jndcalx - Create iCalendar from Lotus Notes/Domino

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1 Motivation

I want to see tasks and calendar entries from my IBM/Lotus Notes calendar in ICAL on my Mac. To enable this, I created *jndcalx* — a C program which runs on a Lotus Notes platform (Mac OS X, Windows or Linux), and which creates iCalendar output (`.ics`) on the fly, without having to manually export and import your calendar. In other words, you can use *jndcalx* as a XXX calendar, and have ICAL or Sunbird periodically refresh their calendars from Lotus Notes or Domino.

2 Platforms

I run *jndcalx* on Mac OS X with a Notes 8.5 installation. I originally started writing *jndcalx* on Windows XP with Notes 6.5, and it still compiles and runs on that as well. I haven't tried Linux, but there is no obvious reason why it won't work on that.

2.1 Mac OS X

Mac OS X, being UNIX, has all the good things that UNIX has, including multi-user, an installed Web server, etc. The installation section below shows you how to get *jndcalx* running on Mac OS X.

2.2 Windows

Windows, *not* being UNIX, is a bitch. Look somewhere else for getting a Web server running on Windows (Apache or Cygwin are good places to start looking). If you don't have a local Web server, you can still use *jndcalx* from the command-line and tell it to create an `.ics` file.

2.3 Domino

I originally wanted *jndcalx* to run directly on Lotus Domino, as a CGI program and have it read an authenticated user's mail file to produce calendar output. The design is still there, but I haven't as yet completed the code. (If you are *very* interested in that, I'll try and hurry up; it's not just a money problem — it's always a money problem.)

3 Bugs

Yes, lots. Maybe. There are things that work, and there are (probably) plenty of things that don't work. I'm not an iCalendar specialist, nor will I ever be. I use this program and will be fixing things that don't work for me. If you find things that don't work, tell me: if I have the time and the knowledge, I'll fix them. I prefer that you fix bugs, which is why I make the source code available, and I'll then gladly merge your fixes.

4 Demonstration

Let me first show you what works. (Things that I *know* don't work are documented in the `TODO` file, which accompanies this software.

Here are a few screen shots of a calendar I've created in a Notes 8.5 mail file. (There is no difference between 6.5 and 8.5 — *jndcalx* reads and processes both identically.)

4.0.1 Todo

4.0.2 Calendar

Reminder

Aniversary

Recurring event

5 Using jndcalx

5.1 Prerequisites

You'll need a workstation with an installed and running version of Lotus Notes (I've tried 6.5, 7.something, and 8.5.) Note that I say "running": the Notes client must be launched so that the ID file is unlocked. If Notes isn't running, all sorts of ugly things will happen (but you don't want to know that).

Notes is great, and all that, but having an external C program, which uses the C API, access a Notes database means that the C program, *jndcalx* in this case, will prompt you for a password. If you know what you are doing, skip over this section, but I don't think you do, so carry on reading.

There is currently only one really clean method, and that us to allow C programs on your workstation to access your databases without forcing them to

authenticate. In order to allow them to do so (which poses a horrible security risk, so don't do that) you only have to set a small checkbox right like this:

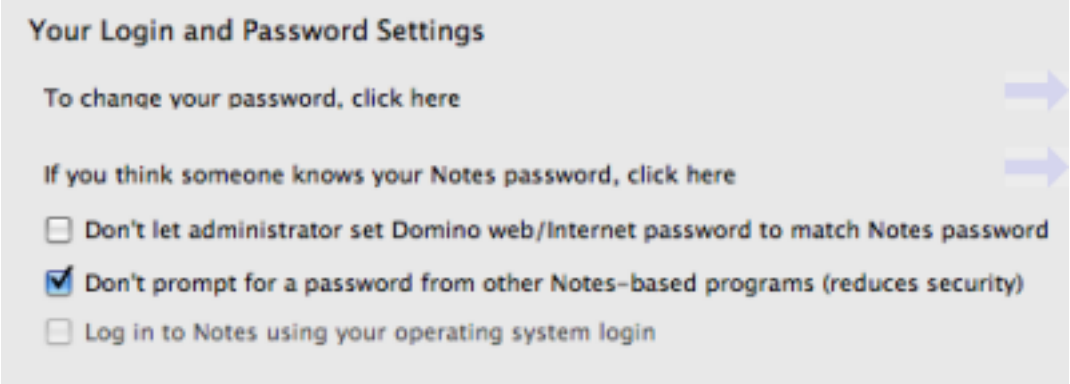

Figure 2.2 Notes security settings

You'll find that checkbox somewhere in File->Security. Go ahead, and do that, but don't tell your system administrator: she'll send you a dragon and force you to use Outlook Express.

If you don't have this set, you're on your own, and *jndcalx* will *not* work as described below. (What will work however, is starting *jndcalx* on the command-line and have it create an `.ics` file — *jndcalx* will prompt you for your Notes ID password.)

5.1.1 Installing *jndcalx*

Installing *jndcalx* means copying the binary file to some clever location. I'd like to suggest `/usr/local/bin` on your workstation. Copy the `runlotus` program to the same place:

```
sudo install -m 111 jndcalx /usr/local/bin/jndcalx
sudo install -m 4111 -o root runlotus /usr/local/bin/runlotus
```

Did you see that? My God! A set-uid-bit program to root? To run *jndcalx*? Yes, that is, unfortunately necessary. Here are the reasons:

- `jndcalx`, the actual executable C program that calls the Lotus API has to do so as *me* (that is, *you*, well, the user who owns the Notes installation on Mac OS X/Linux). It does so wonderfully, when you run it yourself, but you won't typically be running it yourself!
- We want our local Web server (Apache on Mac OS X) to launch `jndcalx` when we access a particular CGI/PHP resource. Apache will run the program as user `www` and group `www`, and that is not *me*, well *you*, you get

what I mean. So we need a small program that becomes *you* and executes `jndcalx` as you. The only way to do that, is by running a setuid program.

- If you know better and/or if you mistrust the few lines of source code of `runlotus.c`, you can play around with Apache's *suexec* module and try and get that working — it's up to you. The important bit is that when `jndcalx` runs, it runs with the effective userid of *you*. (To determine your effective user id, open Terminal and type $ id uid=501(you) gid=20(staff) ....

5.1.2 Command line

5.1.3 Specifying Notes databases

You can specify a Lotus Notes database as being either locally accessible on your workstation or remotely accessible on a Lotus Domino server.

- For databases on your local workstation, specify the path to the
- database using forward slashes (`/`) (yes, also on Windows!),
- whereby the path is relative to your Lotus Notes data directory. For
- example:

```
mail.nsf
mail/username.nsf
```

- For remote databases on a Domino server, specify the path as
- *servername*, *bangbang*, *databasename*, taking into account that a
- connection from your workstation to the *servername* must be
- possible, and that your user must be allowed to access
- *databasename* on that server. For example:

```
marketing/servers/o=megacorp!!mail/username.nsf
```

5.1.4 Access to Notes databases.

Command-line program wanting to access Lotus Notes databases will prompt the user for her password if the ACL of the database doesn't allow default readership. The only solution at the moment is to configure your Notes security to not have external programs prompt for a password, but do note that this can

be a security problem. (Consult your system administrator — if you have one — or the Lotus Notes documentation for more information about this.)

To disable external programs to prompt for your passowrd, select *File*, *Security*, *User security* from your Notes menu. In the *Security Basics* dialog box, ensure the setting *Don't prompt for a password from other Notes-based programs* is checked.