



IMiS^(R) / iDMS

Manual

Version 1.1.1511

**IMAGING
SYSTEMS**

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1 INTRODUCTION

The preface presents the contents and structure of the IMiS®/iDMS Guide and provides useful technical and content-related information on how to use the iDMS application.

1.1 Purpose of the guide

The guide describes administrator tasks required for the management of the IMiS®/iDMS application. It is intended for:

- installation of the IMiS®/iDMS application;
- configuration of the IMiS®/iDMS application for running on mobile devices;
- customization of the IBM Notes application for running on mobile devices;
- error identification and troubleshooting.

1.2 Target audience

The guide is intended for application developers and system administrators with knowledge of the IBM Domino/Notes platform.

1.3 Scope and requirements

The guide describes administrative tasks and IMiS®/iDMS application settings in order for any IBM Notes application to work on mobile devices.

For information on the installation of IMiS®/Admin, the IMiS® technical support is at your disposal at the email address: support@imis.si.

1.4 Conventions

The guide uses various styles and colours to highlight important information. These are explained below:

Text:

Style	Purpose
Regular	Basic information, description of functionalities
<u>Underlined text</u>	Field values
»Quotation«	Names of headers and tabs, warnings
[Red text]	Names of actions with selected settings, options selectable from the dropdown menu
[Blue text]	Names of Notes document fields
[Green text]	Section and contained section names

1.5 Abbreviations

The table below shows the abbreviations used in the text and images of this guide:

Abbreviation	Meaning
IBM Notes application	An application written in LotusScript
IBM Domino	A server platform for running IBM Notes applications
Apple Store	A web application center for Apple products
Google Play	A web application center for Google products
CRM application	A test and demonstrative application developed in LotusScript for customer management support
IMiS®/iDMS Service	A web service for forwarding iDMS application settings and IBM Notes application data
IMiS®/iDMS Client	A mobile application for display and running of IBM Notes application on a mobile device
IMiS®/iDMS Service Provider	An application used by IMiS®/iDMS Service for obtaining and running customized actions in an IBM Notes application.

2 PRESENTATION

2.1 General

The architecture and concept of the iDMS environment enables the IBM Notes application developers and mobile device users to transfer applications to their mobile devices in a fast and simple manner. No unnecessary intervening in the source applications, technical knowledge or special experience in application development for mobile devices is required.

The concept is based on the »application abstraction« approach, which enables use and display of seemingly different applications in the same way, regardless of the mobile device and always through the user's native mobile device application.

The complex business logic that a source application may contain can be run directly from a mobile device. This way, the application retains a consistent performance and rules that apply. The scope of flexible application settings enables users to easily customize each application.

2.2 Characteristics

iDMS is a web service that provides centralized management and application user control. It specifies how to use an application and how it displays on mobile devices. Each service can join a number of different applications that can be distributed in the Domino domain through a mutual virtual application portal.

The main characteristics of iDMS are:

- use of any IBM Notes application on mobile devices without any adjustment;
- adjustment of application appearance and functionality without any intervention in the application code or iDMS component;
- document viewing on a mobile device with access to archived content through menu;
- document action implementation through IBM Notes application's process actions;
- display of the IBM Notes document views;
- document search in metadata and full-text documents;
- application appearance remains the same regardless of the mobile device;
- document data display with open/closed sections in portrait and landscape mode of a mobile device.

3 ARCHITECTURE

3.1 General

IMiS®/iDMS system is a 3-tier system in the client-server model of architecture (https://en.wikipedia.org/wiki/Multitier_architecture#Three-tier_architecture) with the following tiers:

Presentation tier: It is represented by the native IMiS®/iDMS Client application for currently supported mobile platforms iOS in Android. The Client must be installed on mobile device. It connects to the IMiS®/iDMS Service, which represents the Logical tier and through configuration profiles services configuration markup and data to its clients. IMiS®/iDMS Client is a thin or a light client (https://en.wikipedia.org/wiki/Thin_client), which is capable of dynamic rendering of data based on the configuration instructions, provisioned by the Service based on the mobile device version, type, and language. Client downloads this configuration bundle at login stage if not already cached locally (configuration versioning supported). This bundle defines how surfaced applications should look and feel like. Client never dictates how the application data is displayed since its designed to be a “empty shell”, an interpreter of data, similarly to web browsers. That is why the same IMiS®/iDMS Client can be used to surface heterogeneous applications in a common UI or can be configured to display the same data/applications totally differently.

It uses Hyper Text protocol to communicate with the Service layer (*HTTP* - https://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol), which can be optionally encrypted using latest encryption standards (PKI/TLS). Communication specifics are set by the Service. User can also choose to use 3rd party MDM solutions such as MobileIron Inc. (<https://www.mobileiron.com>) for added protection and provisioning services. These platforms greatly enhance the security and manageability of the devices and IMiS®/iDMS Client application.

Logical tier: It is represented by the IBM Domino application through its SOAP Service. Service application contains configuration data and service logic for provisioning configuration profiles and data to its clients. It exposes an Administration interface for setting system related parameters and operational monitoring. Application settings are controlled by an administrator through an intuitive and easy-to-use interface without having to have expert knowledge on mobile platforms and/or IBM Notes Application development. Service can access Data tier (IBM Notes applications) locally or remotely and spread the application execution load on multiple IBM Domino nodes.

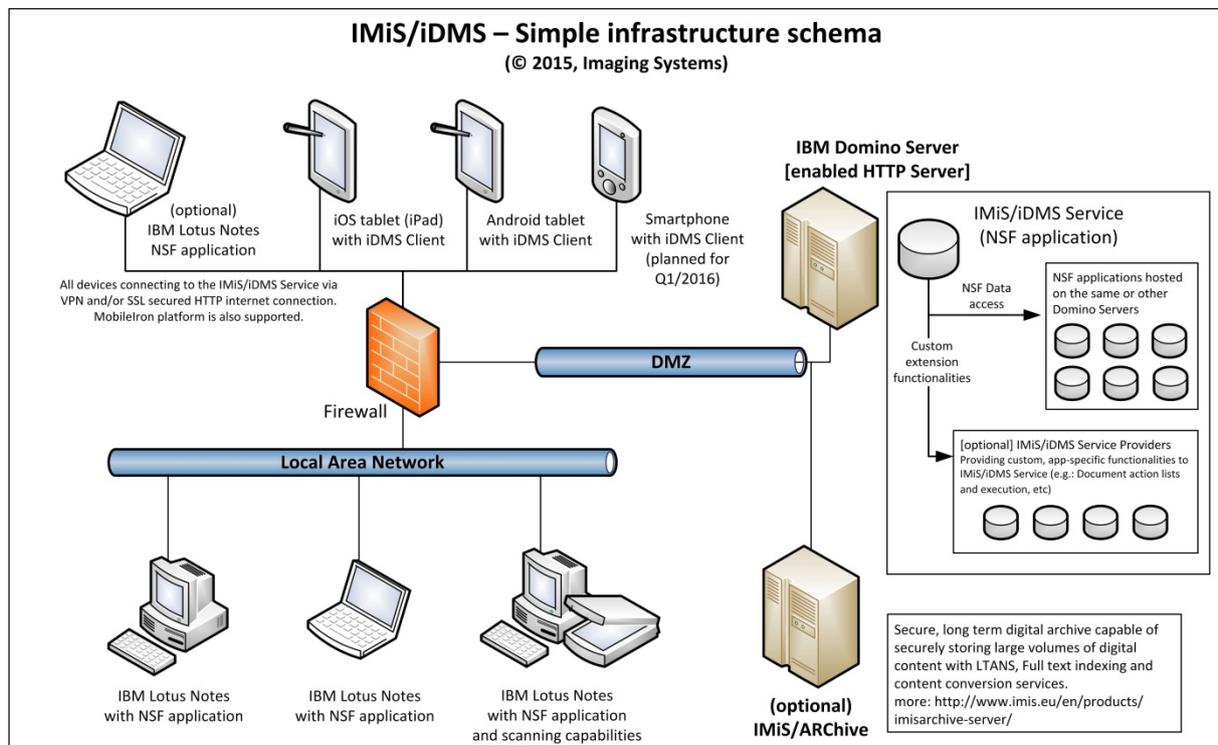
Through so called Provider extensions it enables Clients to execute application specific actions which are implemented in surfaced applications backend business logic which is crucial for correct and efficient action execution. This approach was taken due to the fact that the Service application is totally abstract and doesn't allow user customization to drive custom actions.

Service is capable of leveraging other IMiS products (IMiS/ARChive Storage Server, IMiS/Storage Connector), which extend IBM Notes applications and add flexible and high performance archiving solution to any IBM Notes application.

Data tier: The tier is comprised of existing IBM Notes applications with documents (data) and business logic which can be hosted locally or on other IBM Domino servers to which the web server has access to. The Service uses NRPC protocol to access databases and honors all security options configured by an administrator which are in place for other IBM Notes users. Service can also be configured to access and service digital content attached to IBM Notes Documents.

External ECM system can also be used for efficient content management. Currently IMiS/ARChive Storage Server is supported. More on this:

<http://www.imis.eu/en/products/imisarchive-server/>.



4 USAGE

This chapter defines IBM Domino server administrator and mobile user tasks in order to set up an IBM Domino/Notes application on a mobile device. Later on, an example of how to use a simple CRM application on a mobile device is presented.

