# EPV Plus Products
## Installation and
## EXPRESS Customization
in Unix/Linux

*IT Cost*
*Under Control*

Supporting
**EPV zParser V11**
**EPV for z/OS Plus V11**
**EPV for DB2 Plus V7**
**EPV for WMQ Plus V2**
**EPV Graph for z/OS Plus V11**
**EPV for zLINUX Plus V4**

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Installation and EXPRESS Customization

# Contents

# About this manual

This manual is intended to help anyone who wants to install and customize the EPV Plus Products suite in a Unix or Linux environment.

# 1   Overview

Using this manual you can perform an easy and quick installation and customization of all the EPV Plus Products, for z/OS, by using the EXPRESS customization feature.

The EXPRESS customization currently supports collecting data in "once a day" or "continuous" parsing mode.
Collecting data in "once a day" parsing mode is for small amount of SMF input data (up to 20Gb per day), for bigger amounts, the "continuous" parsing mode is preferable.
Please refer to the "EPV zParser V11 Installation and Customization" manual for more details.

# 2   Preliminary checks

Before installing the EPV Plus Products in Unix/Linux systems please perform the following checks.

## 2.1   Perl modules

Please check that Perl 5 (or above) is installed and MySQL 5 (or above) is available.

The following packages are required to run all the EPV Plus Products:

| Package | Notes |
|---|---|
| Compress::Zlib | included in standard Perl installation |
| Cwd | included in standard Perl installation |
| Data::Dumper | included in standard Perl installation |
| DBI | included in standard Perl installation |
| FileHandle | included in standard Perl installation |
| File::Temp | included in standard Perl installation |
| POSIX | included in standard Perl installation |
| Shell | included in standard Perl installation |
| Archive::Zip | |
| Bit::Vector | |
| Convert::IBM390 | |
| Date::Calc | |
| DBD::mysql | |
| DBM::Deep | |
| File::stat | |
| File::Copy | |
| HTTP::Date | |
| Number::Format | |
| Text::FormatTable | |
| Time::gmtime | |
| Time::localtime | |

Missing packages can be downloaded from the www.cpan.org web site.

The following packages are only required if you want to run the EPV Graph for z/OS Plus product:

| Package | Notes |
|---|---|
| File::Sort | |
| GD.pm | |

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| | |
|---|---|
| GD/Graph.pm | |
| GD/Graph/Area.pm | |
| GD/Graph/colour.pm | |
| GD/Graph/data.pm | |
| GD/Graph/error.pm | |
| GD/Graph/Mixed.pm | |
| GD/Graph/Points.pm | |
| GD/Graph/Utils.pm | |
| GD/Image.pm | |
| GD/Polygon.pm | |

File::Sort can be downloaded from the www.cpan.org web site.
All the GD packages can be downloaded from the www.boutell.com/gd/ web site.

The following package is only required if you want to run the EpvInstForUnix.pl program:

| Package | Notes |
|---|---|
| DBD::CSV | |

Please keep in mind that:
- packages included in the standard Perl installation depends on the specific Perl version and on the O.S. environment;
- additional packages may be required as pre requisites of the ones mentioned here.

## 2.2    Dos2unix command

Please check that the dos2unix command is available.

# 3   Installation

To install the EPV products in Unix/Linux systems you need to perform the following steps:

1. user definition;
2. DBMS installation;
3. prepare products and password folders;

## 3.1    User definition

Please define a user (e.g. epv) which will be the product owner.

## 3.2    DBMS Installation

EPV products support MySQL Server[1].

### 3.2.1   MySQL Server installation and configuration

To install MySQL please refer to Attachment A.

You need to customize the following parameters in the mysqld section of my.cnf (MySQL configuration file) in order to let EPV work properly[2] :

- set the default-storage-engine (formerly table_type) parameter to MYISAM;

- set the sql-mode parameter to blank ( put a #  sign on the first column where this parameter is);

- set character-set-server parameter to latin1;

- set the lower_case_table_names parameter to 1.

MySQL has to be closed and restarted for the modifications to take effect.

