



SOAP Module for Apache on TPF: mod_tpf_soap

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CONTENTS

This file includes the following information:

1.0 ABOUT THIS README

2.0 SYSTEM REQUIREMENTS

3.0 DOWNLOADING

4.0 CUSTOMIZING

4.1 Customization instructions for routing all traffic to the mod_tpf_soap module

4.2 Customization instructions for using Apache run-time configuration directives to route traffic

5.0 COMPILING

5.1 Compilation instructions for routing all traffic to the mod_tpf_soap module

5.2 Compilation instructions for using Apache run-time configuration directives to route traffic

6.0 INSTALLING

6.1 Installation instructions for routing all traffic to the mod_tpf_soap module

6.2 Installation instructions for using Apache run-time configuration directives to route traffic

7.0 EXAMPLES

7.1 Example Apache run-time configuration file for routing all traffic to the mod_tpf_soap module

7.2 Example Apache run-time configuration file for using Apache run-time configuration directives to route traffic

8.0 NOTICES

8.1 Trademarks

1.0 ABOUT THIS README

This readme file will guide you through the process of installing the mod_tpf_soap module on your TPF 4.1 system.

The mod_tpf_soap module is used with Apache on TPF. The module takes traffic based on how you customize it and then passes information to the SOAP handler component on TPF, as appropriate. For information about SOAP support on TPF, refer to the [IBM TPF Product Information Center](#).

2.0 SYSTEM REQUIREMENTS

To install and use this module on your TPF 4.1 system, you must have the following APARs installed:

- TPF Internet server support (APARs PJ25589 and PJ25703)
- TPF SOAP support (PJ29396)

Refer to the [IBM TPF Product Information Center](#) for more information about these APARs, including specific migration information.

Before proceeding with these instructions, review the system requirements for Apache from the following Web site:

- <http://httpd.apache.org/docs/readme-tpf.html>

3.0 DOWNLOADING

To download this module, do the following:

1. Open the instructions for Installing the Apache 1.3 HTTP Server on TPF from
 - o <http://httpd.apache.org/docs/install-tpf.html>

Keep these instructions open because you will be asked to use them throughout this readme file.

2. If you do not have Apache installed on your TPF system, complete **Download** steps 1-5 of the instructions you just opened to download Apache.

Note: SOAP support on TPF is only compatible with the version of the Apache HTTP server that *does not* contain SSL. Both versions are available on the TPF Web site so ensure you download and install the version without SSL included.

3. Repeat steps 1-3 of those instructions to install mod_tpf_soap. The file name on the Web site is mod_tpf_soap.tar.Z. Place this file in the Apache standard modules directory (../src/modules/standard).
4. Decompress and extract the archived file, which is necessary for compiling mod_tpf_soap:
pax -rqvzkf mod_tpf_soap.tar.Z -o from=ISO8859-1,to=IBM-1047
The mod_tpf_soap.c file will be extracted into the Apache standard modules directory (../src/modules/standard).

4.0 CUSTOMIZING

There are many ways to set up and customize Apache. Specifically, there are also a variety of ways you can configure your system for processing SOAP traffic. This readme.txt file provides instructions for customizing the path of SOAP traffic in two different ways:

- All traffic is routed to the mod_tpf_soap module. If you want to follow these instructions, continue with [section 4.1](#).
- Traffic is filtered by Apache run-time configuration directives so that only specific types of traffic go to the mod_tpf_soap module. If you want to follow these instructions, skip section 4.1 and continue with [section 4.2](#).

4.1 Customization instructions for routing all traffic to the mod_tpf_soap module

Do the following:

1. Open the mod_tpf_soap.c file to edit.
2. Specify that all traffic is routed to the mod_tpf_soap module in the soap_handlers[] array. (This array contains the content type that core Apache directs to mod_tpf_soap.) For all traffic, the array needs to contain */*.