4.1 Operation setup

For operation setup of any of the IBM Notes applications on a mobile device, the administrator has to take the following steps:

1. Create an administration interface of iDMS service. [For more information, see chapter 5.2 Administration interface generation.](#)
2. Create a list of documents. If index is not available, create it. If necessary, implement custom logic for document listing. [For more information, see chapter 6.2 »Datasets«.](#)
3. Specify data that is shown on a mobile device. Organize data in sections so that section data is still manageable in that the section can be used in different document sets if possible. Create document types and specify their assigned sections. [For more information, see chapter 6.3 »Datasources«](#) and [chapter 6.4 »Sections«.](#)
4. Create two sections for attachment and IMiS® viewing. Set them to document types that will have this functionality available. [For more information, see chapter 6.4 »Sections«.](#)
5. Create actions, place them in sections and place the sections to document types or data sets. See to action implementation. [For more information, see chapter 6.4 »Sections«](#) and [chapter 6.5 »Actions«.](#)
6. Specify the appearance of the application. [For more information, see chapter 6.1 »Configurations«.](#)

For an IBM Notes application operation setup on a mobile device, the user takes the following steps on the mobile device's page:

1. Installation of the IMiS®/iDMS application from Apple AppStore. The application is named »IMiS/iDMS«.

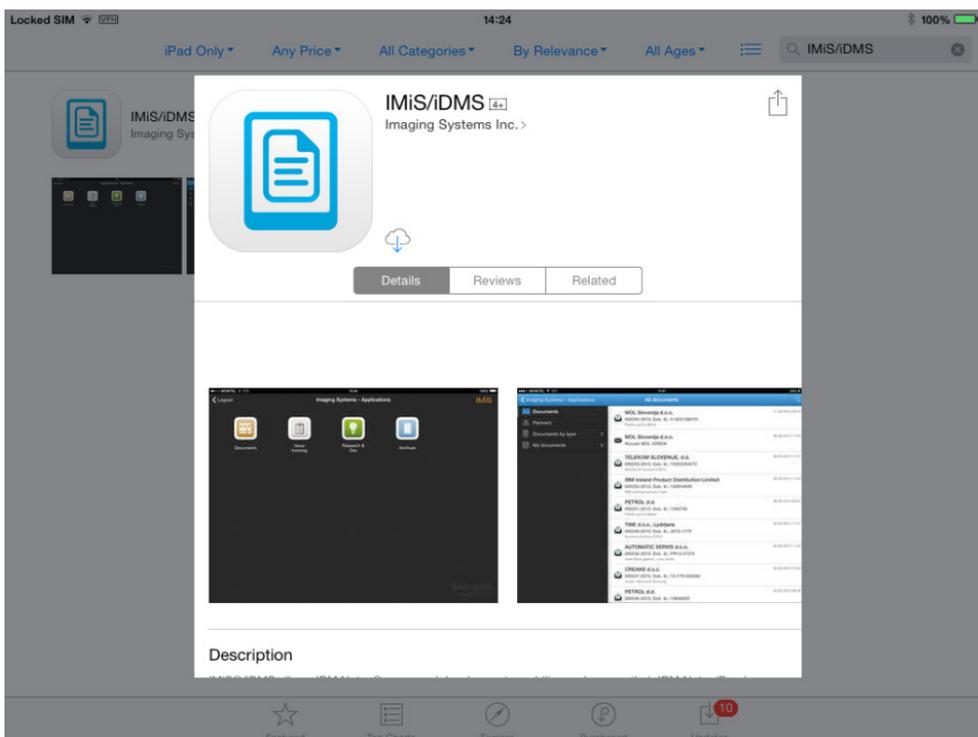


Image 1: Installation of the IMiS® /iDMS application from Apple Store on a mobile device

2. After a successful installation on a mobile device, the application needs to be run. The user chooses a profile.

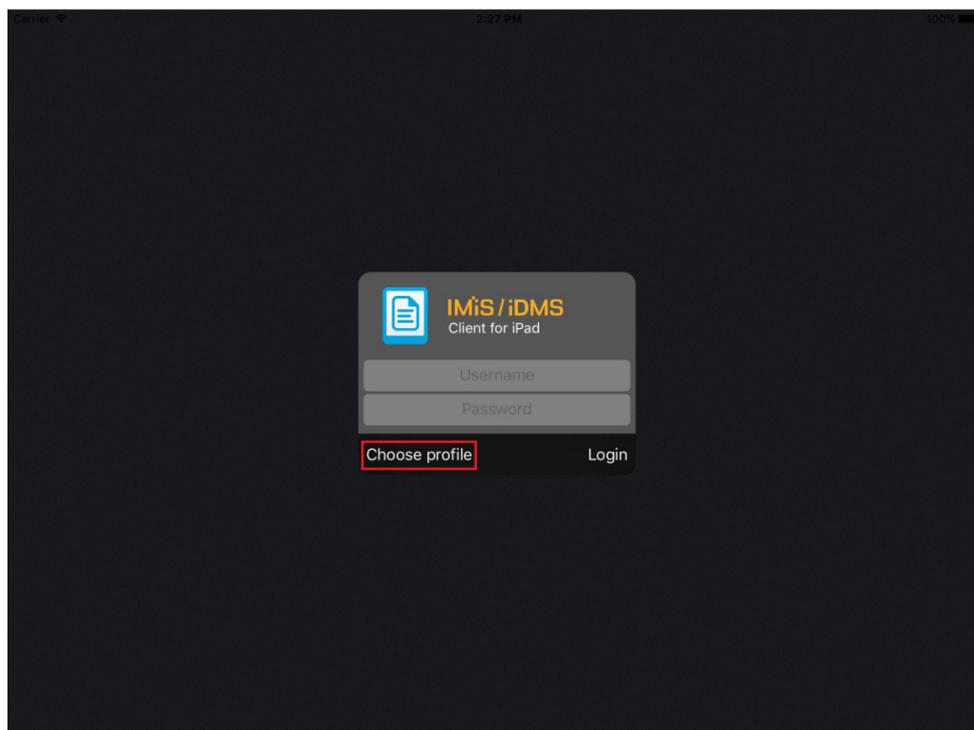


Image 2: Choosing profile of the IMiS® /iDMS application

3. When a list of available profiles opens, the user adds a new profile by clicking »Add«.

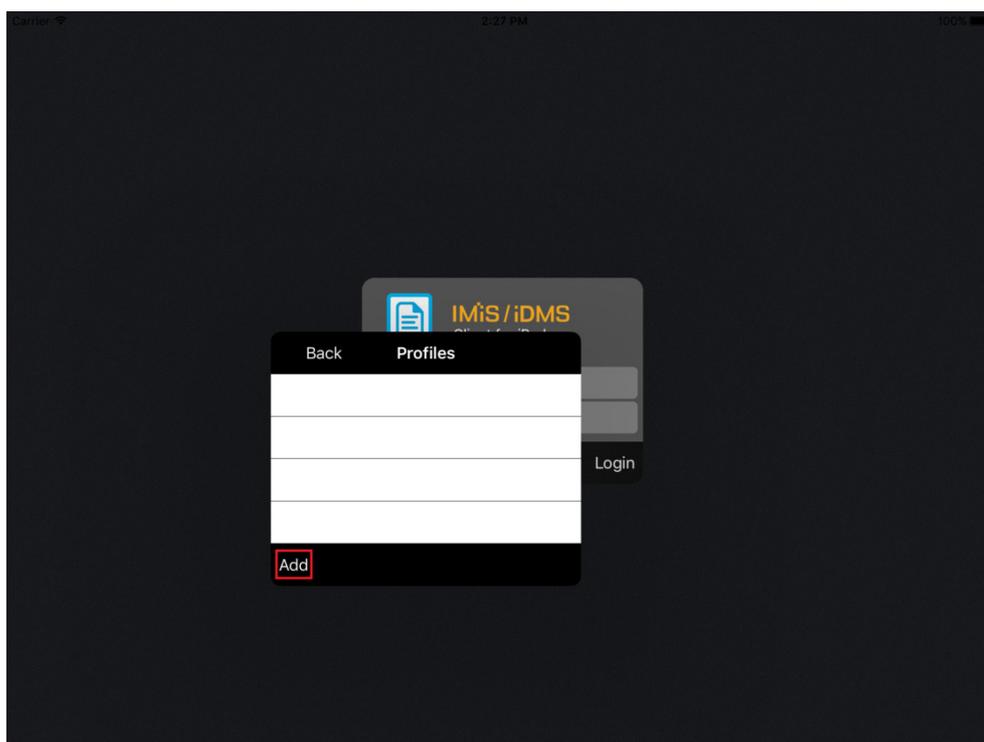


Image 3: Adding new profile

4. When the profile's dialogue box opens, insert the following data.
 - Name: profile name.
 - Service address: address of iDMS web service.
 - Service username: Optional username save if login is successful.
Username is inserted in the form at next login.
 - Save credentials: Optional password save if login is successful.
The password is coded and automatically inserted at next login.

The user confirms the information by clicking »Back«.

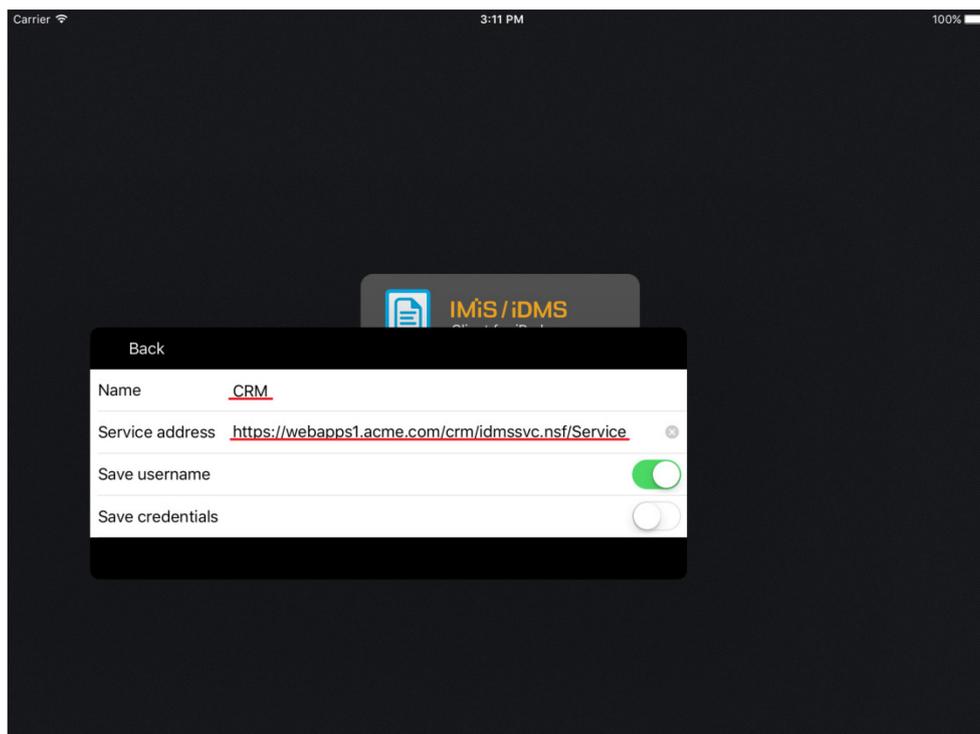


Image 4: Inserting data for creating new profile

5. The user selects and ticks the chosen profile. In case of a new profile, it is automatically ticked. Profile data can be changed in »Settings«, should the user wish to do so. The user confirms the information by clicking »Back«.