### 3.2.2   Creation of a MySQL user

Once you have installed and configured MySQL software you can create a dedicated user for the EPV products or use the root user defined at installation time.  To create a dedicated user (epv in the following example) please type the following commands in a Unix/Linux terminal:

cd *PathToMysqlbin[3]*

mysql --user=**root** --password=***root_pwd***

From the MySQL shell perform the following commands:

---

[1] It is possible to load the HDR and TXT files produced by the EPV zParser Reader on any DBMS. The HDR file contains the record layout of the TXT file.
[2] You don't need to perform these customization steps if the MySQL version is 4.0.0.18 or older.
[3] Please substitute the right path to the *bin* folder inside the MySQL product structure.

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- MySQL>GRANT ALL PRIVILEGES ON *.* TO epv@localhost
    >IDENTIFIED BY 'epv' WITH GRANT OPTION;

- MySQL>GRANT ALL PRIVILEGES ON *.* TO epv@'%'
    >IDENTIFIED BY 'epv' WITH GRANT OPTION;

- MySQL>QUIT;


## 3.3    Preparing products and password folders

In Unix/Linux systems you have to copy the supplied /PASSWORD, /PRODUCTS,  /SETUP, /TOOLS, /DOCUMENTS, /USERPROFILE, /PERL_MODULES folders and all the included subfolders, from the EPV Installation CD to a freely chosen position but the last folder has to be EPVROOT (e.g. /home/epv/EPVROOT).

From here on the *"$EPVPATH"* variable should be substituted with the path where the installation software was copied.

In UNIX/LINUX OS you must export this variable, since all the sh procedure use it, by issuing the following command:
**export EPVPATH=/home/epv/EPVROOT/**

You can also put this command in the EPV user automatic logon script (e.g. bashrc or /etc/profile).

Products licenses will be separately provided in files named LICENSE_product.EPV; they have to be copied to the PASSWORD folder.

*As discussed in Chapter 5, you can create a user profile in Windows by using the EPV Customization GUI and then move the user profile to a Unix/Linux system where the EPV products have to run.*
*Only in that case in order to run the EPV Customization GUI you have also to copy the supplied /PASSWORD, /PRODUCTS,  /SETUP, /TOOLS, /DOCUMENTS and /USERPROFILE folders, and all the included subfolders, from the EPV Installation CD to a folder in a Windows system (e.g. /EPVROOT/).*
*All the provided products licenses have also to be copied in the PASSWORD folder. These licenses  will only be used to run the EPV Customization GUI.*

# 4 EXPRESS customization using the EpvInstForUnix program (preferred technique)

A simple program, named EpvInstForUnix.PL and located in the *$EPVPATH*/SETUP folder, is available to perform a quick customization of all the EPV products.

## 4.1    Preparing dictionary files

You have to perform the dos2unix command on each file located in the *$EPVPATH*/PRODUCTS/EPVZPARSER_V11/DISTRIB subdirectories; we suggest you to run the following command:

**find** *$EPVPATH***/PRODUCTS/EPVZPARSER_V11/DISTRIB –type f –exec dos2unix '{}' \;**

## 4.2    Building the user profile

To build a user profile you have just the to run EpvInstForUnix.PL program on a Unix/Linux system and provide the required information.

1) You will get info about which products are licensed and you will be asked for a profile name:

```
YOU'RE GOING TO CREATE A PROFILE FOR:
EPV zPARSER - License Valid until 2013-12-31
EPV for z/OS - License Valid until 2013-12-31
EPV for DB2 - License Valid until 2013-12-31
EPV for WMQ - License Valid until 2013-12-31
EPV GRAPH for z/OS - License Valid until 2013-12-31
EPV for zLINUX - License Valid until 2013-12-31
```

ENTER A PROFILE NAME: EPV_ONCE

In this example the profile name has been set to EPV_ONCE.

2) You will be asked to code DB connection parameters (values between square brackets are the defaults):

```
EPV_ONCE PROFILE: DB CONNECTION PARAMETERS
DB USER NAME [root]:
DB PASSWORD: epv
DB HOST NAME [localhost]:
DB PORT NUMBER [3306]:
```

In this example all defaults have been accepted; only the DB PASSWORD has been coded.

