QuestFields Installation Overview

⇒ *This tech note #002 provides an overview of installation and configuration of the QuestFields Client and Server components that are delivered as part of the QuestField product.*

Terminology

The QuestField product offers an "end-to-end" programming-free solution to enhance fields in browser-based applications. Installing and configuring a QuestFields system typically does not involve any programming: Existing and new web pages can be enhanced at groundbreaking speed.

⇒ *This paragraph provides a brief summary of the various system components. Each component comes with a detailed "Administration Guide". For a an introduction to the technology behind QuestFields, please read the Introducing QuestObjects White Paper, available as a download from* *http://www.questobjects.com/documents/*

The *QuestFields Client* is known and recognized by end users as the "QuestField". It is loaded into the user's web browser when the web page is first loaded, and cached in the user's browser cache thereafter. Conceptually, the QuestFields Client is similar to an HTML element with some JavaScript or Flash files and optional CSS style sheets loaded from a server by the web browser.

The *QuestFields Server* is a server application that is installed alongside the existing web server, alongside the existing *Content Source* (database server, directory, search engine, or files), or on a dedicated machine. The QuestFields Server is a standards-compliant Java "servlet" and runs on any standards-compliant Web Application Server that serves as the *Servlet Container*. MasterObjects bundles the free open-source Web Application Server "Tomcat". But the QuestFields Server can also be deployed on commercial application servers such as IBM WebSphere or BEA WebLogic.

The QuestFields Server is configured to query and retrieve data from various content sources, such as SQL databases, LDAP directories, search engines, or files. The QuestFields Server communicates with these content sources using their native protocols (JDBC, JNDI, etc). The QuestFields Server instance(s) should be installed "close" to the content source: The network between QuestFields Server and content source should be as fast as possible.

The QuestFields Server and the QuestFields Client (QuestField) communicate over the highly efficient patented QuestObjects Protocol (QOP), which is based on open standards (XML over HTTP). Only very small chunks of data are exchanged between the browser and the QuestFields Server. Internet bandwidth to individual users thus is very low. Performance is excellent on even the low bandwidth connections. Even modem and GPRS connections work, although these typically introduce a slight delay because they usually introduce up to a second or two of network latency.

Server Installation

Depending on the server operating system, optional load balancing requirements, web server setup, server ports used, and available content sources, installing and configuring the QuestFields Server typically takes anywhere from fifteen minutes to a few hours.

The QuestFields Server runs on virtually any server operating system, including UNIX, Windows, Linux, Mac OS X, and OpenVMS. See *http://www.questobjects.com/technology/* for a full listing.

To use the QuestFields Server, the server administrator should install the Java Virtual Machine (JVM), which is freely available. A proper JVM is already installed on Mac OS X, many UNIX/Linux dialects and all Windows-based servers that run IBM WebSphere or BEA WebLogic. By default, the QuestFields Server Installer installs both the Tomcat application server and the QuestFields Server configured to serve requests on server IP port 8080. It is recommended that QuestFields access the server through port 80. This is done by integrating the Tomcat server with your current web server (such as Apache or Microsoft IIS).

⇒ *On most UNIX dialects, Linux, and OpenVMS, the QuestFields Server is installed using the command line. In Windows, the QuestFields server is simply copied to the Apache "webapps" directory. The QuestFields Server software comes with thorough documentation. Experienced system administrators typically accomplish this task in less than an hour. Please refer to the QuestFields Server Administration Guide.*

If the QuestFields Server should share the standard HTTP port 80 with the static web server (such as Apache or Microsoft ASP.NET Server/IIS), the server administrator must properly configure the web server to forward requests from the `/questobjects/` directory to the QuestFields application.

⇒ *Tech note #003 describes the default locations of directories and files used by the QuestFields Server.*

Server Configuration

The QuestFields Server comes with thorough documentation that allows experienced server administrators to configure the QuestFields Server using various text-based configuration files (property files). In QuestFields Server 2.0 and higher, these are formatted in XML and can be changed "on the fly": It is possible to activate new channels and content queries without restarting the server.

Server configuration involves configuring and activating interfaces to one or more content sources (databases, search engines, files), specifying Content Queries (native queries for the underlying Content Engine such as SQL queries), and defining named Channels for Client QuestFields to use. A Channel groups one or more Content Queries to be executed while users enter data into a QuestField that is linked to that Channel.

Configuring and testing a new Channel for a QuestField typically requires from 5 minutes to an hour (depending on the complexity of the underlying Content Queries).

⇒ *For detailed instructions and a full listing, please refer to the QuestFields Server Administration Guide. Content Query definitions are defined in the "Content Access Module Configuration Guides" that are available for various standard content source types such as SQL and LDAP.*

Client Installation

Starting with QuestFields Server 1.1 (released in January 2007), the QuestFields Server installation includes a full install of the various client components: The required JavaScript and Flash files (QuestFields Client 2.0 and higher is available in an AJAX version that does not require Flash), as well as CSS style sheets supporting various "QuestField skins". In most cases, the application server is well capable of serving these "static" client components alongside the QuestFields Server, so no client component installation is required.

For various reasons (such as performance and caching) the QuestFields Client components can also be served from a static web server such as Apache or Microsoft ASP.NET Server/IIS. This involves copying the associated client directories from the QuestFields Server to the web server.

Adding a QuestField to a Web Page

Before a QuestField can be used in a web page, a single JavaScript file must be included in the web page (in client versions below 1.3, three files were needed). This is done by adding a line to the <head> section of the html page.

Adding a QuestField to an html web page is virtually as easy as adding an image, and can be done in a few minutes. In many cases, a QuestField replaces an existing "input element", which is hidden from view. The QuestField takes its place visually, but the html form in which the input was already used remains in place. The QuestField automatically copies its value into the "old" input field. No changes are typically required in the existing server application.

In simple yet powerful "lookup" applications, a QuestField can be added to an html page without any input or form element requirements.

⇒ *For detailed installation and client design instructions, please refer to the QuestField Administration Guide.*

With a few lines of JavaScript, website designers can retrieve values (and metadata) from the QuestField to dynamically update form elements or visual elements in the web page as the user finds and selects result records. Information on the page is automatically updated without any knowledge about the underlying Client-Server-Content Source communication, which is entirely handled by the QuestFields product.