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# Running HAMLET software on Linux<sup>©</sup>

WINE as virtual machine on Debian GNU/Linux 3.1

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## 1 Preface

The author would like to thank Dr. h.c. E. Mochmann from Central Archive at University of Cologne (D) for awakening my interest to the world of empirical analysis of texts some years ago. He invited me to the well-known Essex Summer school (<http://www.essex.ac.uk/methods>) and significantly enhanced my horizon in multiple ways. He is one of the rare persons on this planet able to build up a research-friendly institutional environment with an encouraging atmosphere plus international exchange for those with a profound interest in social science research. Thanks also to Dr. Alan Brier, University of Southampton (UK) for his continuous efforts in developing his HAMLET software for scientific purposes, his inspiring intellect, hours of living discussions and the ability to face feature requests from social scientists with constant friendly support.

## 2 Aim of the document

You hopefully already received a copy of **HAMLET II** together with the licence key and plan or did already start own research dealing with issues of textual analysis (resp. “content analysis”), but refused to stick with any commercial computer operating system of second-best performance, preferring only what performs best (well, HAMLET for sure). Having a LINUX<sup>©</sup> or UNIX<sup>©</sup>-based system of choice at your desktop or server machines, it seems there is no native HAMLET II release in real world available.

We want to have the **HAMLET** software running on Linux. This document will guide you to realize this goal within 15–20 minutes. As the author has finite experience within a finite lifetime, this text refers only to Debian GNU/LINUX (see: <http://www.debian.org>), but description given here should in general be applicable to every other Linux distribution. Nevertheless, actual releases of Fedora Core 5 or RedHat Linux, NOVELL SuSE Linux, Slackware Linux, Vector Linux, SOLARIS from Sun Microsystems are expected do the job as well because they all offer the option of running WINE software. If you have one of those at hands, please mail back your personal experience to enhance this document!

## 3 Preparation of your system

First, if you are not so familiar with your LINUX or UNIX, you should know about the basics of your computing environment. To get the release number of the kernel running your Linux system, start up a shell window (xterm, gterm) and type in

```
uname -a
```

This returns a line that looks somewhat like:

```
Linux shredder 2.6.8-2-686 1 Thu May 19 17:53:30 JST 2005 i686 GNU/Linux
```

Here we see that the machine called “shredder” (strange name) runs a Linux kernel release 2.6.8-2 for a Intel-686 Pentium kind of hardware, compiled on thursday, the 19th of may 2005. The “GNU/Linux” at the end of the line indicates we are running a flavor what most people refer to as the **DEBIAN GNU/Linux** distribution [3]. If this all sounds pretty unusual to you, consider reading a copy of Martin Krafft’s excellent book on Debian Linux [1].

Being the administrator of that, I can state it’s truly Debian 3.1, nicknamed “sarge” release and at march of 2006 addressed as ‘stable’ release (firing rockets on it won’t stop it from work - that is why they call it ‘stable’). As a general recommendation, any 2.4.x or 2.6.x kernel (or better) is a reliable starting point. Nevertheless, we had no chance to test if or how 2.2.x or even 2.0.x kernels might work or not for our intended HAMLET application. If you try this, you are purely on your own – good luck and please let us know good news (find email on the frontpage)!

Then you should know that the **WINE** (“WINE is not an Emulator”) software (<http://www.winehq.com/>) implements a Microsoft Windows compatibility layer on top of your running LINUX or UNIX which must have the X window environment installed (Xfree86 is ok, its successful follower from X.org is also fine). WINE itself is freely available and copyrighted by GNU/GPL license (as is the whole LINUX kernel). Please hold in mind that so-called ‘free software’ and ‘open source software’ never spells as *free beer* but as in *freedom*.

### 3.1 Install from local media

You need a basic installation with X-window, most distributions of Linux come with a fully featured KDE, GNOME and/or Fvwm graphical user interface. That all is good, you should then go and install the **WINE** software. Being on Debian LINUX [3], switch to the user “root” (with `su`) and type in a shell

```
apt-get install wine
```

At time of this writing, version 0.9.10 is available, developers are working hard to bring ultimate 1.0 to the world.

