



SMASER

Installing TRIPhighway on UNIX

TRIP
Product Documentation



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Introduction

TRIPhighway is a gateway between TRIP databases and World Wide Web. TRIPhighway works with most standard http servers using the Common Gateway Interface (CGI).

Computer System Requirements

UNIX platforms

To make a successful installation of TRIPhighway possible, you will need to install it on one of the supported Unix platforms. Please refer to the latest Release Notes for TRIPhighway for an up to date list of supported platforms.



Installing TRIPhighway

Requirements

Before commencing with the installation of TRIPhighway some basic knowledge about the TRIP system and the HTTP server is required.

There is also some need for general knowledge about the HTML language.

The server hosting TRIPhighway requires a CGI capable HTTP server and TRIPsystem 7.2 or 8.1 on Solaris and TRIPsystem 8.3 on Linux RHEL9.

Installation on Unix Systems

TRIPhighway for UNIX systems is distributed as a tar archive. These steps are required to perform the installation:

- Login as root
- Create a temporary directory
- Extract the contents of the distribution kit
- Copy files to cgi-bin
- Copy the TRIPhighway configuration file
- Copy TRIPhighway examples
- Remove the temporary directory

Login as root

The installation of the TRIPhighway application is most easily performed as the root user but it is not a requirement.

TRIPhighway needs two privileges to operate adequately. Please see the section about security later in this document for further details.

Create a temporary directory

Create a temporary directory into which the contents of the distribution kit can be extracted. A minimum of 1 MB free hard disk space is needed in the directory.

Example:

```
mkdir /tmp/thwtmp  
cd /tmp/thwtmp
```

Extract the contents of the kit

The contents of the kit are extracted using the tar utility. See the systems man-pages for further details about how to operate tar.

Example:

```
tar xvf <name of distribution kit>
```



You should now have the following files in the temporary directory

- thw
- thw.conf
- login.thw
- alice
 - index.html
 - search.html
 - thesaurus.html
 - chapter.thw
 - display.thw
 - format.thw
 - liform.thw
 - nosyn.thw
 - thedisp.thw
 - home.gif
 - next.gif
 - prev.gif
 - up.gif
- carroll
 - index.html
 - search.html
 - chapter.thw
 - text.thw
 - home.gif
 - next.gif
 - prev.gif
 - up.gif

Copy thw to cgi-bin

The thw executable file is the CGI binary, which the HTTP server executes to fulfil a request to the TRIP database. In order for the HTTP server to find it, it needs to be placed in the directory where the server keeps its CGI binaries.

Please refer to the documentation about your HTTP server to find out where this directory is located.

Example:

```
cp thw /usr/local/etc/httpd/cgi-bin/
```



Copy files to the configuration area

The TRIPhighway configuration file can be named anything and located anywhere in the file system. However, it is recommended that you name this file `thw.conf` and place it in the main `thw` directory or in the directory `/usr/local/etc/conf`.

Choose a location for the configuration file, copy the `thw.conf` file to that location and name it `thw.conf`.

The file `login.thw`, used for databases with restricted access (see the chapter User Login), has to be placed in the same directory.

Example:

```
cp thw.conf /usr/local/etc/conf/thw.conf
cp login.thw /usr/local/etc/conf
```

Note that the configuration file may contain information, which should not be accessible by everyone using the system. It is therefore recommended that you change the read (and write) permissions of the configuration file so that only root and the designated TRIPhighway (or http) user is granted read permission.

In order for the TRIPhighway binary to find the configuration file an entry must be added to the TRIP configuration file (`tdbs.conf`).

The following line should be added to the TRIP configuration file:

```
THW_CONF=<name and path of TRIPhighway configuration file>
```

Example:

```
THW_CONF=/usr/local/etc/conf/thw.conf
```

Copy TRIPhighway examples

The TRIPhighway examples Carroll and Alice should be installed in new directories named `carroll` and `alice` in the document root of the HTTP server on the system.

Please refer to the documentation of your HTTP server in order to find out the location of that directory.

Remove the temporary directory

Once the contents of the installation archive have been moved to (or copied into) its permanent location, the temporary installation directory can be removed.

Example:

```
rm -rf <temporary installation directory>
```



TRIPhighway Configuration File

Location of configuration file

You may install the TRIPhighway configuration file anywhere, but you must take care of the protection of this file. Normally it is located in a directory where only root has read access. Please see more about security later in this manual.

