

FTPadmin/400



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	Written by ECP software development	Date 6. mars 2018	Signature support@ecp.no
	Reference ECP software documentation	PTF level 16-050	Valid from 01march2016

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General information

This documentation is intended for use by personnel responsible for communication systems at the installation, and therefore assumes a minimum level of knowledge of TCP/IP, FTP and the OS/400 operating system.

The following IBM documentation is useful for new users:

TCP/IP Configuration and Reference (SC41-5420-04)
TCP/IP Tutorial and Technical Overview (GG24-3376-06 – Redbook)

These manuals are found on the iSeries Information Centre CD that comes with the OS/400 operating system. They are also available at the [IBM web site](#).

Definitions used in this document

Interface.

A definition of a computer on a local or remote network. It is defined by its Internet address or its host name. If host name is used to define the computer, the TCP/IP routing and host tables on the iSeries must be correctly configured.

Exchange.

A set of parameters that define the rules for exchanging data between the local iSeries system and the remote *interface*. What to send/receive, rules for file naming, error handling and backup procedures etc.

Abbreviations

PWD	Password
EXC	Exchange
IFC	Interface
DLO	Document Library Object
OS/400	iSeries operating system

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FTP servers supported

The software has been tested with a number of different FTP servers such as Windows (98, NT, 2000, XP), Unix, Linux, IBM mainframe computers and others and has been able to transfer data to and from all of them. This however is no guarantee that the software will communicate with ALL FTP servers 100%.

Operating system requirements

The software requires a minimum level of OS/400/V5R3M0. It is recommended to install the most current cumulative PTF package for the operating system before installing and operating the FTPadmin software.

Security considerations

The FTPadmin/400 objects installed is by default owned by the [QPGMR](#) user profile, and the [FAFTP](#) command programmes is run with *OWNER authority.

When transmitting files to a remote system, the user profile used to log on to that system must have sufficient access rights to perform the necessary file actions, such as create, rename and delete files. It is also recommended that the user profile used to log on to the remote system has very limited access rights to data directories other than data that directories used for the FTP files. The remote system administrator controls this. Any security problems will appear on the transfer or session logs.

If the remote system does NOT allow FTP users to use the list directory command (LS), the [File list](#) option must be used to receive files. See the receive *LST parameter.

The user profile running the FTPadmin communication programme (the FAFTP command) on the iSeries must have sufficient access rights to the data files that are to be transmitted, and also have the right to create new objects when receiving files from remote systems.

The user profile FAFTP is created at system installation and may be used for batch execution of file transfers. The user profile FAFTP cannot start interactive jobs.

Secure FTP

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You can use Transport Layer Security (TLS) / Secure Sockets Layer (SSL) connections to encrypt data transferred over FTP control and data connections. The primary reason for encryption on the control connection is to conceal the password when logging on to the FTP server.

Before using the FTP client to make secure connections to servers, you must use DCM (Digital Certificate Manager) to configure trusted certificate authorities for the FTP Client.

Any certificate authorities which were used to create certificates assigned to servers that you want to connect to must be added. Exporting or importing Certificate Authority (CA) certificates may be required depending on the CAs used.

If you choose TLS/SSL encryption for the control connection, the FTP client will also encrypt the data sent on the FTP data connection by default. FTP protocol does not allow you to have a secure data connection without a secure control connection.

Encryption can have a significant performance cost and can be bypassed on the data connection. This allows you to transfer non-sensitive files without decreasing performance and still protect the system's security by not exposing passwords.

To enable secure FTP communications see the [iSeries Information Centre – TCP/IP applications, protocol and services, FTP, Secure FTP](#).

Limiting user access to FTP functions

You can use iSeries Navigator to limit user access to FTP server and client functions. Use Application Administration to grant and deny access to functions for individual users or for groups of users. Alternatively, you can manage access to FTP functions by writing FTP exit programmes for the FTP Request Validation Exit Points or install FTPCTRL/400 software from ECP A/S.

To manage user access to functions using iSeries Navigator, complete the following steps:

In iSeries Navigator, right-click **your iSeries server** and select **Application Administration**.
Select the **Host Applications** tab.
Expand **TCP/IP Utilities for iSeries**.
Expand **File Transfer Protocol (FTP)**.
Expand **FTP Client** or **FTP Server**.
Select the function that you want to allow or deny access to.
Click **Customize**.

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Use the **Customize Usage** dialog to change the list of users and groups that are allowed or denied access to the function. Click **OK** to save changes to the **Customize Access** page. Click **OK** to exit the **Application Administration** page.

Alternatively, you can manage the access that a specific user or group has to registered FTP functions through iSeries Navigator's Users and Groups management tool. To do this, follow these steps:

In iSeries Navigator, expand **your iSeries server --> Users and Groups**.
Select **All Users** or **Groups**.
Right-click a user or group, then select **Properties**.
Click **Capabilities**.
Click **Applications**.

From here, you can change the user or group's settings for the listed function. You can also change the settings for all functions in a hierarchy grouping by changing the settings of the "parent" function.

Note – system upgraded PTF 16-050 and greater

Field length for prefix and suffix file selection have been expanded to 20 byte each. These fields can also be used with system keywords to increase the length of the search field to a maximum of 64 byte each. This is not reflected in all sample screens.

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OS/400 objects installed

Object	Object type	Description
FTPADM400	*lib	Software library
FAJOB	*jobd	Standard job description for batch jobs
FTPADMLOG	*LIB	Log file library
**/ftpadmlog	*directory	Log file directory
FTPADM.LOG	*Flr	Log file folder
FTPADMOUT	*LIB	Output file library
**/ftpadmout	*directory	Output file directory
FTPADM.OUT	*Flr	Output file folder
FTPADMINP	*LIB	Default Input file library
**/ftpadminp	*directory	Default Input file directory
FTPADM.INP	*Flr	Default Input file folder
FAFTP	*Usrprf	FTP user profile
STRFA	*CMD	System menu start command

** = /ECP/ftpadm400/

The default libraries and file directories should NOT be used for user application data as they are subject to automatic housekeeping routines.

Source file FASAMPLES contains sample RPGLE programmes for inserting user functions in exchanges. The source code is provided as an example only and may be changed. Note! Any programming language may be used to write user programmes, the RPGLE source is an example only.

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System main menu

```
Sesjon A - [24 x 80]
FAMEN000          FTPAdmin/400          16.10.03

Select one of the following:

  1. Work with transfer log
  2.
  3. Work with interface / exchange
  4.
  5. Work with scheduled jobs
  6. Submit all exchanges with same name
  7. Work with FTP server reply list
  8. View system messages
  9. Work with system parameters
 10. Work with licence

Selection or command
==>

F3=Avslutt   F4=Foresporsel   F9=Hent   F12=Avbryt
F13=Informasjonsassistent F16=AS/400 - Hovedmeny

MA a 20/007
Forbindelse til fjerntiliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

This menu contains the main functions to monitor the system events, change system parameters and define data exchange between the iSeries and other systems.

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Work with transfer log

```
Sesjon A - [24 x 80]
Ei Rediger Vis Kommunikasjon Handlinger Vindu Hjelp
[Icons]

FTPadmin/400 V3R1M0          Work with transfer log          22.10.03 DELL8250A
FRANK ECSAS400              View log entries              13.54.03 FAALOGH
-----
Transfer # Interface          D Exchange          Omit empty transfers N (Y/N)
5=Details 9=FTP messages L=Log J=Job script F=File log S=Session log
R=Run exchange again Sev
0 Transfer                    Direction           Session start        #files  End
p number  Interface name      Exchange            Date      Time  Ok  Err sev
- - - - -
T000001765 W2000server        R TOIFS             20.10.2003 10:12    0    0 10
T000001764 ECPAS          S SNDCTRSRC         18.10.2003 22:59    1    0 00
- T000001763 ECPAS          S SNDADMSRC         18.10.2003 22:57    1    0 00
- T000001762 ECPAS          S SNDEDIT00L        18.10.2003 21:31    0    1 30
- T000001761 ECPAS          S SNDEDIFSRC         18.10.2003 21:12    1    0 00
- T000001760 ECPAS          S FTPCTR400         18.10.2003 21:12    1    0 00
- T000001759 ECPAS          S FTPADM400         18.10.2003 21:00    1    0 00
- T000001758 ECPAS          S FTPADM400         18.10.2003  7:25    1    0 00
- T000001757 ECPUTVIKLING S SNDADMSRC         18.10.2003  7:22    1    0 00
- T000001756 ECPUTVIKLING S FTPADM400         18.10.2003  7:10    1    0 00
- T000001755 ECPUTVIKLING S EDIF400E          17.10.2003 23:23    1    0 00
- T000001754 ECPAS          S EDIF400E          15.10.2003 21:00    1    0 00
Mer...

F3=Return          F5=Refresh

MA a MW 09/002
[Icons]
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

Lists the transfer log. Log entries showed in red colour indicates that an error occurred during that transfer. You may limit the search by specifying search data.

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View log details (Option 5)

```
Sesjon A - [24 x 60]
Fi Rediger Vis Kommunikasjon Handlinger Vindu Hjelp
-----
FTPadmin/400 V3R1M0      Work with transfer log      22.10.03 DELL8250A
FRANK      ECSAS400      View transfer details      13.59.32 FAALOGH
-----
S Send files

Transfer number T000001760
Interface ECPAS
Exchange FTPCTR400
Files transmitted 1
Files in error 0

Total bytes transmitted 350.064

Transmission time 23,311 seconds
Job execution time 45,000 seconds

Highest error code N/A Severity 00

User QPGMR
Date/time 18.10.2003 21:12:09
Job start 2003-10-18-21.12.10.085000 Job end 2003-10-18-21.12.55.226000

F12=Previous

MA a MW 01/001
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

View the details for the transfer. The *Total bytes transmitted* and *Transmission time* is retrieved from the FTP system log.

Note! The object size on the AS/400 may be larger than the number of bytes transmitted as FTP only counts data bytes.

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View FTP messages (Option 9)

```
FTPadmin/400 V3R1M0          Work with transfer log          22.10.03 DELL8250A
FRANK      ECSAS400        View log entries              14.02.22 FAALOGH
-----
Transfer # Interface      D Exchange      Omit empty transfers N (Y/N)
-----
R=Run exchange again      Sev

Transfer nbr  FTP server messages and serverity level  Dir Exchange name
T000001760
Message Severity Server message text
FTP0220  00  QTCP at NOKKAS.
FTP0220  00  Connection will close if idle more than 5 minutes.
FTP0331  00  Enter password.
FTP0230  00  FRANK logged on.
FTP0250  00  Now using naming format "0".
FTP0257  00  "QGPL" is current library.
FTP0250  00  Now using naming format "1".
FTP0200  00  Representation type is binary IMAGE.
Mer...

F9=More data      F12=Return

F3=Return          F5=Refresh

MA a MW 10/006
Forbindelse til fjerntiliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

Lists all FTP server codes that were received during the session. Use this option to limit the log display only to include FTP server codes.

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View FTP log (Option L)

```
FTPadmin/400 V3R1M0          Display log file          22.10.03 DELL8250A
FRANK      ECSAS400      FTP log data for transfer T000001760 14.04.44 FAVQLOG
.....1.....2.....3.....4.....5.....6.....7.....
**** Start of log data ****
Output redirected to a file.
Input read from specified override file.
Connecting to remote host 192.168.1.200 using port 21.
220-QTCP at NOKKAS.
220 Connection will close if idle more than 5 minutes.
Enter login ID (frank):
331 Enter password.
230 FRANK logged on.
OS/400 is the remote operating system. The TCP/IP version is "V4R4M0".
250 Now using naming format "0".
257 "QGPL" is current library.
Enter an FTP subcommand.
> Namefmt 1
250 Now using naming format "1".
Server NAMEFMT is 1.

Mer...
```

Lists the FTP log from the session. All FTP server codes are displayed in white colour, and any error messages in red. FTPadmin/400 script commands are displayed in blue.

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View job script (Option J)

```
FTPadmin/400 V3R1M0          Display log file          22.10.03 DELL8250A
FRANK      ECSAS400        JOB Source for transfer T000001760 14.09.15 FAVQLOG
.....+.....1.....+.....2.....+.....3.....+.....4.....+.....5.....+.....6.....+.....7.....+...
**** Start of log data ****
frank ****
Namefmt 1
bin
lcd /qsys.lib/QGPL.LIB
cd /qsys.lib/QGPL.LIB
put FTPCTR400.FILE FTPCTR400.FILE
close
quit
**** End of data ****

Slutt

F7=More data  F12=Return

MA a MW 01/001
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

Displays the system generated job script. After changing exchange information the system regenerates the job script unless it has been manually edited. It is not recommended to manually edit job scripts. If a job script have been manually edited and a new release is installed, changes to job script generation in the new release will NOT be updated. To update a manually edited job script after release upgrade, perform the following steps after printing the job script screen for later reference:

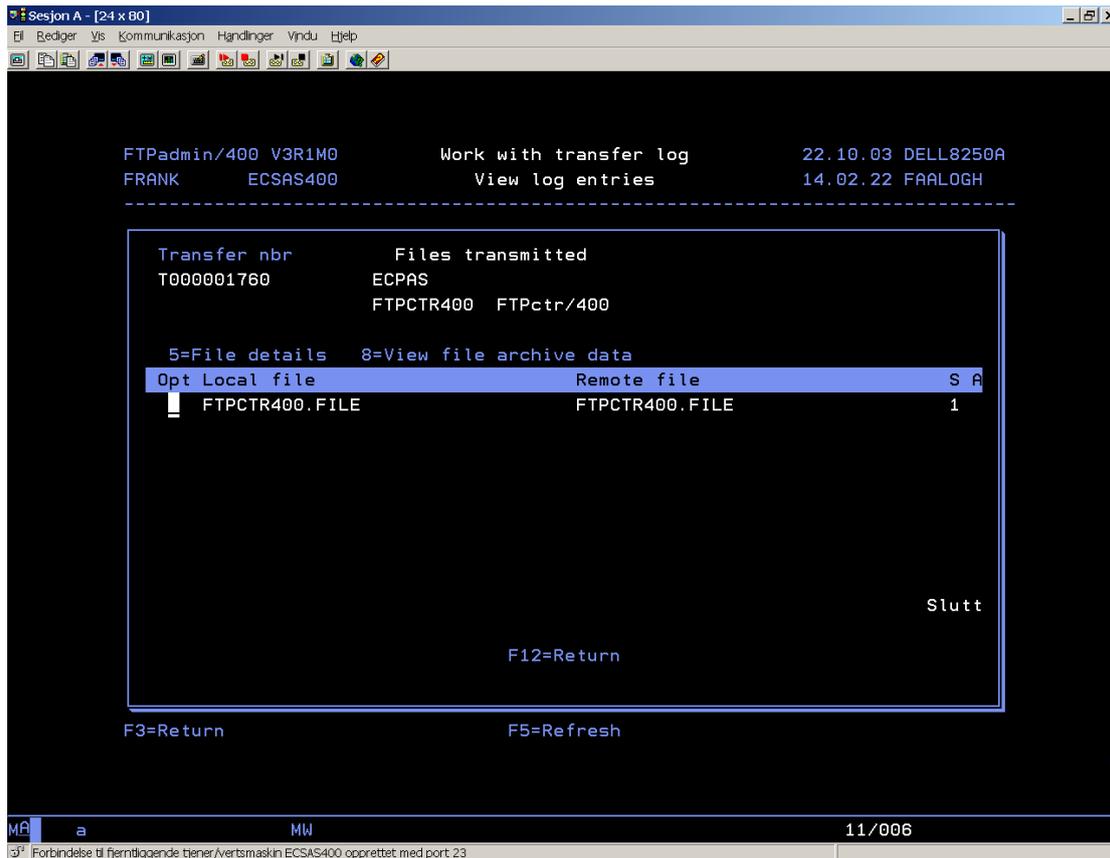
1. Remove the code for [Edit job script](#) in the Work with exchange screen and update the exchange.
2. Edit the exchange again by pressing ENTER on all screens.
3. Change the code for [Edit job script](#) in the Work with exchange screen to Y again.
4. Re-enter the changes to the job script.

(The password is not displayed on the screen)

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View file log (Option F)



```
FTPadmin/400 V3R1M0          Work with transfer log          22.10.03 DELL8250A
FRANK      ECSAS400          View log entries              14.02.22 FAALOGH
-----
Transfer nbr      Files transmitted
T000001760      ECPAS
                  FTPCTR400  FTPctr/400

5=File details   8=View file archive data
Opt Local file   Remote file      S  A
| FTPCTR400.FILE FTPCTR400.FILE  1
Slutt

F12=Return

F3=Return      F5=Refresh
```

Lists the transmitted files. A '1' in column S(tatus) indicates a successful transfer. A '1' under column A(rchive) indicates that the system saved a copy of this file in the transmission archive. This backup file may be viewed by using option 8. File details can be viewed with option 5.

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View file details

```
FTPadmin/400 V3R1M0      Work with transfer log      23.10.03 DELL8250A
FRANK      ECSAS400      View log entries      08.07.06 FAALOGH
-----
Transfer nbr      Files received
-----
|      Files received      Ok
|
| Rmt. file Frank02042003010000.xmt
| Loc. file TESTINPUT.FILE/M000000001.MBR
| OS400 file TESTINPUT Library LCTOOL      Member M000000001
| Archive AR000000001
|
| File size      545 byte      Allocated size      8192 byte
| Transmission time      0,267 seconds at      2041 bytes/second
|
| EDIF/400 log reference
|
| F12=Return
|
-----
F3=Return      F5=Refresh
-----
MA      a      MW      07/004
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

Displays details for the file transmitted.

