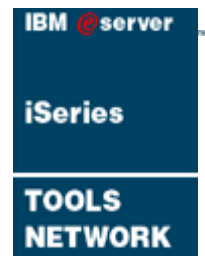




HIGH AVAILABILITY

**IBM @server iSeries**





## Available documentation

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The Quick-EDD/HA documentation is delivered in three documents which you may download from the QSL forum at: <http://www.qsl-group.com/forumEN/index.php>

### Installation documentation

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This document describes all the steps to install the Quick-EDD/HA and tool libraries on the i5-iSeries systems and execute a command which creates objects required for a working environment.

Document name: **EDH\_Installation\_EN.PDF**

### User guide

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The Quick-EDD/HA User Guide document includes the information required to define and modify your replication environment, set global parameters, start and manage replications on a daily basis.

Document name: **EDH\_Documentation\_EN.PDF**

### Tools guide

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The PMEDHTools Documentation describes the details of many helpful utilities that assist you with Quick-EDD/HA installation and ongoing management. These tools are delivered in a separate library that includes source files for all provided programs and functions. You may customize any of the programs in the tools library to meet your requirements with journal management, enabling and disabling user profiles, analyzing libraries for omitted objects, sample switch programs, automated e-mail notifications, and more.

Document name: **EDH\_Tools\_Documentation\_EN.PDF**

All documents available on the QSL forum:  
<http://www.qsl-group.com/forumEN/index.php>



# INSTALLATION

## Installation process

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*Note: This operation MUST BE COMPLETED TWICE, once on the Production system and once on the Recovery system.*

You may download the most recent Quick-EDD/HA release from our Web site for a 30 day trial period.

## Installation steps

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If you spend more than 15 minutes completing the steps between this point and “Environment setup”, please contact your QUICK-EDD/HA support person for assistance. Here is an overview of the process:

- ▶ **Download the Quick-EDD/HA program library**  
The current release is available from the following URL:  
[http://www.pmssoft.net/pmftp/pmsavf/PMEDH\\_EN.savf](http://www.pmssoft.net/pmftp/pmsavf/PMEDH_EN.savf)
- ▶ **Send the downloaded file from your PC to the iSeries**  
Using FTP, the PC file will be sent to a save file on the two iSeries systems.
- ▶ **Restore objects**  
Restore the objects to the Quick-EDD/HA library.
- ▶ **Run additional command dedicated to V6R1**  
I5/OS with release V6R1 needs to run the additional command PMSYSTAG – a Service Tool user ID will be requested
- ▶ **Create objects required for your customized environment**  
A command creates library PMEDHUSR and a small number of objects required for replication (a job description, subsystem description, job queues, etc ...)
- ▶ **Create a communication profile**  
A dedicated profile must be created with all special authorities.
- ▶ **Adapt TCP/IP attributes**  
If necessary, adapt TCP/IP attributes to use a special port.
- ▶ **Install tools library**  
Restore the tool library which contains helpful utilities.

All the steps are detailed in the following pages.



## Installation of Quick-EDD/HA

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### Download the product

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Click on the following link to download Quick-EDD/HA and store the file on your PC disk. If you wish to follow the detailed installation instructions in the next section, **be sure to save the file to folder: C:\PMEDH**

Before you begin the installation, gather the following information:

TCP/IP address of the Production System: \_\_\_\_\_.\_\_\_\_.\_\_\_\_.\_\_\_\_

TCP/IP address of the Recovery System: \_\_\_\_\_.\_\_\_\_.\_\_\_\_.\_\_\_\_

QSECOFR password on the Production system: \_\_\_\_\_

QSECOFR password on the Recovery system: \_\_\_\_\_

### Load the SAVF

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- ▶ Create a SAVF on the i5-iSeries  
**CRTSAVF FILE(QGPL/PMEDH) +  
TEXT('QUICK-EDD/HA – HA solution for i5-iSeries')**
- ▶ From your PC, use FTP to transfer the PC file provided (PMEDH\_EN.savf) to the SAVF QGPL/PMEDH.

If you are unfamiliar with FTP, follow these instructions to transfer the file. Click on the [http://www.pmsoft.net/pmftp/pmsavf/PMEDH\\_EN.savf](http://www.pmsoft.net/pmftp/pmsavf/PMEDH_EN.savf) link and save the file to the c:\PMEDH folder on your PC. (If you type the link into the address window of your browser session, be aware that it is upper case sensitive.)

- ▶ Open a Windows command prompt window and enter the following command:
  - `ftp aaa.bbb.ccc.ddd` (where "aaa.bbb.ccc.ddd" is the IP address of your iSeries)
  - When the AS/400 prompts you for a user name and password, sign on as QSECOFR.
  - Enter the following commands:
    - `binary`
    - `cd qgpl`
    - `lcd \pmedh`
    - `put pmedh_en.savf pmedh`
- ▶ You should see a completion message stating that the file transfer completed successfully.



