

StartupEngineeringAppliance.ova
Oracle VirtualBox Appliance v0.0

“Startup Engineering”
Balaji S. Srinivasan, Vijay S. Pande

Gregory D. Horne
horne@forensic-analytics.ca

Copyright © 2013 Gregory D. Horne, (Digital) Forensic Analytics.
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled “GNU Free Documentation License”.

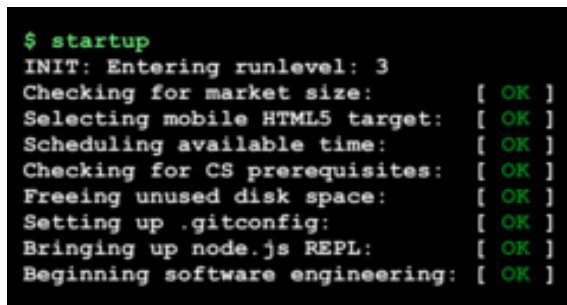
Copyright and ownership of specific software and/or services mentioned in this document remains with the designated assignees.

1 Introduction

Throughout the first iteration of the course “Startup Engineering”, taught by Balaji S. Srinivasan and Vijay S. Pande (17 June 2013 - 25 August 2013), a conscientious effort to keep this document up-to-date will be a priority. Please report any errors, omissions, or questions through the classroom bulletin board in the thread “Startup Engineering Appliance v0.0”. This handbook shall be available in Portable Document Format (PDF) and L^AT_EX.

The development environment standardized upon by the “Startup Engineering” course instructors consists of Amazon Web Services Elastic Compute Cloud (AWS EC2) providing a platform for the software development tools, GitHub providing a source code repository, and Heroku providing simplified web application deployment services.

The StartupEngineeringAppliance has been created in response to the concerns, difficulties, and preferences expressed by a variety of course participants. This appliance can be run on course participant’s workstations while replicating the essential features of the virtualized workspace offered by AWS EC2. At this time, a version control system, git, is available but a web server is not included.

A terminal window with a black background and green text. The text shows the execution of the 'startup' command and a series of system checks, all of which are successful, indicated by '[OK]' at the end of each line.

```
$ startup
INIT: Entering runlevel: 3
Checking for market size:      [ OK ]
Selecting mobile HTML5 target: [ OK ]
Scheduling available time:    [ OK ]
Checking for CS prerequisites: [ OK ]
Freeing unused disk space:    [ OK ]
Setting up .gitconfig:        [ OK ]
Bringing up node.js REPL:     [ OK ]
Beginning software engineering: [ OK ]
```

Figure 1: Startup Engineering - Balaji S. Srinivasan, Vijay S. Pande

2 Oracle VirtualBox Appliance

The StartupEngineeringAppliance, Debian GNU/Linux 7 (32-bit iAPx86) configured as a 256MB RAM and 25GB HDD Oracle VirtualBox Appliance, is available for download from the URL contained within the README file

at `<https://github.com/horne1965/StartupEngineeringAppliance>`.

The appliance is provided as-is and the user assumes all risks and liabilities arising from use of this virtual machine.

This handbook uses a notational shorthand to indicate whether a command is to be executed on the user's workstation (ws) or the virtual machine (vm).

2.1 Installation of the Virtual Machine

Oracle VirtualBox must be installed on the workstation before the StartupEngineeringAppliance can be activated and accessed. Oracle VirtualBox is available for download at `<https://www.virtualbox.org>`. Importing the virtual machine appliance takes approximately 2 minutes after which it is ready to use.

1. Select File from the application's main menu.
2. Click Import appliance...
3. Click Open
4. Navigate to the Oracle VirtualBox Archive (OVA) file
StartupEngineeringAppliance.ova
5. Click Next
6. Click Import
7. Click Agree for the Software License Agreement

2.2 Management of the Virtual Machine

Starting the StartupEngineeringAppliance virtual machine involves selecting the StartupEngineeringAppliance from within the Oracle VM VirtualBox Manager and clicking Start.