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Reference ECP software documentation		

View session log (Option S)

```
FTPadmin/400 V3R1M0          Display log file          23.10.03 DELL8250A
FRANK      ECSAS400      Session log for transfer T000001767 09.07.19 FAVQLOG
.....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+...
***** Start of log data *****
FAAPI32   =>Info< Starting file selection
FAAPI32   =>Info< 53 directory entries read from remote system
FAAPI32   =>Info< 38 files/members selected to be recieved
FAAPI40   =>Ok < CHGPF FILE(LCTOOL/TESTINPUT) MAXMBRS(*NOMAX) TEXT('FTPadm
FAAPI40   =>Ok < CRTDUPOBJ OBJ(TESTINPUT) FROMLIB(LCTOOL) OBJTYPE(*FILE) TOL
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000001) TEXT('FTPa
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000002) TEXT('FTPa
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000003) TEXT('FTPa
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000004) TEXT('FTPa
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000005) TEXT('FTPa
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000006) TEXT('FTPa
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000007) TEXT('FTPa
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000008) TEXT('FTPa
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000009) TEXT('FTPa
FAAPI40   =>Ok < ADDPFM FILE(FTPADMINP/TESTINPUT) MBR(M000000010) TEXT('FTPa
Mer...

F7=More data F12=Return

MA a MW 01/001
Forbindelse til fjerntilgiongende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

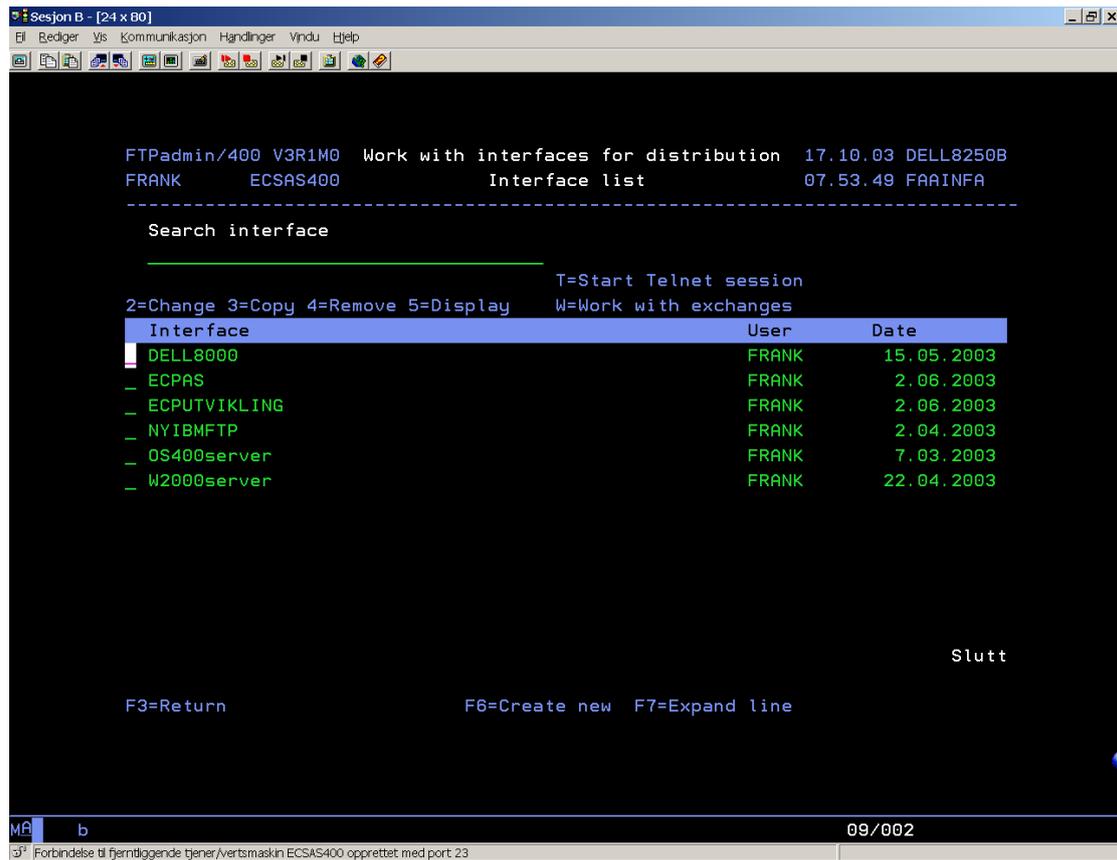
The session log contains information from the various system functions executed during an FTP session. Log entries in blue are information from programmes executed, white lines are commands executed successfully and red lines are commands that failed. A failed command is not necessarily an error. It may be that the system has tried to create a work file that already existed or add a file member that existed. Check the FTP log and the end severity code to determine the session error status.

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Work with interfaces



```
Sesjon B - [24 x 80]
-----
FTPadmin/400 V3R1M0 Work with interfaces for distribution 17.10.03 DELL8250B
FRANK ECSAS400 Interface list 07.53.49 FAAINFA
-----
Search interface
-----
2=Change 3=Copy 4=Remove 5=Display T=Start Telnet session
W=Work with exchanges
-----
Interface User Date
- - - - -
DELL8000 FRANK 15.05.2003
ECPAS FRANK 2.06.2003
ECPUTVIKLING FRANK 2.06.2003
NYIBMFTP FRANK 2.04.2003
OS400server FRANK 7.03.2003
W2000server FRANK 22.04.2003
-----
Slutt
-----
F3=Return F6=Create new F7=Expand line
-----
MA b 09/002
-----
Forbindelse til fjerntiliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

Work with the interfaces defined. Alphabetic search can be used to limit the number of interfaces displayed.

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Change interface data

```
Session A - [24 x 80]
File Rediger Vis Kommunikasjon Handlinger Vindu Hjelp
FTPadmin/400 V3UTV          Modify interface data          10.01.05 DELL8400A1
FRANK      ECPUTV          Utviklingsmaskinen *SECURE    11:39:42 FARINFA
-----
Interface OS400server
Description Utviklingsmaskinen *SECURE
Remote system ECPUTV
-----
Internet address 192.168.254.250
FTP port *SECURE (*DFT, TCP/IP port or *SECURE)
Secure connection _____ (*DFT, *NONE, *SSL, *IMPLICIT)
Data protection *PRIVATE (*DFT, *CLEAR, *PRIVATE)
FTP server type OS400 I iSeries/400 FTP server (AS400) F4

Check adress (ping) *NO (*YES/*NO) Wait for 1 (0-600 sec)
Code character id *DFT (CCSID, *DFT)
Jobqueue for batch *DFTJOBQ *LIBL (queue & library)
Interface counter 46 counter length 2 Interface status _ (I=Inactive)

Directory scan start byte 13 (Default 13) Changed by FRANK 10.01.2005
F7=Additional parameters F10=Test connection (PING)
ENTER=Update F4=Search F8=Start telnet F12=Return

MA a 05/034
||DELL600|brother HL-1430 series p8 Net03:
```

Interface information screen.

Interface – Local name for this interface. Only used for local reference, and is not related to any configuration values.

Description – Description of the interface

Remote system – The name of the remote system. If the remote system is only described by this name and no internet address is given, the remote system name must be defined in the iSeries routing table and the iSeries HOST table.

Internet address – The interfaces IP address. This address must be reachable through the TCP/IP network the iSeries is connected to, either through a router or a direct dial-up link. The configuration of these units is not a part of this manual. Please refer to the appropriate manuals, and/or your network administrator.

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FTP port

Override the default FTP port. If running OS400 V5R2M0 or higher *SECURE may be used to enable secure FTP. Parameter [Secure Connection](#) and [Data protection](#) may also be used from V5R2M0. **Note! The FTP Client/Server software must be configured to use secure FTP. Please refer to the appropriate IBM manuals for documentation.**

[FTP server type](#) – The server type parameter is used when checking the response codes from the server. Different servers can give different response for the same error situation or action taken by the server. To ensure that FTPadmin takes the correct action based on the response code, all response codes are defined in a parameter file ([7. Work with FTP server reply list – from the main system menu](#)). Please refer to this chapter for more information.

The software can communicate with most FTP servers. Using the *DFT value will work in most situations. When communication with another iSeries, this value must be set to OS400. This will ensure the correct handling of the various file systems on the iSeries.

[Check address \(ping\)](#) – If set to *yes, the software will try to connect to the remote interface before attempting any file transfer. If the attempt fails, no file transfer will take place. If you have a slow network, the timeout value should be set to a higher value than 1 to avoid timeouts. Also please note that not all systems respond to the PING command, but still will allow FTP to connect. In these cases, set the [Check address](#) parameter to *NO.

[Job queue for batch](#) - Job queue used when a job for this interface is submitted from the job calendar. The defaults values are ``*DFTJOBQ and *LIBL". The job queue will then be selected from the system value *DFTJOBQ. It is NOT recommended to change this value for normal use.

[Interface counter/counter length](#) – Counter for generating file names for exchanges. The counter length indicates the length in bytes the counter should occupy in the file name. E.g. a counter length of 4 will cause a 4-digit number to be inserted into the file name generated. Please refer to the file name generation section for further information.

[Interface status](#) – The interface can be set inactive by entering 'I' in this field. Exchanges on an inactive interface will not be executed when submitting all exchanges with a given name. See main menu – selection # 6.

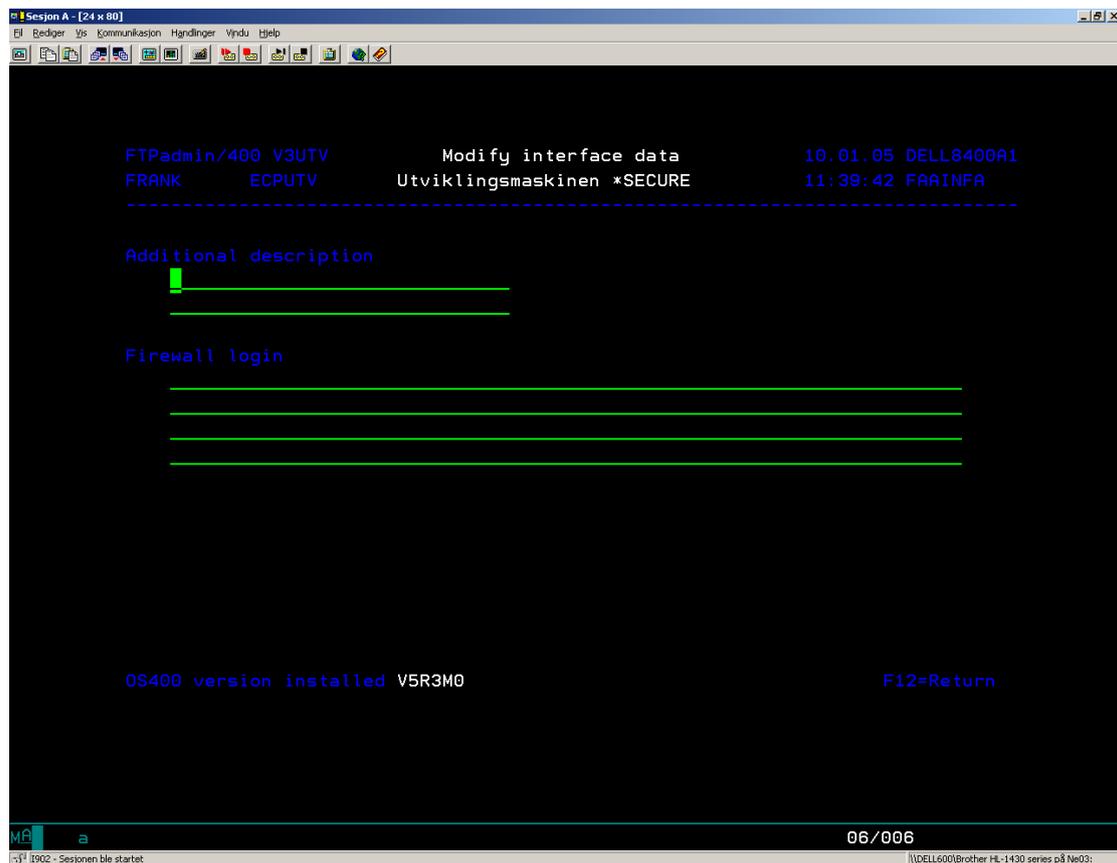
[Directory scan start byte](#) – the default value of 13 should NOT be changed. This field is for system testing only.

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F7-Additional data



Additional description – Additional description of the interface.

Firewall login – Firewall specific commands for access through a firewall. If filled in, these lines will be the first lines in the generated script. The remote system network administrator should supply these commands.

Line 1&2 and line 3&4 may be joined together to create a longer command. Use a '+' in the last position of line 1 & 3 to enable this function. Please note that the maximum command length in this version is 132 bytes.

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Work with exchange information

```
FTPadmin/400 V3R1M0 Work with exchanges for distribution 4.10.04 SDELL825B2
FRANK ECSAS400 OS400server Utviklingsmaskinen 09.00.14 FAWEXCH

-----
Search exchange Server type OS400 iSeries/400 FTP server (AS400)
S/R Name
-----
F=Edit file list
2=Change 3=Copy 4=Remove 5=Display J=Edit jobsrc R=Run interactiv S=Submit
S D Name Description Frq Changed by/date MS
- R DLOTODL0LS From DLO to DLO *LST 60 FRANK 22.09.2004
- R DLOT0IFSLS From DLO to IFS *LST 60 FRANK 23.09.2004
- R DLOT0IFS01 From DLO to IFS 60 FRANK 23.09.2004
- R DLOTOLIBLS From DLO via IFS to LIB *LST 60 FRANK 22.09.2004
- R DLOTOLIB01 From DLO via IFS to LIB 60 FRANK 6.01.2004
- R ELKJ0PTST From IFS via IFS to LIB 60 FRANK 15.09.2004
- R IFSTODL001 From IFS via IFS to DLO 20 FRANK 15.09.2004
- R IFST0IFSLS From IFS to IFS *LST 60 FRANK 22.09.2004
- R IFSTOLIBLS From IFS via IFS to LIB *LST 60 FRANK 22.09.2004
- R IFSTOLIB02 From IFS via IFS to LIB 60 FRANK 28.04.2004
- R IFSTOLIB03 From IFS via IFS to LIB 60 FRANK 25.05.2004
Mer...

F3=Exit F6=Add new
```

Lists the defined exchanges for the interface. Exchange can be added, changed, deleted, copied and executed interactively or submitted for batch execution. Search for Send/Receive and alphabetic search may be user to limit the number of exchanges displayed.

> Function *F=Edit file list* is a function that enables you to specify a file list to send/receive when running the exchange. This enables you to receive files from FTP servers that does not allow you to list directories for security reasons.

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Define exchange information

The screens for defining exchange information will vary in layout and contents depending on the FTP server type on the remote interface, and what file system on the iSeries the data is received to or transmitted from.

The following examples shows the most common file transfer modes used, but is not a complete list. To create your own transfer routines refer to these examples.

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Exchange definition data fields – common parameters

```
FTPadmin/400 V7R1M0          Work with exchanges          5.03.18 QPADEV0001
FRANK      ECPUTV    OS400server Utviklingsmaskinen *SECURE 15:34:56 FAWEXCH
-----
Exchange IFSTOIFSLS Direction R S/R Description From IFS to IFS *LST *secure
Days to keep in log 7 (0-999) Log empty sessions Y (Y/N)
Data logging option 1 (1=Save a copy of data files)
Password change N (Y/N) Frequency 24.03.2009 Edit job script N (Y/N)
User/pwd faftp
Next pwd
Userid Adresse Type Severity
Send message to FRANK M (B-brk,D-dist,M-prog,N-net) 20
Run exchange under userprofile Use for SFTP/SSH/PGP when required
Password for userprofile !Only when job is run in BATCH!
Mail option A=Always,E=When error >30,F=Always send complete log
Mail address
User pgm (lib/pg1/pg2 / (pgm1) (pgm2)
User pre pgm (pre1)
Exchange file counter *XCN 83 use 3 digits
Exchange status code (I=Inactive,T=Temporary)
Last changed 24.03.2009 by FRANK Last normal run 14:48:21-22.09.2004
F3=Exit F9=Maintain job script F6=Create jobscheduler entry
F7=FTP command parameters F10=Update ENTER=Next screen
MB B 04/050
```

Exchange – The name of the exchange

Direction – S=Send, R=Receive

Days to keep in log – Number of days the log information for this exchange are kept on the system log. When the log entry is deleted, any work files and saved copies of the transmitted data are also deleted.

Log empty sessions – Y=All executions of this exchange is logged on the system log, N=Only exchanges where data files were sent or received will be logged.

Data logging option – 1=A copy of the sent/received files will be generated in the /ftpadmlog directory for IFS and *DLO files, and in library FTPADMLLOG for OS/400 data files. These file copies can be viewed from the *Work with transfer log* screen (Option F=File log).

Password change - enter "Y" for automatic change of password. 5 days before the password expires, a message to a named user profile is issued. The new password must be entered here. Password will be changed the next time the job is run.

Frequency - enter password change frequency in days.

Edit job script – If you wish to manually edit the system generated script you can enter Y in this field. You will then be allowed to edit the script data from the *Work with Exchanges* screen. This is only recommended for experienced users. NOTE! Changes made to the exchange in the maintenance programme will not be reflected in the script and a manually edited exchange will NOT be converted during system upgrade.

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If a job script have been manually edited and a new release is installed, changes to job script generation in the new release will NOT be updated. To update a manually edited job script after release upgrade, perform the following steps after printing the job script screen for later reference:

Remove the code for [Edit job script](#) in the Work with exchange screen and update the exchange. Edit the exchange again by pressing ENTER an all screens.
Change the code for [Edit job script](#) in the Work with exchange screen to Y again.
Re-enter the changes to the job script.

Special considerations for manually entered job scripts:

To enable FTPadmin to log files transmitted and received in manually entered job scripts the following rules must be followed:

All FTP commands must be entered in lower case
put, get, app and append are the only allowed file transfer commands.(mget is NOT supported)
Data logging option 1 (1=Save a copy of data files) is disabled for manual scripts.

[User/pwd](#) - Enter a user profile (max 20 characters) and a password (max 20 characters) on server. (Password is non-display.)

[Send message to](#) - Enter a user id and an address (optional) to which completion or error messages are to be sent when this exchange is executed. If severity level is entered only messages with severity level => than the value entered will be sent.

