

CivetWeb 1.14.0 for OpenVMS I64 and Alpha

November 2020

Note: This port of CivetWeb for OpenVMS is not intended to be used as a general purpose web server. It is intended to be used by as a lightweight and efficient web server by new or existing applications that require web server functionality.

1. Introduction

Thank you for your interest in this port of the CivetWeb embeddable web server to OpenVMS I64 and Alpha. The current release of CivetWeb or OpenVMS is based on the CivetWeb 1.14.0 distribution.

CivetWeb is a small lightweight MIT-licensed extensible and embeddable web server with optional SSL/TLS, SQLite, Lua, WebSockets, and JavaScript support. CivetWeb can be used as a library to embed web server functionality into an existing application or it can be used as a lightweight standalone web server that can serve static web pages and dynamic web pages using Lua or JavaScript. For additional details see <https://github.com/civetweb/civetweb>.

This OpenVMS port of the CivetWeb web server includes all functionality provided by the Open Source release, including SSL/TLS support (based on OpenSSL 1.1.1g) as well as Lua and JavaScript scripting support.

2. Acknowledgements

VMS Software Inc. would like to acknowledge the work of the CivetWeb community for their ongoing efforts developing and supporting this software.

3. What's new in this release

For a detailed description of the features and bug fixes included in this release, please read https://github.com/civetweb/civetweb/blob/master/RELEASE_NOTES.md.

4. Requirements

The kit you are receiving has been compiled and built using the operating system and compiler versions listed below. While it is highly likely that you will have no problems installing and using the kit on systems running higher versions of the operating system or products listed, we cannot say for sure that you will be so lucky if your system is running older versions.

- VSI OpenVMS Version 8.4-1H1 or higher
- VSI TCP/IP, HPE TCP/IP Services for OpenVMS, or MultiNet TCP/IP
- Lua 5.3-5A for OpenVMS or higher
- C compiler (required only if you intend to develop your own web server extensions)

In addition to the above requirements, it is recommended that the software is installed on an ODS-5-enabled file system.

5. Recommended reading

Before using CivetWeb, it is recommended that users review the documentation available at <https://github.com/civetweb/civetweb/blob/master/docs/UserManual.md> in order to better understand how to configure and manage the web server.

6. Installing the kit

Important: If you have an existing CivetWeb installation and have made any changes to the configuration files `civetweb.conf` and `services.conf` in the `civetweb$root:[conf]` directory, note that these files will be replaced by the installation. You should therefore take a backup of these files before installing the new version, and restore the backed up files once the installation is complete. Similarly, if you uninstall CivetWeb these configuration files will be deleted. It is anticipated that this behavior will be eliminated for future releases of CivetWeb. Note that the uninstalling or upgrading CivetWeb will not delete any added files (web pages and scripts) or directories.

The kit is provided as an OpenVMS PCSI kit (`VSI-I64VMS-CIVETWEB-V0114-0-1.PCSI` or `VSI-AXPVMS-CIVETWEB-V0114-0-1.PCSI`, depending on hardware platform) that can be installed by a suitably privileged user using the following command:

```
$ PRODUCT INSTALL CIVETWEB
```

The installation will then proceed as follows (output may differ slightly from that shown depending on platform and other factors):

```
Performing product kit validation of signed kits ...
```

```
The following product has been selected:
```

```
    VSI I64VMS CIVETWEB V1.14-0                Layered Product
```

```
Do you want to continue? [YES]
```

```
Configuration phase starting ...
```

```
You will be asked to choose options, if any, for each selected
product and for
any products that may be installed to satisfy software dependency
requirements.
```

```
Configuring VSI I64VMS CIVETWEB V1.14-0: CivetWeb for OpenVMS is
based on CivetWeb Version 1.14
```

```
    © Copyright 2020 VMS Software Inc.
```

```
    VSI Software Inc.
```

```
* This product does not have any configuration options.
```

```
Execution phase starting ...
```

The following product will be installed to destination:
VSI I64VMS CIVETWEB V1.14-0 DISK\$I64SYS:[VMS\$COMMON.]

Portion done: 0%...90%...100%

The following product has been installed:
VSI I64VMS CIVETWEB V1.14-0 Layered Product

VSI I64VMS CIVETWEB V1.14-0: CivetWeb for OpenVMS is based on
CivetWeb Version 1.14

Post-installation tasks are required.