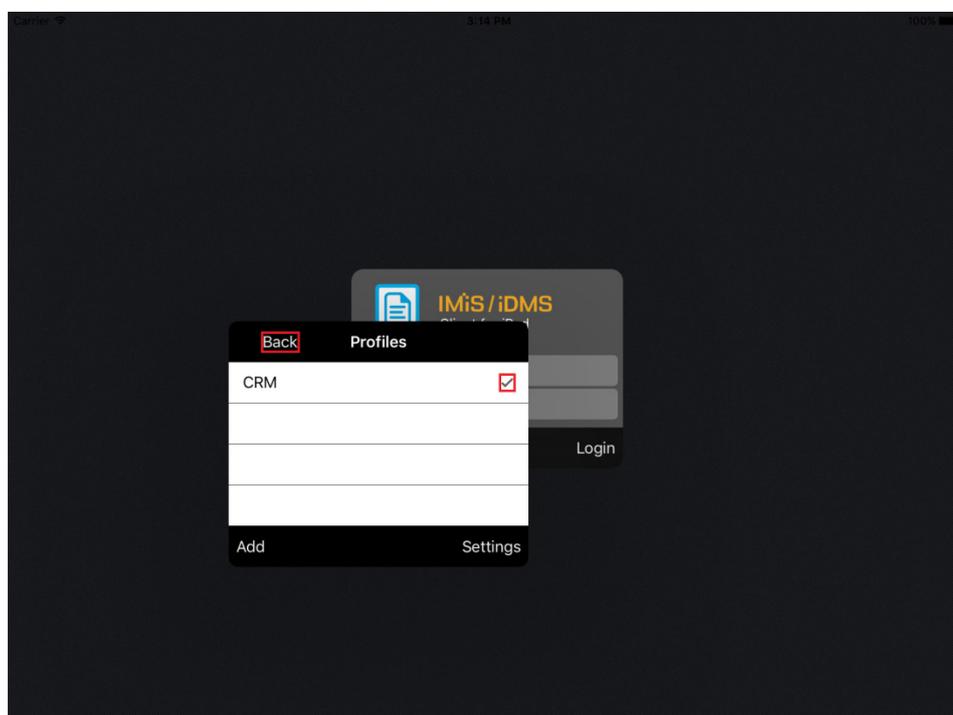


Image 5: Selecting the chosen profile

6. The user inserts username and password and confirms login by clicking »Login«.
- Warning: In case the service requires a VPN Client, the user should run it beforehand (e.g. Cisco AnyConnect).*

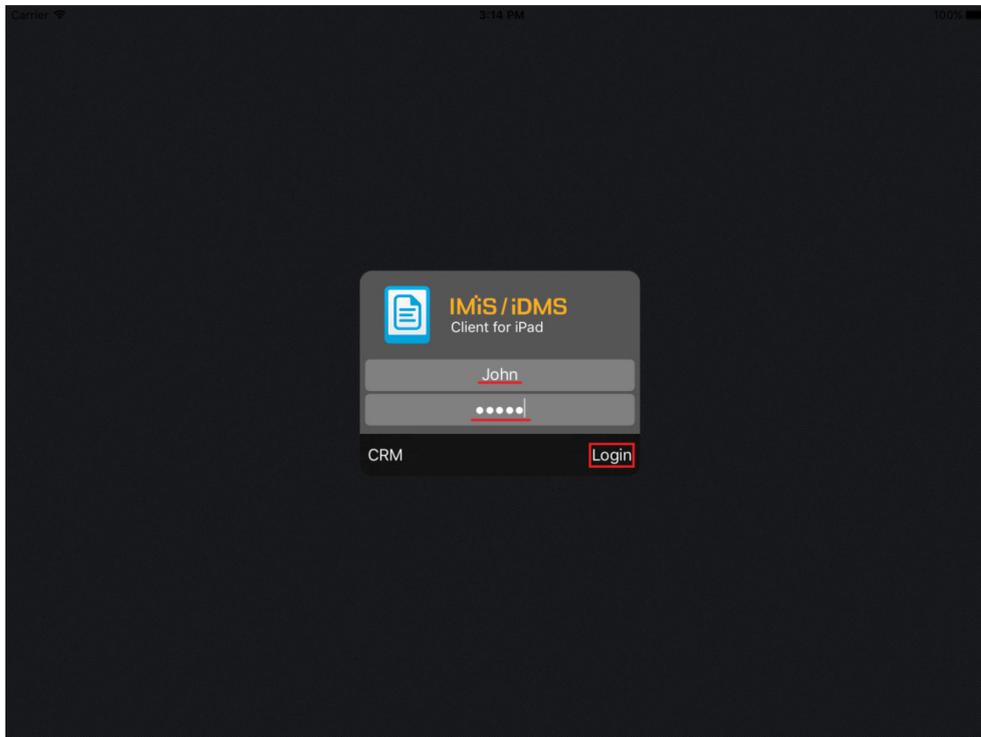


Image 6: Login into the IMiS®/iDMS application

4.2 Example of use

Following is an example how the iDMS system can be used to mobilize a simple CRM IBM Notes Desktop application, which is strapped into iDMS framework to be surfaced and used on mobile devices. CRM application is used for simple CRM processes such as tracking sales activities and entering metadata for statistics and CRM decisions.

Desktop CRM application user enters data about a lead that he/she is working. He does that through IBM notes Desktop client. It states the source, keeper of the Contact and lead specifics. He enters correspondence data in the sales contact document and optionally adds digital content (attachments) such as PDFs, etc. Correspondence can then be accessed contextually via multiple categories. The user can search for data via full text search feature. Typical mobile user of the same CRM application can leverage his mobile device to coordinate and supervise the sales team actions and performance. The nature of his work prevents him from accessing Desktop version of CRM application. He uses mobile application to update certain data and adds comments to sales activities.

Desktop version of CRM application displays the list of sales contacts. Left navigation enables user to sort the contacts according to certain criteria. Search bar above contacts can be used for searching with the help of full text index, which indexes all contacts metadata. User can add contacts, print them, etc...

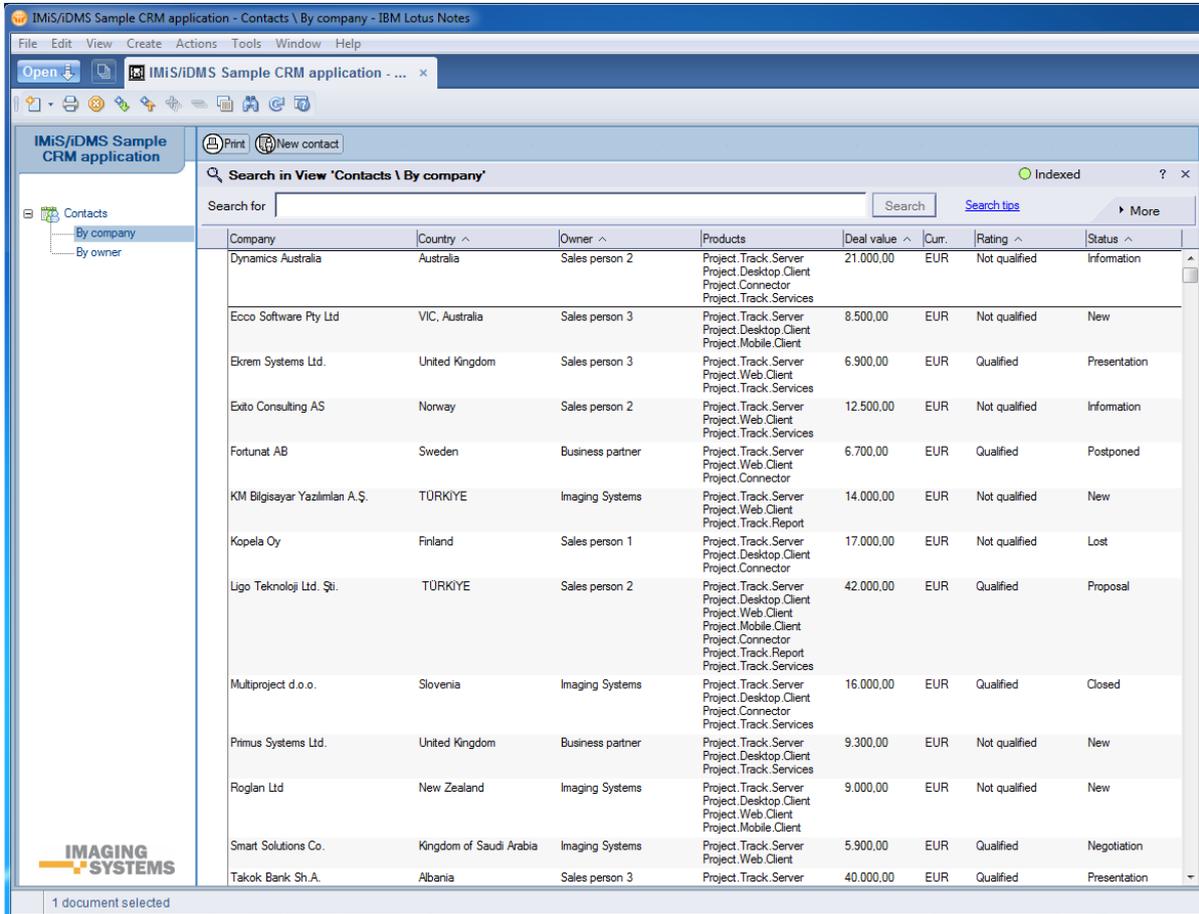


Image 7: Overview of business contacts through IBM Notes Desktop version of CRM application

Mobile CRM application user launches the CRM application in iDMS by pressing on the CRM application icon.

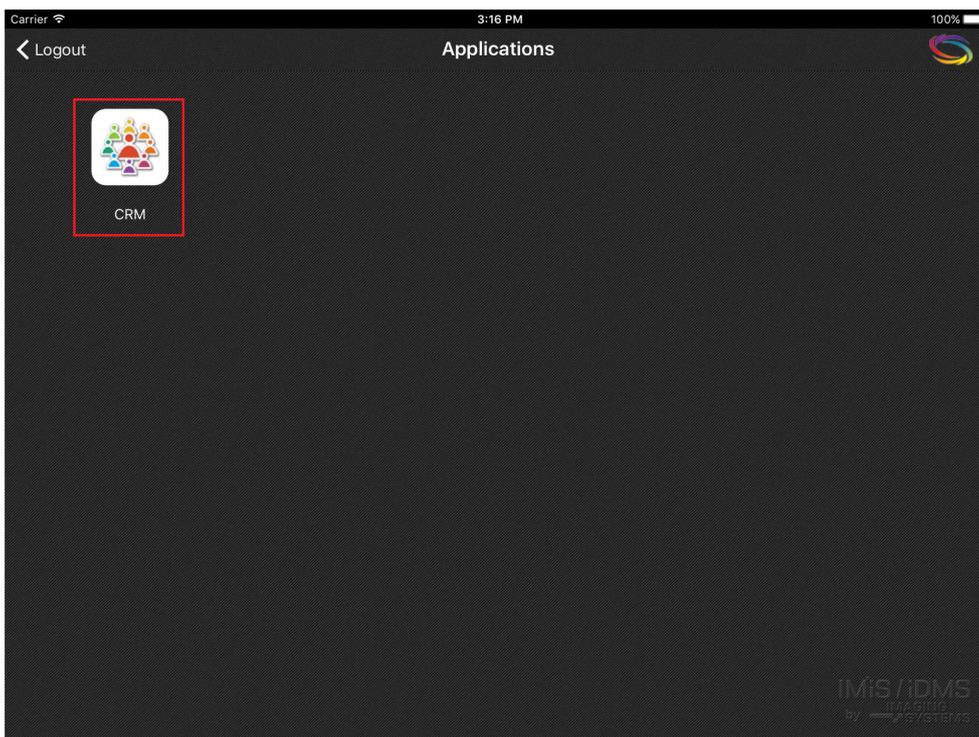


Image 8: CRM application launching by pressing on the application icon

Similarly as in Desktop version of the app, the list of contacts is also displayed in mobile version.