Alternatively, you may use `synaptics` or `aptitude` software to do package management. As only the responsible administrative person is able to install new software packages, the `apt-get` (or: `synaptics`, `aptitude`) command is *only* available to a user with `root` rights (in the default configuration!). Our command will then be answered by a statement to insert the respective CD or DVD media containing WINE. If your machine is currently configured in getting updates directly via Internet (what we strongly suggest), then it will immediately try slurping in the files from its servers. Seconds later (and depending on your uplink speed), you have the **WINE** ready for use. For getting more familiar with the benefits of WINE and what it can do for you, consult <http://www.winehq.org/site/documentation> and esp. the ‘WINE USER GUIDE’ first.

Then you should know about the kind of interface. You might open a shell

(bash e.g.), walk to the directory where you stored all HAMLET II installation files and say:

```
wine hamletsetup.exe
```

This should work, but nevertheless is uncomfortable for many users by typing in a shell or an ‘xterm’. Modern people are used to (brain-dead) ‘Click’n Run’ via mouse without knowing what happens behind stage on their computers. So add an additional piece of software called **xwine**.

```
apt-get install xwine
```

This equips your machine with one more comfortable graphical interface (like Microsoft Windows) clicking with a mouse on “Start — Launch...” starting HAMLET setup routine. When installation routine is finished, you will find one icon more on your desktop and should have an additional new entry in your menu tree for starting programs. Double-clicking on it will start HAMLET software as it does under its Microsoft pendant as well. After successful installation, don’t forget to leave ‘root’ and switch back to normal user account.

### 3.2 Install over network

A recommendation: whatever distribution of Linux you use, the available packages of software might be outdated and old than expected if you install from CDROM or DVD media. To get state of the art software, visit the homepage of **WINE** [5] on <http://www.winehq.com>. For educated Debian users, there should be a line in the */etc/apt/sources.list* which reads as follows:

```
deb http://wine.sourceforge.net/apt/ binary/
```

This causes a Debian machine search in the that repository for \*.deb packages. While we are after binary (ready to run) packages, I omit the option of `deb-src` which enables you to incorporate repositories offering the sources of programs for re-compiling them to your own preferences (find that explained in greater detail in [1]).

After calling `apt-get update`, the formerly explained `apt-get install wine` will make your current Debian Linux connect to the address at sourceforge.net and pulls the most recent WINE package in the required \*.deb format. Currently at end of march 2006 the 0.9.10 release is recommended.

If you are on a RPM-based distro (like Fedora Core, SuSE, Aurox), please check the respective webpages under [www.winehq.com](http://www.winehq.com) if there is a ready-to-install binary package available. Otherwise an internet search engine of your personal taste ([www.rpmseek.com](http://www.rpmseek.com)) can point you to useful locations.

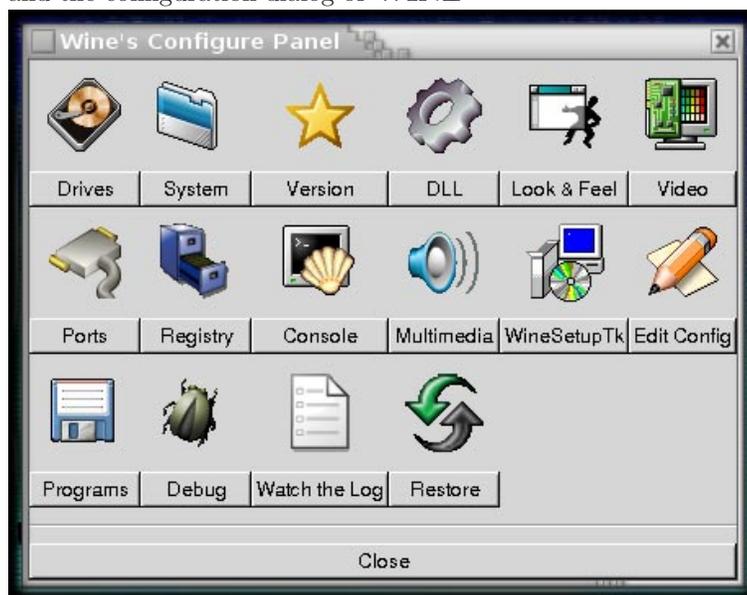
## 4 Action now: WINE and Xwine

We use **WINE** in standard GNOME environment (rel. 2.8.x chosen as default desktop environment). If you go on “START – Parameters – Configuration ...” in the Xwine window, then you are presented a nice configuration dialog where properties of the WINE environment can be adjusted to your preferences.

