



# SOAP Module for Apache 2.2 (mod\_tpf\_soap) on z/TPF Enterprise Edition V1.1

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## 1.0 ABOUT THIS README

This readme file will guide you through the process of installing the mod\_tpf\_soap module on your z/TPF system.

The mod\_tpf\_soap module is used with Apache on z/TPF. The module takes traffic based on how you customize it and then passes information to the SOAP handler component on z/TPF, as appropriate. Go to the [IBM TPF Product Information Center](#) for more details about SOAP support.

## 2.0 SYSTEM REQUIREMENTS

Before proceeding with these instructions, review the system requirements for Apache by going to <http://httpd.apache.org/docs/readme-tpf.html>.

## 3.0 DOWNLOADING

The mod\_tpf\_soap.c file should already exist in the Apache distribution as ~/foobar/opensource/apache2/src/modules/experimental/mod\_tpf\_soap.

## 4.0 BUILD TO ROUTE ALL TRAFFIC TO SOAP

There are many ways to set up and customize Apache. There are also a variety of ways that you can configure your system for processing SOAP traffic. This readme 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 and continue with [section 5.1](#).

### 4.1 Customization instructions for routing all traffic to the mod\_tpf\_soap module

1. Open the mod\_tpf\_soap.c file to edit (~/foobar/opensource/apache2/src/modules/experimental/mod\_tpf\_soap.c).
2. Specify in the inputMsg structure the SOAP version that you will be using. (The downloaded sample mod\_tpf\_soap.c program sets the version to 1.2).

For example:

```
inputMsg->version = SOAP1_2;
    or
inputMsg->version = SOAP1_1;
```

If using the WSDT deployment mechanism, the SOAP version can be set to UNKNOWN. In this case, the version of the message will be automatically detected and compared to acceptable versions specified in the WSDT.

3. Determine if the "len\_max" value is appropriate for your system. This value limits the size of the incoming messages to prevent unreasonably large requests. Currently, len\_max is set to 69999.
4. If you want to conform to the WS-I Basic Profile 1.1 add the following:

```
#define WSI_VALIDATION    /* do WS-I validation checks */
```

#### 4.2 Compilation instructions for routing all traffic to the mod\_tpf\_soap module

1. Open the instructions for *Using Apache with z/TPF* by going to <http://httpd.apache.org/docs/install-ztpf.html>.
2. Complete all **Build** steps of the instructions that you just opened *up to* the edit of the ca2s.mak file for choosing your modules.

When editing the ca2s.mak file, do the following steps:

- o Comment out all C\_SRC lines (by preceding the line with the # symbol) corresponding to modules **EXCEPT** for the following C\_SRC files that are required modules for this method of customization:

```
modules/aaa/mod_authn_default.c
modules/aaa/mod_authz_default.c
```

- o Uncomment out the C\_SRC line (by removing the initial # symbol) for

```
modules/experimental/mod_tpf_soap.c.
```

- o Add the following statement:

```
CFLAGS_CA2S += -D TPF_SOAP_ALL_TRAFFIC
```

3. Complete the remaining **Build** steps of the instructions that you opened.

#### 4.3 Installation instructions for routing all traffic to the mod\_tpf\_soap module

1. Open the instructions for *Using Apache with z/TPF* by going to <http://httpd.apache.org/docs/install-ztpf.html>.
2. Complete all steps of the **Install** instructions that you just opened *up to* the create of the Apache run-time configuration file - conf/httpd.conf.

When creating the httpd.conf file, do not include any module-specific directives such as CharsetSourceEnc or CharsetDefault.

3. Complete the remaining **Install** steps of the instructions that you opened.
4. Complete all of the **Test** steps of the instructions that you opened *up to* requesting the index page. An index page won't work because it's not SOAP traffic.

#### 5.0 BUILD TO SELECTIVELY ROUTE TRAFFIC TO SOAP

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

- 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, continue with [section 5.1](#).

- All traffic is routed to the mod\_tpf\_soap module. If you want to follow these instructions, go back to [section 4.1](#).

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

1. Open the mod\_tpf\_soap.c file to edit (~/foobar/opensource/apache2/src/modules/experimental/mod\_tpf\_soap.c).
2. Specify the handler name to be used in the run-time configuration file (httpd.conf).

For example:

```
#ifndef TPF_SOAP_MIXED_TRAFFIC
    if (strcmp(r>handler, "soap-script")) {
        return DECLINED;
    }
#endif
```

3. Specify in the inputMsg structure the SOAP version that you will be using. (The downloaded sample mod\_tpf\_soap.c program sets the version to 1.2).

For example:

```
inputMsg->version = SOAP1_2;
    or
inputMsg->version = SOAP1_1;
```

If using the WSDT deployment mechanism, the SOAP version can be set to UNKNOWN. In this case, the version of the message will be automatically detected and compared to acceptable versions specified in the WSDT.

4. Determine if the "len\_max" value is appropriate for your system. This value limits the size of the incoming messages to prevent unreasonably large requests. Currently, len\_max is set to 69999.
5. If you want to conform to the WS-I Basic Profile 1.1 add the following:

```
#define WSI_VALIDATION    /* do WS-I validation checks */
```

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

1. Open the instructions for *Using Apache with z/TPF* by going to <http://httpd.apache.org/docs/install-ztpf.html>.
2. Complete all **Build** steps of the instructions that you just opened *up to* the edit of the ca2s.mak file for choosing your modules.

When editing the ca2s.mak file, do the following steps instead:

- o Comment out C\_SRC lines (by preceding the line with the # symbol) corresponding to those modules you do not wish to include.

**Note:** The following C\_SRC files are required modules for this method of customization:

```
modules/filters/mod_charset_lite.c
modules/aaa/mod_authn_default.c
modules/aaa/mod_authz_default.c
```

- o Uncomment out the C\_SRC line (by removing the initial # symbol) for

```
modules/experimental/mod_tpf_soap.c.
```

- o Add the following statement:

```
CFLAGS_CA2S += -D TPF_SOAP_MIXED_TRAFFIC
```

3. Complete the remaining **Build** steps of the instructions that you opened.

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

1. Open the instructions for *Using Apache with z/TPF* by going to <http://httpd.apache.org/docs/install-ztpf.html>.
2. Complete all steps of the **Install** instructions that you just opened *up to* the create of the Apache run-time configuration file - conf/httpd.conf.

When creating the httpd.conf file, you must add a "Location" section with directives for SOAP messages. You must also include the Charset directives for any "Directory" sections that require translation to and from EBCDIC.

```
<Location /soap-bin>
  SetHandler soap-script
  CharsetSourceEnc ISO-8859-1
  CharsetDefault ISO-8859-1
</Location>

<Directory /usr/local/apache2/htdocs>
  CharsetSourceEnc IBM-1047
  CharsetDefault ISO-8859-1
</Directory>
```

The SetHandler directive identifies filters that are used to route messages for mod\_mime. In the "Location" example above, any traffic containing "soap-bin" will be routed to the mod\_tpf\_soap module. The handler name "soap-script" must match what was added to mod\_tpf\_soap.c in section [5.1, step 2](#).

The CharsetSourceEnc and CharsetDefault directives for /soap-bin are required because the translation to and from EBCDIC will be done by the tpf soap handler.

The CharsetSourceEnc and CharsetDefault directives for /usr/local/apache2/htdocs are required because the translation to and from EBCDIC needs to be done by the Apache server for non-SOAP traffic.

3. Complete the remaining **Install** steps of the instructions that you opened.
4. Complete all of the **Test** steps of the instructions that you opened.

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