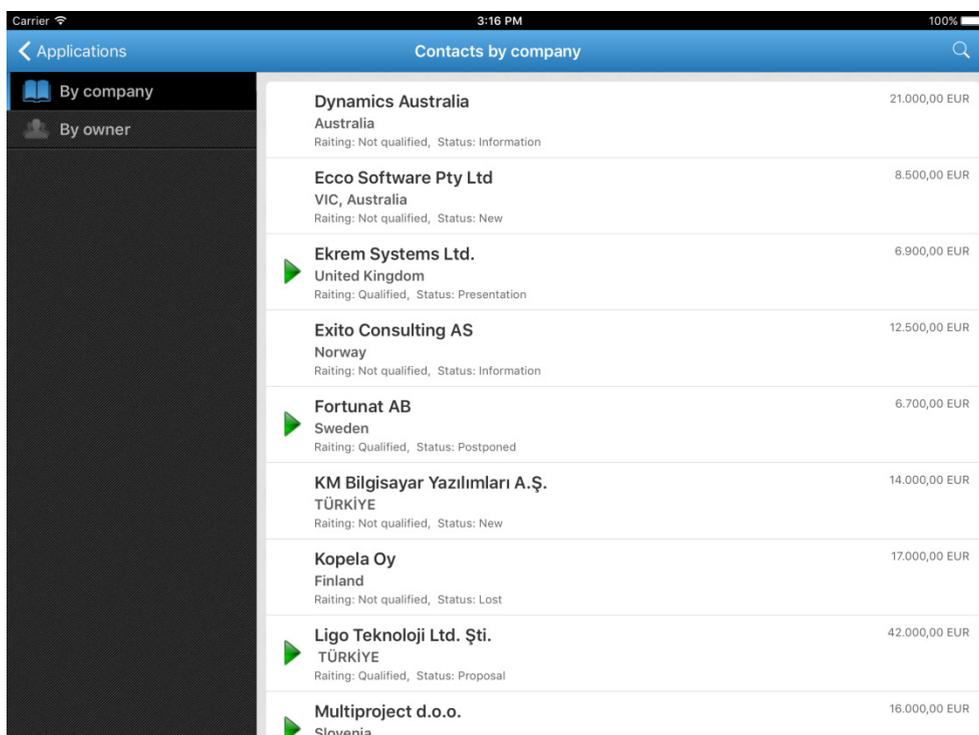


Image 9: List of sales contacts viewed through mobile version of CRM application

Fortunat AB	Sweden	Business partner	Project.Track.Server Project.Web.Client Project.Connector	6.700,00	EUR	Qualified	Postponed
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Image 10: An example of a sales contact displayed in Desktop version of CRM application

An iDMS developer defines how the iDMS should display the same data in mobile version of the CRM application in app configuration. It also defines which data is displayed where.

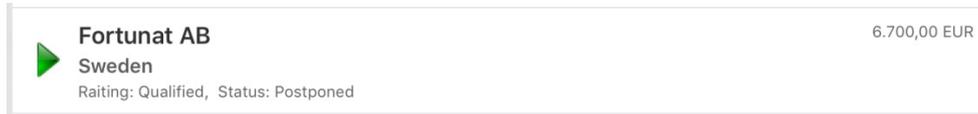


Image 11: Data display customization on mobile device

Desktop CRM user creates a new sales contact and populates the data fields.

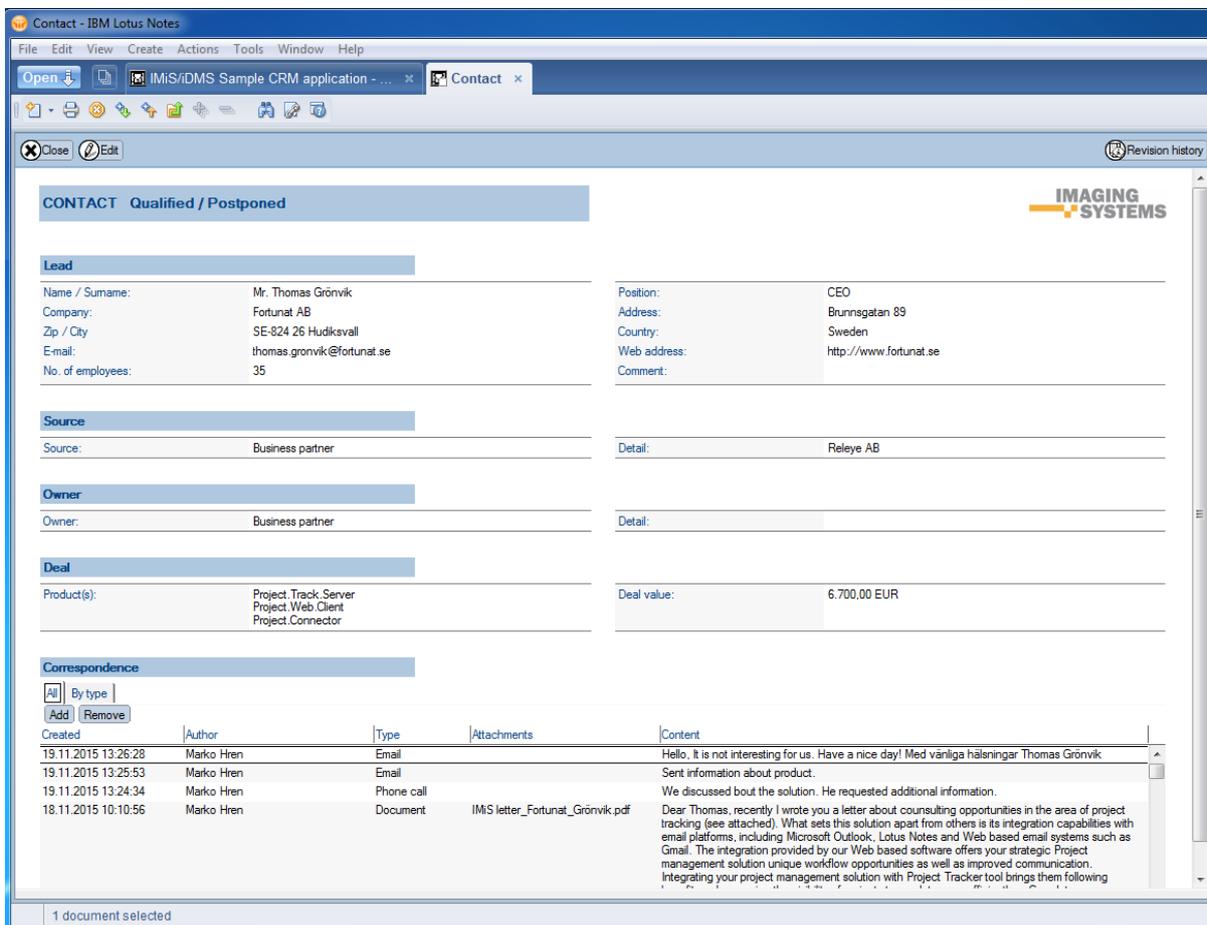


Image 12: User enters new sales contact data through desktop version of CRM application

Based on the configuration of IMiS®/iDMS application, an iDMS developer can choose which data can be modified through mobile version of the application.



Image 13: An example how a mobile user can choose a modification action

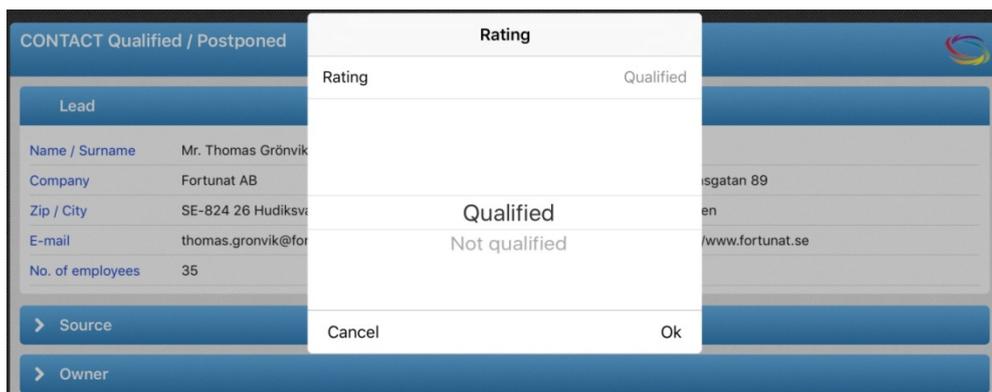


Image 14: An example how a mobile user changes data on mobile device

iDMS developer defines how the data sections will be displayed, which fields are going to be surfaced, etc. Certain fields can be hidden to the mobile user if they're not applicable to the mobile version of the application.

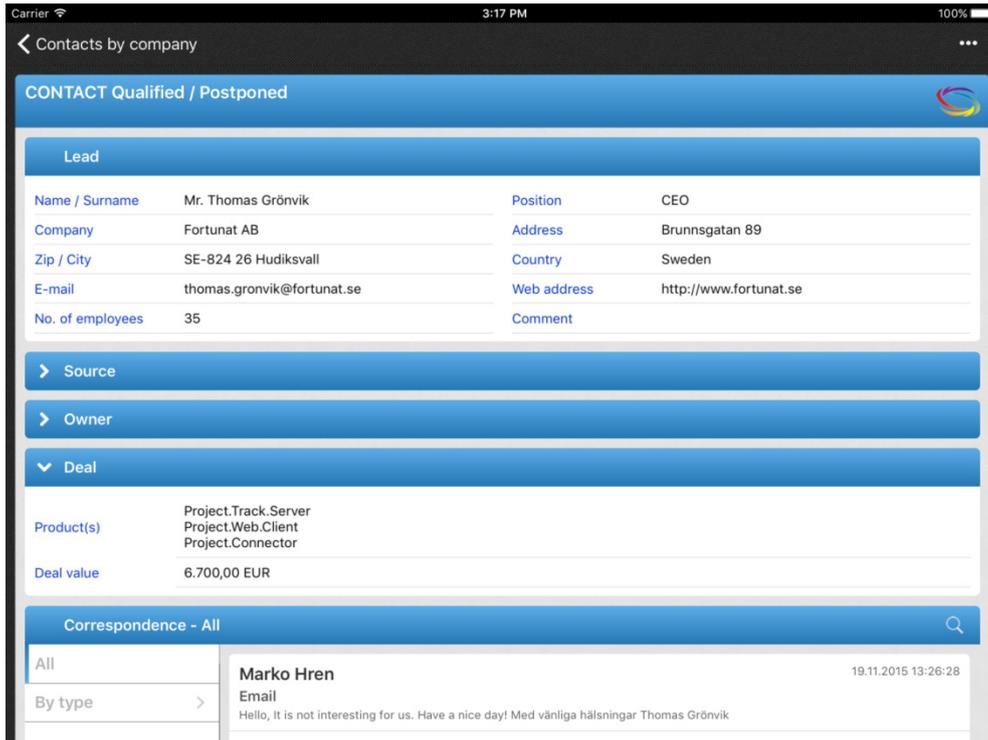


Image 15: An example of data layout shown through mobile application.