Mail option/Mail address - The system can send completion messages each time the exchange is executed. If mail option 'A' is used an E-mail with exchange status is sent to the mail address entered. If mail option 'E' is used, only exchanges with end severity > 00 will generate an E-mail.

Note: SMTP must be configured on the iSeries and a system directory entry named INTERNET GATEWAY must be configured correctly for this function to work. Refer to the appropriate manuals for your system for configuration help.

[Run exchange under userprofile](#) : If the exchange must be run under a specific userid enter userprofile and its password here. When the exchange is run in batch FTPadmin will change the job to run under the specified profile. This is useful when running SSH/SFTP jobs where security parameters are user specific. If the values entered here are invalid the execution of the exchange is terminated and the error is logged to the ftpadmin system log. NOTE! If the password entered here is invalid the user profile may be disabled after running the exchange. This is dependent on the systems security settings.

NOTE! For exchanges that use PGP encryption routines the job will be resubmitted with the selected userprofile. This is due to limitations in the GNUPGP software. The user that is starting the exchange must have *USE access to the user profile the exchange is selected to run under.

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Sample E-mail from FTPadmin/400

FTP exchange DLOTOIFS01 From DLO to IFS

Executed 19012004 at 172442

1 file(s) received

0 files with error(s)

94780 byte received

End severity code is 00

System generated message from

FTPadmin/400

(c) Electronic Commerce Partners A/S

[User programmes](#) - Enter library and program name for user programmes. Programme 1 will be run before the FTP session and programme 2 after the FTP session. No parameters. For use by experienced users and system programmers.

See the section about FAFTP return data area for description of transfer number.

[User pre programme](#) - User defined programme executed before the FTP session is run and before User Programme 1. For use by experienced users and system programmers.

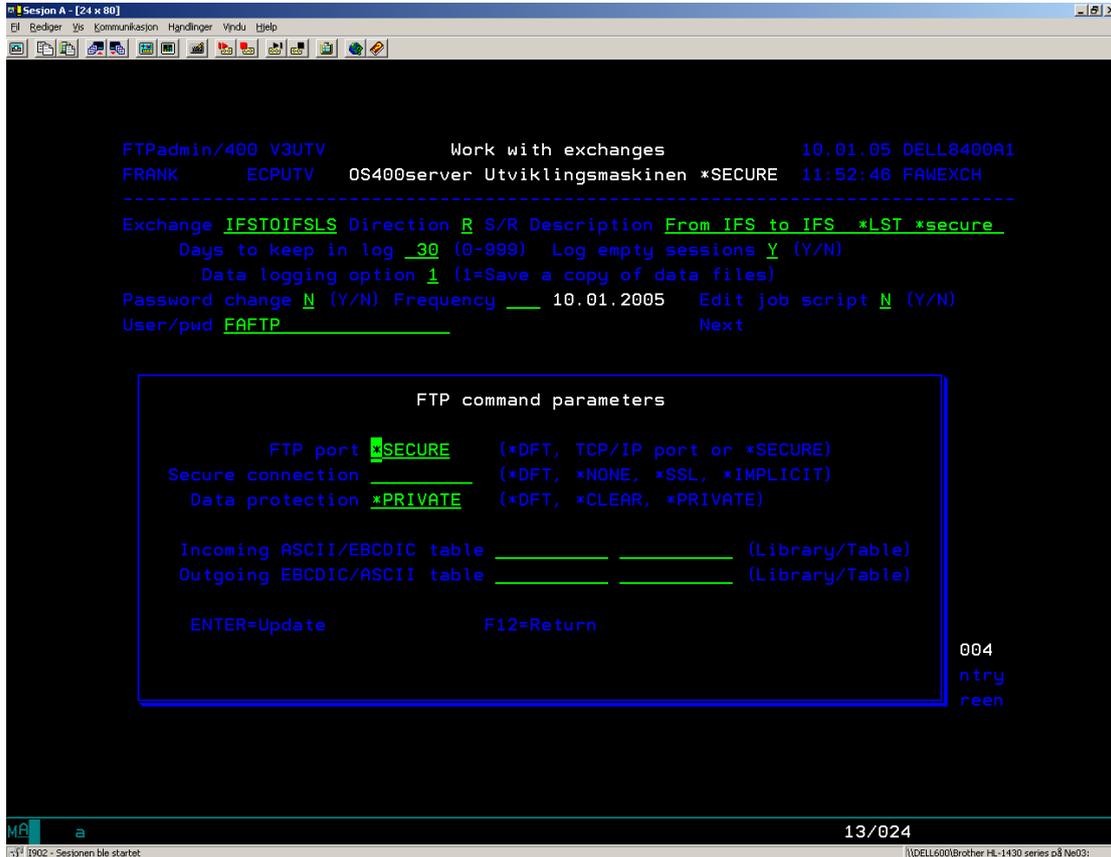
[Exchange counter/counter length](#) - Counter for generating file names for exchanges. The counter length indicates the length in bytes the counter should occupy in the file name. E.g. a counter length of 4 will cause a 4-digit number to be inserted into the file name generated. Please refer to the file name generation section for further information.

[Exchange status code](#) - The exchange can be set inactive by entering 'I' in this field. Inactive exchanges will not be executed when submitting all exchanges on an interface or all exchanges with a given name.

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F7=FTP command parameters



```
FTPadmin/400 V3UTV          Work with exchanges          10.01.05 DELL8400A1
FRANK      ECPUTV      OS400server Utviklingsmaskinen *SECURE  11:52:46 FAWEXCH
-----
Exchange IFST0IFSLS Direction R S/R Description From IFS to IFS *LST *secure
Days to keep in log 30 (0-999) Log empty sessions Y (Y/N)
Data logging option 1 (1=Save a copy of data files)
Password change N (Y/N) Frequency 10.01.2005 Edit job script N (Y/N)
User/pwd FAFTP Next

FTP command parameters

FTP port *SECURE (*DFT, TCP/IP port or *SECURE)
Secure connection _____ (*DFT, *NONE, *SSL, *IMPLICIT)
Data protection *PRIVATE (*DFT, *CLEAR, *PRIVATE)

Incoming ASCII/EBCDIC table _____ (Library/Table)
Outgoing EBCDIC/ASCII table _____ (Library/Table)

ENTER=Update          F12=Return

004
ntry
reen

13/024
```

You may override the FTP port and Secure FTP parameters specified on the interface. Please note that secure FTP is available from OS400 V5R2M0. If running V5R1M0 these parameters are not shown.

FTP port parameters:

*DFT

Port 21 is used

1-65535

The requested port value is used.

Note: If 990 is specified, the FTP client will perform the same functions as if *SECURE were specified.

*SECURE

The value 00990 is used. Port 990 is reserved for secure FTP servers which immediately use Transport Layer Security (TLS) or Secure Sockets Layer (SSL) protocols to encrypt data.

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Secure connection (SECCNN):

Specifies the type of security mechanism to be used for protecting information transferred on the FTP control connection (which includes the password used to authenticate the session with the FTP server). Transport Layer Security (TLS) and Secure Sockets Layer (SSL) are compatible protocols which use encryption to protect data from being viewed during transmission and verify that data loss or corruption does not occur.

Data protection (DTAPROT):

Specifies the type of data protection to be used for information transferred on the FTP data connection. This connection is used to transfer file data and directory listings. The FTP protocol does not allow protection of the data connection if the control connection is not protected.

Outgoing EBCDIC/ASCII table:

Specifies the table object that is to be used to map all outgoing data in the FTP client. Outgoing data is mapped from EBCDIC to ASCII.

If a table object is specified for TBLFTPOUT, the table object is used for outgoing mapping. Otherwise, the CCSID parameter is used to determine outgoing mapping.

Incoming ASCII/EBCDIC table:

Specifies the table object that is to be used to map all incoming data in the FTP client. Incoming data is mapped from ASCII to EBCDIC.

If a table object is specified for TBLFTPIN, the table object is used for incoming mapping. Otherwise, the CCSID parameter is used to determine incoming mapping.

NOTE! IBM includes mapping support in FTP to ensure compatibility with releases prior to V3R1. Use of mapping tables for incoming TYPE A file transfers results in the loss of CCSID tagging if the target file must be created. IBM strongly recommends that you use CCSID support for normal operations.

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F7-Script options

SENDpasv – Set passive mode on=1 Off=0

Use of the PASV subcommand to establish a data transfer connection is recommended when establishing a connection through a firewall. In some cases, data transfer through a firewall is not possible without the PASV subcommand.

Some FTP servers do not support the PASV subcommand. If SENDPASV is set to ON and the FTP client attempts a data transfer with a server that does not support PASV, the FTP client will display a message indicating that the server does not support PASV. The FTP client will then attempt to establish the data transfer connection without sending the PASV subcommand.

SENDEPSV – on=1 Off=0

At R610, the iSeries FTP client supports the EPASV (Extended Passive, EPSV) command and EPORT (Extended Port, EPRT). The FTP client defaults to this and if the server we are connecting to does not, the FTP client will fail over to Passive mode FTP. However, in some cases, an error message is not returned. Most commonly, this is due to a firewall not allowing or supporting the EPASV /EPORT

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command, and the establishment of a data connection will appear to 'hang'. In these cases, the EPASV /EPORT commands must be disabled.

[SENDEPRT](#) – on=1 Off=0 See SENDEPSV .

On a system-wide basis with the use of data areas:

- o CRTDTAARA DTAARA(QUSRSYS/QTMFTPEPSV) TYPE(*LGL) AUT(*USE) - disables EPASV*
- o CRTDTAARA DTAARA(QUSRSYS/QTMFTPPASV) TYPE(*LGL) AUT(*USE) - disables PASV*
- o CRTDTAARA DTAARA(QUSRSYS/QTMFTPEPRT) TYPE(*LGL) AUT(*USE) - disables EPRT with PTF SI33243 applied to the system.*

[Start from root directory](#) – Y=a 'CD ..' command is executed as first command in script.

[Quote or other own FTP-cmd](#) – Commands inserted in the script before file commands from the exchange is inserted.

Line 1&2 and line 3&4 may be joined together to create a longer command. Use a '+' in the last position of line 1 & 3 to enable this function. Please note that the maximum command length in this version is 132 byte.

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Send data – common parameters

File not found severity code – The error severity code set by the system if the file to be sent is not found at the indicated location.

Empty file action – What the system does if the file to be sent is empty (Contains no data).
C=The job continues, A=The job terminates.

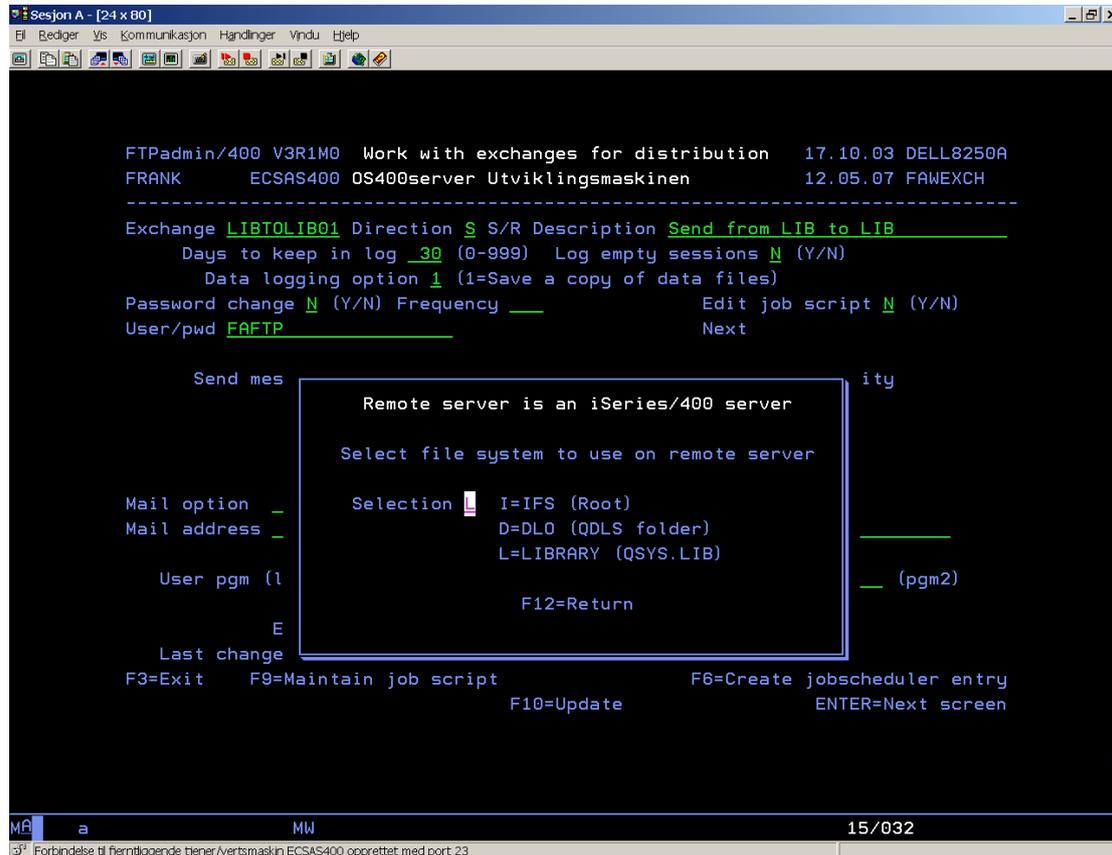
File option on LOCAL server - 0=No action is taken on the file, 1=The file member is cleared, 2=The file is deleted. If option 2 (Delete) is selected an additional field 'OS/400 Delete Mode' will appear. If M for member delete is selected, the file member transmitted will be removed from the file. If F for File delete is selected, the member transmitted is removed, and if the file contains only that member the file will then be deleted. If the file contains more members, the file will be left on the local server.

Use BINARY mode - Y=the transfer is performed in BINARY mode. This is the default for transmitting *DLO objects and iSeries save files. The default transmission mode is set by the FTP server software and may vary.

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Sending data to an OS/400 server



```
FTPadmin/400 V3R1M0 Work with exchanges for distribution 17.10.03 DELL8250A
FRANK ECSAS400 OS400server Utviklingsmaskinen 12.05.07 FANEXCH
-----
Exchange LIBTOLIB01 Direction S S/R Description Send from LIB to LIB
Days to keep in log 30 (0-999) Log empty sessions N (Y/N)
Data logging option 1 (1=Save a copy of data files)
Password change N (Y/N) Frequency _____ Edit job script N (Y/N)
User/pwd FAFTP _____ Next

Send mes ity
Remote server is an iSeries/400 server
Select file system to use on remote server
Selection I=IFS (Root)
D=DL0 (QDLS folder)
L=LIBRARY (QSYS.LIB)
F12=Return
(pgm2)

Mail option _____
Mail address _____
User pgm (l _____
E
Last change
F3=Exit F9=Maintain job script F6=Create jobscheduler entry
F10=Update ENTER=Next screen

MA a MW 15/032
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

When sending data to an iSeries FTP server, a pop-up screen will appear where you must select which file system to use on the receiving iSeries. This will determine the contents of the subsequent screens for defining this exchange.

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Sending data from a qualified iSeries data base file

```
FTPadmin/400 V4R1M0          Work with exchanges          11.01.05 DELL8400A1
FRANK      ECPUTV      OS400server Utviklingsmaskinen *SECURE 08:08:30 FANEXCH
-----
Exchange LIBTOLIB01 Direction S S/R Description Send from LIB to LIB

Send data information

File to send QDDSSRC (Name, *DL0, *IFS, *SAVF, *FILE)
Member PAS* *ALL, *FIRST or *Generic name
Library LCT00L

File not found severity code 99 0-99
Empty file action C (A=Abort, C=Continue)
Empty file severity code 0 0-99
File option on LOCAL server 0 (0-Leave, 1-Clear, 2-Delete, 3-Move)

Transfer mode _ (A=ASCII, B=Binary, E=EBCDIC)
Append data to existing files N (Y/N) If file name exists on
receiving server
F3=Exit      F9=Maintain job script      F6=Create jobscheduler entry
F10=Update   F12=Return                       Enter=Next screen
```

- File to send** – Name of the file to send. In this example we send the source file QDDSSRC.
- Member** – Member in the file to send. Generic values may be used.
- Library** – Library where the file is found.

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Sending data from generic OS400 files

```
FTPadmin/400 V4R1M0          Work with exchanges          11.01.05 DELL8400A1
FRANK      ECPUTV    OS400server Utviklingsmaskinen *SECURE 08:08:30 FANEXCH
-----
Exchange LIBTOLIB02 Direction S S/R Description Send from LIB to LIB

      Send data information

      File to send FILE      (Name, *DL0, *IFS, *SAVF, *FILE)
      Member *FIRST      *ALL, *FIRST or *Generic name
      Library LCTOOL

      File not found severity code 99 0-99
      Empty file action C (A=Abort, C=Continue)
      Empty file severity code 0 0-99
      File option on LOCAL server 0 (0-Leave, 1-Clear, 2-Delete, 3-Move)

      Transfer mode _ (A=ASCII, B=Binary, E=EBCDIC)
      Append data to existing files N (Y/N) If file name exists on
      receiving server
      F3=Exit      F9=Maintain job script      F6=Create jobscheduler entry
      F10=Update      F12=Return      Enter=Next screen

MA  a      MW      08/030
||DELL600|brother HL-1430 series p8 Neo3:
```

When specifying *FILE as file to send, selection fields will appear on the next screen.

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```
Sesjon A - [24 x 80]
Ei  Rediger  Vis  Kommunikasjon  Handlinger  Vindu  Hjelp
-----
FTPadmin/400 V3R1M0 Work with exchanges for distribution 10.11.03 SDELL825A1
FRANK ECSAS400 OS400server Utviklingsmaskinen 10.13.50 FAWEXCH
-----
Exchange LIBTOLIB02 Direction S S/R Description Send from LIB to LIB
-----
Send files starting with FTP and/or ending with ____ (Case sensitive)

To OS400 file FTPFILE Defaults to from file
To file member *ISO*XCN Defaults to from member
*GEN=Generate new name
For file and member special
replacement values is valid
OS400 naming conventions

To OS400 library TEMPFILES Defaults to from library
If blank QGPL is used

F3=Exit F7=Script options F1=Help F9=Job Script F12=Return

MA a MW 08/033
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

Searching for files starting with FTP. Replacement values can be used for file selection. In this example the 'To file member' is specified as '*iso*xcn'. Since OS400 file members must begin with an alphabetic character, a character will replace the first byte in the member name.

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Sending data to an iSeries data base file