## Product Installation

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- ▶ Library creation  
**CRTLIB LIB(PMEDH) TEXT('QUICK-EDD/HA Program library – Do Not Delete)**
  
- ▶ Enter the command  
**WRKSYSVAL QVFYOBJRST** and press Enter.  
Take option “2” to edit the value. If the value = “1”, continue to the next step. However, if it is a “2” or a “3”, document the current setting, change it to a “1”, and press Enter.
  
- ▶ Restore objects from the save file (SAVF)  
**RSTOBJ OBJ(\*ALL) SAVLIB(PMSOFT\_EN) DEV(\*SAVF)  
SAVF(QGPL/PMEDH) MBROPT(\*ALL) ALWOBJDIF(\*ALL)  
RSTLIB(PMEDH)**



## Additional command for V6R1 installation (PMSYSTAG)

Installation of Quick-EDD/HA for V6R1 release needs to run additional command PMSYSTAG before completing the installation process.

**This step requires a special profile defined as a Service Tool user ID.**

### Create a Service Tool user ID

Note: If you already have an authorized profile defined in SST, it can directly be used for PMSYSTAG command – Go directly to step [“Run command PMSYSTAG”](#)

Sign-on with QSECOFR profile.  
Run command STRSST, and enter an authorized profile.

```

                                System Service Tools (SST)

Select one of the following:

1. Start a service tool
2. Work with active service tools
3. Work with disk units
4. Work with diskette data recovery
5. Work with system partitions
6. Work with system capacity
7. Work with system security
8. Work with service tools user IDs and Devices

Selection
  8

F3=Exit          F10=Command entry      F12=Cancel
```

Select option 8 “Work with service tools user IDs and Devices”

```

                                Work With Service Tools User IDs And Devices
                                System:  QSLFRA1

Select one of the following:

1. Service tools user IDs
2. Service tools device IDs
3. Select console
4. Configure service tools LAN adapter

Selection
  1
```



Defined user Ids are displayed.

Work with Service Tools User IDs			
			System: QSLFRA1
Type option, press Enter.			
1=Create	2=Change password	3=Delete	
4=Display	5=Enable	6=Disable	
7=Change privileges	8=Change description	9=Link/Remove link	
Opt	User ID	Description	Status
1	PMSOFT		
—	QSECOFR	QSECOFR	Enabled
—	QSRV	QSRV	Enabled
—	11111111	11111111	Enabled
—	22222222	22222222	Enabled

Enter the name of user ID to create and password (PMSOFT/PMSOFTPWD are given as a sample).

Create Service Tools User ID	
System: QSLFRA1	
Service tools user ID name . . . . .	PMSOFT
Type choices, press Enter	
Password . . . . .	PMSOFTPWD
Set password to expire . . . . .	2 1=Yes, 2=No
Description . . . . .	Quick-EDD/HA user ID
Linked user profile . . . . .	
F3=Exit F5=Change privilege F12=Cancel	

Enter the name of the user ID to create, and the associated password.

**Note: Enter a password in UPPERCASE, avoiding problems with Lower/uppercase when you will use it.**

Add a description.

Press F5 for privilege management



## Give all authorizations to the user ID

Press F5 to give all authorities to the user ID.

```

Change Service Tools User Privileges
System: QSLFRA1
Service tools user ID name . . . . . : PMSOFT

Type option, press Enter.
1=Revoke 2=Grant

Option  Functions                                     Status
2      Disk units - operations                         Granted
2      Disk units - administration                     Granted
2      Disk units - read only                           Granted
2      System partitions - operations                   Granted
2      System partitions - administration               Granted
2      Partition remote panel key                       Granted
2      Operator panel functions                         Granted
2      Operating system initial program load(IPL)       Granted
2      Install                                           Granted
2      Performance data collector                       Granted
2      Hardware service manager                         Granted
2      Display/Alter/Dump                               Granted
2      Main storage dump                               Granted
More...

F3=Exit  F5=Reset  F9=Defaults  F12=Cancel

```

Grant all right to the user ID.

## Run command PMSYSTAG

This command will allow the Quick-EDD/HA programs to run on V6R1 release

```

System tool (PMSYSTAG)

Indiquez vos choix, puis appuyez sur ENTREE.

Option . . . . . > *PGM          *PGM, *END
Program . . . . . > *ALL          Name, generic*, *ALL
Library . . . . . > PMEDH         Name, *CURLIB
User . . . . . > PMSOFT          Name
Password . . . . . > XXXXXXXXXXXX

```

Enter the password in UPPERCASE

The command does a check of all programs and submit a job PMSYSTAGM. After receiving the completion message, you can continue the installation process.

