Apache FTP Server integration

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Agenda

- Apache FTP Server overview
- First step: integration in your project
- Authentication through WebObjects
- FTPLet: what's that?
- Q&A

Preamble

- The Apache project is not well documented :-(
- You get almost nothing when you google “Apache FTP Server WebObjects”
- FTP Server has been designed with Spring in mind

➡ This session will not show you a reusable framework but the goal is to give you our feedback with some piece of code

Apache FTP Server overview

FTP Server Overview

Except from project web page:

The Apache FtpServer is a 100% pure Java FTP server. It's designed to be a complete and portable FTP server engine solution based on currently available open protocols. FtpServer can be run standalone as a Windows service or Unix/Linux daemon, or embedded into a Java application. We also provide support for integration within Spring applications and provide our releases as OSGi bundles.

Documentation and download: http://mina.apache.org/ftpserver/

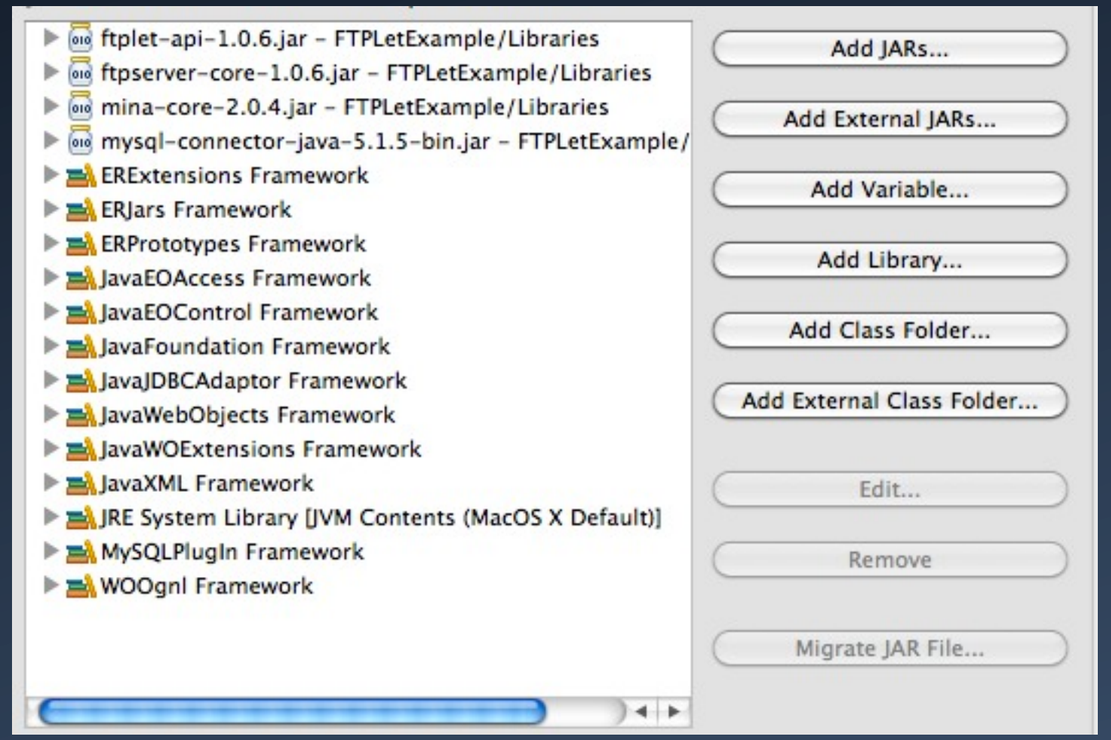
FTP Server Overview

- Current release is 1.06 (posted on Jul 16, 2011)
- Url to download: http://mina.apache.org/ftpserver/apache-ftpserver-106-release.html
- No dependancies with other libraries

Basic Integration

Project Setup

- Add the following libraries:
  - ftplet-api-1.0.6.jar
  - ftpserver-core-1.0.6.jar
  - mina-core-2.0.4.jar
- Initialize an Apache FtpServer object in your application or a Framework Principal object



FTP Server Initialization

```
FtpServerFactory serverFactory = new FtpServerFactory();

// listen to a port > 1024
// This port is used when connecting to the FTP Server
// ex: ftp ftp://userName@localhost:1250
ListenerFactory listenerFactory = new ListenerFactory();
listenerFactory.setPort(1250);
Listener listener = listenerFactory.createListener();
serverFactory.addListener("default", listener);

FtpServer server = serverFactory.createServer();
try {
     server.start();
} catch (FtpException e) {
     e.printStackTrace();
}
```

Authentication through WebObjects

Authentication

- You have 2 classes to create
  - One implements User
    - At least must return the name and the home directory
  - The other implements UserManager
    - check if the user is allowed to connect
    - create an authenticated User

Authentication

```
    public class FTPUser implements User {
    private final String login;

    public FTPUser(final String login) {
         this.login = login;
    }

    @Override
    public AuthorizationRequest authorize(final AuthorizationRequest authRequest) {
         return authRequest;
    }

    @Override
    public boolean getEnabled() {
         return true;
    }

    @Override
    public String getHomeDirectory() {
         return "/tmp/FTP/" + login;
    }

    @Override
    public int getMaxIdleTime() {
         return 0;
    }

    @Override
    public String getName() {
         return this.login;
    }
}
```

Authentication

```
public class FTPUserManager implements UserManager {

    @Override
    public User authenticate(final Authentication inAuth) throws AuthenticationFailedException {
        // inAuth is always an UsernamePasswordAuthentication
        UsernamePasswordAuthentication upa = (UsernamePasswordAuthentication)inAuth;
        String login = upa.getUsername();
        String password = upa.getPassword();

        // check user existence and credentials in database
        if(!EOUser.authenticate(login, password))
            throw new AuthenticationFailedException();

        return new FTPUser(login);
    }

    @Override
    public User getUserByName(final String login) throws FtpException {
        return new FTPUser(login);
    }
}
```

Authentication

```
FtpServerFactory serverFactory = new FtpServerFactory();

// listen to a port > 1024
ListenerFactory listenerFactory = new ListenerFactory();
listenerFactory.setPort(1252);
Listener listener = listenerFactory.createListener();
serverFactory.addListener("default", listener);

// set the user manager
serverFactory.setUserManager(new FTPUserManager());

FtpServer server = serverFactory.createServer();
```

FTPLet

FTPLet

- Give an opportunity to override the default behavior of a FTP Server
- You can redefine all commands like ls, get, put, delete, mkdir…
- Example: insert data automatically from an uploaded file

FTPLet example

```
public class MyFTPLet extends DefaultFtplet {

    @Override
    public FtpletResult onLogin(final FtpSession session, final FtpRequest request) throws FtpException, IOException {
        File userRoot = new File(session.getUser().getHomeDirectory());
        userRoot.mkdirs();

        return super.onLogin(session, request);
     }

     @Override
    public FtpletResult onMkdirStart(final FtpSession session, final FtpRequest request) throws FtpException, IOException {
        session.write(new DefaultFtpReply(FtpReply.REPLY_550_REQUESTED_ACTION_NOT_TAKEN, "You can't create directories on this server."));
        return FtpletResult.SKIP;
    }

    @Override
    public FtpletResult onUploadEnd(final FtpSession session, final FtpRequest request) throws FtpException, IOException {
         String userRoot = session.getUser().getHomeDirectory();
        String currDir = session.getFileSystemView().getWorkingDirectory().getAbsolutePath();
        String fileName = request.getArgument();

         File f = new File(userRoot + currDir + fileName);
        // do something fun with this file
    }
}
```

Q&A