How thw detects where the configuration file is located

TRIPhighway reads the name and location of the configuration file from the TRIP configuration file (tdbs.conf). A variable (TWH_CONF) in that file directs TRIPhighway to the configuration file.

Example:

```
TWH_CONF=/usr/local/etc/conf/thw.conf
```

Configuration directives

The directive syntax is specified in the following form:

directive <required> [optional]

Note that directives are case sensitive.

TRIPhighway directives can appear in any order within the configuration file.

Default username for a TRIP session

default-user <user-name> [user's passwd]

This entry specifies the default name and optional password of the user which is used to access databases. If the specified default user is not granted access to a database the end-user is presented with a HTML login form enabling him or her to enter username and password.

If no password is given, the TRIP facility "Enter without password if O/S username = TRIP username" is used.

It is recommended that the default-user only has privileges for accessing public databases only.

Base

*base <database_name> <type> <filename> <url> | <real_basename> | <ip-address>
<user> [passwd]*

database_name can be a real database name or nickname for database or cluster.

type can be pseudo, address or thwdir

type pseudo is used to create aliases for databases.

Example:

```
base sample_base pseudo carroll
```

Via type address you can limit the use of a database to an ip-address of the WEB-client machine. Additionally, you can give username and password for this database. You can use wildcard (*) in



the address.

Examples:

```
base sample_base address 123.45.678.90 wwwuser wwwpassword
```

(allow web-client from ip-address 123.45.678.90 to access the database sample_base, via username wwwuser and password wwwpassword)

```
base sample_base address 978.65.43.* local-user secret_passwd
```

(allow all the web-clients from area 978.65.43 to access the database sample_base via username local-user and password secret_passwd)

Type thwdir tells the location of TRIPhtml documents for this database. Note that the location is the actual unix-path.

Example:

```
base sample_base thwdir /usr/local/etc/http/htdocs/example
```

Suffix for TRIPhtml documents

thwsuffix <list of suffices>

You can use any suffix for TRIPhtml documents. This option defines the various suffices appended to the document names in order to locate the html file. TRIPhighway will try these suffices in the same order as defined here and stop as soon as a file is found. There is no default suffix.

Example:

```
thwsuffix html,thw,xhtml
```

Cache directory

cache <directory path>

Defines the directory in which TRIPhighway stores temporary files generated during sessions.

This directive is mandatory.

TRIPhighway will create a subdirectory for each second and store temporary data into these directories dependent on the second the TRIPhighway query was received. The file names will contain a timestamp and the process id, ensuring the files to get a unique name.

NB! It is essential that the cache directory is regularly cleaned up by removing all sub-directories and its files as the number of files might increase a lot if the number of TRIPhighway queries is high. Depending on the frequency of queries, a clean-up period of 1-15 days is recommended.

Timeout

timeout <time>

Defines the time for the server to respond to a call from the client. The time is specified in seconds.

The default value for timeout is 300.

Mime

mime <extension> <application>

Defines which application to be started on the client when a binary object is output from TRIPhighway (using \${TRIPSTRING}).



Example:

```
mime doc application/msword
```

Sif directory

sif-dir <directory path>

Defines the directory in which TRIP keeps the SIF files generated during TRIP sessions. TRIPhighway does not keep the SIF files after a session has terminated and creates a unique SIF-file for each session.

The default directory for the SIF files (if no other is specified) is the THW cache directory.

Maximum hits

maxhits <number>

The maxhits entry specifies the maximum number of records presented from a search result retrieved in TRIP. The default value is 1000.

This entry may be overridden by a \${MAXHITS} variable in a TRIPhtml file.

Example:

```
maxhits 300
```

E.g. From a search result of 500.000 records, only the first 300 are available for presentation.

Language

language <language>

This entry has the same effect as the TDBS_LANG environment variable. It defines the language used for CCL searching. It is important that this entry is set correctly in respect to the users preference when using search operators (such as AND and OR). The language entry in the TRIPhighway configuration file overrides any setting of the TDBS_LANG variable in the TRIP configuration file and in the environment. It is thereby possible to use different languages for TRIPhighway and TRIPclassic.

This entry may be overridden by a \${LANGUAGE} variable in a TRIPhtml file.