Job 037052/MOUGIN/PMSYSTAGM completed normally on 21/07/08 at 10:14:57



## Environment SETUP

---

Print your System Values to document possible changes to the security auditing system values.

**WRKSYSVAL OUTPUT(\*PRINT)**

Add the Quick-EDD/HA program library to your library list

**ADDLIB LIB(PMEDH)**

QUICK-EDD/HA environment creation

**CALL PGM(PMEDHOPEN)**

The PMEDHOPEN command creates the objects necessary for processing the software on the system, mainly:

- ▶ Library **PMEDHUSR**, which will contain all customized parameters of your high availability configuration.
- ▶ **PMEDH** subsystem description, in which run all the jobs of the Supervisor and linked elements.
- ▶ If security auditing is not active, the command changes system values QAUDCTL and QAUDLVL, creates a journal receiver in library PMEDHJRN, and creates journal QAUDJRN in library QSYS.

Start application

Display the main menu by entering the command:

**PMEDH**



## Create communication profile

---

To manage communication and replication processes, Quick-EDD/HA needs a dedicated user profile with a class of \*QSECOFR which adopts all special authorities. (Be sure to document the password for a step in the environment definition.)

```
CRTUSRPRF USRPRF(PMSOFTICF) +  
PASSWORD(PMSOFTICF) +  
USRCLS(*SECOFR) CURLIB(PMEDH) INLMNU(*SIGNOFF) +  
JOB(PMEDHUSR/PMEDH) PWDEXPTV(*NOMAX) +  
TEXT('Quick-EDD/HA profile – Do Not Delete')
```

This profile is not available for interactive use (initial menu = \*SIGNOFF)  
It is a \*SECOFR level profile to allow management of all operations on the target system:

- ▶ All database files replicated to the target
- ▶ All journals and receivers (\*ALLOBJ)
- ▶ All user libraries objects (\*ALLOBJ)
- ▶ User profiles (\*SECADM)
- ▶ Configuration objects (\*IOSYSCFG)
- ▶ Must have special authority \*AUDIT

Note: The default name of the profile is PMSOFTICF. However, it is not a required name. If you want to use another profile name, you will need to change profile definition in “target site” parameters.



## TCP/IP Communication

QUICK-EDD/HA will communicate between source and target site(s) using the TCP/IP protocol.

TCP/IP is not able to start remote jobs (like EVOKE for SNA). Therefore, the product requires a Daemon installed on the remote site which is always “listening” to connection requests.

### TCP/IP Daemon

If you are installing the product permanently, add the following commands to your startup program on both the source and target systems to ensure that EDH is active after an IPL. **We recommend that you are signed on as QSECOFR when edit your startup program, and you compile it with parameter USRPRF(\*OWNER) to avoid authority problems.** (If you are testing QUICK-EDD/HA, simply run the following commands from the command line.)

```
ADDLIBLE      LIB(PMEDH)
MONMSG       MSGID(CPF0000)
```

Start subsystem for « receiver Jobs »

```
STRSBS       SBSD(PMEDHUSR/PMEDH)
MONMSG       MSGID(CPF0000)
```

Submit the DAEMON job

```
SBMJOB      CMD(PMSYSDEM      OPT(*STR))  JOB(PMSYSDEM)
JOBQ(QSYSNOMAX) /*Start daemon in QSYSWRK */
```

**Important!!** If your startup job runs under the IBM default of QPGMR, you must verify that user QPGMR has \*CHANGE authority to library PMEDHUSR.

### TCP/IP Port

TCP/IP uses in its description “port numbers”. The EDH default, **Port 4444**, is used by “PMSYSDEM” Daemon.

If you wish to use another port, find an available port, and modify the service table with the WRKSRVTBLE command. Add a record “pmsoft” as shown below and replace the “12345” value with your available port:

**WRKSRVTBLE:**

Opt	Service	Port	Protocol
<u>1</u>	<u>pmsoft</u>	<u>12345</u>	<u>tcp</u>
—	as-admin-http	2001	tcp
—	as-admin-http	2001	udp
—	as-admin-https	2010	tcp
—	as-admin-https	2010	udp

This addition must be completed on **all involved systems** (source and target).



## Audit Check

Enter the command DSPSECAUD to check the System Audit status on your server. If your current values do not include at least the underlined values below, enter the command WRKSYSVAL QAUD\*. Take option "2" to change system values QAUDCTL and QAUDLVL to include the missing values.