```
FTPadmin/400 V3R1M0 Work with exchanges for distribution 22.10.03 DELL8250A
FRANK ECSAS400 OS400server Utviklingsmaskinen 12.39.50 FANEXCH
-----
Exchange LIBTOLIB01 Direction S S/R Description Send from LIB to LIB
-----
To OS400 file   Defaults to from file
To file member *ISO*XCN Defaults to from member
*GEN=Generate new name
For file and member special
replacement values is valid
OS400 naming conventions
To OS400 library TEMPFILES Defaults to from library
If blank QGPL is used

F3=Exit F7=Script options F1=Help F9=Job Script F12=Return

MA a MW 10/031
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

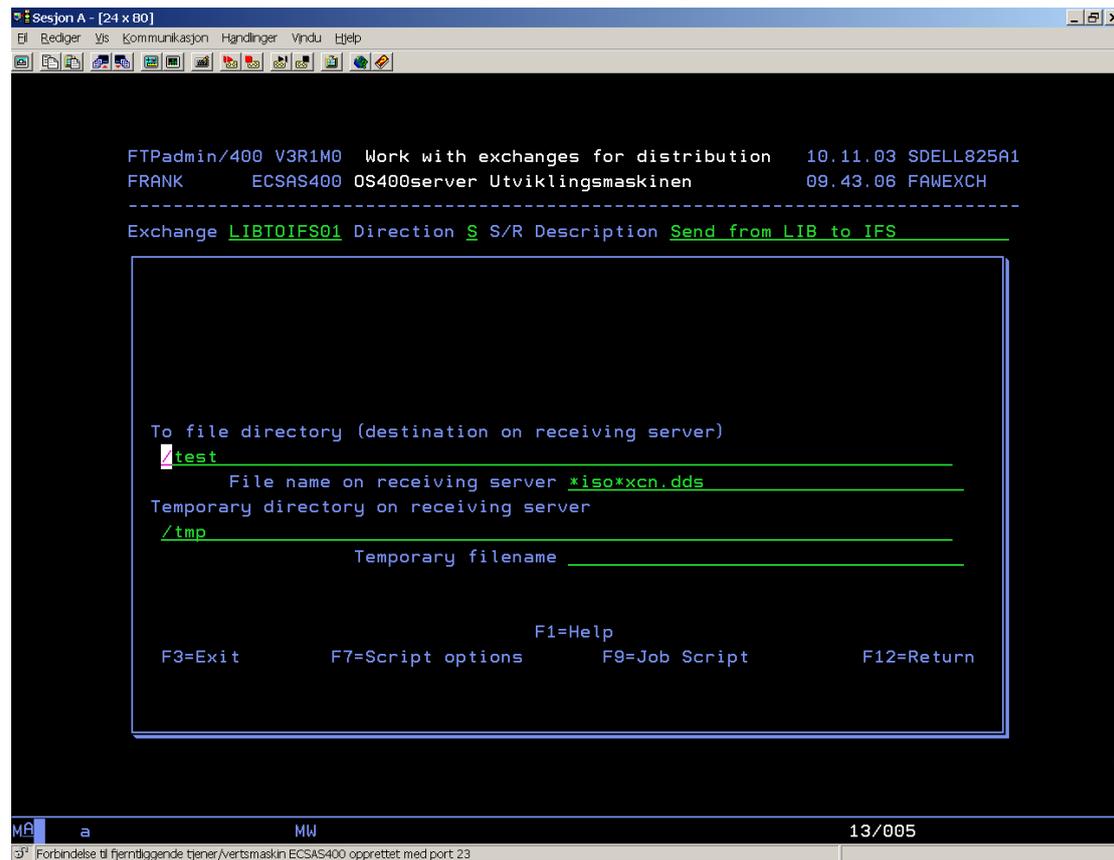
When sending OS/400 files to an OS/400 server, the file and member names can be left unchanged, or new names can be generated for both file and member. If using replacement values for generating new names you must ensure that the expanded names are according to OS/400 syntax. If a library is specified it must exist on the receiving iSeries and the user profile specified in the exchange definition must have sufficient access rights.

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Sending data to iSeries IFS file system



When sending data to the IFS file system, specify the IFS directory where the data is to be stored. You can transmit to a temporary directory and rename the file to the permanent directory after successful transmission. You can also transmit the file to a temporary name and rename after successful transmission. This function is used to prevent the remote system to access the file while it is being transmitted.

PTF 16-050 and greater: If the last subdirectory of the TODIR string is a keyword for variable data (eg. /todirectory/*ISO) and **Create IFS directories** is set to Y for the exchange, FTPadmin will issue a Mkdir command for the expanded directory string before executing the CD (Change directory) command. If the directory exists a FTP 550 message is received and will FTPadmin will set end severity to 10. This is not an error situation and file transfer will proceed normally.

NOTE! For SFTP exchanges on some SFTPserver types, the session will fail if the directory already exists.

Sample log.

```
> cd /tmp
250 "/tmp" is current directory.
Enter an FTP subcommand.
```

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```
> put QFTPSRC.FILE/FTP001.MBR 2003111073.dds
227 Entering Passive Mode (192,168,254,20,37).
150 Sending file to /tmp/2003111073.dds
250 File transfer completed successfully.
    16 bytes transferred in 0.165 seconds. Transfer rate 0.097 KB/sec.
Enter an FTP subcommand.
> ren 2003111073.dds /test/2003111073.dds
```

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Sending data to iSeries QDLS file system

```
Session A - [24 x 80]
F1 Rediger  V5 Kommunikasjon  Handlinger  Vindu  Hjelp

FTPadmin/400 V3R1M0  Work with exchanges for distribution  2.12.03 SDELL825A1
FRANK      ECSAS400  OS400server  Utviklingsmaskinen  08.04.22 FANEXCH
-----
Exchange LIBTODL001 Direction S S/R Description Send from LIB to DLO

To QDLS folder on REMOTE server  (QDLS naming conventions apply)
EST
File name on receiving server *YMD*XCN.DDS

F3=Exit      F7=Script options      F9=Job Script      F12=Return
F1=Help

MA  a  MW  13/005
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

If using replacement values for generating new file names you must ensure that the expanded names are according to OS/400 QDLS name syntax.

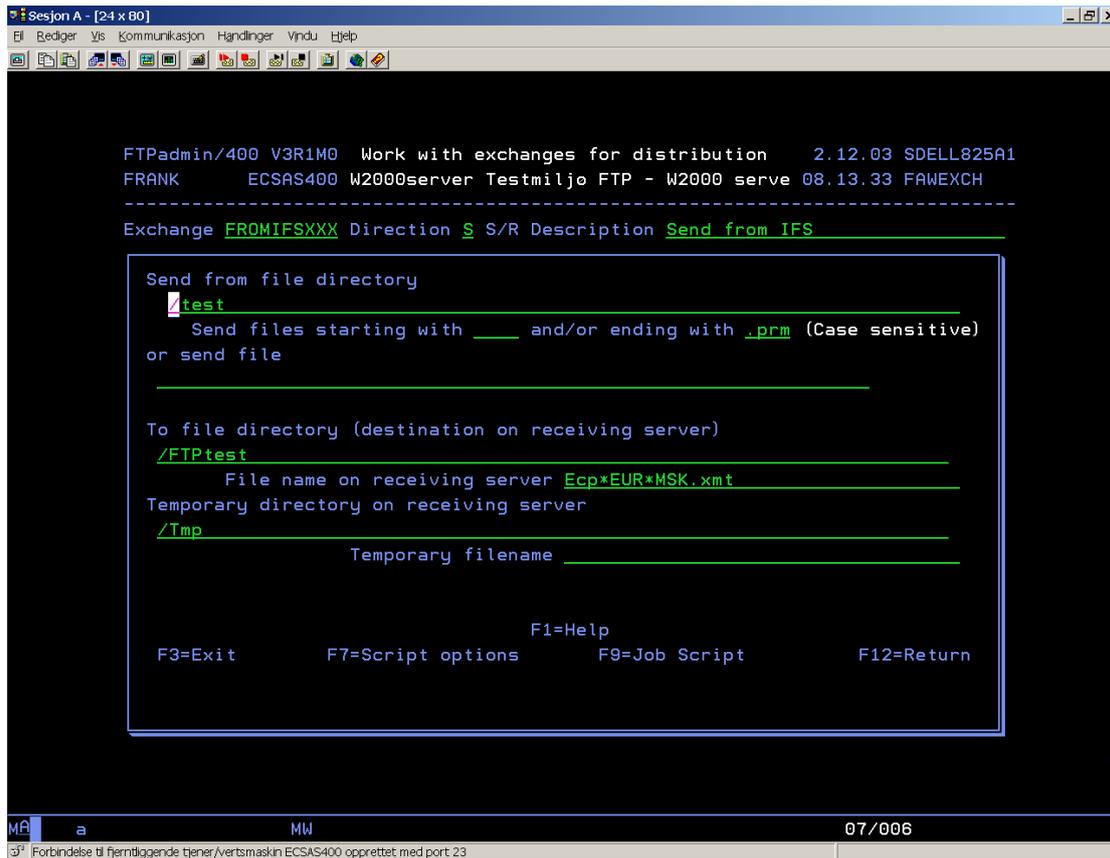
Because the QDLS file system require a directory entry, make sure that there is a directory entry on the iSeries for the user profile used. (WRKDIRE, ADDDIRE commands)

If sending to an iSeries QDLS file system a directory entry must also exist on that system for the user profile used in the FTP command.

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Sending data using temporary directory on receiving server



```
FTPadmin/400 V3R1M0 Work with exchanges for distribution 2.12.03 SDELL825A1
FRANK ECSAS400 W2000server Testmiljø FTP - W2000 serve 08.13.33 FANEXCH
-----
Exchange FROMIFSXXX Direction S S/R Description Send from IFS
-----
Send from file directory
test
Send files starting with ___ and/or ending with .prn (Case sensitive)
or send file
-----
To file directory (destination on receiving server)
/FTPtest
File name on receiving server Ecp*EUR*MSK.xmt
Temporary directory on receiving server
/Tmp
Temporary filename
-----
F3=Exit F7=Script options F9=Job Script F12=Return
F1=Help
```

Temporary directories on receiving servers are often used to avoid the remote system to access the file while it is being transferred. When the file transfer is complete the file is renamed to the directory where the remote system can access it. In this example the temporary file name and the final file name are the same, but they may also be different.

Temporary directory may also be the same as the 'TO directory' but then the temporary file name must be different from the final filename.

If you wish the final file and the temporary file name to be the same but with a different file extension, specify the final file name in 'File name on receiving server' and only the temporary file extension in the 'Temporary file name' field (e.g .tmp).

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Sample FTP log

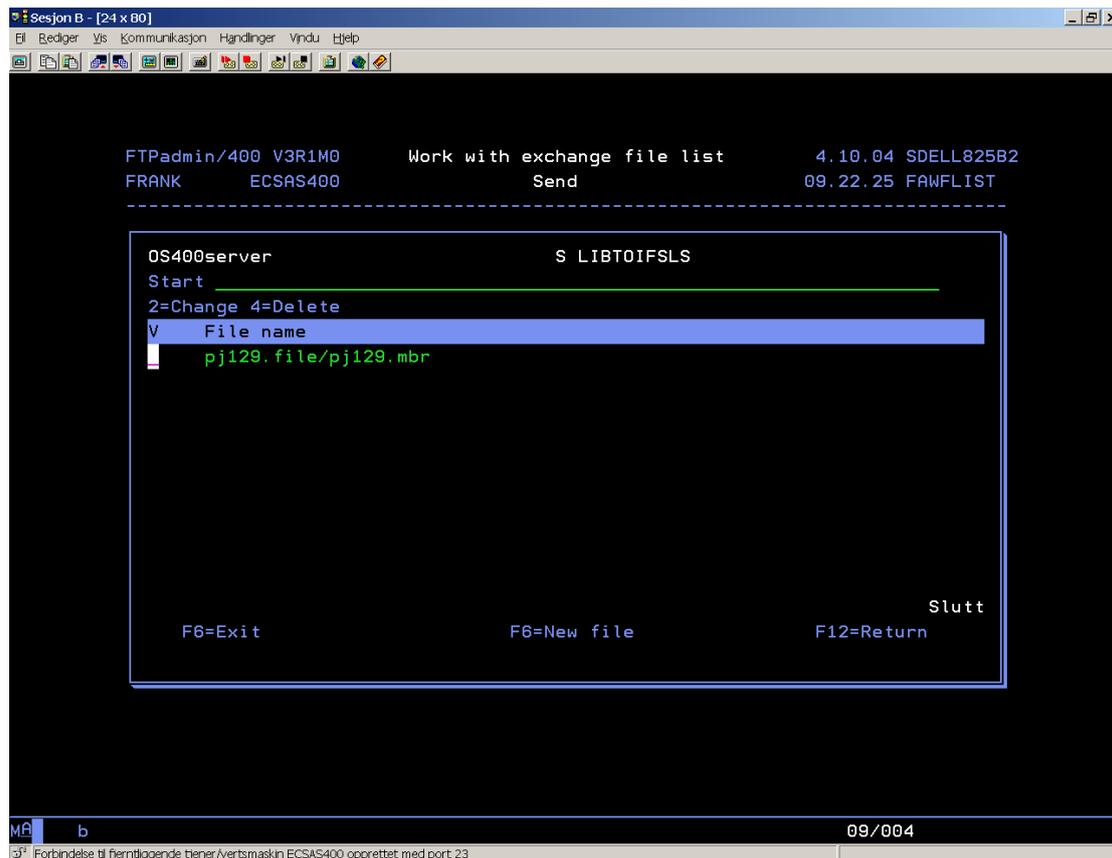
```
> cd /Tmp
250 CWD command successful.
Enter an FTP subcommand.
> put 2003022501.prm Ecp02122003461000.xmt
227 Entering Passive Mode (192,168,254,158,7,200).
125 Data connection already open; Transfer starting.
226 Transfer complete.
      8 bytes transferred in 0.011 seconds. Transfer rate 0.745 KB/sec.
Enter an FTP subcommand.
> ren Ecp02122003461000.xmt /FTPtest/Ecp02122003461000.xmt
350 File exists, ready for destination name
250 RNT0 command successful.
Enter an FTP subcommand.
```

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Edit file list to send



The file name must be entered in the format used by the file system you are sending data from.

Filename.file/membername.mbr for the OS400 HFS file system

Filename.extension for the IFS file system

Filename.ext for the QDLS file system. Max 8 character filename and 3 character extension.

Note! To enable this file list when executing the exchange, parameter **Send files starting with** must be ***LST**.

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Receive files to QSYS.LIB file system from Unix/Windows server

```
FTPadmin/400 V4R1M0          Work with exchanges          11.01.05 DELL8400A1
FRANK      ECPUTV      W2000server Testmiljø FTP - W2000 serve 08:11:29 FANEXCH
-----
Exchange TOLIB      Direction R S/R Description Receive to LIBrary
-----
                                Receive data information
                                -----
Receive data to file TESTINPUT (Name, *DL0, *IFS, *SAVF, *FILE)
File member TESTINPUT *GEN=Generate new member
File library LCTOOL
-----
Create file if not found? Y (Y/N) Named file, *SAVF or *FILE
Record length to create 80 1-32766 byte
Replace received files? N (Y/N)
Transfer mode   (A=ASCII, B=Binary, E=EBCDIC)
Delete workfiles? Y (Y/N) Delete workfiles on LOCAL server
-----
File option on REMOTE server 0 (0=Leave, 1=Rename, 2=Delete, 3=Rename&delete)
-----
F3=Exit      F9=Maintain job script      F6=Create jobscheduler entry
F10=Update   F12=Return                      ENTER=Next screen
```

[Receive data to file](#) defines where data is to be placed on the iSeries. The system creates a duplicate file in the library FTPADMINP with parameter MAXMBRS(*NOMAX). Files selected are received into separate members in this file, and then copied to the designated file/member. This limits the number of files allowed received in one session to 32.767, which is the maximum members allowed in a physical file. (If more files are to be received in one session, use the options [Use IFS file system](#) and [Copy from IFS to HFS](#) in the next screen).

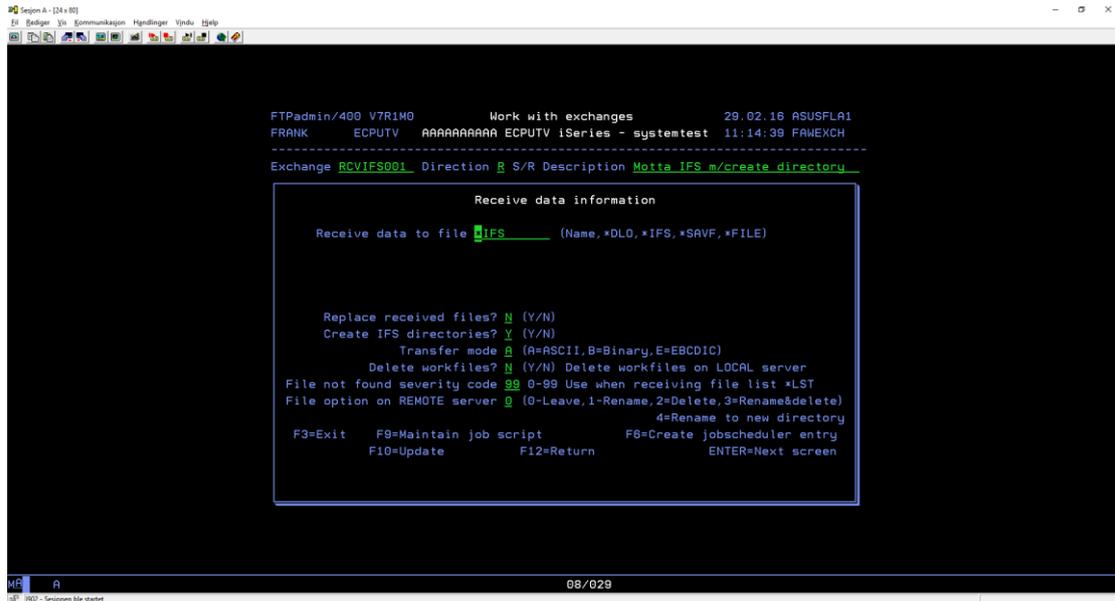
Set parameter [Create file if not found](#) to Y (Yes) to ensure that the work file created in library FTPADMINP is created with the correct record length. If the file specified in [Receive data to file](#) exists, a duplicate of this file is created. If not, the record length specified is used. The default record length is 80 bytes if none is specified. If this parameter is left blank or set to N, the first file received will determine the record length of the work file created in FTPADMINP and this may cause data truncation if multiple files with different record lengths are received.

