

FUJITSU Software BS2000 PERL

Version 5.8A
May 2017

Readme

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1 Introduction

*2 Changes to release level November 2015 are marked with *2

*1 Changes to release level June 2013 are marked with *1.

*2 The release level May 2017 for Perl V5.8 has the correction state A04.

*2 Changes to release level November 2015:

*2

*2 1) Update

*2 Any installed addon package (PERL:ADDON) must be uninstalled before Perl.

*2

*2 2) New functionality

*2 Support of Perl module Archive::Zip

*2 Support of Perl module Compress::Raw::Zlib

*2 Update of Perl module DBD::Oracle 1.74

This README file describes the BS2000 specific supplements and differences to the online documentation and to the generally available literature named in the literature chapter.

Perl ("Practical Extraction and Report Language") is an interpreted script language known from the unix environment, which has been developed by Larry Wall and is maintained by the Perl5 Porters Group. Perl syntax borrows from C, C++ and miscellaneous shell script languages.

*1 BS2000 PERL V5.8A is based on Perl's developer version 5.8.9.

Additionally to the basic Perl some CPAN modules have been ported, in detail: Term::ReadKey, Spiffy, Convert::EBCDIC, Digest::MD5, Digest::SHA1, Pod::Escapes, Pod::Simple, Pod::POM, Test::Base, Test::Pod, File::Temp, WWW::Curl, HTML::Tagset, HTML::Parser, DBI, DBD::Oracle, libnet, URI, libwww::perl, Apache::DBI, Business::ISBN::Data, Business::ISBN, DB_File, Imager and GD.

The Perl interpreter can be used for CGI scripts in connection with the Apache webserver (via mod_perl), but it is also usable as a standalone interpreter.

2 Installation

This chapter describes the installation of BS2000 PERL V5.8A.

Perl is delivered as component of the supply unit APACHE V2.2A and is installed and de-installed with the POSIX installation program (see Manual "POSIX Basics for Users and System Administrators").

Before installing a newly delivered package PERL, the previously installed version has to be removed. In order to perform a successful de-installation of Perl, the original installation libraries ("SINLIB, SKULIB") are needed. See Release Notice APACHE V2.2A (chapter "Product installation").

Further remarks on installation of Perl:

- Before installing Perl in POSIX the APACHE base package has to be installed, which contains the shared objects used by some CPAN modules (C library, graphics libraries etc.) residing under /opt/apache22/lib (this does not mean, that the Apache webserver itself has to be installed.). As of correction package I/2013, before updating PERL the APACHE base package has to be updated too.
- The POSIX package installation is done under the TSOS account with the POSIX installation command /START-POSIX-INSTALLATION

In doing so for the installation of Perl following selections have to be made and specifications have to be given:

Function: Install packages on POSIX

and then on the next screen:

```
IMON support ?      : Y
name of product    : PERL
package of product :
version of product : 058
```

The installation path showed in the course can be changed, but it is recommended to use the default /opt/perl. In the following this default is assumed at the naming of files.

2.1 Course of preinstallation scripts

At first several scripts check, whether some requirements for successfully installing Perl are fulfilled:

- whether required products are installed actually,
- whether perhaps a Perl installation is already/still present and
- whether the /opt file system has enough free space.

When one of this checks fails, the installation is cancelled, otherwise the installation program copies all files from the PLAM library into the POSIX file system or creates links to PLAM library elements alternatively.

2.2 Course of postinstallation script

After all files are copied, the postinstallation script, which handles the host-specific set-up of Perl, is started automatically.

Two symbolic links, `/usr/bin/perl` and `/opt/bin/perl`, are created, which both point to `/opt/perl/bin/perl`. When Perl is not installed under the default path `/opt/perl`, then a symbolic link is created, which refers from `/opt/perl` to this non-standard path. This is necessary, because the standard path is "burned" into Perl and Perl otherwise would not find Perl packages to be loaded.

Finally it will be tried to create a `/etc/resolv.conf` file, if there is not already one, for ensuring a working DNS name resolution. For this the files `$.SYSDAT.LWRESD.*.RESOLV.CONF` and `$.SYSDAT.SOCKETS.*.SOC6.RESOLV` are analyzed, whether they contain a valid nameserver line. If yes, then the first file with such a line found is copied to `/etc/resolv.conf`. A warning notice mentioning a missing `/etc/resolv.conf` file can be ignored, when you are sure, that you don't need DNS name resolution with your Perl utilization.

3 Deinstallation

The deinstallation is carried out under the TSOS account too with the POSIX installation command:
/START-POSIX-INSTALLATION

Doing so select the function "Delete packages from POSIX". In the list showing up for deinstallation mark the line with Product=PERL and Version=058 and follow the further instructions of the tool. The symbolic links created during the postinstallation are removed too.

4 Usage instructions

4.1 locale settings

Perl scripts don't work with many national 7 bit character sets, because in such character sets Perl syntax elements as e.g. curly brackets aren't available. E.g. one such national 7 bit character set is activated implicitly with the locale setting 'LANG=De', therefore a locale environment with an 8 bit character set (or a suitable 7 bit character set) has to be established.

4.2 Annotations to Oracle usage

The Perl module DBD::Oracle supports the Oracle interface of ORACLE 11g Release 2 (11.2) for Fujitsu BS2000/OSD. In order to use it, the following configuration changes must be made:

- Assume \$ORAUID to be the ID under which the ORACLE software was installed in BS2000.
- With the specification of corresponding environment variables one can determine, which Oracle installation the Perl module shall use for loading the Oracle modules.

```
ORACLE_BASE=<your oracle_base>
ORACLE_HOME=<your oracle_home>
TNS_ADMIN=<your network admin path,
           e.g. $ORACLE_HOME/network/admin>
ORACLE_SID='APAC'
CLN_BASE='200M'
export ORACLE_BASE ORACLE_HOME
export TNS_ADMIN ORACLE_SID CLN_BASE
LD_LIBRARY_PATH="$LD_LIBRARY_PATH:$ORACLE_HOME/lib"
export LD_LIBRARY_PATH
```

The environment variable TNS_ADMIN specifies the path, under which the Oracle Net parameter files sqlnet.ora and tnsnames.ora are searched.

- The file **tnsnames.ora** contains Oracle Net Alias names, with which a database can be addressed. If Oracle Net Alias names are used in the Perl scripts, these have to be defined in the tnsnames.ora file. This file must be created in the directory specified by TNS_ADMIN. If TNS_ADMIN is not supplied, the file is searched under \$ORACLE_HOME/network/admin. It is recommended to use the TCP protocol for the communication with the Oracle database.

5 License arrangements

For the utilization of Perl two different licenses are available, either the GNU GPL or the so-called Artistic License. For particulars please read the files `/opt/perl/readme/README`, `/opt/perl/readme/Artistic` and `/opt/perl/readme/Copying` or the license text for Perl in the PLAM library `SYSDOC.PERL.058.OSS`

6 Literature

POSIX (BS2000/OSD) Basics for Users and System Administrators User Guide

Target group

BS2000 system administrators, POSIX administrators, BS2000 users

Contents

- Introduction to and working with POSIX
- BS2000 software products in a POSIX environment
- Installing POSIX
- Controlling POSIX and administering file systems
- Administering POSIX users
- BS2000 commands for POSIX

6.1 Additional literature

Under <https://www.perl.org/books> one finds a very comprehensive overview over Perl literature.