Configure WINE to WIN98-compatibility for maximum performance of HAM-LET. The installed Xwine in action:



and the configuration dialog of WINE



## 5 Installing HAMLET software

In the formerly explained Xwine frame, starting the executable file will proceed to an installation on your local machine. One window asking you if you accept the licensing conditions of HAMLET software shown here:



Please keep in mind, that HAMLET for whatever reason performs best when WINE is configured to the Win98-compatibility mode of WINE.

## 6 Use of HAMLET

As an indication that HAMLET software runs and behaves as expected, consider the following random screenshots. You should run HAMLET with its sample files a first time to be sure everything works to your own needs. The next screenshot shows the “Wordlist” routine with “Open Text file” dialog on the sample files shipping with HAMLET software:



If you are feeling unsure what the overall possibilities of **HAMLET** software will offer to you, read the article of Brier/Hopp [2] on an analysis of parliamentary debates to see how to proceed and re-read the documentation at <http://www.apb.cwc.net/hamlet2.pdf>.

One more recommendation: as it is possible to run **HAMLET** inside of **WINE**, you might opt having more beneficial software installed under **WINE** – eg. NewMDS/X, SPSS, Stata, Mathematica . . .

Then it is possible to run continuously **WINE** as a server process on a reliable Linux or UNIX machine – offering access to special applications via network connections and saving you complications of having software locally installed (what is a pain when new releases shall be distributed on tens or hundreds of computers). That would require cooperation of the administrator of the server machine, but in academic computing service departments, that should be a quite common request. (Reminder: “the network is the computer”).

All that may save significant amounts of research resources for you. Thanks to Linux, to Linus Torvalds and some thousands developers worldwide.

## References

- [1] **Martin Krafft:** The Debian System, Concepts and Techniques. Munich 2005: Open Source Press ([www.opensourcepress.de](http://www.opensourcepress.de)) 605 pages; one DVD-ROM with Debian GNU/Linux 3.1 included.
- [2] **Alan Brier/Bruno Hopp:** HAMLET: A Multidimensional Scaling Approach to Text-Oriented Policy Analysis. In: Journal of Diplomatic Language (JDL II:1), july 2005; <http://www.jdlonline.org/IIBrier.html>

### Resources on the Web

- [3] [www.debian.org](http://www.debian.org) – home of the Debian GNU/Linux project, a joint effort of some thousands software developers worldwide to build an industrial-strength, secure and rock-solid operating systems for computers. The currently *stable* release is Debian 3.1 called “sarge” with around 15.000 (fifteen thousand) freely available software packages of all kinds. Debian is not commercially driven (like RedHat or SuSE), but builds on the openness of its standards and democratic communication of responsible individuals.
- [4] [www.apb.cwc.net](http://www.apb.cwc.net) – Reference to all HAMLET users, and the content analyst in general too. The author of HAMLET II offers first insights in the benefits of applying HAMLET II in content analysis, provides reading lists for the methodology interested and practical applications. Invitations for guest lectures are greatly appreciated, if travel expenses and pizza are included :-)
- [5] <http://www.winehq.com> – WINE is not an emulator, and is not related to any kind of drink. WINE software offers a compatibility layer to run Win32-applications on top of X window and Linux.
- [6] <http://www.gesis.org/ZA> – The german “Zentralarchiv” as a data archive for the social sciences offers support for getting data, e.g. for secondary analysis. This institution provides infrastructure and services to social sciences in general. Mainly data from big surveys are stored here, but hold in mind that textual data compilations (e.g. from the “Comparative Party Manifesto Research Group”) are of increasing interest. Research competence in the respective fields of statistics, textual analysis and related is strong, so users can get support in data analysis and methodology. If you are a researcher or starting with a PhD-thesis, look out for the “European Data laboratory” (short: “Eurolab”) on their webpages.