Members are copied using the copy options specified in the screen [File copy options](#) (F8).

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Receive data to IFS file system



```
FTPadmin/400 V7R1M0 Work with exchanges 29.02.16 ASUSFLA1
FRANK ECPUTV AAAAAAAAAA ECPUTV iSeries - systemtest 11:14:39 FANEXCH
-----
Exchange RCVIFS001 Direction R S/R Description Motta_IFS_m/create_directory_
-----
Receive data information
Receive data to file *IFS (Name, *DLO, *IFS, *SAVF, *FILE)

Replace received files? N (Y/N)
Create IFS directories? Y (Y/N)
Transfer mode A (A=ASCII, B=Binary, E=EBCDIC)
Delete workfiles? N (Y/N) Delete workfiles on LOCAL server
File not found severity code 99 0-99 Use when receiving file list *LST
File option on REMOTE server 0 (0=Leave, 1=Rename, 2=Delete, 3=Rename&delete)
4=Rename to new directory
F3=Exit F9=Maintain job script F6=Create jobscheduler entry
F10=Update F12=Return ENTER=Next screen
```

To receive files to the IFS file system, specify *IFS in to file. File selection and directory selection on the next screen.

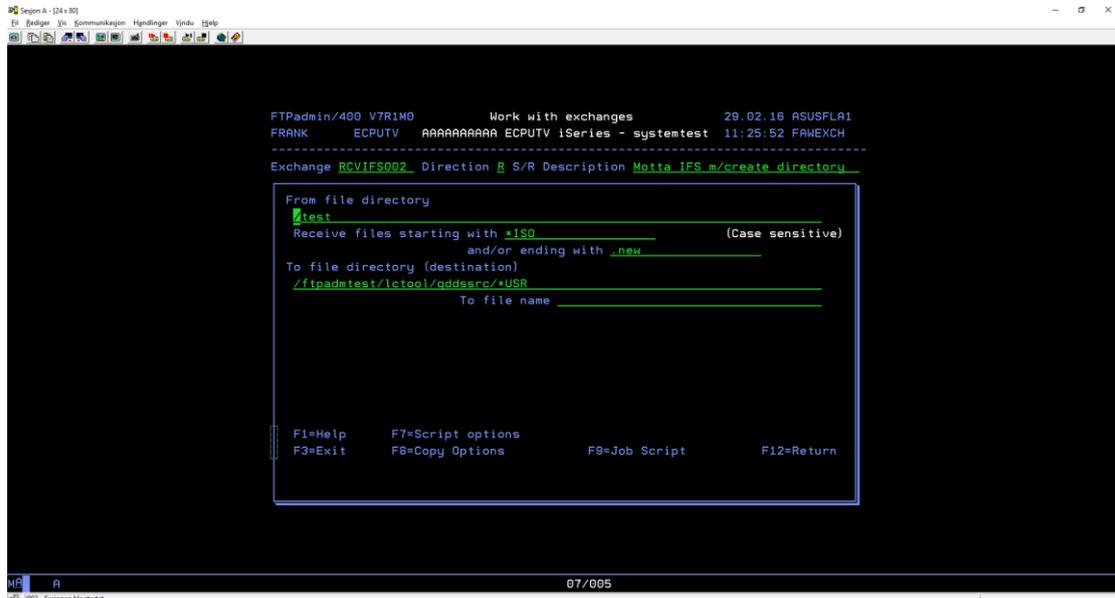
When receiving data to IFS on iSeries, FTPadmin can create the directory structure defined on the exchange (multiple subfolders). This is selected by parameter **Create IFS directories** (new parameter) on the exchange definition. If folders are created by FTPadmin this is logged on the session log when the exchange is run. NOTE! The user running the exchange must have the proper authorities to create directories. If the directory can not be created (or do not exist) the files are recived to default local directory for the user running the session

Note! If [File option on remote server](#) is set to 2 or 3 for delete, the files are deleted only if successfully transferred. The delete of the file is done in a separate FTP session.

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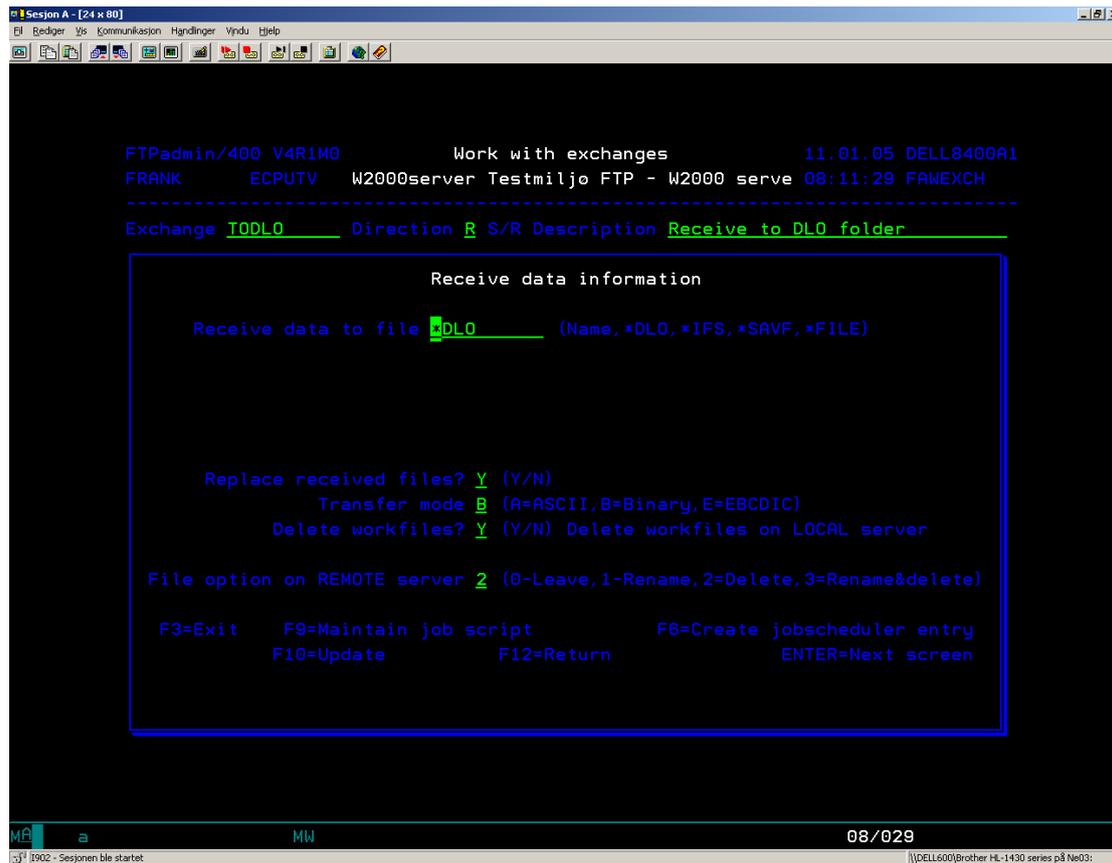
Selecting data to receive and where to store it on the iSeries. In this example files starting with today's date in **ISO** format and the extension of **.new** are received and the files are received to directory **/ftpadmtest/lctool/qddsrc/*USR** and the original name is kept. Note! The replacement value of ***USR** in the directory name combined with Create IFS directories will cause a subdirectory with the name of the user profile running the job to be created.

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Receive data to QDLS file system



Binary file transfer is the default mode for transferring data to the QDLS file system. File selection and location is defined on the next screen.

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```
FTPadmin/400 V7R1M0 Work with exchanges 29.02.18 ASUSFLA1
FRANK ECPUTV AAAAAAAAAA ECPUTV iSeries - systemtest 11:32:19 FRAMEXCH
-----
Exchange RCVIFSDLO Direction R S/R Description Motta IFS til DLO

From file directory
[Test]
Receive files starting with *XML
and/or ending with inn.*XML

To folder name in QDLS file system (QDLS name standard apply)
FRANK To file name *DLO

F3=Exit F7=Script options F1=Help F9=Job Script F12=Return

07/005
```

Note that the file names constructed using replacement values must be valid QDLS file names. The user executing this exchange must also be enrolled in the system directory to be able to use the QDLS file system. The replacement value of *DLO will generate a valid filename for the DLO file system.

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Receiving OS400 savefiles

```
FTPadmin/400 V4R1M0          Work with exchanges          11.01.05 DELL8400A1
FRANK      ECPUTV      W2000server Testmiljo FTP - W2000 serve 08:11:29 FANEXCH
-----
Exchange TOLIBSAVF Direction R S/R Description Receive to savefile in LIB

Receive data information

Receive data to file SAVF (Name, *DLO, *IFS, *SAVF, *FILE)
File member            *GEN=Generate new member
File library TEMPFILES

Create file if not found? Y (Y/N) Named file, *SAVF or *FILE
Record length to create        1-32766 byte
Replace received files? Y (Y/N)
Transfer mode B (A=ASCII, B=Binary, E=EBCDIC)
Delete workfiles? Y (Y/N) Delete workfiles on LOCAL server

File option on REMOTE server 0 (0=Leave, 1=Rename, 2=Delete, 3=Rename&delete)

F3=Exit      F9=Maintain job script      F6=Create jobscheduler entry
F10=Update   F12=Return                          ENTER=Next screen
```

OS400 savefiles can be received from both iSeries servers and other FTP servers. If received from non-iSeries servers, the savefile is created on your iSeries before the FTP session is run and the files are named SAVnnnnnnn. This is due to the OS400 file name limitations of 10 characters.

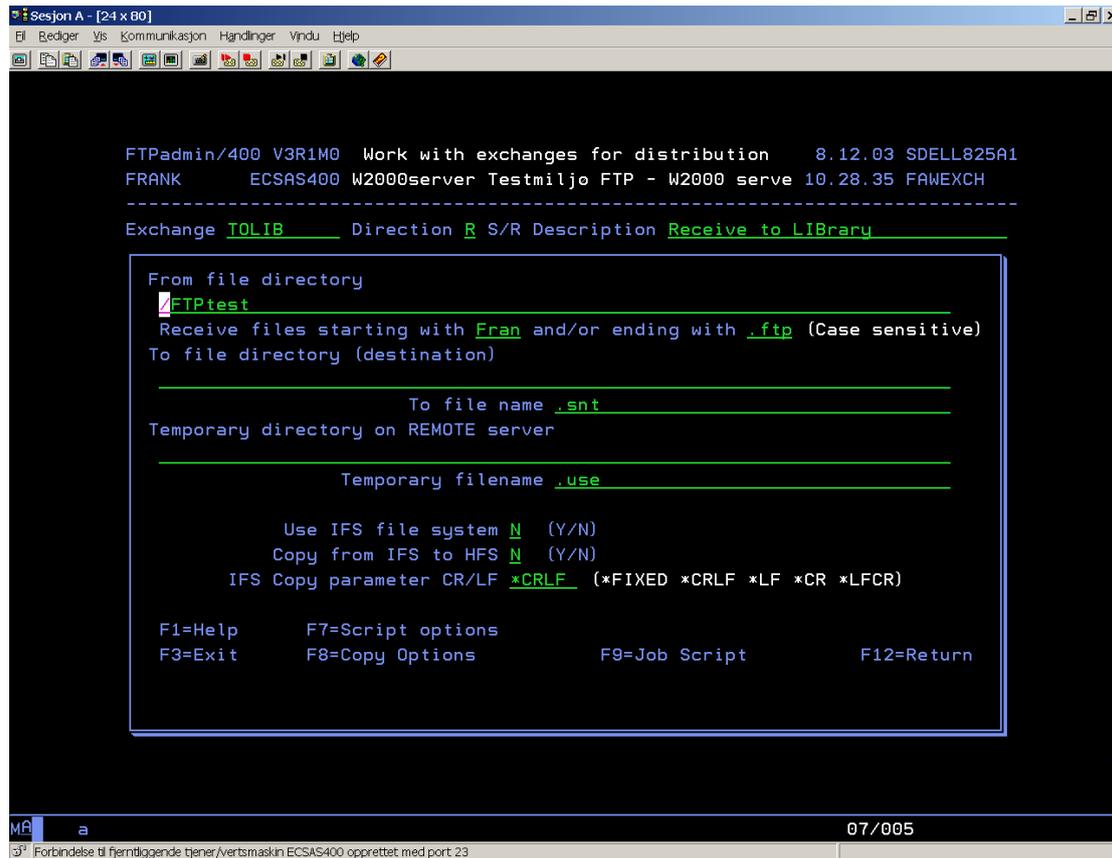
If savefiles are received from an iSeries server QSYS.LIB library they may keep their original name.

OS400 savefiles must be sent and received in BINARY mode.

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Receive data using temporary name and rename on remote server



```
FTPadmin/400 V3R1M0 Work with exchanges for distribution 8.12.03 SDELL825A1
FRANK ECSAS400 W2000server Testmiljø FTP - W2000 serve 10.28.35 FANEXCH
-----
Exchange TOLIB Direction R S/R Description Receive to LIBrary
-----
From file directory
 FTPtest
Receive files starting with Fran and/or ending with .ftp (Case sensitive)
To file directory (destination)
-----
To file name .snt
Temporary directory on REMOTE server
-----
Temporary filename .use
-----
Use IFS file system N (Y/N)
Copy from IFS to HFS N (Y/N)
IFS Copy parameter CR/LF *CRLF (*FIXED *CRLF *LF *CR *LFCR)
-----
F1=Help F7=Script options
F3=Exit F8=Copy Options F9=Job Script F12=Return
-----
MA a 07/005
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

In this example the **File option on REMOTE server** is set to 1 for file rename and the temporary file name is used.

Files selected to be received are renamed using the file name in **Temporary file name** before they are transferred. After transmission the files are renamed again using the file extension entered in **To file name**. If no extension is entered the default value of **.ftp** is used.

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Sample FTP log

```
> ren Frank02042003010000.ftp Frank02042003010000.use
350 File exists, ready for destination name
250 RNT0 command successful.
Enter an FTP subcommand.
> get Frank02042003010000.use TESTINPUT.FILE/M000000358.MBR (REPLACE
227 Entering Passive Mode (192,168,254,158,16,154).
125 Data connection already open; Transfer starting.
226 Transfer complete.
   545 bytes transferred in 0.237 seconds. Transfer rate 2.297 KB/sec.
Enter an FTP subcommand.
> ren Frank02042003010000.use Frank02042003010000.snt
350 File exists, ready for destination name
250 RNT0 command successful.
Enter an FTP subcommand.
```

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Receive data to OS/400 data base file via IFS

```
FTPadmin/400 V4R1M0          Work with exchanges          11.01.05 DELL8400A1
FRANK          ECPUTV      W2000server Testmiljo FTP - W2000 serve 08:11:29 FANEXCH
-----
Exchange TOLIBIFS  Direction R S/R Description Receive to LIB via IFS

Receive data information

Receive data to file FRANKTOIFS (Name,*DLO,*IFS,*SAVF,*FILE)
File member FRANKTOIFS *GEN=Generate new member
File library LCTOOL

Create file if not found? Y (Y/N) Named file,*SAVF or *FILE
Record length to create        1-32766 byte
Replace received files? Y (Y/N)
Transfer mode    (A=ASCII,B=Binary,E=EBCDIC)
Delete workfiles? N (Y/N) Delete workfiles on LOCAL server

File option on REMOTE server 0 (0-Leave,1-Rename,2=Delete,3=Rename&delete)

F3=Exit      F9=Maintain job script      F6=Create jobscheduler entry
F10=Update   F12=Return                      ENTER=Next screen
```

Both file name and member is specified so multiple files are received and added to this file/member. Member may also be specified as ***GEN**, which will cause each file to be received into a separate member named Mnnnnnnnnn where nnnnnnnnn is a sequence number.

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```
Sesjon A - [24 x 80]
Ei  Rediger  Vis  Kommunikasjon  Handlinger  Vindu  Hjelp

FTPadmin/400 V3R1M0 Work with exchanges for distribution 6.01.04 SDELL825A1
FRANK ECSAS400 W2000server Testmiljø FTP - W2000 serve 08.39.26 FAWEXCH
-----
Exchange TOLIBIFS Direction R S/R Description Receive to LIB via IFS

From file directory
FTPtest
Receive files starting with fran and/or ending with _____ (Case sensitive)
To file directory (destination)
_____
To file name Mottatt*XCN*ISO.rcv

Use IFS file system Y (Y/N)
Copy from IFS to HFS Y (Y/N)
IFS Copy parameter CR/LF *CRLF (*FIXED *CRLF *LF *CR *LFCR)

F1=Help      F7=Script options
F3=Exit      F8=Copy Options      F9=Job Script      F12=Return

MA a 07/005
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

In this example multiple files are received to the IFS and then copied to the file and member specified on the previous screen. When **To file directory** is left blank, directory FTPADMINP is used for temporary storage of the files before they are copied to the data base file member.

