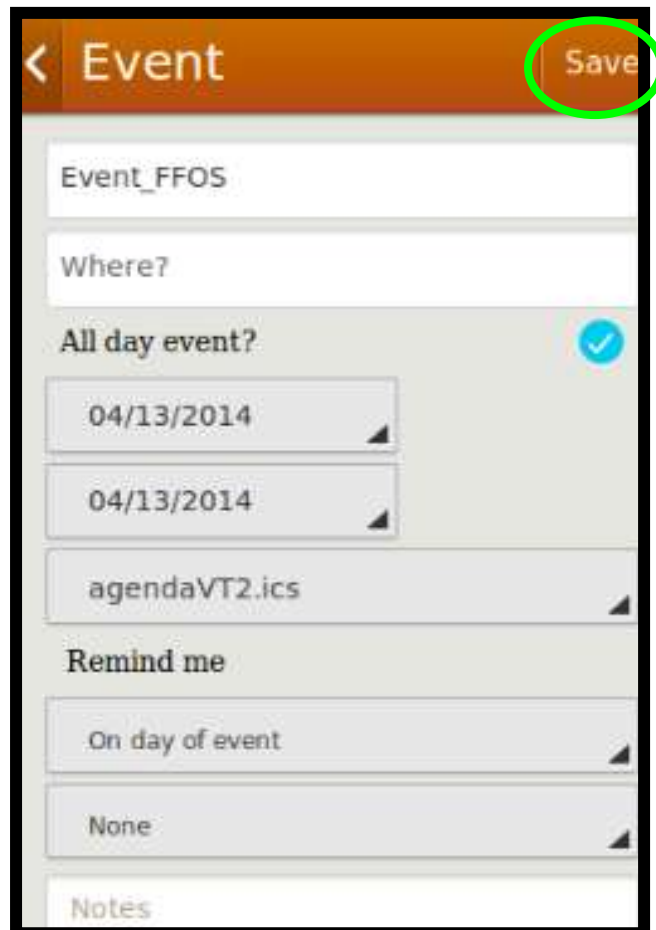
Using the Calendar Utility Firefox OS

I. Adding an event



1 : Select a day

2 : « + » add an event



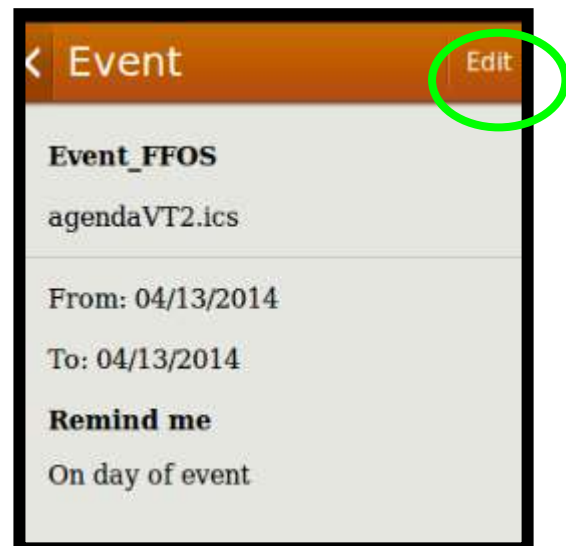
Filling the information related to the event and recorded.