To start the web server at system boot time, add the following
lines to SYS\$MANAGER:SYSTARTUP_VMS.COM:

```
$ file := SYS$STARTUP:CIVETWEB$STARTUP.COM
$ if f$search("'"file'") .nes. "" then @'file'
```

To stop Civetweb at system shutdown, add the following lines to
SYS\$MANAGER:SYSHUTDOWN.COM:

```
$ file := SYS$STARTUP:CIVETWEB$SHUTDOWN.COM
$ if f$search("'"file'") .nes. "" then @'file'
```

Note that default installation uses the SYSTEM account to run the
web server process. It is generally recommended that you run the
web server as using a less privileged account. This may be done
by supplying the account name as a parameter to
civetweb\$startup.com or by defining the logical name
civetweb\$user as the desired account name. It is also recommended
that you change the ownership of the civetweb\$root:[000000...]
directory tree to this account.

6.1. Post-installation steps

After the installation has successfully completed, include the commands displayed at the end
of the installation procedure into SYSTARTUP_VMS.COM and SYSHUTDOWN.COM to ensure that
the CivetWeb web server is started and stopped when OpenVMS is booted and shutdown.

Other optional steps that you may wish to perform once the installation has completed are as
follows:

- You may wish to use the "set file/owner" command to change the civetweb\$root
directory tree's ownership to a less privileged user than SYSTEM. Ensure that the specified
user exists and has the necessary process quotas required to run the web server.
- Start the web server and verify that it is up and running. Note that IMPERSONATE privilege
is required by default in order to start the web server.

```
$ pipe show system | search sys$input civetweb
0001DF66 CIVETWEB           HIB       5       564    0 00:00:00.09       2043
1419 M
```

- By default the web server will run under the SYSTEM account. To run the process as a
different user either define the logical name civetweb\$user before running the start-
up procedure or specify the desired username as a parameter to the start-up procedure.

Be aware that `IMPERSONATE` privilege is required by default in order to start the web server.

- Try to access the web server at <http://hostname:8082> to verify that it is operating correctly (replacing “hostname” with the name or IP address of the OpenVMS server on which CivetWeb has been installed).
- Read the CivetWeb documentation (see link provided above) to learn how to configure web server.

6.2. Privileges and quotas

The privileges `TMPMBX`, `NETMBX`, `BYPASS`, `SYSPRV`, and `DETACH` are required in order to run the CivetWeb start-up and shutdown scripts, and the CivetWeb process (run as a detached process) will inherit the default privileges for the username under which it is started.

The CivetWeb web server can require considerable resources in order to operate efficiently, depending on specific workload requirements. The following quotas should be adequate for most CivetWeb applications; however resource usage should be monitored, and quotas adjusted as necessary.

Maxjobs:	0	Fillm:	256	Byt1m:	128000
Maxacctjobs:	0	Shrfillm:	0	Pbyt1m:	0
Maxdetach:	0	BI01m:	150	JTquota:	4096
Prclm:	50	DI01m:	150	WSdef:	4096
Prio:	4	AST1m:	300	WSquo:	8192
Queprio:	4	TQE1m:	100	WSextent:	16384
CPU:	(none)	Enqlm:	4000	Pgflquo:	256000

If the web server is expected to support large numbers of connections then it may also be necessary to increase the `CHANNELCNT` system parameter (this parameter can usually be safely set to its maximum value of 65535).

6.3. Installing in an alternative location

By default CivetWeb will be installed in `SYS$SYSDEVICE:[VMS$COMMON]`. If you wish to install the software in an alternative location this can be achieved using the `/DESTINATION` qualifier with the `PRODUCT INSTALL` command to specify the desired location; however it is important to note that an additional manual step will then be required to complete the installation. Specifically, when an alternative destination is specified, the start-up and shutdown procedures (`CIVETWEB$STARTUP.COM`, `CIVETWEB$SHUTDOWN.COM`, and `CIVETWEB$RUN.COM`) will be placed into a subdirectory `[.SYS$STARTUP]` residing under the specified destination directory. If you wish to run these files from your standard `SYS$STARTUP` directory they will need to be copied from the destination subdirectory into your systems `SYS$STARTUP` directory.

7. What's missing?

The supplied kit for OpenVMS includes all functionality supported by version 1.14.0 of the Open Source CivetWeb release, including JavaScript support via the Duktape embeddable JavaScript engine

8. Known problems

Using CivetWeb with IPv6 on OpenVMS may not work correctly in some environments. It is expected that this problem will be resolved in future releases.