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Receive data from QDLS file system to OS400 data base file via IFS

```
FTPadmin/400 V3R1M0 Work with exchanges for distribution 6.01.04 SDELL825A1
FRANK ECSAS400 OS400server Utviklingsmaskinen 09.33.01 FANEXCH
-----
Exchange DLOTOLIB01 Direction R S/R Description From DLO via IFS to LIB
Days to keep in log 30 (0-999) Log empty sessions Y (Y/N)
Data logging option 1 (1=Save a copy of data files)
Password change N (Y/N) Frequency ___ Edit job script N (Y/N)
User/pwd FAFTP Next

Send mes ity
Remote server is an iSeries/400 server
Select file system to use on remote server
Selection 0 I=IFS (Root)
D=DLO (QDLS folder)
L=LIBRARY (QSYS.LIB) (pgm2)
F12=Return

Mail option _
Mail address _
User pgm (l _)
E
Last change
F3=Exit F9=Maintain job script F6=Create jobscheduler entry
F10=Update ENTER=Next screen
```

Specify DLO as file system to use on remote iSeries server.

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```
Sesjon A - [24 x 80]
F1 Besdiger  Vis  Kommunikasjon  Handlinger  Vindu  Hjelp
Exchange DLOTOLIB01 Direction R S/R Description From DLO via IFS to LIB
-----
Receive data information
Receive data to file CREMUL (Name, *DLO, *IFS, *SAVF, *FILE)
File member CREMUL *GEN=Generate new member
File library TEMPFILES
Create file if not found? Y (Y/N) Named file, *SAVF or *FILE
Record length to create 80 1-32766 byte
Replace received files? Y (Y/N)
Transfer mode B (A=ASCII, B=Binary, E=EBCDIC)
Delete workfiles? Y (Y/N) Delete workfiles on LOCAL server
File option on REMOTE server 0 (0=Leave, 1=Rename, 2=Delete, 3=Rename&delete)
F3=Exit F9=Maintain job script F6=Create jobscheduler entry
F10=Update F12=Return ENTER=Next screen
MA a MW 08/029
1902 - Sesjonen ble startet. \\DELL600\brother HL-1430 series p8 Neo3:
```

Specify file to receive and file options. Binary transfer mode is default for DLO transfers.

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Specify folder on remote system to receive data from and file selection parameters. Default value for file directory is FTPADMINP. The files are received to this directory and then copied to the OS400 data base file.

Sample FTP log for session

```
Enter login ID
331 Enter password.
230 FAFTP logged on.
OS/400 is the remote operating system. The TCP/IP version is "V4R4M0".
250 Now using naming format "0".
257 "QGPL" is current library.
Enter an FTP subcommand.
> System
215 OS/400 is the remote operating system. The TCP/IP version is "V4R4M0".
Enter an FTP subcommand.
> Namefmt 1
250 Now using naming format "1".
Server NAMEFMT is 1.
Client NAMEFMT is 1.
Enter an FTP subcommand.
> bin
200 Representation type is binary IMAGE.
Enter an FTP subcommand.
```

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```
> cd /QDLS/FRANK
250 "/QDLS/FRANK" is current directory.
Enter an FTP subcommand.
> lcd /tmp
Local working directory is /tmp
Enter an FTP subcommand.
> get LOT9223.TXT wk2004010635.tmp (REPLACE
227 Entering Passive Mode (192,168,254,27,29).
150 Retrieving file /QDLS/FRANK/LOT9223.TXT
250 File transfer completed successfully.
 94780 bytes transferred in 0.959 seconds. Transfer rate 98.834 KB/sec.
Enter an FTP subcommand.
> close
221 QUIT subcommand received.
```

Sample SESSION log for exchange

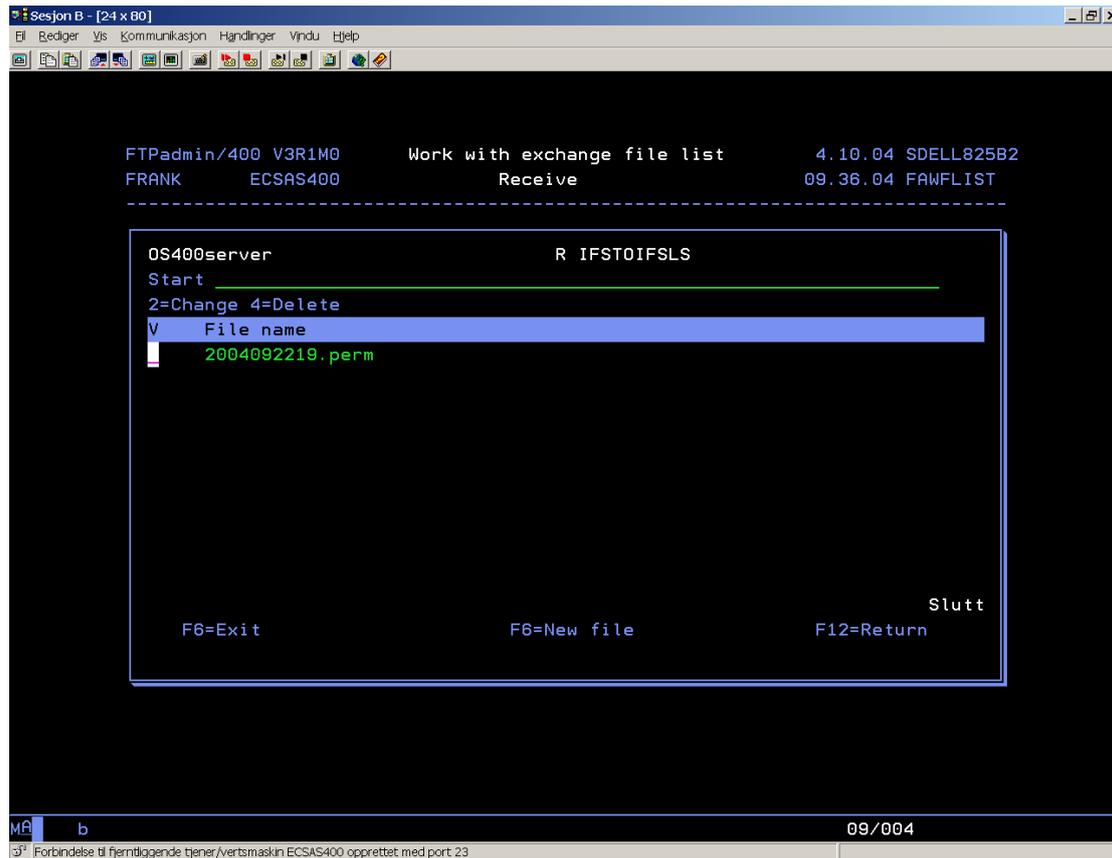
```
FAAPI32 =>Info< Starting file selection
FAAPI32 =>Info< 74 directory entries read from remote system
FAAPI32 =>Info< 1 files/members selected to be recieved
FAAPI40 =>Ok < CHGPF FILE(TEMPFILES/CREMUL) MAXMBRS(*NOMAX)
TEXT('FTPadm
FAAPI40 =>!Err< ADDPFM FILE(TEMPFILES/CREMUL) MBR(CREMUL)
TEXT('FTPadmin/40
FAAPI35 =>Info< Checking FTP log for errors during receive session
FAAPI35 =>Info< No errors found
FACPIFS =>Ok < StmfCopy /tmp/wk2004010635.tmp => /QSYS.LIB/TEMPFILES.LIB/CR
FAARCCLN =>Ok < CPY OBJ('/tmp/wk2004010635.tmp') TOOBJ('/ftpadmlog/RDLOTOLIB
FAARCCLN =>Ok < RMVLNK OBJLNK('/tmp/wk2004010635.tmp')
```

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Receive data from user defined file list - Edit file list to receive



When specifying a list of files to receive, the file name must be specified in the format used by the FTP server you are receiving data from.

Filename.file/membername.mbr for the OS400 HFS file system
Filename.extension for UNIX/W2000 style file systems
Filename.ext for the OS400 QDLS file system. Max 8 character filename and 3 character extension.

Note! To enable this file list when executing the exchange, parameter **Receive files starting with** must be ***LST** .

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File copy options

```
FTPadmin/400 V3R1M0 Work with exchanges for distribution 11.12.03 SDELL825A1
FRANK ECSAS400 W2000server Testmiljø FTP - W2000 serve 09.07.41 FANEXCH
-----
File copy options

Additional parameters for IFS copy
Parameter MBROPT *ADD (*ADD/*REPLACE)
Parameter CVTDTA *AUTO (*AUTO)
Parameter STMFCODPAG *STMF (*STMF/*PCASCII and *STDASCII)
Parameter DBFCCSID *FILE (*FILE or integer)

Additional parameters for HFS copy
Parameter MBROPT *ADD (*ADD/*REPLACE/*UPDADD)
Parameter FTMOPT (1) *NOCHK (*NOCHK/*CVTSRC/*MAP/*DROP)
FTMOPT (2) _____

F12=Return
```

Defining options for copying files from IFS to QSYS.LIB file system, and from temporary QSYS.LIB files to permanent QSYS.LIB files. Default values will in most cases work and should not be changed unless required.

Note! If the *MBROPT parameter is changed to *REPLACE and more than one file is received to a qualified file member name, only the last file received will be found in the file after the FTP session.

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Work with scheduled jobs

```
Sesjon A - [24 x 80]
-----
Arbeide med jobber i jobbplan                                ECSAS400
                                                            22.10.03 09.48.29

Velg og trykk Enter.
  2=Endre  3=Holde tilbake  4=Fjerne  5=Vise opplysninger  6=Frige
  8=Arbeide med siste sending  10=Sende umiddelbart

-----Jobbplan-----

Alt  Jobb      Status  Dato      Kl.-      Hyppighet  Gjenopp-  Neste
      FAPURGE    SCD     *ALL      06.00.00  *WEEKLY    *SBMRLS   23.10.03
      FARECSA182 SCD     *MONTHEND 21.00.00  *MONTHLY   *SBMRLS   31.10.03
      FARECSA183 SCD     *MONTHEND 21.00.00  *MONTHLY   *SBMRLS   31.10.03
      FASECED177 SCD     *WED      21.00.00  *WEEKLY    *SBMRLS   22.10.03
      FASECED239 SCD     *FRI      23.23.00  *WEEKLY    *SBMRLS   24.10.03
      FASECFT185 SCD     *SAT      21.00.00  *WEEKLY    *SBMRLS   25.10.03
      FASECFT186 SCD     *SAT      21.00.00  *WEEKLY    *SBMRLS   25.10.03
Mer...

Parametere eller kommando
==>
F3=Avslutt      F4=Foresporsel  F5=Forny        F6=Tilfoey      F9=Hent
F11=Vis jobbkodata  F12=Avbryt     F17=Begynnelsen F18=Slutten

MA  a  MW  12/002
Forbindelse til fjerntilgjengende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

Work with job queue entries generated by FTPadmin. An exchange can be added to the system job queue for execution at specified intervals. All jobs generated by FTPadmin are named FARxxxxxxx (Receive) and FASxxxxxxx (Send) where xxxxxxxx is a variable text string.

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It is only the FIRST execution of the command each day that is entered into the job scheduler. After each execution of the FAFTP command it checks the parameter for the exchange start/stop time and frequency and resubmits the job to the Job scheduler with **FRQ *ONCE** if the stop time for the job has not been reached. The new job start time is calculated based on the frequency parameter from the exchange.

If the calculated new start time is greater than the **Stop time** or is after midnight, the job terminates.

```
Sesjon A - [24 x 80]
-----
FTPadmin/400 V4R1M0          Work with exchanges          12.01.05 DELL8400A1
FRANK      ECPUTV    IBMPTFSERVER IBM Service PTF Server    09:10:31 FAWEXCH
-----
Exchange GETPTF      Direction R S/R Description Get PTF
Days to keep in log 30 (0-999)  Log empty sessions N (Y/N)
Data logging option 0 (1=Save a copy of data files)
Password change N (Y/N) Frequency 8.01.2005  Edit job script N (Y/N)
User/pwd ASq8u30                                Next

Create job scheduler entry

Name in jobscheduler FA + R + IB + XX + 486 Synchronize job Y (Y/N)
Start / stop time 080000 --> 120000 with frequency 10 (minutes)

Ma
Ma

F12=Return

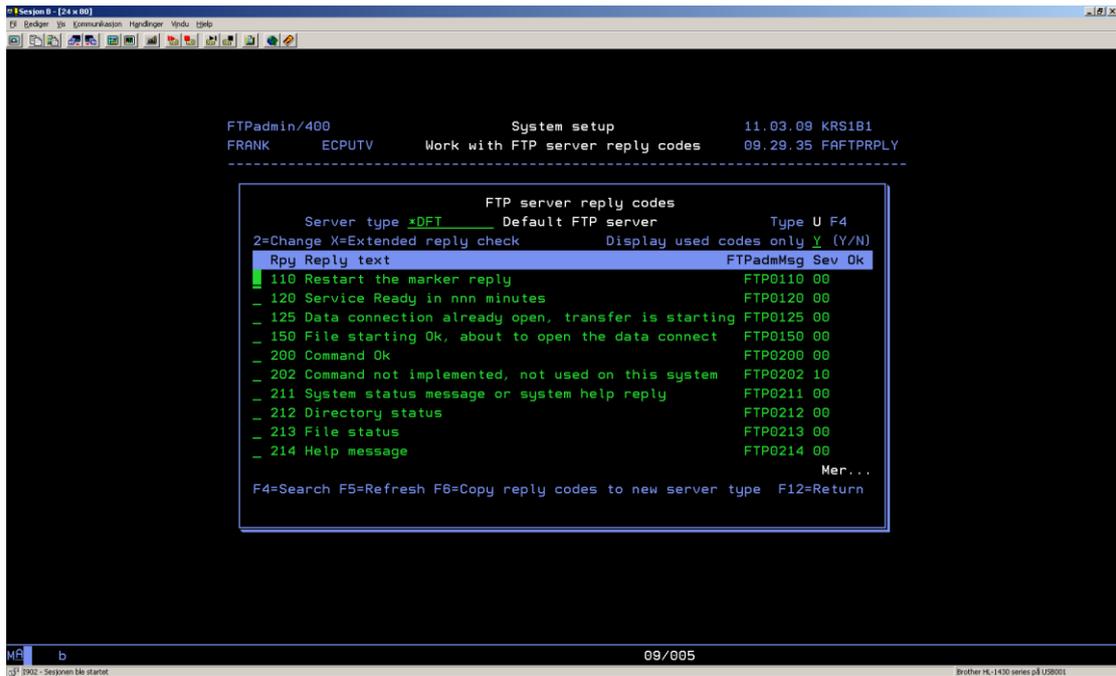
F3=Exit      F9=Maintain job script      F6=Create jobscheduler entry
F7=FTP command parameters      F10=Update                      ENTER=Next screen

MA a 13/038
1902 - Sesjonen ble startet  \\DELL600\brother HL-1430 series p4 Net03:
```

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Work with FTP server reply list



```
FTPadmin/400          System setup          11.03.09 KRS1B1
FRANK      ECPUTV    Work with FTP server reply codes  09.29.35 FAFTPRLY
-----
                        FTP server reply codes
Server type *DFT Default FTP server          Type U F4
2=Change X=Extended reply check          Display used codes only Y (Y/N)
Rpy Reply text                               FTPadmMsg Sev Ok
- 110 Restart the marker reply                FTP0110 00
- 120 Service Ready in nnn minutes            FTP0120 00
- 125 Data connection already open, transfer is starting FTP0125 00
- 150 File starting Ok, about to open the data connect FTP0150 00
- 200 Command Ok                              FTP0200 00
- 202 Command not implemented, not used on this system FTP0202 10
- 211 System status message or system help reply FTP0211 00
- 212 Directory status                        FTP0212 00
- 213 File status                             FTP0213 00
- 214 Help message                           FTP0214 00
Mer...
F4=Search F5=Refresh F6=Copy reply codes to new server type F12=Return
```

The FTP server reply codes are pre-defined and in normal system operation these parameters can be left unchanged.

FTP server type	Description
*DFT	Default FTP server. Will work with most FTP server types. UNIX, Linux etc.
OS400	iSeries server
W2000	Windows 2000/XP server

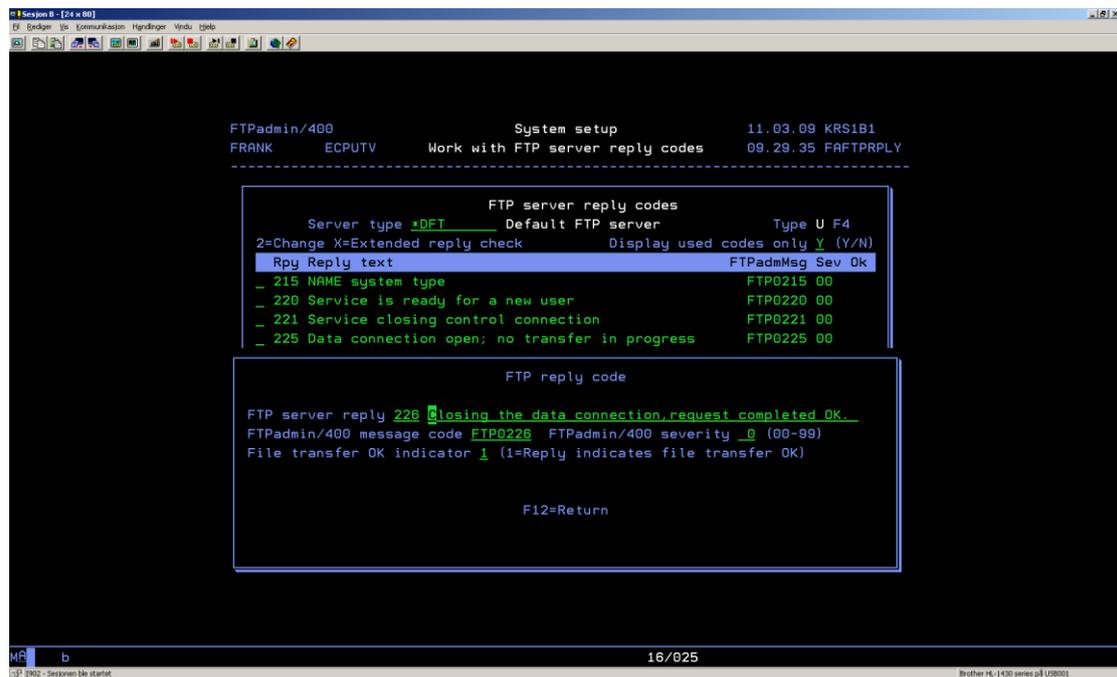
The reply list controls the error severity set by FTPadmin/400 when a specific FTP server reply is received. The reply list also defines which FTP reply indicate that a file transfer has completed successfully. If you wish to communicate with an FTP server that has a different set of reply codes than the standard defined, you can copy the reply list to a new server name and modify the codes. Personnel familiar with FTPadmin/400 and FTP should do this.

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Modify FTP reply code

You can change all information except the 3-digit reply code. Enter '2' for change.