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3) You will be asked to confirm  DB CONNECTION parameters:

```
EPV_ONCE PROFILE DB CONNECTION:
DB USER NAME: root
DB PASSWORD: epv
DB HOST NAME: localhost
DB PORT NUMBER: 3306


DO YOU CONFIRM ? (Y/N) [Y]:
```

4) After your confirmation, parameters are checked:

```
NOW CHECKING THE DB CONNECTION...
```

If everything is correct you will get the following message:

```
DB CONNECTION CORRECTLY DONE
```

5) Now the script propose you the default input folders for each input type (SMF, DCOLLECT, IMS, etc); only the SMF folder is shown here:

```
EPV_ONCE PROFILE: INPUT FOLDERS

********************
DEFAULT SMF INPUT FOLDER:

$ENV{EPVPATH}/USERPROFILE/EPV_ONCE/INPUT/EPVZPARSER_INPUT/SMF_INPUT/

DO YOU WANT TO CONFIRM (1), ENTER ADDITIONAL SMF INPUT FOLDERS (2)
OR MODIFY THE DEFAULT SMF INPUT FOLDER (3) ? [1]:
```

Pressing enter or coding 1 you will accept the default folder; by coding 2 you can add more folders (useful to increase parallelism when parsing data in continuous mode); by coding 3 you will choose a different path.
At the end you will get the complete list of all the input folders.

```
INPUT FOLDERS COMPLETE LIST:
SMF FOLDER: $ENV{EPVPATH}/USERPROFILE/EPV_ONCE/INPUT/EPVZPARSER_INPUT/SMF_INPUT/
DCO FOLDER: $ENV{EPVPATH}/USERPROFILE/EPV_ONCE/INPUT/EPVZPARSER_INPUT/DCO_INPUT/
IMS FOLDER: $ENV{EPVPATH}/USERPROFILE/EPV_ONCE/INPUT/EPVZPARSER_INPUT/IMS_INPUT/
LOGIMS FOLDER: $ENV{EPVPATH}/USERPROFILE/EPV_ONCE/INPUT/EPVZPARSER_INPUT/LOGIMS_INPUT/
ZVM FOLDER: $ENV{EPVPATH}/USERPROFILE/EPV_ONCE/INPUT/EPVZPARSER_INPUT/ZVM_INPUT/
CSV FOLDER: $ENV{EPVPATH}/USERPROFILE/EPV_ONCE/INPUT/EPVZPARSER_INPUT/CSV_INPUT/
```

6) Other settings are requested:

```
EPV_ONCE PROFILE: OTHER SETTINGS

DATA COLLECTION MODE: ONCE A DAY
DO YOU CONFIRM? (Y/N) [Y]:

IBM LOGIMS RELEASE NUMBER: 9
DO YOU CONFIRM? (Y/N) [Y]:

BVIR RECORD NUMBER: 999
DO YOU CONFIRM? (Y/N) [Y]:

VTCS RECORD NUMBER: 998
DO YOU CONFIRM? (Y/N) [Y]:

CONTROLD RECORD NUMBER: 997
DO YOU CONFIRM? (Y/N) [Y]:
```

DATA COLLECTION MODE is mandatory: it will determine the products scheduling.
Al the others are optional; they are only needed if you want to collect IMS log records, SMF  records for IBM VTS (HYDRA), ORACLE VTS or BMC CONTROL D.

*Only if you change DATA COLLECTION MODE to N (continuous parsing mode) you will be asked to set these additional parameters:*

```
NUMBER OF STAGE DATABASES (2 TO 99): 2

PARSER AGENTS SELECTION

SMF AGENT (Y/N) [Y]:

DCO AGENT (Y/N) [Y]:

IMS AGENT (Y/N) [Y]:

LOGIMS AGENT (Y/N) [Y]:

ZVM AGENT (Y/N) [Y]:

CSV AGENT (Y/N) [Y]:
```

7) After displaying your settings, you will be asked to save the profile:

```
DO YOU WANT TO CONTINUE AND CREATE EPV_ONCE PROFILE? (Y/N) [Y]:
```

then you will get the following messages:

```
WRITING EPV_ONCE PROFILE, PLEASE WAIT...

CREATING WEB SITE...

WEB SITE CREATED IN
/home/epv/EPVROOT/USERPROFILE/EPV_ONCE/COMMON/HTM/

EPV_ONCE PROFILE WAS CORRECTLY CREATED
```