Shutting down the StartupEngineeringAppliance virtual machine should be performed within the appliance itself whenever possible. However, in some situations it might be necessary to forcefully shutdown the virtual machine

appliance via the Machine menu by selecting ACPI Shutdown. Closing the window in which the virtual machine is running is not recommended.

```
(vm) sudo shutdown -h now
```

Through the Oracle VM VirtualBox Manager various parameters affecting the configuration of the virtual machine are accessible when the virtual machine is in a stopped state.

3 StartupEngineeringAppliance: Access with a Password

Initially, the StartupEngineeringAppliance virtual machine is accessible by means of simple authentication (userid and password). In the next section instructions on using certificate-based authentication will be provided so that all remote access must be through certificate-based authentication while local access continues to employ simple authentication. In this context remote access means using a terminal session running on the workstation hosting the virtual machine to connect with the virtual machine.

Note: The user account 'cloud' has superuser privileges by way of the 'sudo' command. The default superuser account (root) has been disabled for security. The default password may be changed after logging into the virtual machine.

```
(vm) passwd
```

3.1 Local Access Verification: Simple Authentication

After starting the StartupEngineeringAppliance virtual machine use the following credentials to login.

```
UserID: cloud
Password: engineering
```

Obtain the IP address of the virtual machine in preparation for remote access verification.

```
(vm) /sbin/ifconfig
```

If the presence of the hostname in the shell prompt is annoying, edit the BASH configuration file (`~/bashrc`) removing references to the hostname (backslash-h) in all PS1 statements. The hostname remains unaffected but it will not be displayed as part of the shell prompt.

```
(vm) nano ~/.bashrc
```

Logout of the virtual machine. Login to the virtual machine. Display the hostname of the virtual machine.

```
(vm) hostname
```

3.2 Remote Access Verification: Simple Authentication

With the StartupEngineeringAppliance virtual machine running, launch a terminal session on the workstation and use the following credentials to login.

UserID: cloud

Password: engineering

```
(ws) ssh userid@vm_ip_address
```

4 StartupEngineeringAppliance: Remote Access without a Password

The StartupEngineeringAppliance virtual machine can be configured to require certificate-based authentication when remotely accessed. In this context remote access means using a terminal session running on the workstation hosting the virtual machine to connect with the virtual machine.

4.1 Self-Signed Certificates

Generating a self-signed certificate is as easy as executing the following command on the virtual machine.

```
(vm) ssh-keygen -t rsa -C "email_adress"
```

Generating public/private rsa key pair.

Enter file in which to save the key (~/.ssh/id_rsa): ~/.ssh/se.pem

With the exception of the preceding private key parameter all other certificate parameters should be left blank. In a workplace setting adding a passphrase to the private key is highly recommended; this is known as two-factor authentication.

Add the public key file to /home/cloud/.ssh/authorized_keys.

```
(vm) cat ~/.ssh/se.pem.pub >> ~/.ssh/authorized_keys
```

```
(vm) sudo chmod 0600 ~/.ssh/*
```

Copy the private and public key-pair files to the workstation.

```
(ws) scp cloud@vm_ip_address:~/.ssh/se.pem ~/.ssh/se.pem
```

```
(ws) scp cloud@vm_ip_address:~/.ssh/se.pem.pub ~/.ssh/se.pem.pub
```

Delete the private key-pair file after copying the key-pair files (se.pem and se.pem.pub) to the workstation.

```
(vm) rm ~/.ssh/se.pem
```

4.2 Certificate-based Authentication

Edit the SSH server configuration file (/etc/ssh/sshd_config) using either GNU nano or vi/vim.

```
(vm) sudo nano /etc/ssh/sshd_config
```

The SSH server configuration additions or changes are listed below.

```
PermitRootLogin no
```

```
PubKeyAuthentication yes
```

```
AuthorizedKeyFile %h/.ssh/authorized_keys
```

Restart the SSH server to activate the configuration changes.

```
(vm) sudo /etc/init.d/ssh restart
```

4.3 Remote Access Verification: Certificate-based Authentication

With the StartupEngineeringAppliance virtual machine running, launch a terminal session on the workstation and use the following credentials to login.

