Installing the Natural Web I/O Interface Server under z/OS

This chapter describes how to install a server for the Natural Web I/O Interface (product code NWO) under the operating system z/OS.

The installation of the Web I/O Interface server is performed by installation jobs. The sample jobs are contained in the dataset `NWOvrs.JOBS` and are prefixed with `NWO`, or generated by System Maintenance Aid (SMA).

The following topics are covered:

- Prerequisites

- Content of the Web I/O Interface Server Distribution Tape

- Installation Procedure

Prerequisites

For details, refer to the section *Prerequisites*.

Content of the Web I/O Interface Server Distribution Tape

The installation tape contains the datasets listed in the table below. The sequence of the datasets and the number of library blocks needed are shown in the *Report of Tape Creation* which accompanies the installation tape.

Dataset Name	Contents
`NWOvrs.OBJS`	Contains the object modules of the server.
`NWOvrs.JOBS`	Example installation jobs.

The notation `vrs` in dataset names represents the version, release and system maintenance level of the product.

Installation Procedure

Step 1: Allocate the Web I/O Interface Server LOAD library

(Job I008, Step 9410)

Step 2: Create a Web I/O Interface Server configuration file and sample Clist

(Job I009 / Step 9410, 9420, 9430)

Step 9410 creates a sample `NWOCONFG` for the batch server.

Step 9420 creates a sample `Clist` to ping and terminate a Web I/O Interface server.

Step 9430 creates a sample batch job to ping and terminate a Web I/O Interface server.

The following parameters of the configuration file have to be defined. See *Configuring the Natural Web I/O Interface Server*. For the other parameters, the default values may be used:

`FRONTEND_NAME`	Specify the name of the Web I/O Interface server front-end module you will generate in one of the following steps.
`PORT_NUMBER`	Specify the TCP/IP port number under which the server can be connected.

Step 3: Link the object modules into the NWO load library

(Job I054, Step 9410)

The NWO object modules must be linked with the necessary runtime extensions of your batch installations into executable load modules.

Note:
The module `NATCNRFE` applies to two different products, the Natural Web I/O Interface Server (NWO) and the Natural Development Server (NDV). So if you have already installed NDV, the module `NATCNRFE` might already be there. However, it does not matter if you reinstall `NATCNRFE` with NWO because the resulting module from either installation is the same.

See sample job `NWOI054` on dataset `NWOvrs.JOBS`.

Step 4: Assemble NATOS with LE370=YES

(Job I055, Steps 9410, 9420)

- Job I055, Step 9410 starts the batch program `IEBUPDATE` to create the source member `NATOSNWO`.

- Job I055, Step 9420 assembles and links `NATOSNWO`.

Step 5: Create NATPARM and NWO server front-end module

(Job I060, Steps 9410, 9420, 9430)

- Job I060, Step 9410 starts the batch program `IEBUPDATE` to store the parameter module `NWOPARM`.

- Job I060, Step 9420 assembles and links the parameter module `NWOPARM`.

- Job I060, Step 9430 links the NWO server front-end module.

The reentrant `ADALINK` module `ADALNKR` must be used.

Step 6: Create server startup JCL

(Job I200, Step 9415)

Described in the section *Configuring the Natural Web I/O Interface Server*. See sample member `NWOSTART` on dataset `NWOvrs.JOBS`.

Step 9415 creates a startup procedure for the batch server.

Sample:

```
//          PROC SRV=SAGNWO
//NWO       EXEC PGM=NATRNWO,
// REGION=4000K,TIME=1440,PARM='POSIX(ON),TRAP(ON,NOSPIE)/&SRV'
//STEPLIB  DD   DISP=SHR,DSN=NWOvrs.LOAD
//         DD   DISP=SHR,DSN=SMA.LOAD
//SYSUDUMP DD   SYSOUT=X
//CEEDUMP  DD   SYSOUT=X
//CMPRINT  DD   SYSOUT=X
//STGCONFG DD   DISP=SHR,
//              DSN=NWO.CONFIG(&SRV)
//STGTRACE DD   SYSOUT=X
//STGSTDO  DD   SYSOUT=X
//STGSTDE  DD   SYSOUT=X
//SYSOUT   DD   SYSOUT=X
```

Note:
The Web I/O Interface server account must be defined in the z/OS UNIX System Services (OE segment). If the server account is not defined, the server ends with U4093 and system message `CEE5101C` in the trace file.

Step 7: Web I/O Interface clients must be defined to Natural Security

If Natural Security (NSC) is installed:

- The Web I/O Interface initial user ID (default ID is `STARGATE`) must be defined in Natural Security with a valid default library. Refer also to Web I/O Interface server configuration parameter `INITIAL_USERID`. Alternatively, you can define the Natural profile parameter `AUTO=OFF` (automatic logon) for the Web I/O Interface.

- Each client user ID must be defined in Natural Security.

If the Web I/O Interface initial user ID is not defined, the Web I/O Interface server initialization aborts with a NAT0856.

If a Web I/O Interface client is not defined, the server connection returns an NSC error.

If you connect to the server from a Web I/O Interface client, make sure that the user who is defined in Natural Security has a default library or a private library defined. Otherwise, error message NAT0815 will occur.

Step 8: Web I/O Interface clients must be defined to the server host

If you configure the Web I/O Interface server to use an external security system (see Web I/O Interface server configuration parameter SECURITY_MODE), the Web I/O Interface clients must be defined to the external security system.