8) The last step will be database creation and stored procedures installation. In this example databases for EPV zParser (zPARSER), EPV for z/OS (all DB starting with M), EPV for zLINUX (all DB starting with L) and work areas are created:

```
DATABASES FOR EPV_ONCE PROFILE:
LCONF - LDETA - LPROC
LRESA - LSTAT - LTRND
LWKLA - LWORK01 - LWORK02
LWORK03 - LWORK04 - LWORK05
LWORK06 - MCONF - MDETA
MRESA - MSTAT - MTRND
MWKLA - MWRMF - USRZOS
ZPARSER - ZWORK01 - ZWORK02
ZWORK03 - ZWORK04 - ZWORK05
ZWORK06 - ZPARSER

DO YOU WANT TO CREATE THEM? (Y/N) [Y]:
```

By answering Y you should get the following messages:

```
LCONF: Create Ok
LDETA: Create Ok
LPROC: Create Ok
LRESA: Create Ok
LSTAT: Create Ok
LTRND: Create Ok
LWKLA: Create Ok
LWORK01: Create Ok
LWORK02: Create Ok
LWORK03: Create Ok
LWORK04: Create Ok
LWORK05: Create Ok
LWORK06: Create Ok
MCONF: Create Ok
MDETA: Create Ok
MRESA: Create Ok
MSTAT: Create Ok
```

```
MTRND: Create Ok
MWKLA: Create Ok
MWRMF: Create Ok
USRZOS: Create Ok
ZPARSER: Create Ok
ZWORK01: Create Ok
ZWORK02: Create Ok
ZWORK03: Create Ok
ZWORK04: Create Ok
ZWORK05: Create Ok
ZWORK06: Create Ok
ZPARSER: Create Ok

INSTALLING THE STORED PROCEDURES IN ALL WORK DATABASES
STORED PROCEDURES CORRECTLY INSTALLED

PRESS 'ENTER' TO EXIT:
```

By pressing ENTER EPV customization will be completed.

Please proceed to Chapter 6 to define EPV scheduling.

# 5 EXPRESS customization using the EPV Customization GUI (alternative technique)

The EPV Customization GUI has been designed to run only on a Windows system, however you can create a profile which can be used to run the EPV products on Unix or Linux. This is an alternative to the script based customization described in the previous chapter.

The created profile can be modified manually (both Windows and Unix/Linux profiles) or by using the EPV Customization GUI in advanced mode (only for Windows profiles). See products installation manuals for details.

To start the EXPRESS customization, you must enter the SETUP folder and run the EpvInst.exe program.

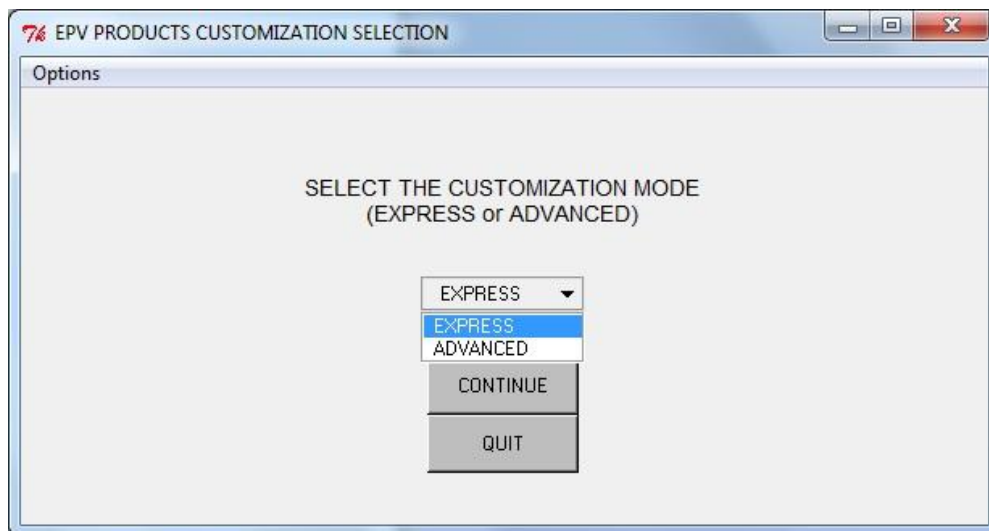You will get the window in Figure 1 where you have the possibility to choose the customization mode.