Example:

```
language GER
```

Encoding

encoding <encoding>

This entry defines the character set to be used by TRIPsystem.

Available values for the "encoding" variable are:

LA1, LA2, LA3, GBK, EUC, SJIS and UTF8

Example:

```
encoding UTF8
```

Make sure that either the web server specifies the same encoding for everything sent or that each TRIPhighway HTML template contains a META tag with the same encoding.



Setting unix variables

unixvar <environment-varibale> <variable-value>

Some WEB-servers remove all environment variables other than the CGI-designated from the environment before executing a CGI script. By using unixvar entries it is possible to set certain variables when TRIPhighway is executed.

Example:

```
unixvar DATABASEDIR /trip/bases
```

Disable debugging via \${DEBUG}

nodebug

Usage of the \${DEBUG} variable can be disabled by setting this value.

Error message level

msg-level <n>

- | | |
|------------|--|
| <i>n=0</i> | <i>Display all messages from TRIP and TRIPhighway (Default)</i> |
| <i>n=1</i> | <i>As n=0 but also with detailed debugging information about TRIPhighway errors</i> |
| <i>n=2</i> | <i>Display messages from TRIP grouped into three categories: Login, Nohits and other (see 'simplified messages' below)</i> |

By default, all error/warning messages from TRIPhighway and TRIP are displayed. Using a msg-level setting it is possible to add detailed information about TRIPhighway errors and to show all TRIP messages grouped into three categories.

Example:

```
msg-level 2
```

Simplified messages

- | | |
|--|-------------------------------------|
| <i>msg-login <message text></i> | <i>Default: 'Login error'</i> |
| <i>msg-nohits <message text></i> | <i>Default: 'No hits'</i> |
| <i>msg-other <message text></i> | <i>Default: 'An error occurred'</i> |

The default text for the simplified messages can be replaced by using these settings.

Example:

```
msg-other          Oops, an error has occurred!
```



Sample TRIPhighway configuration

```
base routines pseudo capi
base routines address 111.222.33.* remote_user donttell
base routines thwdir /www/thwex/capi
base carroll address 12.34.56.* remote_user_1
base carroll thwdir /www/thwex/carroll
base carroll address 100.220.*.* remote_user_2
base carroll address 210.109.12.201 remote_user_3
thwsuffix thw,html
cache /tmp/cache
timeout 600
mime doc application/msword
sif-dir /tmp
maxhits 500
language SWE
unixvar MY_TDBS /trip/bases
nodebug
```



User login

TRIPhighway utilizes TRIP database security. A default user has to be specified in the configuration file (thw.conf) but if that user does not have access to the database in question. TRIPhighway will present a login screen where the user has to give user name and password to TRIP. A default login form (login.thw) is provided and put in the configuration area. This form can be copied to an application area and modified to suit the current application. Three TRIPhighway tags are identified in this form:

- `${ERRMSG}` Outputs a TRIP error message if the login fails (mandatory).
- `${THWPARAM}` Outputs all entries from the original form as hidden (mandatory).
- `${BASE}` Outputs the name of the database (optional).

These tags should not be removed from the form.



Security Summary

TRIPhighway itself does not enhance or weaken your network security or data integrity. These issues are in much beyond the scope of this document. However, there are a few steps which are required in order to ensure security in the TRIPhighway environment.

Normally the TRIPhighway application is executing as the same user as the http server on the system. Refer to the documentation for the http server for information on how to configure the privileges of the executables. The user executing the http server is in most cases a very low-privileged user.

In order for TRIPhighway to work, the thw executable must be set up as the TRIPclassic executable trip (please refer to the TRIP Administration Guide for further details).

Use the group used for the trip executable, for example tripgrp

Change the group ownership of the TRIPhighway executable file

```
chown root:tripgrp thw
```

Change the access mode of the TRIPhighway executable file

```
chmod 755 thw
```

```
chmod g+s thw
```

Change the owner and access mode of the TRIPhighway configuration file

```
chown root:tripgrp thw.conf
```

```
chmod 640 thw.conf
```

The TRIPhighway executable and configuration files should have the following attributes when these steps have been performed (using 'ls -al' command)

```
-r-xr-sr-x  1  root tripgrp  238070  Feb 14 03:20  thw
```

```
-rw-r----- 1  root tripgrp   381    Feb 15 05:33  thw.conf
```