

productinfo



DocuWare SDK

Simply Integrate DocuWare into other Applications

Using the Software Developer Kit (SDK) you can integrate DocuWare's comprehensive set of document management features into customer-specific applications. Specific interfaces for different development environments are available to the programmer. This means that important DocuWare features can be controlled from a wide variety of applications.

DocuWare's architecture allows you to provide different, powerful programming interfaces for a variety of development environments. DocuWare has a client-server architecture. On the server side, DocuWare works with several servers each of which takes on different tasks. Authentication Server, for example, is responsible for registration and user administration, while Content Server manages access to documents. The DocuWare Client provides user functionalities like displaying, storing, and searching for documents, as well as system administration and configuration. Based on this, we offer the DocuWare TOOLKIT which accesses the DocuWare Client and provides a full set of function calls. In addition, DocuWare's GAPI (General Application Programming Interface) is a .NET-AP which has direct access to the servers and can perform important actions within DocuWare. Based on GAPI, Web

Services and a JAPI (Java Application Programming Interface) create a specific interface to the Java world. These interfaces allow you to access and run DocuWare easily and securely from other applications.

DocuWare TOOLKIT for C Programming Languages, VB 6- and 4GL-Programming Languages

A C programming interface lets you use TOOLKIT functions for controlling DocuWare within other applications. The TOOLKIT controls important DocuWare functions in connection with handling baskets, file cabinets and documents. For example, you can select baskets or documents within a basket, and display them. You can import and index documents and store them in file cabinets. There are a variety of functions for searching and storing documents in DocuWare file cabinets. You can open search and store dialogs and you can display documents from the result list.

Benefits

- Maximum performance for data exchange
- Uncomplicated programming
- Safe and stable operation
- Fully integrated document management

Integration of the function calls from the C programming interface is done by means of dynamic or static links from the TOOLKIT DLLs. Each TOOLKIT function provides an interpretable error code, ensuring optimal handling of errors and exceptions. Handling of TOOLKIT functions in 4GL programming languages (e.g. Microsoft Visual Basic) is facilitated by the COM (Component Object Model) interface which enables OLE (Object Linking and Embedding) automation. In order for an application to use file cabinet and basket functions DocuWare must be up and running at runtime. This is the only way to ensure authentication occurs within the DocuWare system. For document-related functions (such as storing), it is not necessary for DocuWare to be running.



TOOLKIT .NET Interface for .NET and C# Applications

The TOOLKIT .NET interface acts as a wrapper for the C programming interface, allowing .NET languages to use the DocuWare TOOLKIT functions. This means, for example, that documents can be displayed also from VB. NET and C# applications, since the Client functionalities can be addressed. The TOOLKIT .NET interface does not map the TOOLKIT functions 1:1, but works in an object-oriented manner. It offers the same set of functionalities, even though in a different form. Actions such as searching and editing can happen in parallel via GAPI.

DocuWare GAPI for VB.NET and C#

The .NET 2.0 based GAPI programming interface is object-oriented and works independently of the DocuWare Client. Instead of passing via a Client, GAPI accesses the DocuWare servers directly via TCP/IP. With direct access, GAPI offers high performance, is secure and very simple to use. For integration with .NET and C# applications, references

are set up in the DOCUWARE.GAPI.DLL. Errors are returned as exceptions. There is a partial overlap between the GAPI functionalities and those of the DocuWare TOOLKIT. However, since GAPI works without a Client, there is no user interface. The GAPI commands for integration in .NET and C# applications allow you for example to search and store documents in a file cabinet, modify index entries, and delete, export and download documents. It also allows you to retrieve a range of information from individual entities/classes, such as the names of all users within an organization, or the settings relating to the index fields of a file cabinet.