**Figure 1**

To proceed with the EXPRESS customization you have to select EXPRESS and press CONTINUE.

## 5.1 Building the user profile

In the next window (see Figure 2) you have to insert a name of your choice for the profile to be created and press the NEXT --> button.

From here on, *$Profilename* should be substituted with the name you chose.

> **NOTE:** as you can see two radio buttons are provided in the window in Figure 2: WINDOWS and UNIX (the UNIX type supports also Linux systems).
> They allow to create the profile type appropriate to the Operative System where EPV Plus Products have to run: WINDOWS is the default.
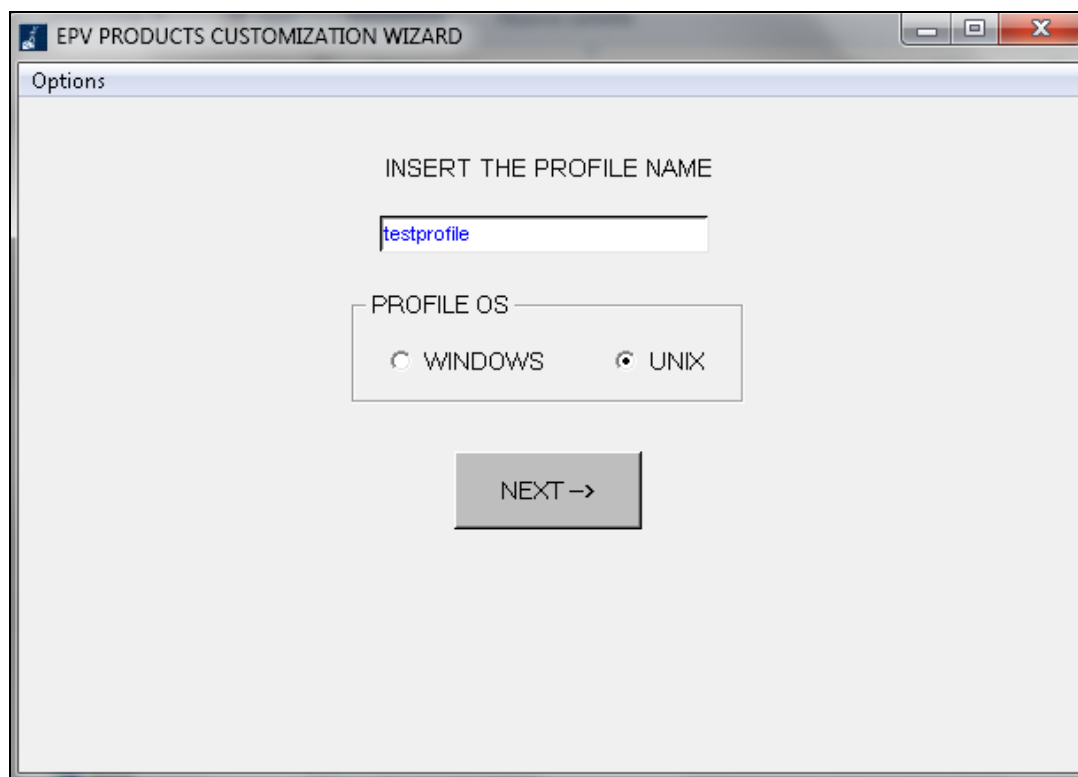