```
FTPadmin/400          System setup          11.03.09 KRS1B1
FRANK      ECPUTV      Work with FTP server reply codes  09.29.35 FAFTPRLY
-----
FTP server reply codes
Server type *DFT      Default FTP server      Type U F4
2=Change X=Extended reply check      Display used codes only Y (Y/N)
Rpy Reply text      FTPadmMsg Sev Ok
- 215 NAME system type      FTP0215 00
- 220 Service is ready for a new user      FTP0220 00
- 221 Service closing control connection      FTP0221 00
- 225 Data connection open; no transfer in progress      FTP0225 00

FTP reply code
FTP server reply 226 Closing the data connection, request completed OK.
FTPadmin/400 message code FTP0226 FTPadmin/400 severity 0 (00-99)
File transfer OK indicator 1 (1=Reply indicates file transfer OK)

F12=Return
```

The FTP/admin message code should be 'FTP0' followed by the FTP reply code.

The severity code can be in the range 00-99. A value ≥ 30 indicate a severe error condition.

File transfer OK indicator. If the FTP server gives this reply code after the successful completion of a file command such as PUT, GET, REN or DEL - the value should be set to 1. The error check routine will assume that the file command has completed normally if a server reply code with **File transfer OK indicator** set to '1' is received from the FTP server after the command.

See the example below.

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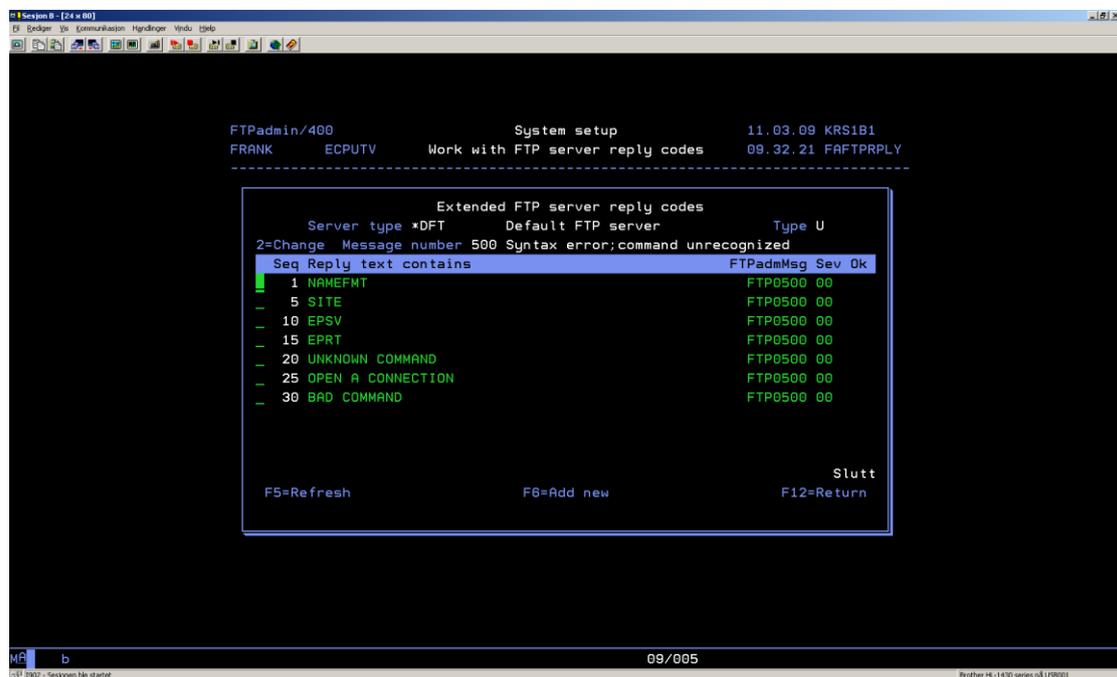
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Sample FTP log from an iSeries FTP server. The server gives reply 250 when the file transfer completes Ok. In the reply list the reply code 250 is marked as a *File transfer OK indicator*. The file will be logged as successfully transferred in the transfer log.

```
Enter an FTP subcommand.
> put FTPADM400.FILE FTPADM400.FILE
227 Entering Passive Mode (182,167,1,159,62,135).
150 Sending file to member FTPADM400 in file FTPADM400 in library QGPL.
250 File transfer completed successfully.
6288480 bytes transferred in 544.888 seconds. Transfer rate 11.541 KB/sec.
```

If reply code that indicates *File transfer OK (250 in this case)* is NOT found in the log after a put command has been executed, the file is logged as NOT transferred. This is important if the exchange has been defined to delete the file after the transfer has completed. Only files that have been marked as successfully transferred will be deleted. This applies to both send and receive exchanges.

Extended reply check

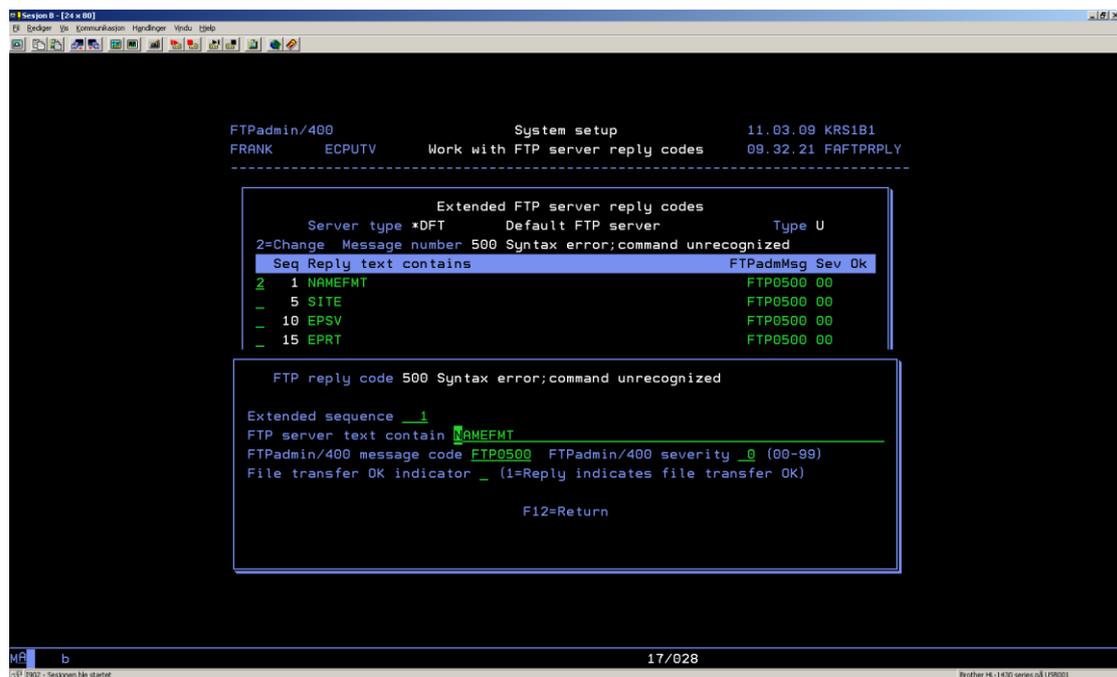


Entering 'X' for Extended reply check enables you to override the error code and severity for an FTP reply code depending on the contents of the reply text from the FTP server. Some FTP servers send warning messages using FTP reply codes that normally indicates an error, and FTPadmin will normally flag such transfers

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as in error. To avoid this enter the error text from the server or part of the text and set the end severity to desired level. See screen below.



```
FTPadmin/400          System setup          11.03.09 KRS1B1
FRANK  ECPUTV        Work with FTP server reply codes 09.32.21 FAFTPRLY
-----
Extended FTP server reply codes
Server type *DFT      Default FTP server      Type U
2=Change Message number 500 Syntax error;command unrecognized
Seq Reply text contains      FTPAdmMsg Sev Ok
2  1 NAMEFMT                  FTP0500 00
-  5 SITE                      FTP0500 00
- 10 EPSV                      FTP0500 00
- 15 EPRT                      FTP0500 00

FTP reply code 500 Syntax error;command unrecognized

Extended sequence 1
FTP server text contain NAMEFMT
FTPadmin/400 message code FTP0500 FTPadmin/400 severity 0 (00-99)
File transfer OK indicator _ (1=Reply indicates file transfer OK)

F12=Return
```

The above example indicates that a FTP message 500 containing the text NAMEFMT should have a severity code of 00 instead of the default value for code 500 of 30.

Note that the error check routine exits at the first hit in this table. (If the text in sequence 1 is found in the FTP message the rest of the table is not checked)

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Default FTP server messages

The first digit of the FTP code indicates the severity of the message:

- 1 = Good. The requested action is being initiated; another reply should follow.
- 2 = Good. The requested action was successfully completed
- 3 = Incomplete. The subcommand was accepted, but the requested action is being held pending receipt of more information.
- 4 = Incomplete. The server did not accept the subcommand. The requested action did not take place; the error is temporary and you can request the action again.
- 5 = Bad. The subcommand was not accepted, and the requested action did not take place.

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Code	What It Means
110	Restart the marker reply
120	Service is ready in nnn minutes
125	Data connection is already open; transfer is starting
150	File starting OK; about to open the data connection
200	Command OK
202	Command was not implemented; it is not used on this system
211	System status, or system help reply
212	Directory status
213	File status
214	Help message
220	Service is ready for a new user
226	Closing the data connection; the requested file action was successful
230	User is logged in
250	Requested file action was okay; action is completed
257	Path name was created
331	Password is required
332	Account is required
425	Cannot open the data connection
426	Connection is closed; the transfer ended abnormally
450	Requested file action was not taken; file busy
451	Requested action ended abnormally; local error in processing
452	Requested action was not taken; insufficient storage exists in system
500	Syntax error; command was unrecognized
501	Syntax error in the parameters or arguments
502	Command was not implemented
503	Bad sequence of commands
504	Command was not implemented for that parameter
530	Logon attempt was rejected
532	Need an account for storing files
550	Requested action was not taken; the file was not found (or no access)
551	Requested action ended abnormally; the page type is unknown
552	Requested file action ended abnormally; storage allocation was exceeded
553	Requested action was not taken; the file name is not allowed

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Work with system messages

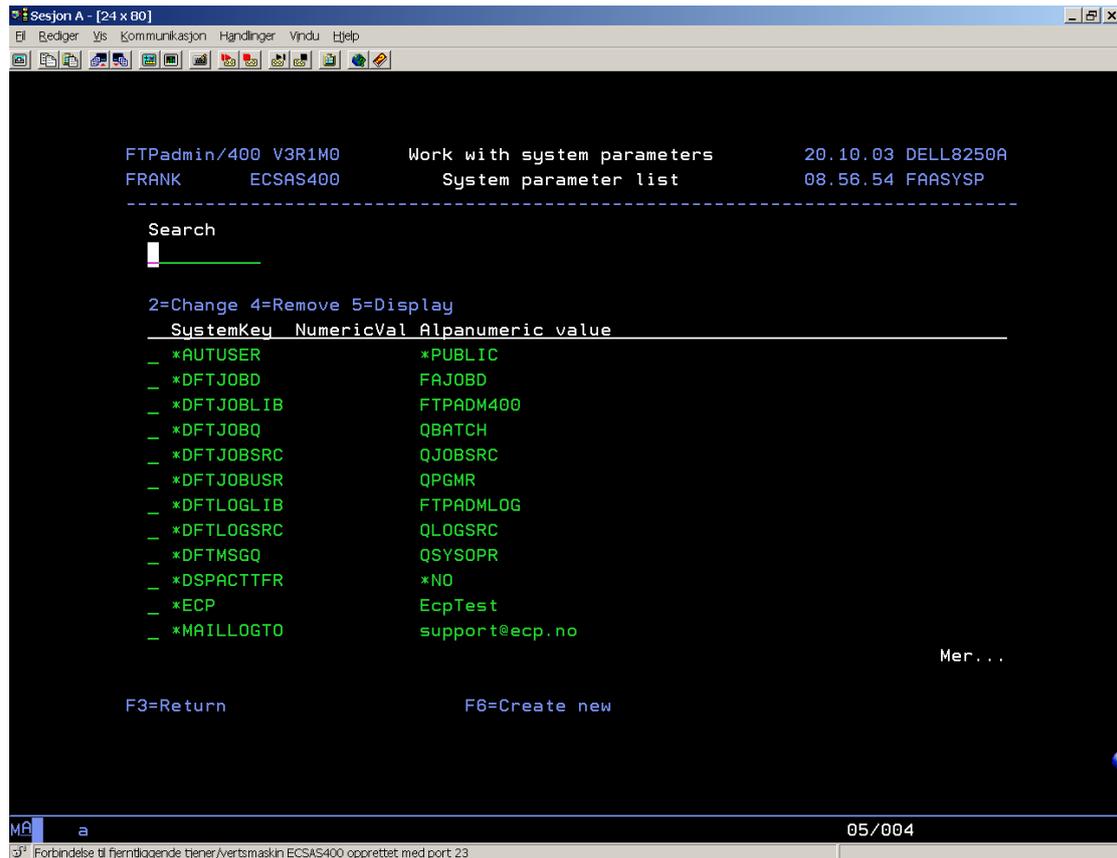
```
Sesjon A - [24 x 80]
ECP software development 20.10.03 DELL8250A
FRANK ECSAS400 Work with system messages 08.44.20 FASYSLW
-----
5=View log entry Start date
S Job# Log message
284483 FALOGPRG ended 60037
_ 284483 Data purge W2000server/S/FRMSAVF date :2003-09-20
_ 284483 Data purge W2000server/S/FROMLIBMUL date :2003-09-20
_ 284483 Data purge W2000server/S/FROMLIB date :2003-09-20
_ 284483 Data purge W2000server/S/FROMIFSXXX date :2003-09-20
_ 284483 Data purge W2000server/S/FROMIFS date :2003-10-18
_ 284483 Data purge W2000server/S/FROMEDIF date :2003-09-20
_ 284483 Data purge W2000server/R/TOLIBSAVF date :2003-09-20
_ 284483 Data purge W2000server/R/TOLIBIFS date :2003-09-20
_ 284483 Data purge W2000server/R/TOLIB date :2003-09-20
_ 284483 Data purge W2000server/R/TOIFS00002 date :2003-09-20
_ 284483 Data purge W2000server/R/TOIFS00001 date :2003-09-20
Mer...
F9=Fold/un fold F12=Return
07/003
Forbindelse til fjerntiliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

The system logs a number of events in this log. Check this log for messages for error messages if problems occur and the transfer log is incomplete or missing. System upgrade information is also logged to this log.