Desktop CRM user adds or modifies an existing sales correspondence. He can remove correspondence which he created. He can browse through all the correspondence or look at it contextually.

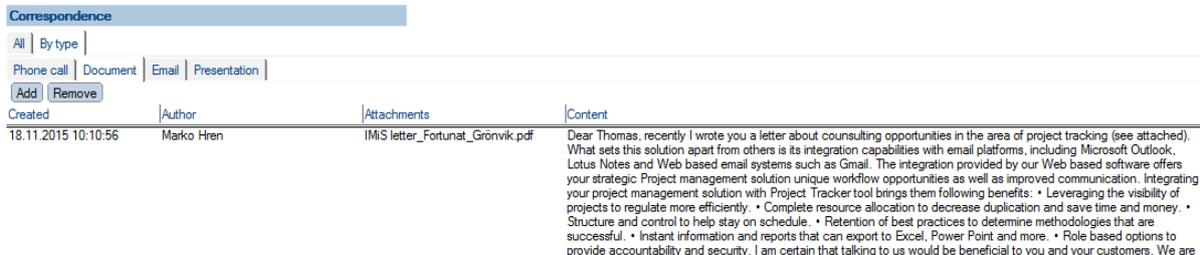


Image 16: Reviewing the CRM correspondence through Desktop application

Similarly the same data can be displayed on mobile device. User can choose between all or filtered correspondence.

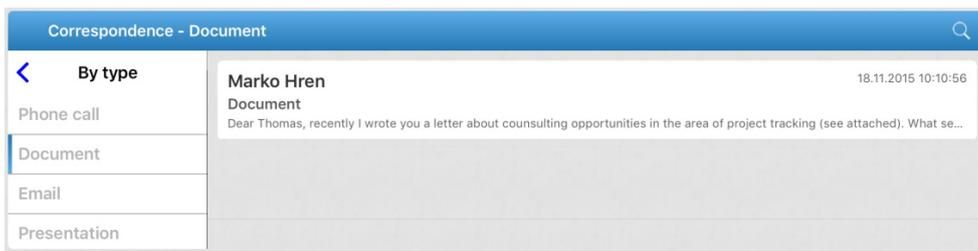


Image 17: Contextual view of sales correspondence displayed on mobile device

Based on the application settings an iDMS developer can enable mobile users to add new correspondence records.



Image 18: An example of adding new correspondence record on mobile device

By opening a correspondence record its data is fully displayed in IBM Notes Desktop version of the application together with any attached content.

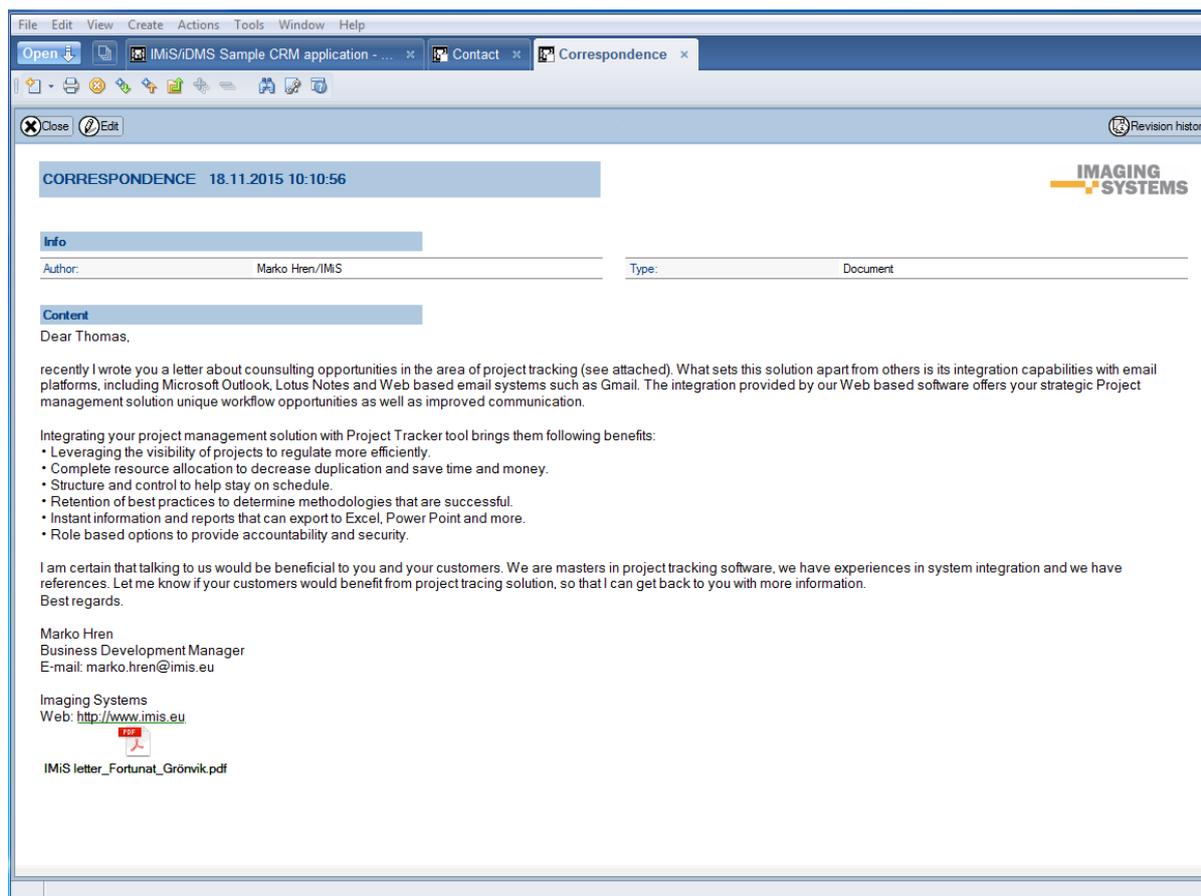


Image 19: Sales correspondence review with the option of opening attached content in IBM Notes

Mobile version of CRM application can use the following view to select and display the detailed data of a correspondence record. If there is attached content available, it can be displayed on the mobile device using locally available viewer applications.

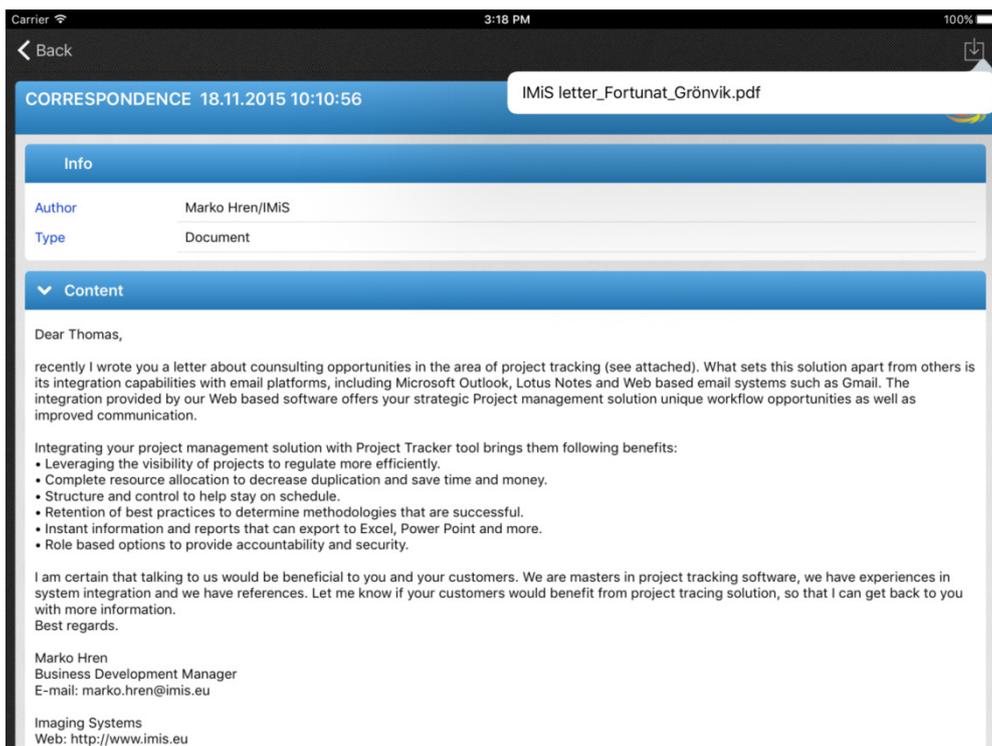


Image 20: Sales correspondence review with the option of opening attached content in mobile version of CRM application.

Desktop user can search through indexed metadata using the well-known IBM Notes Search bar.

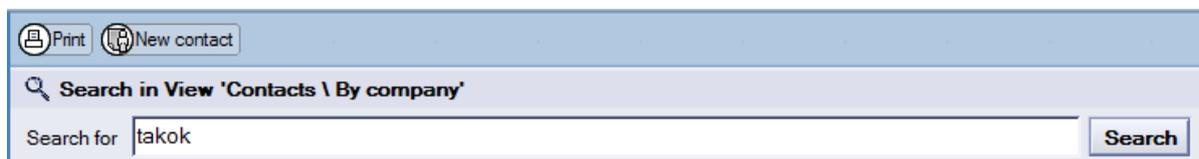


Image 21: Searching for data using full text index in IBM Notes application

Similarly a mobile user can search through full text index for data using the Search icon.

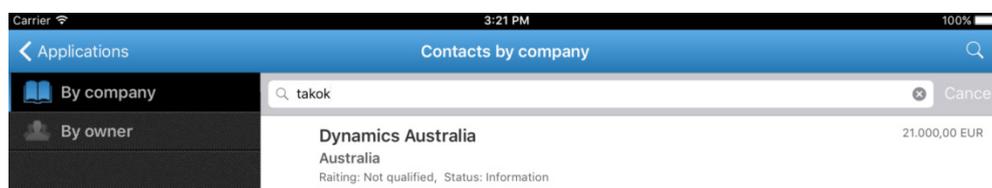


Image 22: Searching for data using full text index in mobile version of CRM Application

Search results are displayed in IBM Notes view.