Web Services and JAPI

Web Services allow interoperability between the DocuWare servers, which have been developed on the basis of .NET, for example with the Java world. The Web Services build on the DocuWare GAPI (General Application Programming Interface). DocuWare provides five loosely connected services, each of which can be used separately. Each of the five interfaces has a clearly defined range of features. The services

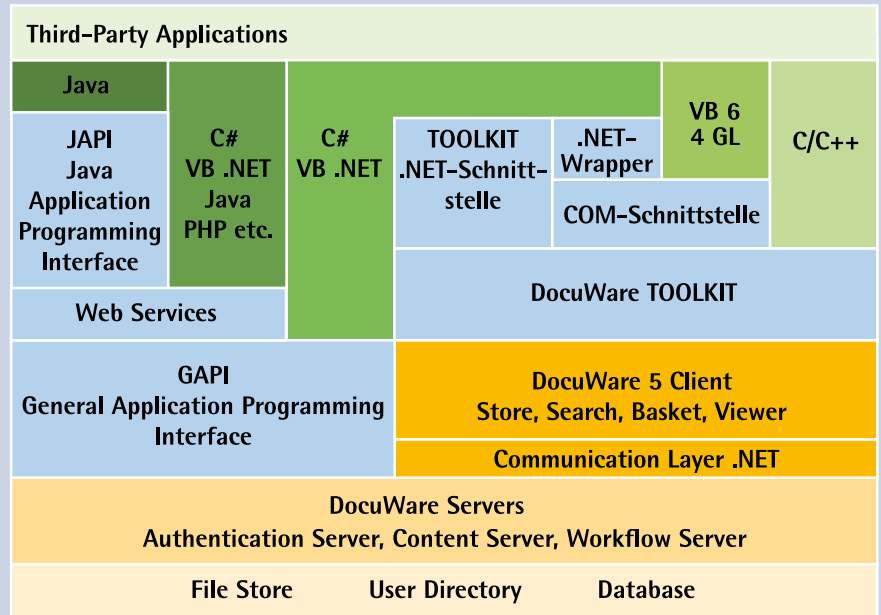
are supplied in two different developments: as "Compatible Web Services" and as "Session Web Services." Both groups have the same range of features but are accessed in different ways and can be used in different environments. For example, when connecting to a Java client, you need Compatible Web Services. Compatible Web Services support the SOAP 1.1 (Simple Object Access Protocol) network protocol. Session Services support SOAP 1.2 and are used to connect to a .NET client. JAPI is also based on Web Services and provides a seamless interface to the Java world.

Validation and Triggers

DocuWare offers the possibility to carry out plausibility checks on server-side index entries by means of general or client-specific validation libraries. This plausibility check is done through .NET 2.0 DLLs that may contain any number of checks. The DLLs are written by the partner or the customers themselves, thus they can be tailored precisely to the users' needs. The validation can cover entries in a field (field validation) or any entries (index validation). DocuWare supplies one DLL (DOCUWARE.VALIDATORBASE.DLL) with basic classes. The partner/customer then uses this DLL for creating his own specific DLLs. These DLLs are registered in DocuWare Administration and are allocated to file cabinets and/or index

fields. Whenever an index entry is written or updated, the system calls the library and validates the entries which are either accepted or rejected, accompanied by an appropriate message. The user then has the option to correct his entries. The validations apply to all file cabinets and index changes, including cases where setting a stamp causes index entries to change. A field validation can, for example, determine whether a date is older than the current date or that a value does not exceed a certain limit. An index validation might use an external data source to check, for example, whether a customer number that has been entered actually matches the client name.

The integration of .NET libraries offers another function: since the DLLs can contain any program code, they can be used as triggers for controlling processes. For example, you could arrange for a notification to be sent to all users as soon as a document with certain index criteria has been stored or you could trigger an entry in an external database whenever an index entry takes on a particular value. A change in a status field (e.g. by a stamp) can – through consolidation with an external database – cause a change in another index field which controls the forwarding process to a particular user with DocuWare's CONTENT-FOLDER.



Interfaces between DocuWare and other applications

	TOOLKIT (TOOLKIT .NET- Interface)	GAPI	Web Services	JAPI
Supported languages	C, VB, (.NET 2.0)	.NET 2.0: C#, VB. NET etc.	C#, VB .NET, Java	Java
Direct access to server		•	•	•
User interface	•			
Independent of DocuWare Client		•	•	•
Store document	•	•	•	•
Find document	•	•	•	•
Modify index entry	•	•	•	•
Delete document	•	•	•	•
Export document	•	•		
Download document	•	•	•	•
Display document	•			
Print document	•			
DocuWare 5 file cabinets	•	•	•	•
DocuWare 4 file cabinets	•			
Selection lists	•	•	•	•
Baskets	•			

Overview of interface functionalities

TOOLKIT Features (highlights)

Below is a summary of the main functions that you can invoke via TOOLKIT. For the actual function calls and a complete overview please refer to [TOOLKIT Manual](#) and [TOOLKIT Automation](#) documentation in the DocuWare Download file cabinet at www.docuware.com.