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Work with system parameters



```
Sesjon A - [24 x 80]
ECPadmin/400 V3R1M0      Work with system parameters      20.10.03 DELL8250A
FRANK      ECSAS400      System parameter list      08.56.54 FAASYSYP
-----
Search
  |
  |
2=Change 4=Remove 5=Display
SystemKey  NumericVal  Alphanumeric value
-----
_ *AUTUSER      *PUBLIC
_ *DFTJOB       FAJOB
_ *DFTJOBLIB    FTPADM400
_ *DFTJOBQ      QBATCH
_ *DFTJOBSRC    QJOBSRC
_ *DFTJOBUSR    QPGMR
_ *DFTLOGLIB    FTPADMLG
_ *DFTLOGSRC    QLOGSRC
_ *DFTMSGQ      QSYSOPR
_ *DSPACTTFR    *NO
_ *ECP          EcpTest
_ *MAILLOGTO    support@ecp.no

Mer...

F3=Return      F6=Create new

MA  a  05/004
Forbindelse til fjerntiliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

In the system parameter list a number of parameters that defines the behaviour of the system. In general these values are predefined and need not be changed for normal system operation. The exception is the 3 character system values. These values, e.g. *ECP, can be used to allocate file names to files that is to be sent or received and also for defining search strings for file selection on local or remote servers. Please refer to the file name generation section for further information.

You can enter an unlimited number of parameters for file name generation in the system parameter file.

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Note! Special values.

Parameter *JOBQDAYS

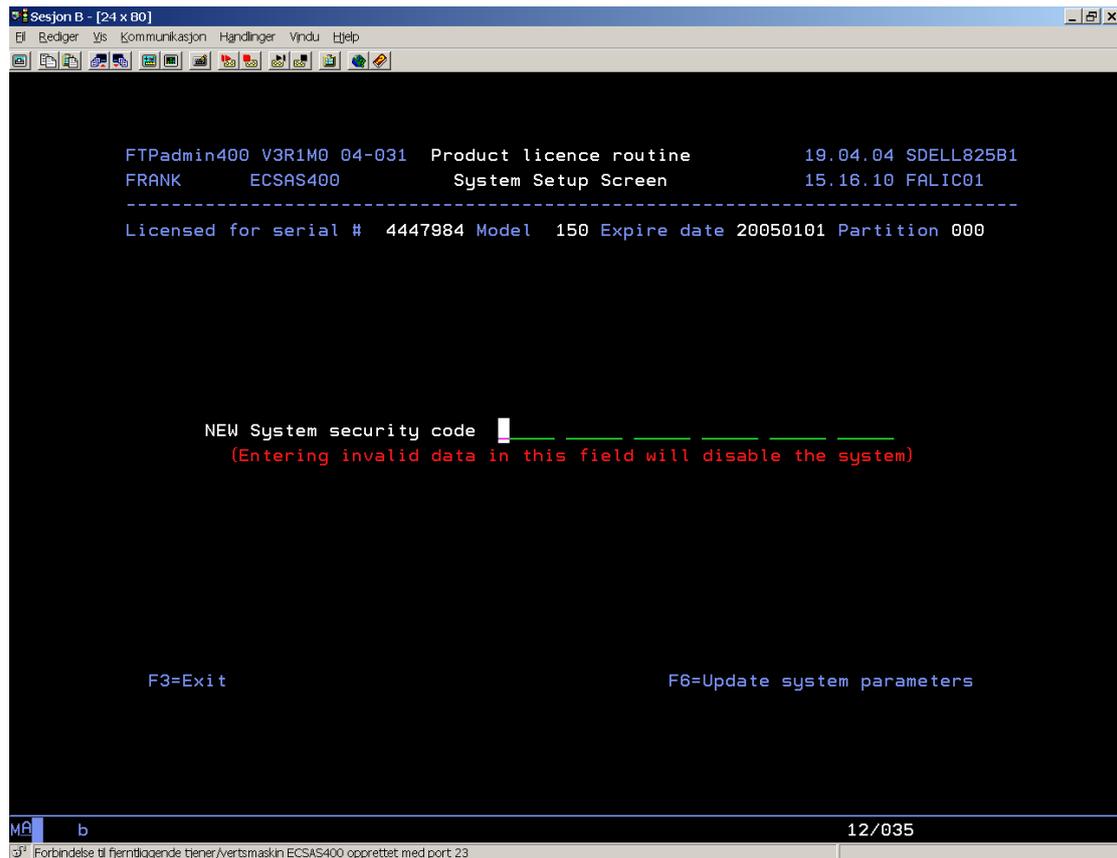
Controls what weekdays an FTPadmin JOB scheduler entry should be run. This parameter is used when a new JOBScheduler entry is added to the system job scheduler. It **MUST** be entered as a continuous string consisting of a combination of the valid day codes ***MON*TUE*WED*THU*FRI*SAT*SUN** or the single value ***ALL**. Any number of valid day codes may be entered. If this system parameter is missing the job scheduler will use the weekdays Monday thru Friday as default. If this parameter is set to an invalid value, problems with job scheduler maintenance may occur.

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Work with licence



To activate the software a valid licence must be obtained from ECP. The software is licensed for use on a specific CPU serial number, model code and logical partition. Contact support@ecp.no to get a valid licence. A 30-day trial period is granted for test purposes. The serial number and model code for the iSeries you wish to install the software on must be submitted to get a valid licence code.

Enter the licence code and press F6 to update the system. Then exit to the system menu, and restart the licence programme. The field **Licensed for serial #** should now read your serial number, model code, partition number and the date when the licence will expire. If not, you may have typed a wrong character in the licence code. Also check that you submitted the correct serial number and model code when you ordered the licence code. Contact support@ecp.no if you are not able to solve the problem.

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File name generation

When transmitting and receiving data the name of the files is important. There may be various file naming conventions that must be followed, or there may be specific application requirements. FTPadmin/400 can construct file names based on fixed data strings, counters and parameters and any combination of these.

Search strings for generic file search on the local iSeries or the remote system may also be constructed using replacement values.

Valid replacement values in file names and search strings:

*aaa	*aaa Value from system parameter file	E.g. *P01
*DLO	Generate valid DLO document name	A1234567
*DMY	Date in ddmmyy format (6 digits)	311203
*EUR	European date format (8 digits)	31122003
*EXC	Exchange name (10 characters)	
*ICN	Interface counter (1-7 digits)	
*IFC	Interface name (Max 35 characters)	
*ISO	ISO date	20031231
*JNB	Job number (6 digits)	123456
*JOB	Job name 10 characters	QPADEV0001
*JUL	Short julian date (5 digits)	03365
*MSK	Milliseconds from timestamp (5 digits)	12345
*TIM	Timestamp value (18 digits)	200312312359999999
*T04	Time value HHMM (4 digits)	2359
*T06	Time value TTMMSS (6 digits)	235959
*T08	Timestamp 8 digits	23595900
*XCN	Exchange counter (1-7 digits)	
*YMD	Date in yymmdd format (6 digits)	031231
*FRM	From File Name	filename.ext
*MDD	Month/Day	1231
*MBR	Os400 file member name	AAAAAAAAAA
*FIL	Os400 file name	AAAAAAAAAA
*TOF	To file name – used in member name	AAAAAAAAAA
*USR	User profile running the job	QPGMR
*WEE	Weeknumber	1-53
*DOW	Day of week (Monday,tuesday etc)	
*DNR	Day of week NBR (1=Sun,2=Mon etc)	

When combining parameters and text the user must ensure that the generated file name is according to the syntax rules of the file system where the file is to be created. The FTPadmin/400 command string is limited to a total of 512 characters.

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Sample file name generation strings

(In the examples the date used is 01012001 and time is 23:59 and the value of **system parameter** *ecp is 'EcpTest')

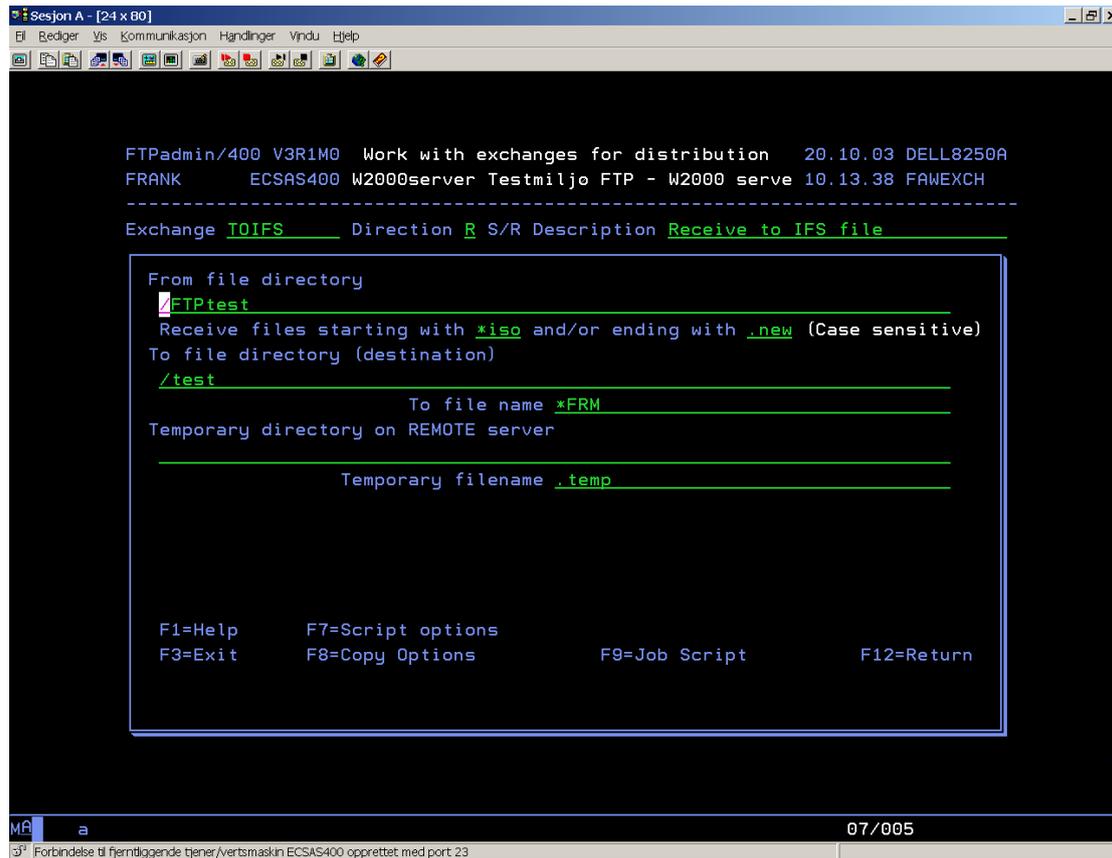
Parameter	Result
AA*DMY*T04.txt	AA0101012359.txt
AA*ISO.*EUR	AA20010101.01012001
AA*JOB.*MSK	AAQPADEV0001.12345
*ecp*t04.txt	EcpTest2359.txt

Any combination of replacement values can be used. The replacement parameter is NOT case sensitive. When combining parameters it is the users responsibility to make sure that the generated file name is valid on the file system where it is to be used.

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Example on file search using replacement values



```
Sesjon A - [24 x 80]
Rediger  Vis  Kommunikasjon  Handlinger  Vindu  Hjelp

FTPadmin/400 V3R1M0 Work with exchanges for distribution 20.10.03 DELL8250A
FRANK ECSAS400 W2000server Testmiljø FTP - W2000 serve 10.13.38 FANEXCH
-----
Exchange TOIFS Direction R S/R Description Receive to IFS file

From file directory
 FTPtest
Receive files starting with *iso and/or ending with .new (Case sensitive)
To file directory (destination)
/test
To file name *FRM
Temporary directory on REMOTE server
Temporary filename .temp

F1=Help      F7=Script options
F3=Exit      F8=Copy Options      F9=Job Script      F12=Return

MA a 07/005
Forbindelse til fjerntliggende tjener/vertsmaskin ECSAS400 opprettet med port 23
```

In this example *iso is used in parameter *Receive files starting with*. The system will in this example search for files starting with current date (the date the job is executed) in *ISO format (yyyymmdd) and with an extension of .new

This function enables the system to search for strings of variable length in file names. The file search is limited to search from the start of the file name and/or from the end of the file name. It is NOT possible to search for a string within the filename.

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FAFTP return data area

When the FAFTP command executes it creates a data area in library Qtemp.

Field						
Name	Type	Length	Dec	Start	End	Field description
F1INFA	A	35		1	35	Interface
F1EXNA	A	10		36	45	Exchange name
F1DIR	A	1		46	46	Send/Receive
F1TNBR	A	10		47	56	Transfer nbr.
F1STAT	A	6		57	62	Status
F1DAT1	S	8	0	63	70	Changed date
F1TIM1	S	6	0	71	76	Time
F1DAT2	S	8	0	77	84	Changed date
F1TIM2	S	6	0	85	90	Time
F1ESEC	S	2	0	91	92	Error severity
F1ECDE	A	7		93	99	Error code

This data area can be checked by the user application to determine the status of the communication session.

The field F1TNBR (Transmission number) is used as key in most log files.

If field F1STAT contains the value of **ERROR** an error has occurred during the transfer. A value of **OK** indicates a successful transfer.

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CGI version (WEB interface)

FTPadmin comes with a Web interface module. This module is runs under the standard iSeries HTTP server and requires no additional software. It has been tested with various browsers, but Internet Explorer 7.0 has been used during software development.

Pre requisite for this module is a configured an operational HTML server software on the iSeries. Server definitions ECPWEBSRV is included on the CD and should be installed. Experienced users may configure their own server to access the CGI interface software. The OS400 user profile is used for authentication of users accessing the WEB module.

HTTP server definitions for FTPADMCGI program access:

```
#----FTPADMCGI directives
Alias /ftpadmlog/ /ECP/ftpadm400/ftpadmlog/
Alias /ftpadmlogOS/ /QSYS.LIB/FTPADMLOG.LIB/
AliasMatch /ftpadmlogOS/(.*)\.htm /QSYS.LIB/FTPADMLOG.LIB/HTMLSRC.FILE/$1.mbr
Alias /ftpadmlog/ /QSYS.LIB/FTPADMLOG.LIB/HTMLSRC.FILE/
Alias /ftpadmlog/ /ECP/ftpadm400/cgi/
ScriptAliasMatch /ftpadmlog/(.*)\.pgm /qsys.lib/ftpadmlog.lib/$1.pgm
ScriptAlias /ftpadm-DB2/ /QSYS.LIB/FTPADMLOG.LIB/DB2WWW.PGM/
<Directory /QSYS.LIB/FTPADMLOG.LIB>
  Options +ExecCGI -FollowSymLinks -SymLinksIfOwnerMatch -Includes -Indexes -MultiViews
  AuthType Basic
  AuthName "Enter iSeries User Id"
  order allow,deny
  Allow From all
  Require valid-user
  PasswdFile %%SYSTEM%%
  ServerUserID QTMHHTTP
  UserID %%CLIENT%%
</Directory>
<Directory /QSYS.LIB/FTPADMLOG.LIB>
  Options None
  AuthType Basic
  AuthName "Enter iSeries User Id"
  order allow,deny
  Allow From all
  Require valid-user
  PasswdFile %%SYSTEM%%
  ServerUserID QTMHHTTP
  UserID %%CLIENT%%
</Directory>
<Directory /ftpadmlog/
  Options None
  order allow,deny
  allow from all
</Directory>
```

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System access URL:

<http://yourserverID/FTPADMCGIP/FTPADMIN.PGM>

In this beta version the QSECOFR and QPGMR user profiles are configured to access the complete CGI software menu. Other users can only access the log module. A system administrator may add additional user profiles to access the complete software using DFU.

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Appendix.

Directory list formats.

FTPadmin uses the FTP DIR command to search remote servers for files to receive according to search parameters set on the exchange definition. FTPadmin handles the following directory list formats: Unix standard format, Windows NT format and iSeries (OS400) list format. For any other server type FTPadmin uses the FTP LS command, which lists only file names with no details. This may cause FTPadmin to try to receive directories if the match the selection criteria on the exchange. This causes the receive command to fail and cause a severity 30 error to occur on the log.

Windows servers may change the listing format. See this link for information.

<http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/5be80513-0b69-46fa-80b2-fc753f878a4b.mspx?mfr=true>

iSeries may also change the list format permanently or for each communication session. FTPadmin has a parameter for this on the exchange definition.

See this link for information about the different list formats:

<http://publib.boulder.ibm.com/infocenter/iseries/v5r4/index.jsp?topic=%2Frzaiq%2Frzaiqrzaiqfdrtu.htm>

Unix directory list format for iSeries FTP server

Files and directory entries in UNIX-style format

When listing files and directories on a File Transfer Protocol (FTP) server, System i™ clients list the files in both the i5/OS® format and the UNIX-style format. This topic discusses the UNIX® format.

Here is the UNIX-style format for the LIST subcommand (when LISTFMT=1):

mode links owner group size date time name

A blank space separates each field.

This is a description of each field in the UNIX-style format:

mode

You can use 10 characters. Each character has a specific meaning. The first character Meaning

d The entry is a directory.

b The entry is a block special file.

c The entry is a character special file.

l The entry is a symbolic link. Either the -N flag was specified, or the symbolic link did not point to an existing file.

p The entry is a first-in, first-out (FIFO) special file.

s The entry is a local socket.

- The entry is an ordinary file.

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The next nine characters divide into three sets of three characters each. The three characters in each set indicate, respectively, read, write, and execute permission of the file. With execute permission of a directory, you can search a directory for a specified file. Indicate permissions like this: The first set of three characters show the owner's permission. The next set of three characters show the permission of the other users in the group. The last set of three characters shows the permission of anyone else with access to the file. The first character

	Function
r	read
w	write (edit)
x	execute (search)
-	corresponding permission not granted

links

The number of links to the object. The minimum number of characters is 3. The maximum number of characters is 5. The characters are right justified, and they include blanks.

owner

The owner of the object. The minimum number of characters is 8. The maximum number of characters is 10. The characters are left justified, and they include blanks. This field contains the user profile name of the object owner. However, for anonymous FTP sessions, this field contains the owner ID number.

group

The owner of the object. The minimum number of characters is 8. The maximum number of characters is 10. The characters are left justified, and they include blanks. This field contains the user profile name of the group. However, if there is no group, this field contains the group ID number. The field also contains the group ID number for an anonymous FTP session.

size

The size of the object. The minimum number of characters is 7. The maximum number of characters is 10. The characters are right-aligned, and they include blanks. When there is no size for the object, the default is zero.

datetime

The 12 character modification time. The characters are left-aligned, and they include blanks. This is the format of this field when the modification time is within the previous 180 days:

Mmm dd hh:mm

This is the format of this field when the modification time is not within the previous 180 days:

Mmm dd yyyy

Here is the description of each field. Characters Meaning

Mmm Abbreviated month.

dd Two character day of the month. The characters are right justified and padded with blanks.

hh Two-digit hour (00-23). The digits are right justified and padded with zeros.

mm Two-digit minute (00-59). The digits are right justified and padded with zeros.

yyyy Four-digit year.

name

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The variable length name of the object, which precedes a CRLF (carriage return, line feed pair). The name may include blanks.

Here is an example of the UNIX style format:

```
drwxrwxrwx 4 QSYS      0  51200 Feb  9 21:28 home
```

Consider this information as you work with UNIX format data that is returned by the LIST subcommand: When LISTFMT=1, the LIST content varies for QSYS.LIB files depending on the NAMEFMT setting:

When NAMEFMT=1, you will see only the QSYS.LIB file names.

When NAMEFMT=0, you will see both the QSYS.LIB file names and the names of the members in the file or files.

File and directory entries in i5/OS format

System i™ clients support listing the files on a File Transfer Protocol (FTP) server in both the i5/OS® format and the format specific to UNIX. This topic discusses the i5/OS format.

Here is the original i5/OS style format for the LIST subcommand (when LISTFMT=0):
owner size date time type name

A blank space separates each field.

This is a description of each field:

owner

The 10-character string that represents the user profile which owns the subject. This string is left-aligned, and includes blanks. This field is blank for anonymous FTP sessions.

size

The 10-character number that represents the size of the object. This number is right-aligned, and includes blanks. This field is blank when an object has no size associated with it.

date

The 8-character modification date in the format that is defined for the server job. It uses date separators that are defined for the server job. This modification date is left-aligned, and it includes blanks.

time

The 8-character modification time that uses the time separator, which the server job defines.

type

The 10-character i5/OS object type.

name

The variable length name of the object that follows a CRLF (carriage return, line feed pair). This name can include blanks.

Here is an example of the original i5/OS style format:

```
BAILEYSE 5263360 06/11/97 12:27:39 *FILE BPTFSAVF
```