Current Security Auditing Values			
<b>Security Auditing Journal Values</b>			
Security journal QAUDJRN exists . . . . . :	YES		
Journal receiver attached to QAUDJRN . . :	AUDRCV0001		
Library . . . . . :	PMEDHJRN		
<b>Security Auditing System Values</b>			
Current QAUDCTL system value . . . . . :	<u>*AUDLVL</u>	<u>*OBJAUD</u>	*NOQTEMP
Current QAUDLVL system value . . . . . :	*AUTFAIL <u>*SECURITY</u> <u>*SPLFDTA</u>	*CREATE <u>*SAVRST</u> <u>*JOBDTA</u>	<u>*DELETE</u> <u>*OBJMGT</u>
Press Enter to continue.			
F3=Exit    F12=Cancel			
© COPYRIGHT IBM CORP. 1980, 2000.			

Only values underlined in **BLUE** are mandatory.

Special value **\*NOQTEMP** is not mandatory; it is simply used to limit journal volume (those objects are not included in the replication process).

Special value **\*SPLFDTA** for QAUDLVL allows spool management. It can be removed if you don't want to manage spool files in replication process and to limit the journal entries.

Special value **\*JOBDTA** for QAUDLVL allows JOB management. It can be removed if you don't want to manage job data in replication process and to limit the volume of the journal entries.

Note: EDHTOOLS menu – Use options 1 and 2 to control and adapt options for System Audit.



## Tools Installation

*Note: This operation MUST BE COMPLETED TWICE, once on the Production system and once on the Recovery system.*

If you spend more than 15 minutes completing the steps between this point and then last step in this document, please contact your QUICK-EDD/HA support person for assistance.

### Load the SAVF

- ▶ Create a SAVF on the i5-iSeries  
**CRTSAVF FILE(QGPL/PMEDHTOOLS) TEXT('QUICK-EDD/HA Tools for i5-iSeries')**
- ▶ From your PC, use FTP to transfer the PC file provided [http://www.pmssoft.net/pmftp/pmsavf/PMEDHTOOLS\\_EN.savf](http://www.pmssoft.net/pmftp/pmsavf/PMEDHTOOLS_EN.savf) to the c:\PMEDH folder on your PC.

If you are unfamiliar with FTP, follow these instructions to transfer the file:

Open a Windows command prompt window and enter the following command:

- ▶ ftp aaa/bbb/ccc/ddd (where "aaa.bbb.ccc.ddd" is the IP address of your AS/400)
- ▶ When the AS/400 prompts you for a user name and password, sign on as QSECOFR.
- ▶ Enter the following commands:
- ▶ binary
- ▶ cd qgpl
- ▶ lcd \pmedh
- ▶ put EDHTool\_EN.savf pmedhtools
- ▶ You should see a completion message stating that the file transfer completed successfully.
- ▶ If you wish to have the source files on your servers, transfer the file EDHTSRC\_EN.savf from the Forum site to the C:\pmedh folder on your PC. FTP the file to QGPL/PMEDHSRC.

### Library Installation

- ▶ Library creation  
**CRTLIB LIB(PMEDHTOOLS) TEXT('QUICK-EDD/HA tools library')**
- ▶ Enter the command WRKSYSVAL QVFYOBJRST and press Enter. Take option "2" to edit the value. If the value = "1", continue to the next step. However, if it is a "2" or a "3", document the current setting, change it to a "1", and press Enter.
- ▶ Restore objects from the save file (SAVF)  
**RSTOBJ OBJ(\*ALL) SAVLIB(EDHTOOL\_EN) DEV(\*SAVF)  
 SAVF(QGPL/PMEDHTOOLS) MBROPT(\*ALL) ALWOBJDIF(\*ALL)  
 RSTLIB(PMEDHTOOLS)**
- ▶ If you wish to have the source files for PMEDHTOOLS and have already used FTP to transfer the EDHTSRC\_EN file to QGPL/PMEDHSRC, enter the following command to restore the source files into the PMEDHTOOLS library:  
**RSTOBJ OBJ(\*ALL) SAVLIB(EDHTSRC\_EN) DEV(\*SAVF)  
 SAVF(QGPL/PMEDHSRC) MBROPT(\*ALL) ALWOBJDIF(\*ALL)  
 RSTLIB(PMEDHTOOLS)**



**This completes the installation process of Quick-EDD/HA.**

**Now go to the Quick-EDD/HA User Guide to create your environment.**

- ▶ If your value for system value QVFYOBJRST was a “1”, continue to the next step. However, if you changed the system value in the previous step, enter the command `WRKSYSVAL QVFYOBJRST` and press Enter. Take option “2” to edit the value. Change the value to the “2” or “3” that you documented, and press Enter.