



## Downloads for TPF Family Products

### SOAP Module for Apache (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

To download this module, do the following:

1. Open the instructions for *Installing the Apache 1.3 HTTP Server on z/TPF* by going to <http://httpd.apache.org/docs/install-ztpf.html>.

**Note:** 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 z/TPF system, complete all of the steps in the **Download** section and all of the steps in the **MakeTPF Setup** of the instructions you just opened to download Apache.

**Note:** SOAP support on z/TPF is compatible only with the version of the Apache HTTP server that *does not* contain SSL.

3. Click the **Download now** button to download the compressed mod\_tpf\_soap file (the

"tarball") to your PC. The file name on the Web site is `mod_tpf_soap_zTPF.tar.Z`.

Tip: Ensure that you keep the `.tar.Z` extension when saving the file.

- FTP the tarball to your home directory on your Linux build machine using binary mode:

- Activate FTP in an MS-DOS window:  
**ftp your.linux.build.machine.com**
- Sign in
- Set mode to binary: **binary**
- Send the file to your Linux build machine:  
**send "c:/  
path/mod\_tpf\_soap\_zTPF.tar.Z" mod\_tpf\_soap\_zTPF.tar.Z**
- Exit FTP: **bye**

Tip: Linux file names are case sensitive.

- On your Linux system, change to the directory above `opensource` where you have the Apache source code. (Replace "foobar" in the following command with your actual directory name).

```
cd ~/foobar
```

- Decompress and extract the archived file, which is necessary for compiling `mod_tpf_soap`:

```
tar -xzkf ../mod_tpf_soap_zTPF.tar.Z
```

The `mod_tpf_soap.c` file will be extracted into the Apache standard modules directory (`~/foobar/opensource/apache/src/modules/standard`).

#### 4.0 BUILD TO ROUTE ALL TRAFFIC TO SOAP

There are many ways to set up and customize Apache. Specifically, there also are a variety of ways that 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 and continue with [section 5.1](#).

##### 4.1 Customization instructions for routing all traffic to the `mod_tpf_soap` module

- Open the `mod_tpf_soap.c` file to edit (`~/foobar/opensource/apache/src/modules/standard/mod_tpf_soap.c`).
- 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}
};
```

- To help reduce I/O, you might want to do the following steps to bypass file name checks:

- Add the following function with code similar to:

```
/* Null out the filename to prevent http_request.c from */
/* doing the I/O associated with directory_walk( ). */

static int bypass_filename_checks(request_rec *r) {

    /* Repeat the checks in soap_handler( ) to make sure */
    /* this is a request that mod_tpf_soap will end up */
    /* handling: */
    if (strcmp(r->method, "GET") && strcmp(r->method, "POST")) {
        return DECLINED;
    }
}
```

```

    }
    if (strcmp(r->uri, "/") == 0) {
        return DECLINED;
    }

    /* This is soap traffic so filename is irrelevant. */
    r->filename = NULL;
    return OK;
};

```

- Change the `/* [2] filename-to-URI translation */` line in module structure module `MODULE_VAR_EXPORT tpf_soap_module` from `NULL` to the following:

```

bypass_filename_checks,    /* [2] filename-to-URI
translation */

```

4. 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;

```

5. 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 21000.
6. 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 *Installing the Apache 1.3 HTTP Server on z/TPF* by going to <http://httpd.apache.org/docs/install-ztpf.html>.
- 2. If you have not already defined AROOT, do the following entry. Replace "foobar" below with your actual directory name:

```

export AROOT="foobar/opensource/apache"

```

3. Complete all **Compilation** steps of the instructions that you just opened *up to* the edit of the Configuration file.

When editing the Configuration file, do the following steps instead:

- Comment out all `AddModule` lines by preceding the line with the `#` symbol.
- Add a line for the SOAP module:

```

AddModule modules/standard/mod_tpf_soap.o

```

4. Complete the remaining **Compilation** 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 *Installing the Apache 1.3 HTTP Server on z/TPF* by going to <http://httpd.apache.org/docs/install-ztpf.html>.
2. Complete all steps of the **Installation** instructions that you just opened *up to* the edit of the `conf/httpd.conf` file.

When editing the `httpd.conf` file, do the following steps instead:

- 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 */*
```

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

#### 4.4 Sample Apache run-time configuration file for routing all traffic to the mod\_tpf\_soap module

- The following information provides sample values for a configuration file:

```
ServerName 127.0.0.1
User nobody nobody
ResourceConfig /dev/null
AccessConfig /dev/null
<Directory />
AllowOverride None
</Directory>
EBCDICConvertByType Off=InOut */*
```

General information 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.

## 5.0 BUILD TO SELECTIVELY ROUTE TRAFFIC TO SOAP

There are many ways to set up and customize Apache. Specifically, there also are a variety of ways to configure your system for processing SOAP traffic. This readme.txt 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/apache/src/modules/standard/mod\_tpf\_soap.c).
2. Specify what traffic is routed to the SOAP handler in 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 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;
```

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 21000.
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 *Installing the Apache 1.3 HTTP Server on z/TPF* by going to <http://httpd.apache.org/docs/install-ztpf.html>.

- If you have not already defined AROOT, do the following entry.  
Replace "foobar" below with your actual directory name:

```
export AROOT="foobar/opensource/apache"
```

- Complete all **Compilation** steps of the instructions that you just opened *up to* the edit of the Configuration file.

When editing the Configuration file, do the following steps instead:

- Comment out all `AddModule` lines except the modules that 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 **Compilation** steps of the instructions that you opened.

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

- Open the instructions for *Installing the Apache 1.3 HTTP Server on z/TPF* by going to <http://httpd.apache.org/docs/install-ztpf.html>.
- Complete all steps of the **Installation** instructions that you just opened *up to* the edit of the `conf/httpd.conf` file.

When editing the `httpd.conf` file, you must add a "Location" section with directives for SOAP messages:

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

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 `EBCDICConvertByType` directive is required because the translation to and from EBCDIC will be done by the `tpf soap` handler.

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

### 5.4 Sample Apache run-time configuration file for using Apache run-time configuration directives to route traffic

- The following information provides sample values for a configuration file:

```
ServerName 127.0.0.1
User nobody nobody
ResourceConfig /dev/null
AccessConfig /dev/null
<Directory />
  AllowOverride None
</Directory>
# associate the location "soap-bin" with the soap handler in mod_tpf_soap:
<Location /soap-bin>
  SetHandler soap-script
  EBCDICConvertByType Off=InOut /*
</Location>
```

General information 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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