UserID: cloud

Certificate: se.pem (private key)

```
(ws) ssh -i ~/.ssh/certificate userid@vm_ip_address
```

5 Source Code Repository

To install the essential git software use the following command.

```
(vm) sudo apt-get install git-core
```

git is equally suited for local and remote source code repositories. In fact, version control systems (VCS) such as git can be used for source code and documentation projects.

5.1 Local Repository

Set the default name and email for git commits.

```
(vm) git config --global user.name "name"
```

```
(vm) git config --global user.email "email_address"
```

A step-by-step example showing the creation of a local repository is presented to guide future use of git.

The subdirectory in which your git repositories are created is left to the reader. The README.md file is optional placeholder and its contents typically describe the project, provide documentation such as how to install or use the project, or even contact information.

```
(vm) mkdir ~/MyApp
```

```
(vm) cd ~/MyApp
```

```
(vm) git init
```



```
(vm) echo "MyApp" > README.md
(vm) git add README.md
(vm) git commit -m 'comment'
```

5.2 GitHub

A step-by-step example of pushing the local git repository to GitHub follows.

Create a repository named MyApp via the GitHub website. Ensure the local git repository exists or create the repository following the instructions in Section 5.1 Local Repository.

```
(vm) cd ~/MyApp
(vm) git remote add origin https://github.com/user_name/MyApp.git
(vm) git push origin master
```

After confirming via the GitHub website that your MyApp repository has been updated, delete the repository from your GitHub account.

```
(vm) cd ~/MyApp
(vm) rm -Rf .git
```

If you decide to use the same public key to access your GitHub repository, simply login to GitHub, click Account Settings, click SSH Keys, copy-and-paste the public key (se.pem.pub) into the textbox, and finally click Add key. Edit the SSH client configuration file (/etc/ssh/ssh_config) using either GNU nano or vi/vim.

```
(vm) sudo nano /etc/ssh/ssh_config
```

The SSH client configuration additions or changes are listed below.

```
IdentityFile ~/.ssh/se.pem
```

Create a repository named MyApp via the GitHub website. Ensure the local git repository exists or create the repository following the instructions in Section 5.1 Local Repository.

```
(vm) ssh -T git@github.com
(vm) cd ~/MyApp
(vm) git remote add origin git@github.com:user_name/MyApp.git
(vm) git push origin master
```

After confirming via the GitHub website that your MyApp repository has been updated, delete the repository from your GitHub account.

```
(vm) cd ~/MyApp  
(vm) rm -Rf .git
```

Note: As the course progresses the full lifecycle of a git repository will be incorporated in this section of the handbook.

6 Application Deployment

6.1 Heroku

To install the Heroku client software,

```
(vm) wget -qO- https://toolbelt.heroku.com/install-ubuntu.sh | sh
```

If you decide to use the same public key to access your Heroku application hosting environment, use the heroku command-line utility to add it.

To add an existing public key,

```
(vm) heroku login  
(vm) heroku keys:add  
(vm) heroku logout
```

To create a new private/public key-pair,

```
(vm) heroku login  
(vm) ssh-keygen -t rsa  
(vm) heroku keys:add  
(vm) heroku logout
```

6.2 GitHub and Heroku Integration Verification

```
(vm) git clone https://github.com/heroku/node-js-sample.git  
(vm) cd node-js-sample  
(vm) heroku login  
(vm) heroku create  
(vm) git push heroku master  
(vm) heroku logout
```

Verify the generated URL for the web application displays the message "Hello world" in a web browser.