For a direct link to the mentioned documentation, please click on the hyperlink text above.

Basket

- Number of all documents in a basket
- List all DocuWare documents in a basket
- List all file and document names of documents in a basket
- Select or deselect all documents in an active basket
- Select a document
- List all registered baskets
- Path name of an active basket
- Activate a basket
- Open and activate a basket
- Display a document from a basket
- Import a document into a basket
- Update an active basket
- Staple marked documents in a basket

File Cabinet

- List all registered file cabinets
- Pick target file cabinet
- Open and activate a file cabinet
- Store a document in a file cabinet
- Search for a document
- Number of entries in the result list
- Print a document from the result list
- Display a document from the result list
- Open a registered application for editing a foreign format document
- Delete a document from a file cabinet
- Copy a document into a basket
- Store result list as a file
- Fill opened store/search menu with keywords/index words
- Change the index for previously filed documents
- Generate database entry

Document

- Open DW-document header
- Read and input a text, date, numeric or annotation field
- Convert a foreign format (black/white) into a DocuWare TIFF G4 format
- Overlay of TIFF documents

GAPI Functionalities

The features are subdivided into those which merely require read access and provide information, and those that can execute actions by means of commands. For details see the [GAPI tutorial](#) in the DocuWare Download file cabinet at www.docuware.com.

A. Client

- List all potential Authentication servers for a connection
- Login via DocuWare or Windows authentication

B. Information

Organization

- Name and GUID of all groups, profiles and roles
- List of all users or direct access via Name / GUID

User

- Name and GUID
- Allocated file cabinets
- Allocated groups, profiles, roles
- List of all rights regarding file cabinets, index fields of file cabinets and functionalities (menu rights)

File cabinet

- Name, GUID, color and description
- Fields inclusive label, database name, type, GUID, index number, length
- Settings regarding full text and satellite file cabinet

Document

- DocuWare document pages of a stored document
- Index data, text annotation
- System fields

C. Actions

File Cabinet

- Retrieval (search): Any file cabinet fields can be defined for hit lists
- Search criteria for fields and system fields may be defined; extended search criteria can be used; criteria can be linked by using AND or OR.
- Hit lists by block as .NET DataTable
- Storing
- Finding a document by DocID

Document

All Documents

- Modify index entries
- Delete document or DocuWare document pages
- Append DocuWare document pages at end
- Change text annotation
- Export document or DocuWare document pages into the file system

Stored (Archived) Documents

- Up or download files of a DocuWare document from/to a path
- Up or download files of a DocuWare document from/to a GAPI cache
- Download files of a DocuWare document continuously as a data stream
- Set stamps, including with form fields

Web Services Features

DocuWare provides five loosely connected services which can be used either in combination or separately. Each interface has a clearly defined range of features. The following Web Services are available with clearly defined functions. For details see the [Web Services tutorial](#) in the DocuWare Download file cabinet at www.docuware.com.

DWService

- Authentication
- List all file cabinets
- List all stamps

FileCabinetService

- Access a file cabinet's index fields
- Access dialogs and select lists
- Delete documents

ResultListService

- Retrieval
- Access the result list
- Hit lists by block

DocumentService

- Open and close documents
- Modify index entries
- Set a text annotation
- Stamp documents

FileService

- Access to files
- Download/upload data of a DocuWare document

JAPI Functionalities

The JAPI functionalities offered by DocuWare are listed below. For details see the [JAPI tutorial](#) in the DocuWare Download file cabinet at www.docuware.com.

File Cabinet

- Retrieval (search): Freely define search fields and result list
- Define search criteria for fields. Advanced search feature – link criteria with AND or OR
- Hit lists by block
- Store documents
- Find a document by DocID

Document

All Documents

- Modify index entries
- Delete whole document or single pages

Stored Documents

- Up or download files of a DocuWare document from/to a path
- Set stamps, including with form fields

More information can be found on our homepage on the Internet at www.docuware.com