For example:

```
static const handler_rec soap_handlers[] =
```

```
{
    {"**/*", soap_handler}, /* ALL traffic defaults here */
    {NULL}
};
```

3. Specify the default SOAP version in the inputMsg structure. The #define statements for the SOAP version are defined in the c_soap.h header file.

For example:

```
SOAP version (inputMsg->version = SOAP1_2 )    or
              (inputMsg->version = SOAP1_1 )
```

4. Determine if the “len_max” value is appropriate for your system. This value limits the size of the incoming messages in order to prevent unreasonably large requests. Currently len_max is set to 21000.
5. Continue with [section 5.1](#) for instructions about compiling your code.

4.2 Customization instructions for using Apache run-time configuration directives to route traffic

Do the following:

1. Open the mod_tpf_soap.c file to edit.
2. Specify what traffic is routed to the SOAP handler in the soap_handlers[]. (This array contains the content type that core Apache directs to mod_tpf_soap.) For specific traffic, enter the handler name to be used in the run-time configuration file (httpd.conf).

For example:

```
static const handler_rec soap_handlers[] = {
    {"soap-script", soap_handler},
    {NULL}
} ;
```

3. Specify the default SOAP version in the inputMsg structure. The #define statements for the SOAP version are defined in the c_soap.h header file.

For example:

```
SOAP version (inputMsg->version = SOAP1_2 )    or
              (inputMsg->version = SOAP1_1 )
```

4. Determine if the “len_max” value is appropriate for your system. This value limits the size of the incoming messages in order to prevent unreasonably large requests. Currently len_max is set to 21000.
5. Continue with [section 5.2](#) for instructions about compiling your code.

5.0 COMPILING

To compile the code, complete one of following two sets of instructions in line with the method you chose for customization.

5.1 Compilation instructions for routing all traffic to the mod_tpf_soap module

Do the following:

1. Open the instructions for *Installing the Apache 1.3 HTTP Server on TPF* from
 - <http://httpd.apache.org/docs/install-tpf.html>
 Keep these instructions open because you will be asked to use them throughout this readme file.
2. Complete **Compilation** steps 1-2 of the instructions that you just opened.
3. Complete step 3 of the instructions that you opened, as follows:
 - Comment out all module lines by preceding the line with the # symbol.
 - Add a line for the SOAP module:

```
AddModule modules/standard/mod_tpf_soap.o
```

Complete the remaining tasks for step 3 of the instructions that you opened.

4. Complete **Compilation** steps 4-9 of the instructions that you opened.
5. Determine if you are using TCP/IP Offload (ZCLAW) or Native Stack communication support on your TPF system.

If you want to use Native Stack, open the include/ap_config.h file in an editor. Add

```
#define NO_WRITEV
```

to the TPF section of the file to remove the limitation on the message size. If this is not added to the file, the message size is limited 32,767.

If you are using ZCLAW you are limited to a message size of 32,767.

6. Complete the remaining **Compilation** steps of the instructions that you opened.
7. Continue with [section 6.1](#) for instructions about installing your code.

5.2 Compilation instructions for using Apache run-time configuration directives to route traffic

Do the following:

1. Open the instructions for *Installing the Apache 1.3 HTTP Server on TPF* from
 - <http://httpd.apache.org/docs/install-tpf.html>
 Keep these instructions open because you will be asked to use them throughout this readme file.
2. Complete **Compilation** steps 1-2 of the instructions that you just opened.

3. Complete step 3 of the instructions that you opened, as follows:
 - Comment out all module lines except the modules you want to include by preceding the line with the # symbol.
Note: mod_mime.o is required for this method of customization.
 - Add a line for the SOAP module, which should be the last module included in the configuration file:

```
AddModule modules/standard/mod_tpf_soap.o
```

Complete the remaining tasks for step 3 of the instructions that you opened.

4. Complete **Compilation** steps 4-9 of the instructions that you opened.
5. Determine if you are using TCP/IP Offload (ZCLAW) or Native Stack communication support on your TPF system.