**Figure 2**

You will get the window in Figure 3. To complete the profile creation you have to customize the parameters in the General Parameters, Input Folders and Other Settings tabs.
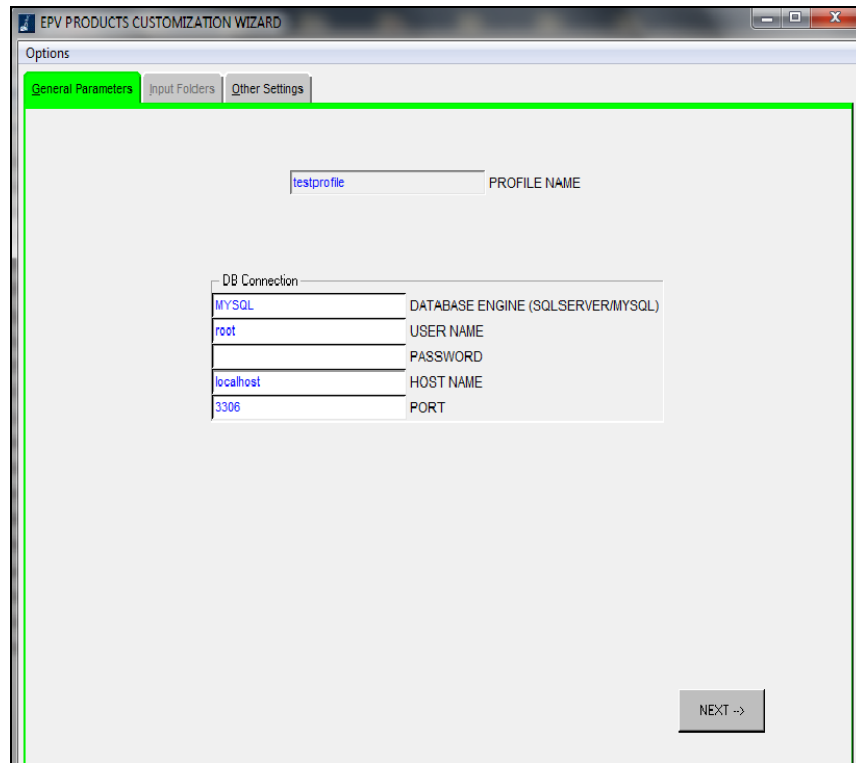
**Figure 3**

General Parameters

In the DB Connection window you have to set:
- DATABASE ENGINE (SQLSERVER/MYSQL) = DB type you are going to use;
- USER NAME = user name to access the DB;
- PASSWORD = password associated to the above user name;
- HOST NAME = Host Name where your DB server is running, maybe a network name;
- PORT = TCP/IP port number where your DB server is listening to; default is 3306 for MySql or 1433 for SQLSERVER.

**Warning**: when using the EXPRESS customization in Unix/Linux the WORK and HTM folders are fixed; they are:
- *$EPVPATH*/USERPROFILE/*$profilename*/COMMON/WORK/
- *$EPVPATH*/USERPROFILE/*$profilename*/COMMON/HTM/

You can modify these settings manually or using the ADVANCED customization.

<u>Input Folders</u>

**Warning**: when using the EXPRESS customization in Unix//Linux the input folders are fixed; they are:

- *$EPVPATH*/USERPROFILE/*$profilename*/INPUT/EPVZPARSER_INPUT/SMF_INPUT/
- *$EPVPATH* /USERPROFILE/*$profilename*/ INPUT/EPVZPARSER_INPUT /DCO_INPUT/
- *$EPVPATH* /USERPROFILE/*$profilename*/ INPUT/EPVZPARSER_INPUT /IMS_INPUT/
- *$EPVPATH*/USERPROFILE/*$profilename*/ INPUT/EPVZPARSER_INPUT /LOGIMS_INPUT/
- *$EPVPATH*/USERPROFILE/*$profilename*/ INPUT/EPVZPARSER_INPUT /ZVM_INPUT/