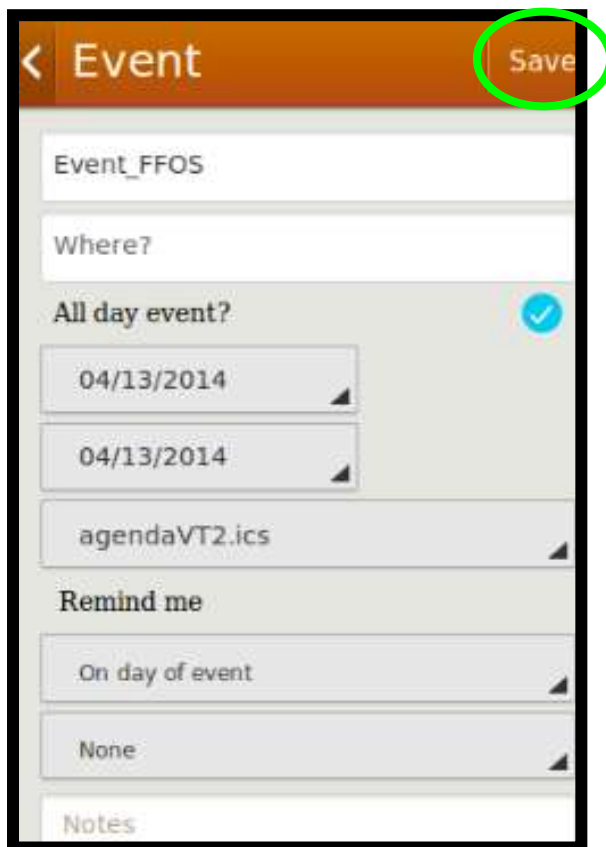
II. Changing an event



Select an event



Edit



The image shows a mobile application interface for editing an event. At the top, there is an orange header bar with a back arrow and the word 'Event'. To the right of the header, a 'Save' button is highlighted with a green circle. Below the header, the form contains several fields: 'Event_FFOS', 'Where?', 'All day event?' (with a blue checkmark icon), two date pickers both showing '04/13/2014', a file picker showing 'agendaVT2.ics', a 'Remind me' section with two options 'On day of event' and 'None', and a 'Notes' field at the bottom.

Modify and save

III. [Deleting an event](#)

This feature is not operational. It is listed on the Bugzilla : Bug 538873 - CalDAV: Cannot Delete Event.

Using the application VTCAL

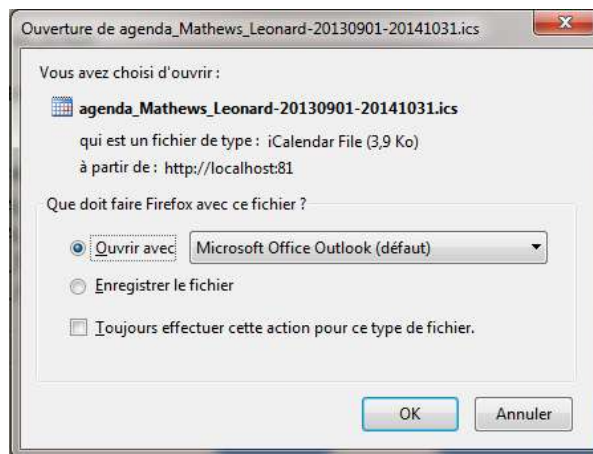
The administrator wishes to make Visual Timetabling export or shipment to the CalDAV server file filtered according to the start date and end date.

The screenshot shows the VTCAL application interface. At the top, a blue banner reads "Bienvenue sur VTCAL". Below this, the interface is divided into several sections:

- Profil:** A dropdown menu labeled "Sélectionnez un profil" with "Enseignant" selected.
- Pièce jointe:** A button labeled "Parcourir..." next to the text "agenda_Mathews_Leonard.ics".
- Filtrage du fichier:** Two date input fields: "Date de début: 01/09/2013" and "Date de fin: 31/10/2014".
- Formations:** A list of checkboxes for "M1A", "M2A", "M2_MIAGE", and "M1_ASR".
- Type de séance:** A list of checkboxes for "CM", "TD", "TP", "Examen", and "Réunion".
- Les matières:** A list of checkboxes for "BDA", "DLL", "Multimédia", "Projet R&D", and "Projet DLL".

At the bottom, there are two blue buttons: "exporter" and "exporter vers radicale".

When deciding to export the file. It has the option to save the file or open the file :



After opening the file, you can view the calendar. Here I visualized via Outlook.



Below the file is sent to Caldav Radicale on Windows directory on the selected profile.

