CivetWeb 1.17.0 for OpenVMS I64, Alpha, and x86-64
October 2023

```
VSI-AXPVMS-CIVETWEB-V0117-0-1.PCSI
VSI-I64VMS-CIVETWEB-V0117-0-1.PCSI
VSI-X86VMS-CIVETWEB-V0117-0-1.PCSI
```

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, Alpha, and x86-64. The current release of CivetWeb or OpenVMS is based on the CivetWeb 1.17.0 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 3.0) 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 requires the following products and product versions to be installed for the software to operate correctly. In general, it will also be possible to install and use the software on higher versions of the operating system and other required products.

- OpenVMS 8.4-2L1 or higher (I64), OpenVMS V8.4-2L1 or higher (Alpha), OpenVMS 9.2-1 or higher (x86-64)

- A suitable TCP/IP stack

- Lua 5.3-5D for VSI 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 it is recommended that you take a backup of your existing configuration files `civetweb.conf` and `services.conf` in the `civetweb$root:[conf]` directory. While these files will not be deleted and replaced by the installation process, it is strongly recommended that you backup these and any other customizations to ensure that nothing will be lost in the event of any problems during installation of the new kit. 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-AXPVMS-CIVETWEB-V0117-0-1.PCSI`, `VSI-I64VMS-CIVETWEB-V0117-0-1.PCSI`, or `VSI-X86VMS-CIVETWEB-V0117-0-1.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 V1.17-0           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 V1.17-0: CivetWeb for OpenVMS is
based on CivetWeb Version 1.17

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

```
Execution phase starting ...

The following product will be installed to destination:
    VSI I64VMS CIVETWEB V1.17-0          DISK$I64SYS:[VMS$COMMON.]

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

The following product has been installed:
    VSI I64VMS CIVETWEB V1.17-0          Layered Product

VSI I64VMS CIVETWEB V1.17-0: CivetWeb for OpenVMS is based on
CivetWeb Version 1.17

    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:SYSHUTDWN.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 `SYSHUTDWN.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 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 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 system resources 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  Bytlm:       128000
Maxacctjobs:     0  Shrfillm:      0  Pbytlm:           0
Maxdetach:       0  BIOlm:       150  JTquota:       4096
Prclm:          50  DIOlm:       150  WSdef:         4096
Prio:            4  ASTlm:       300  WSquo:         8192
Queprio:         4  TQElm:       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).

7.   What's missing?

The supplied kit for OpenVMS includes all functionality supported by version 1.17.0 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.

Note: while care has been taken to ensure that the symbol vector for the shareable image `CIVETWEB$SHR` included in this CivetWeb 1.17 release is compatible with that of the `CIVETWEB$SHR` shareable image provided with the previous 1.14 version of CivetWeb for VSI OpenVMS, it is important to note that there have been changes to CivetWeb between these versions and it is possible that some existing web server extensions will not be fully compatible

with the new 1.17 version. For this reason, VSI recommends that any such extensions be fully rebuilt and linked with the new CivetWeb shareable image.