You can modify these settings manually or using the ADVANCED customization.
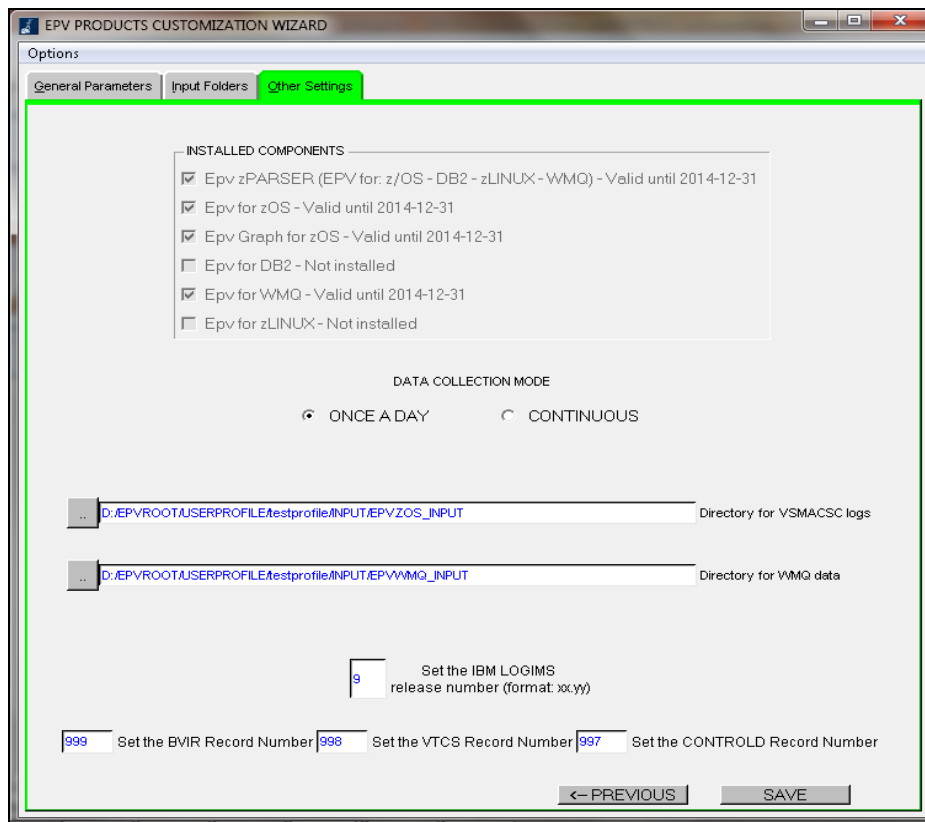
<u>Other settings</u>



**Figure 5**

**NOTE:** the EXPRESS customization will also prepare the other licensed EPV products, shown in the installed components box, by using the provided default values. If you want to further customize them please refer to the appropriate EPV product installation manual.

Other optional parameters that may need to be customized are:
- IMS release in the IBM LOGIMS box (only if you want to load IMS log records);

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- SMF user record number of BVIR (IBM VTS) data;
- SMF user record number of VTCS (ORACLE VSM) data.
- SMF CONTROL-D user record number
- Choose the collecting type data, ONCE A DAY or CONTINUOUS

**Warning**: the input directory for VSMACSC logs,DB2,zLINUX and WMQ  files does not appear when installing EPV Plus Products in Unix/Linux. In this case the input folders are fixed; they are:
- *$EPVPATH*/USERPROFILE/*$profilename*/INPUT/EPVZOS_INPUT/
- *$EPVPATH*/USERPROFILE/*$profilename/*INPUT/EPVDB2_INPUT/
- *$EPVPATH*/USERPROFILE/*$profilename/*INPUT/EPVWMQ_INPUT/
- *$EPVPATH*/USERPROFILE/*$profilename/*INPUT/EPVZLINUX_INPUT/

Press SAVE and wait for the profile creation to complete.

## 5.2    Additional Customization steps

After you moved your profile to a Unix or Linux system you have to perform the following additional customization steps:

a)   export a variable named $EPVPATH that contains your EPV path installation root folder (e.g.: EPVPATH=/home/epv/EPVROOT/) by issuing the following command:
<div align="center">

**export EPVPATH=/home/epv/EPVROOT/**
</div>

you can also put this command in the EPV user automatic logon script (e.g. bashrc or /etc/profile);

b)   change the permission of all folders and files, inside it, to at least 755;

c)   remove all the CR (Carriage Return) inside all the .sh files in the profile; you can do that by using the standard DOS2UNIX utility; we suggest to run the following command from *$EPVPATH*/USERPROFILE*:*
<div align="center">

**find . -type f -name '*.sh' -exec dos2unix '{}'  \;**
</div>

d)   allocate the products DBs by executing the RUNALL.sh script, located in *$EPVPATH*/TOOLS/product/MYSQL_PROCS/UNIX, providing MySQL user name and password (e.g. ./RUNALL.sh youruser yourpassword); DBs have to be allocated for all products except EPV Graph for z/OS.

e)   if you want to run in continuous parsing mode you have to allocate the staging DBs by running the                 UpdateParserConfigStage.sh                 script                 located                 in *$EPVPATH*/USERPROFILE/$profilename/COMMON/PROCS.