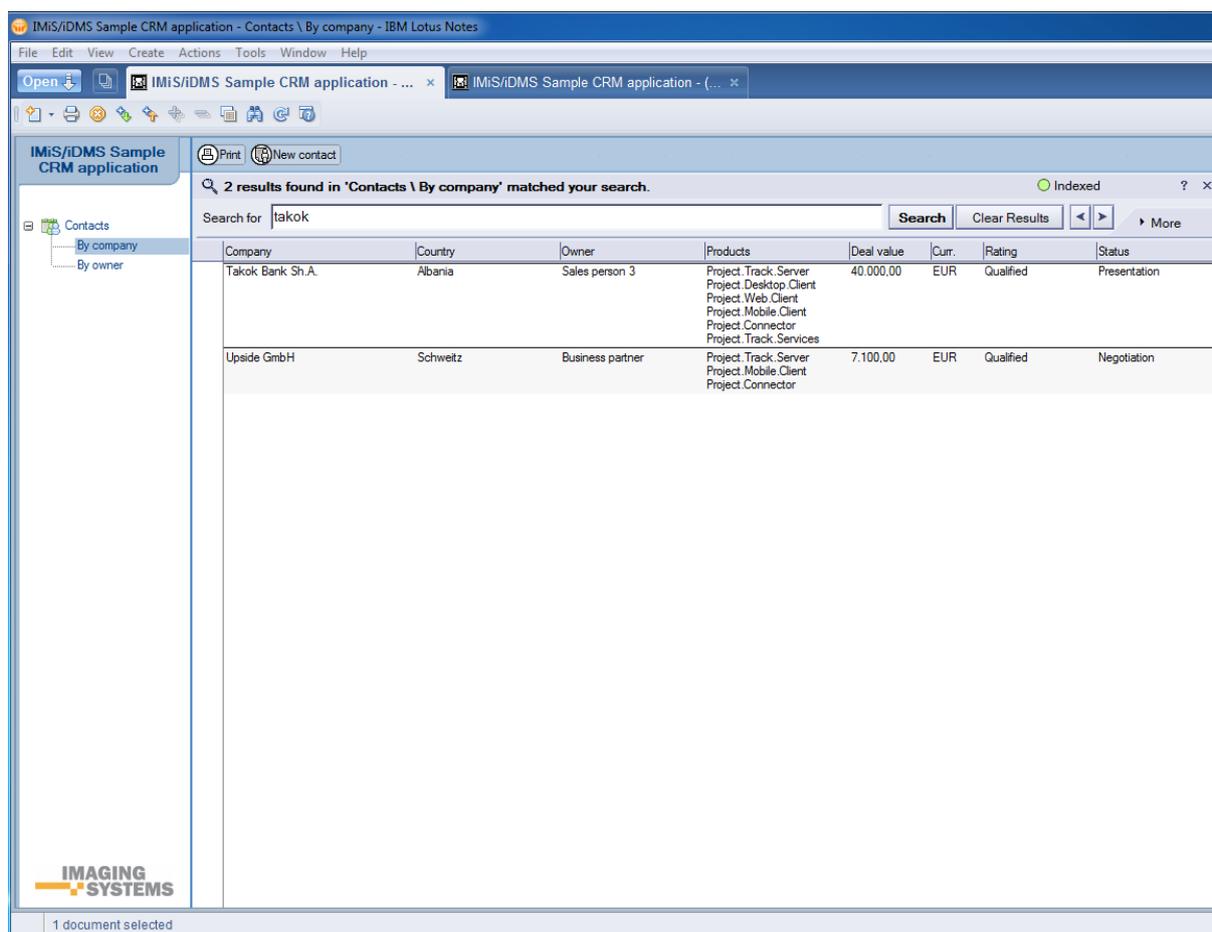


Image 23: Search results display in IBM Notes application

The same results are displayed in mobile version also

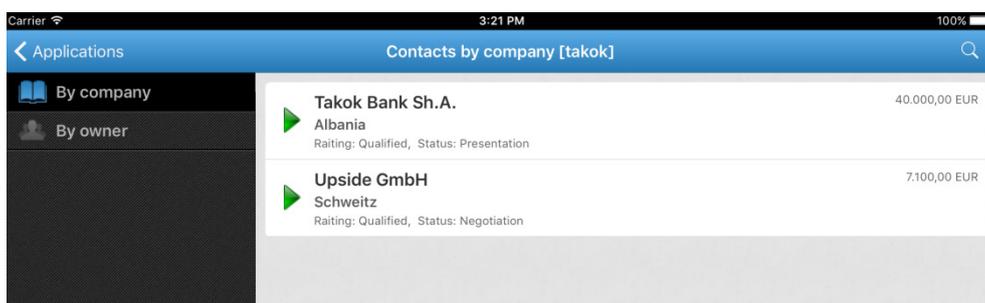


Image 24: Search results display in mobile version of CRM application

CONTACT Qualified / Presentation



Lead

Name / Surname: Mr. Enkelejd Bakalli Company: Takok Bank Sh.A. Zip / City: Tirana E-mail: enkelejd.bakalli@takokbank.al No. of employees: 1280	Position: Head of Central Operations Department Address: European Trade Center, Bulevardi "Bajram Curri" Country: Albania Web address: http://www.takokbank.al Comment: Mr. Bakalli is big influencer
--	---

Source

Source: Existing customer	Detail: Implemented Project tracking system in Takok bank, Slovenia
---------------------------	---

Image 25: The source of full text search hit in IBM Notes client

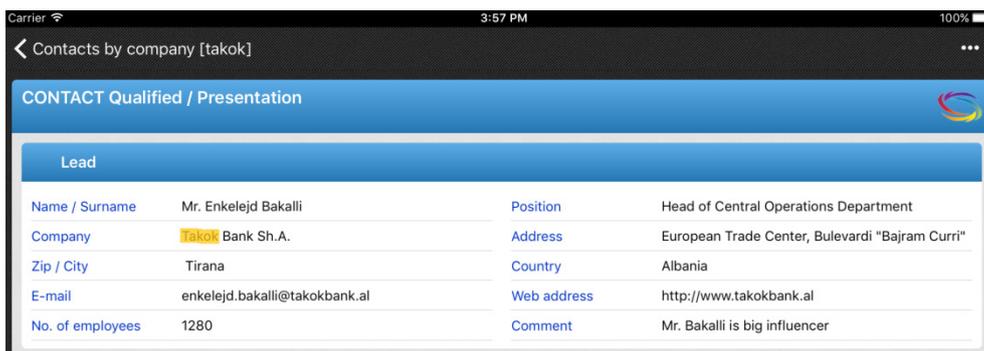


Image 26: The source of full text search hit in mobile version of CRM application

5 ADMINISTRATION

5.1 General

The administration interface IMiS®/iDMS Service is intended for system configuration.

This chapter covers the following topics:

- administration interface generation,
- administration interface view,
- administration interface document actions,
- administration interface access rights.

Configuration documents are connected. For document identification, the »id« field is used.

It is written in every document and defined when created. The content of the field is a result of the »@DocumentUniqueID« function. Keep in mind that when copying documents from one database to another through clipboard, the document id changes, but the content of the »id« field remains the same as it is the base for connecting.

5.2 Administration interface generation

The IMiS®/iDMS Service database is generated from the sample »iDMS Service« database.

The database is generated on an IBM Domino server, where we can access application databases that we reference in the administration interface. Usually, we choose a server and a folder with application databases.

It is advisable to include the version of the administration interface or the application the administration interface references, in the title.

Database access rights are described in detailed in [chapter 5.4 Administration interface access rights](#).

5.3 Administration interface view

Place a search icon representing administration interface on a worksheet.



Image 27: iDMS Service icon

The basic administration interface appears on the screen:

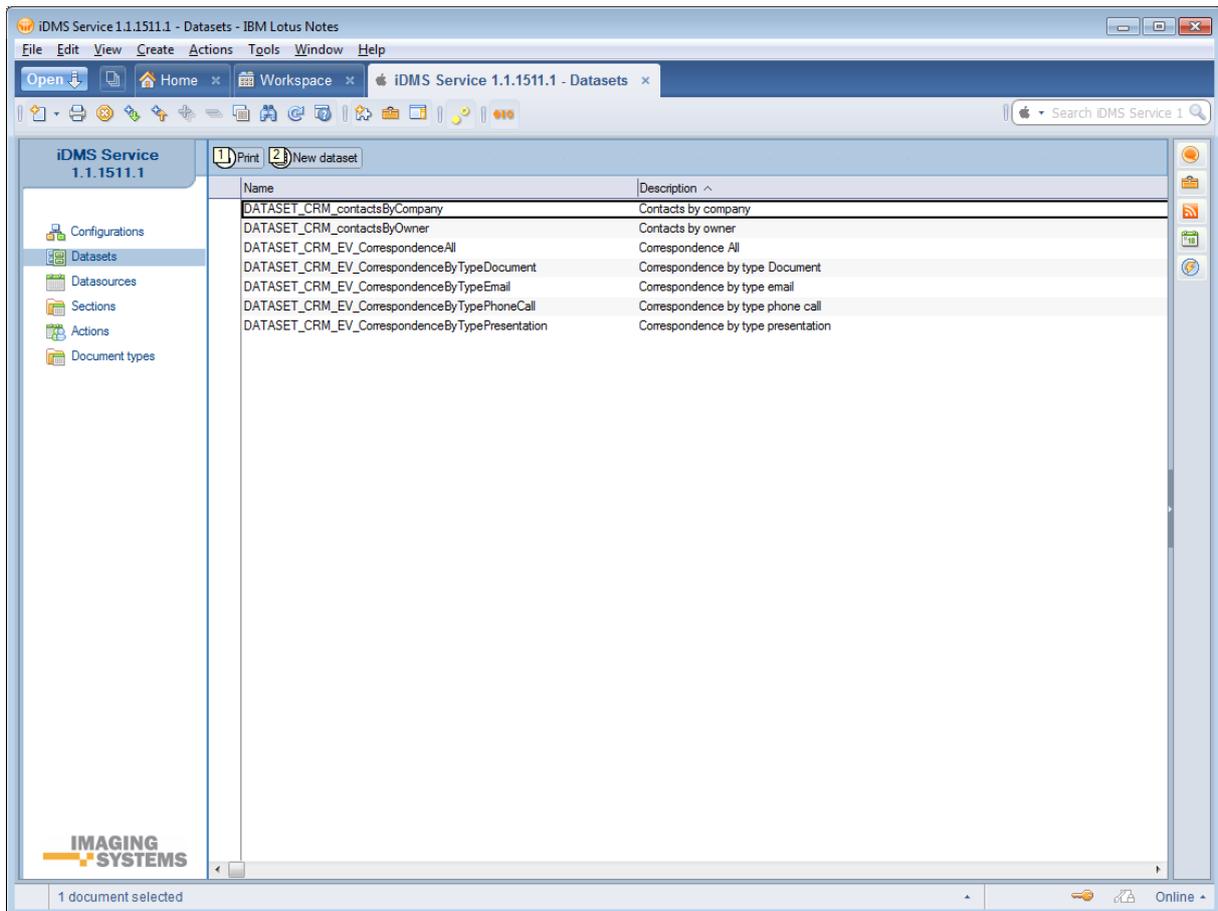


Image 28: Administration interface view

The navigator allows you to select index.