7 Debian GNU/Linux Repository

It is recommended the software repository mirror be updated to a repository as close as possible to your geographic location. Changing the repository is as simple as checking the master mirror listing (<http://www.debian.org/mirror/list>) for Debian GNU/Linux and then editing the software repository file (`/etc/apt/sources.list`) using either GNU nano or vi/vim.

```
(vm) sudo nano /etc/apt/sources.list
(vm) sudo apt-get update && apt-get upgrade
```

8 Additional Software

By default these software packages are not pre-installed on the StartupEngineeringAppliance virtual machine. As additional software is introduced throughout the course those packages will be included in this section.

8.1 node.js and npm

The Debian package for node.js has been specifically created using the source code available at <http://nodejs.org/dist/node-latest.tar.gz> for Debian GNU/Linux 7 "Wheezy".

```
(vm) sudo dpkg -i ~/node.js/node_0.10.12-1_i386.deb
```

9 GNU Free Documentation Licence

Version 1.3, 3 November 2008

Copyright © 2000, 2001, 2002, 2007, 2008 Free Software Foundation, Inc.

`<http://fsf.org/>`

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The purpose of this License is to make a manual, textbook, or other functional and useful document “free” in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondly, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of “copyleft”, which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

1. APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The “**Document**”, below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as “**you**”. You accept

the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A “**Modified Version**” of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A “**Secondary Section**” is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document’s overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The “**Invariant Sections**” are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The “**Cover Texts**” are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A “**Transparent**” copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not “Transparent” is called “**Opaque**”.

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML,

PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The “**Title Page**” means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, “Title Page” means the text near the most prominent appearance of the work’s title, preceding the beginning of the body of the text.

The “**publisher**” means any person or entity that distributes copies of the Document to the public.

A section “**Entitled XYZ**” means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as “**Acknowledgements**”, “**Dedications**”, “**Endorsements**”, or “**History**”.) To “**Preserve the Title**” of such a section when you modify the Document means that it remains a section “Entitled XYZ” according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

2. VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

3. COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

4. MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the

Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

- A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.
- B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.
- C. State on the Title page the name of the publisher of the Modified Version, as the publisher.
- D. Preserve all the copyright notices of the Document.
- E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.
- F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.
- G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.
- H. Include an unaltered copy of this License.
- I. Preserve the section Entitled "History", Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

- J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the “History” section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.
- K. For any section Entitled “Acknowledgements” or “Dedications”, Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.
- L. Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.
- M. Delete any section Entitled “Endorsements”. Such a section may not be included in the Modified Version.
- N. Do not retitle any existing section to be Entitled “Endorsements” or to conflict in title with any Invariant Section.
- O. Preserve any Warranty Disclaimers.

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version’s license notice. These titles must be distinct from any other section titles.

You may add a section Entitled “Endorsements”, provided it contains nothing but endorsements of your Modified Version by various parties—for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the

same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

5. COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled “History” in the various original documents, forming one section Entitled “History”; likewise combine any sections Entitled “Acknowledgements”, and any sections Entitled “Dedications”. You must delete all sections Entitled “Endorsements”.

6. COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License

into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

7. AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume or a storage or distribution medium, is called an “aggregate” if the copyright resulting from the compilation is not used to limit the legal rights of the compilation’s users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document’s Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

8. TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled “Acknowledgements”, “Dedications”, or “History”, the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

9. TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

10. FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See <http://www.gnu.org/copyleft/>.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License “or any later version” applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of

this License can be used, that proxy’s public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

11. RELICENSING

“Massive Multiauthor Collaboration Site” (or “MMC Site”) means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A “Massive Multiauthor Collaboration” (or “MMC”) contained in the site means any set of copyrightable works thus published on the MMC site.

“CC-BY-SA” means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

“Incorporate” means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is “eligible for relicensing” if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

Copyright © YEAR YOUR NAME. Permission is granted to
copy, distribute and/or modify this document under the terms
of the GNU Free Documentation License, Version 1.3 or any

later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled “GNU Free Documentation License”.

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the “with ... Texts.” line with this:

with the Invariant Sections being LIST THEIR TITLES, with the Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST.

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.