If you need to manually modify the created user profile, directly in your Unix system, please refer to "Manual Customization" in the "EPV zParser V11 Installation and Customization" manual.

# 6  Scheduling

As mentioned you can run in "once a day" or "continuous" parsing mode (see the "EPV zParser V11 Installation and Customization" manual for more details).

> **Warning:** if you want to produce the EPV for z/OS HTML pages for dates older than 2 days you have to change the $RPTEPVS and $RPTEPVE parameters in the RPTDATES.PL member. Similar modifications are needed for EPV Graph for z/OS, EPV for DB2, EPV for WMQ and EPV for zLINUX.
> If you want to load data older than 3 days in EPV for z/OS, you have also to change the value of the $MEDTDAYS parameter in the product CONFIG.PL member in order to keep those dates in the MDETA DB (to load data older than 3 days in EPV for zLINUX, in EPV for DB2 and in EPV for WMQ the parameters to change in the product CONFIG.PL member are: LDETDAYS for zLINUX, DETDAY for DB2 and QDETDAYS for WMQ ).

### 6.1.1  Scheduling in "once a day" parsing mode

To run the EPV products, in a "once a day" mode, you have to:

1) **Prepare the input files**;  schedule the needed procedures in z/OS (or z/VM) in order to put your input files[4] in the appropriate input folders.

2) **Run the data collection process**; to run data collection, including all the installed EPV products processing, you have to schedule the ALLPHASES.sh file daily.

### 6.1.2  Scheduling in "continuous" parsing mode

To run the EPV products, in a "once a day" mode, you have to:

1) **Run the MainAgent.sh**;
it is provided in the ../USERPROFILE/$Profilename /EPVZPARSER/AGENT/PROCS folder;

2) **Run the EPVParserDBmonitor.sh**;
it is provided in the ../USERPROFILE/$Profilename/EPVZPARSER/AGENT/PROCS folder;

3) **Prepare the input files**;  after all the agents are running, the following steps must be performed to begin parsing and collecting data:
  • send the input files you want to process in the previously defined input folders,

---

[4] Input files can also be compressed in zip format.

- after the end of each file transfer you need to send a FLAG (an empty file) with the same exact name of the file already sent, with the '_END' suffix (e.g.: if the name of the file is SMFRC the flag must be named as SMFRC_END).

**WARNING:** the FLAG file must be without any extension.

4) **Run the daily consolidation process**; daily data consolidation, including all the installed products processing, is automatically initiated by the EPVParserDBmonitor Agent when a file named STARTBTC is received in any of the input FTP folders.

# 7 Customer support

For any technical problem with or question about the EPV products please write an email to:

epv.support@epvtech.com

For any other issue about EPV products please write an email to:

epv.info@epvtech.com

# Attachment A – Installing MYSQL

*MySQL installation in Unix/Linux*

In Unix/Linux environments the MySQL installation is slightly different depending on the Unix flavour or on the Linux distribution.
Please refer to the MySQL installation manual to find the appropriate installation procedure.

Generally speaking you can choose to install  RPM's (ready to install packages) or to compile the MySQL sources.
In the first case, which is the more common, you can start your software management tool (e.g.: YaST or Yum), select the MySQL package and install it.

The configuration file is normally in /etc/my.cnf;  you must edit it and set some variables as per instructions provided in  Chapter 4.2.1.

# Related documentation

The following manuals complement the information provided in this manual:

- *EPV zParser V11 Installation and Customization*
- *EPV for z/OS Plus V11 Installation and Customization*
- *EPV Graph for z/OS Plus V11 Installation and Customization*
- *EPV for DB2 Plus V7 Installation and Customization*
- *EPV for WMQ Plus V2 Installation and Customization*
- *EPV for zLINUX Plus V4 Installation and Customization*
- *EPV Plus V11 Operations Guide*