[Configurations] Configuration documents that specify appearance of an application on a mobile device.

[Datasets] Configuration documents that specify document lists.

[Datasources] Configuration documents that specify the appearance of a document.

[Sections] Sections you reference in various configuration documents.

[Actions] Specifying document actions.

[Log events] Errors and warnings during operation running.

5.4 Administration interface access rights

The application recognizes three (3) user types:

- Settings viewers.
- Settings editors.

- Administrators.

For settings viewers, reader access rights suffice.

They require the right to write public documents so they can create bookmarks about errors and warnings which are public documents.

Settings editors require at least database editing rights.

The concept of author fields is not supported, so copyrights do not suffice.

Administrators require database operating rights.

The database has to be available online. In terms of web functionality, functionality does not predict document creating or editing. Hence, it is advisable that when determining an access control list, the database is »Maximum Internet name and password« on »Reader«.

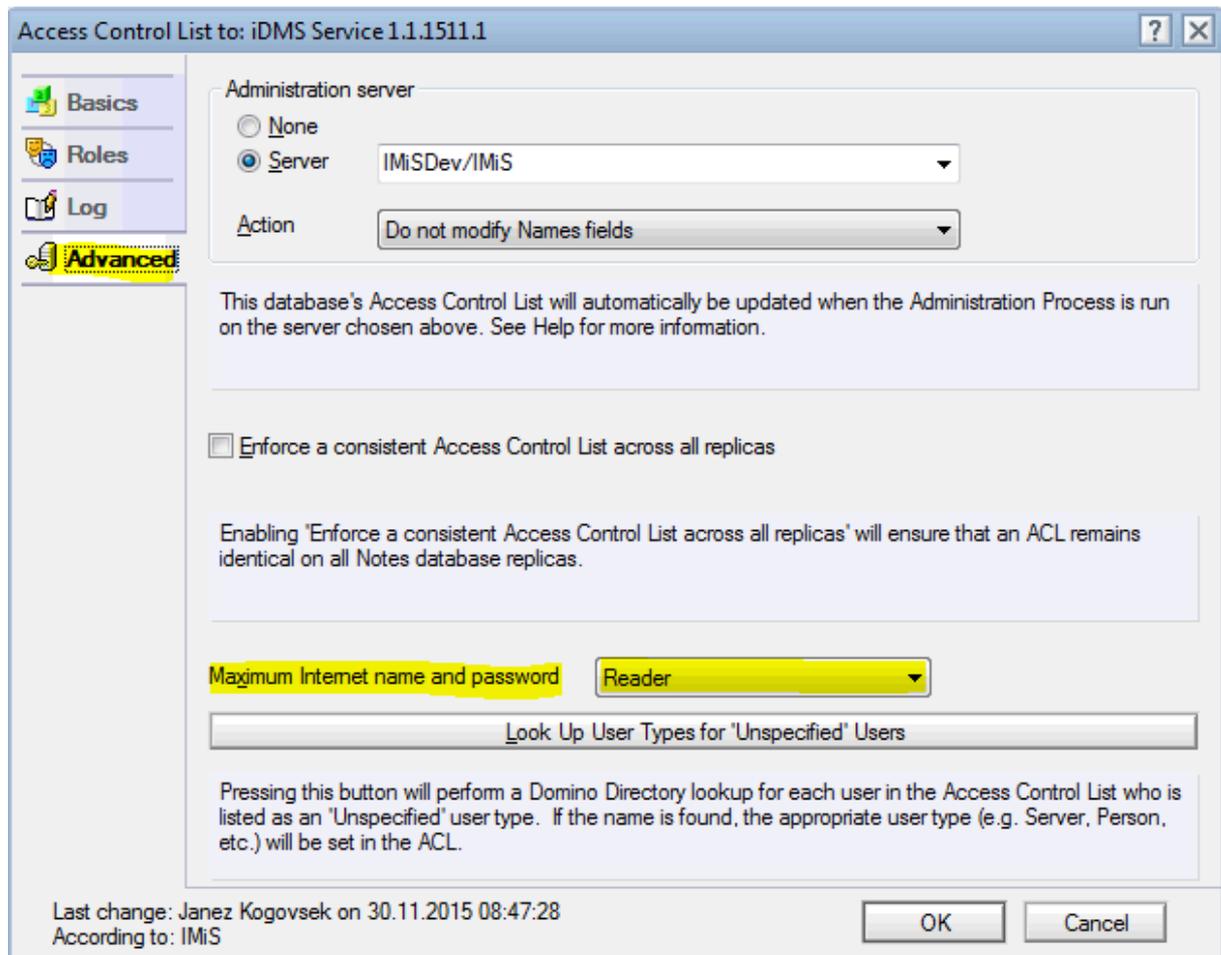


Image 29: Establishing access level in »Maximum Internet name and password«

Besides creating configuration documents, this database is intended for request implementation as forwarded from a mobile device. Requests are implemented by the web service provider »Service«. Its default option is »Run as a web user« in order to have traceable request implementation. Consequently, appropriate access rights to application databases the users will access (indirectly through the administration database), need to be provided for all possible service users.

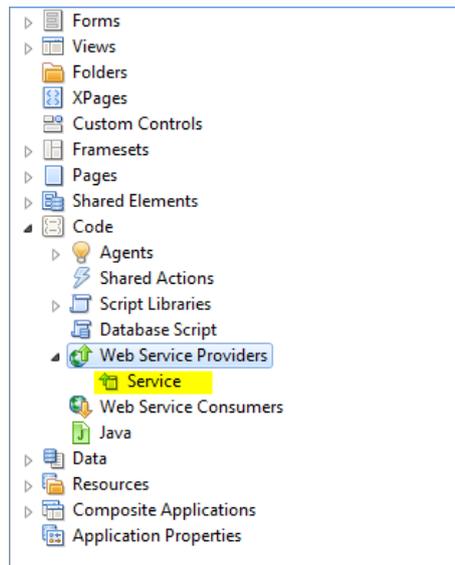


Image 30: Web service provider »Service«

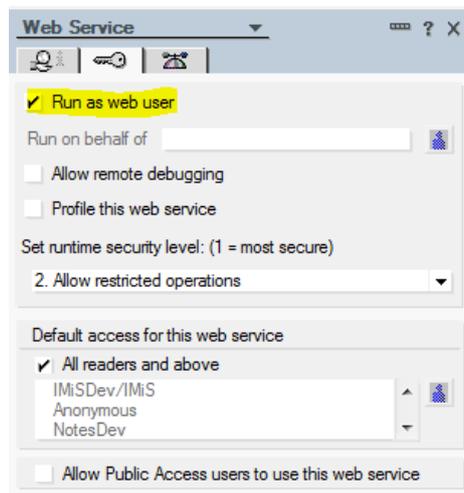


Image 31: Specifying user context

5.5 Administration interface actions

Index and document actions are available.

Index actions

[Print] Printing one or more selected documents.

[New <document type>] Generating a new configuration document.

<document type> = [configuration|dataset|datasource|section|action]

The action is available if the user has full editing rights in the database.

Document actions

[Edit] Enabling editing of individual field values in a document.

The action is available in view mode and if the user has full editing rights in the database.

[Save] Saving the settings of the current document.

The action is available in corrective mode.

[Close] Closing the current document.

6 CONFIGURATION

6.1 »CONFIGURATIONS«

The **Configurations** section deals with configurations that define the appearance of an application on a mobile device.

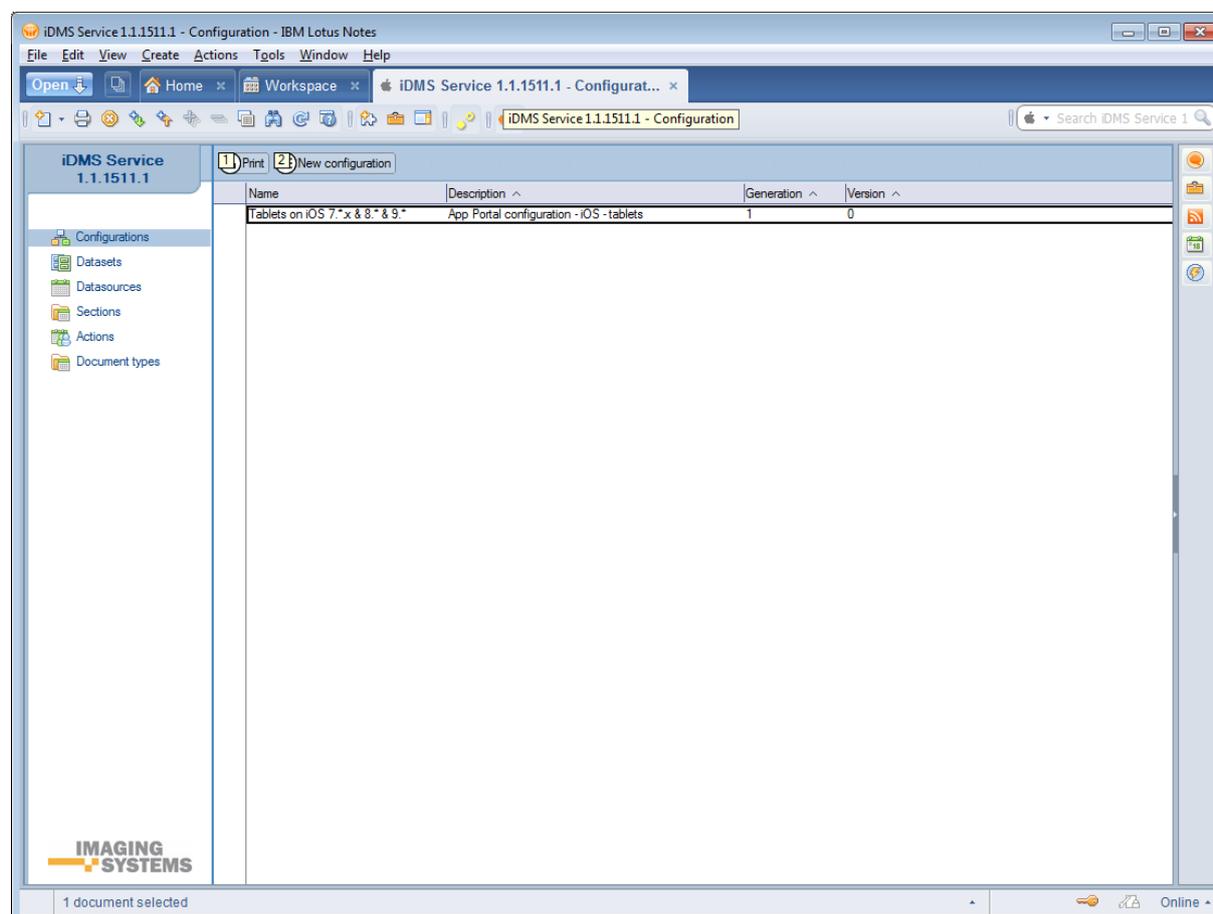


Image 32: View of the »Sections« section

The document fields are divided into the following headers:

- »Basic information«.
- »Configuration«.