If you want to use Native Stack, open the include/ap_config.h file in an editor. Add

```
#define NO_WRITEV
```

to the TPF section of the file to remove the limitation on the message size. If this is not added to the file, the message size is limited 32,767.

If you are using ZCLAW you are limited to a message size of 32,767.

6. Complete the remaining **Compilation** steps of the instructions that you opened.
7. Continue with [section 6.2](#) for instructions about installing your code.

6.0 INSTALLING

To install the code, complete one of following two sets of instructions in line with the method you chose for customization.

6.1 Installation instructions for routing all traffic to the mod_tpf_soap module

Do the following:

1. Open the instructions for Installing the Apache 1.3 HTTP Server on TPF from
 - <http://httpd.apache.org/docs/install-tpf.html>
 Keep these instructions open because you will be asked to use them throughout this readme file.
2. Complete **Installation** steps 1-4 of the instructions that you just opened.
3. Complete step 5 of the instructions that you opened. Do not include any module-specific directives. You must include the following core directive because the translation to and from EBCDIC will be done by the tpf soap handler:

```
EBCDICConvertByType Off=InOut /*
```

4. Complete the remaining **Installation** steps of the instructions that you opened.

6.2 Installation instructions for using Apache run-time configuration directives to route traffic

Do the following:

1. Open the instructions for Installing the Apache 1.3 HTTP Server on TPF from
 - <http://httpd.apache.org/docs/install-tpf.html>
 Keep these instructions open because you will be asked to use them throughout this readme file.
2. Complete **Installation** steps 1-4 of the instructions that you just opened.
3. Complete step 5 of the instructions that you opened. You must include the following core directive because the translation to and from EBCDIC will be done by the tpf soap handler:

```
EBCDICConvertByType Off=InOut */*
```

You must also include a module-specific directive for mod_mime. This SetHandler directive identifies filters used in routing messages for mod_mime. In the following example, any traffic containing “soap-bin” will be routed to the mod_tpf_soap module:

```
# associate the location "soap-bin" with the soap handler
# in mod_tpf_soap:
<Location /soap-bin>
SetHandler soap-script
</Location>
```

Note: This handler name must match what was added to mod_tpf_soap.c in section 4.2, step 2.

4. Complete the remaining **Installation** steps of the instructions that you opened.

7.0 EXAMPLES

The following examples will help you when configuring your Apache run-time configuration file (httpd.conf).

7.1 Example Apache run-time configuration file for routing all traffic to the mod_tpf_soap module

The following information provides example values for a configuration file:

```
ServerName apache.mytown.com
User nobody nobody
StartServers 50
MinSpareServers 2
MaxSpareServers 50
MaxClients 50
ResourceConfig /dev/null
AccessConfig /dev/null
<Directory />
AllowOverride None
```

```

</Directory>
Timeout 2
KeepAliveTimeout 2
EBCDICConvertByType Off=InOut */*

```

General documentation for Apache is located at <http://httpd.apache.org/docs/> and in the HTML pages included with the distribution (tarball) under the /htdocs/manual directory.

7.2 Example Apache run-time configuration file for using Apache run-time configuration directives to route traffic

The following information provides example values for a configuration file:

```

ServerName apache.mytown.com
User nobody nobody
StartServers 50
MinSpareServers 2
MaxSpareServers 50
MaxClients 50
ResourceConfig /dev/null
AccessConfig /dev/null
<Directory />
AllowOverride None
</Directory>
Timeout 2
KeepAliveTimeout 2
EBCDICConvertByType Off=InOut */*
# associate the location "soap-bin" with the soap handler
# in mod_tpf_soap:
<Location /soap-bin>
SetHandler soap-script
</Location>

```

General documentation for Apache is located at <http://httpd.apache.org/docs/> and in the HTML pages included with the distribution (tarball) under the /htdocs/manual directory.

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