6.1.1 Basic information

The »Basic information« header specifies the name of configuration and connects to a mobile device type.

[Configuration] Application appearance is written in XML. When saved, the content is compressed so it is ready for forwarding to a mobile device. Data is required.

6.1.2.1 Definition in XML

```
<config>
<transport timeout="60"/>
<session timeout="3600"/>

<resbundle locale="en-US">
  <image id="LOGO-PORTAL">
    <body>base64 representation of the image</body>
  </image>
  <image id="PORTAL-ICON-DOCS">
    <body>base64 representation of the image</body>
  </image>
  <image id="ICON-CRM">
    <body>base64 representation of the image</body>
  </image>

  <image id="NAVICON-BRIEFCASE">
    <body>base64 representation of the image</body>
  </image>

  <image id="NAVICON-ENVELOPE">
    <body>base64 representation of the image</body>
  </image>

</resbundle>

<page id="portal" initial="true" icon="LOGO-PORTAL" titleLabel="Applications" ...>
  <item id="PORTAL_CRM" icon="PORTAL-ICON-DOCS" target="VIEW_CRM" context="">CRM</item>
</page>

<view id="VIEW_CRM" navigator="NAV_CRM"... />
<view id="NAV_CRM_EV_contact" navigator="NAV_CRM_EV_contact"/>

<viewNav id="NAV_CRM" ...>
  <item icon="NAVICON-BRIEFCASE" caption="Contacts by company"
target="TABLE_CRM_contactsByCompany" context="" />
  <item icon="NAVICON-ENVELOPE" caption="Contacts by owner"
target="TABLE_CRM_contactsByOwner" context="" />
</viewNav>

<viewNav id="NAV_CRM_EV_contact" ...>
  <item icon="" caption="All" target="TABLE_CRM_EV_CorrespondenceAll" context="" />
</viewNav>

<viewTable id=" TABLE_CRM_contactsByCompany" source="DATASET_CRM_contactsByCompany"
tableTitle="Contacts by company" ...>
</viewTable>

<viewTable id="TABLE_CRM_contactsByOwner" source="DATASET_CRM_contactsByOwner"
tableTitle="Contacts by owner" ...>
</viewTable>

<viewTable id="TABLE_CRM_EV_CorrespondenceAll" source="DATASET_CRM_EV_CorrespondenceAll"
tableTitle="Correspondence - All" ...>
</viewTable>
```

```

<doc id="DATASOURCE_CRM_contact" titleField="title" idField="idField" createdField="created"
statusField="status" authorField="author" icon="LOGO-DOCHDR-CRM" ...>
  <section id="SECTION_CRM_contact_Lead" title="Lead".../>
  <section id="SECTION_CRM_contact_Source" title="Source" .../>
  <section id="SECTION_CRM_contact_Owner" title="Owner" .../>
  <section id="EVContact" title="Correspondence" .../>
</doc>

<section id="SECTION_CRM_contact_Lead" type="T" rowOffset="7" contentOffset="1%">
  <col labelWidth="16%" valueWidth="84%">
    <field id="name" type="S" label="Name / Surname" orientation="H"/>
    <field id="company" type="S" label="Company" orientation="H"/>
  <field id="zipCity" type="S" label="Zip / City" orientation="H"/>
  <field id="email" type="S" label="E-mail" orientation="H"/>
  </col>
</section>

<section id="SECTION_CRM_contact_Source" type="T" rowOffset="7" contentOffset="2%">
  <col labelWidth="16%" valueWidth="84%">
    <field id="source" type="D" label="Source" orientation="H"/>
    <field id="sourceInfo" type="S" label="Detail" orientation="H"/>
  </col>
</section>

<section id="SECTION_CRM_contact_Owner" type="T" rowOffset="7" contentOffset="1%">
  <col labelWidth="16%" valueWidth="84%">
    <field id="owner" type="S" label="Owner" orientation="H"/>
  <field id="ownerInfo" type="S" label="Detail" orientation="H"/>
  </col>
</section>

<section id="EVContact" type="W" columnOffset="2%" rowOffset="7">
  <col labelWidth="0%" valueWidth="100%">
    <wrapper id="VIEW_CRM_EV_contact" target="VIEW_CRM_EV_contact"/>
  </col>
</section>
</config>

```

6.1.2.2 Structure description of an XML document

6.1.2.2.1 Session

```
<session timeOut="number of seconds" />
```

Attribute description:

- timeOut [unsignedInt]: (default = "1800"); the longest time allowed (in seconds) between two server requests. Otherwise the application logs out.

6.1.2.2.2 Transport

```
<transport timeOut="number of seconds" />
```

Attribute description:

- `timeOut [unsignedInt]`: (default = "60"); the longest time allowed (in seconds) between a server request and a server response.

6.1.2.2.3 Bundle

It is used for localization of images and strings. If the used localization is not specified in the config markup, `Locale= "en-US"` is used.

```
<resbundle locale="sl-SI">
  <image id= 'image ID">
    <body>Format: Base64</body>
  </image>
  <string id="string ID" >All</string >
</resbundle>
```

6.1.2.2.4 Image

Locally defined binary graphical resource encoded in base64 format:

```
<image id="image Id">
  <body>Format: Base64</body>
</image >
```

Remote binary graphical resource accessible through its URL:

```
<image id="image Id">
  <url>URL</url>
</image>
```

6.1.2.2.5 String

Localized string of characters:

```
<string id="stringId" >All</string >
```

6.1.2.2.6 The Page

Page or portal is the starting point of navigation.

The following elements are used for specifying:

- Page
- Page item

- N: regular
- B: bold
- I: italics.
- titleFontColor [string]: (default: 0,0,0) font color in RGB (e.g.: 250, 244, 23).

6.1.2.2.6.2 The »item« element

Attribute description of the »item« element (* marks required attributes):

- id* [string]: element id.
- icon [string]: (default: "") image id that is shown in the element.
- target* [string]: id of the following page that is shown if selected.
- context [string]: (default: "") context that is sent unchanged at data request.
- string content [string]: localized id string or string that is shown as the element's subtitle (text under item).

6.1.2.2.7 View

View consists of navigation and content.

Specifying includes the following elements:

- view (basic information).
- viewNav (navigation menu).
- viewTable (content).

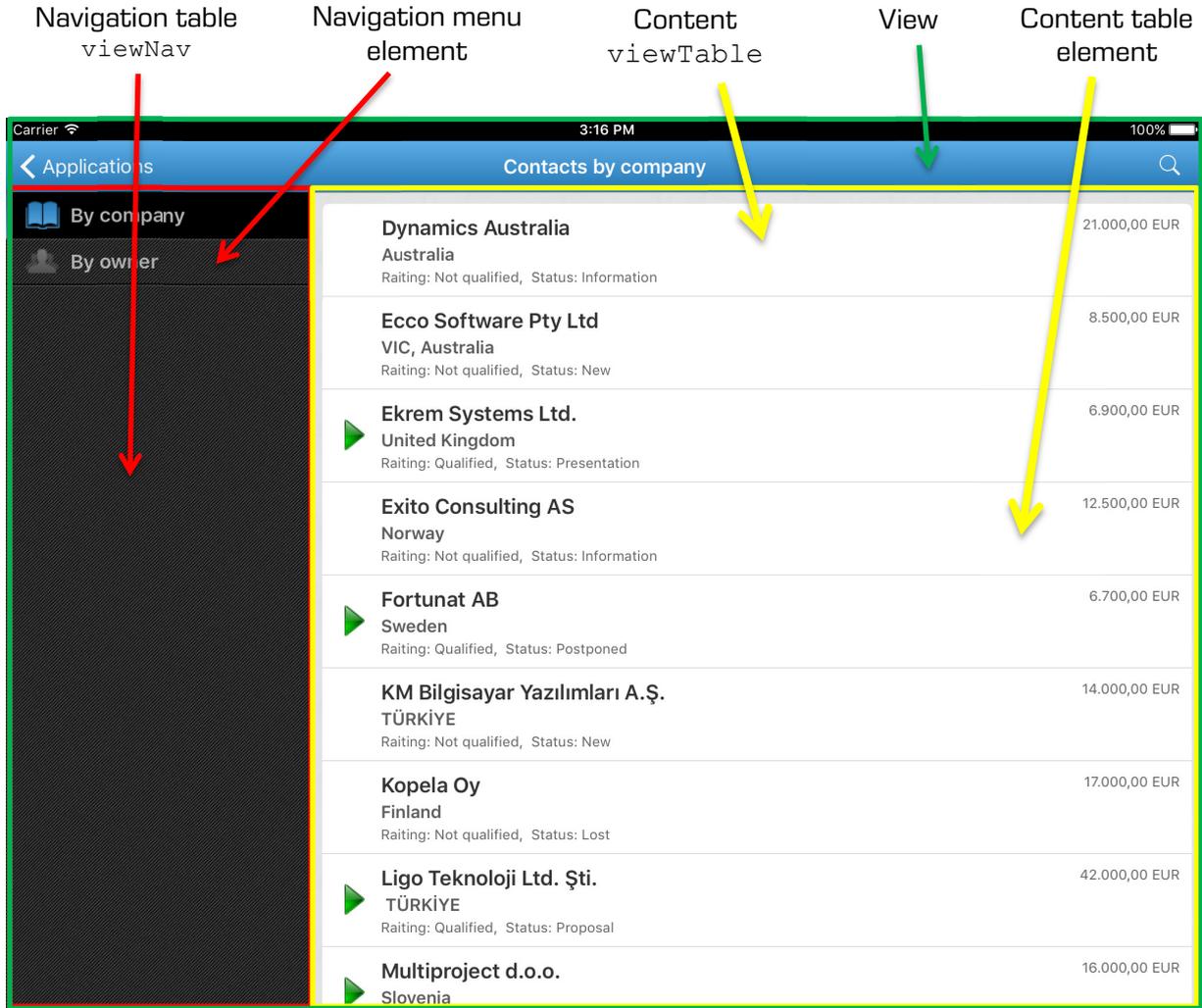
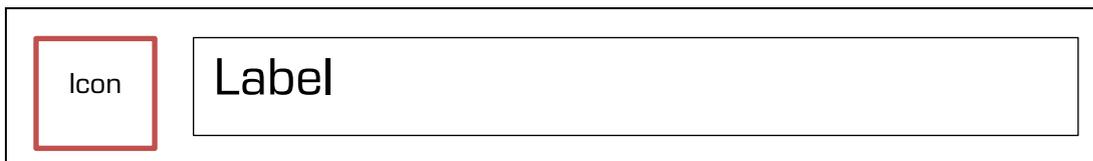
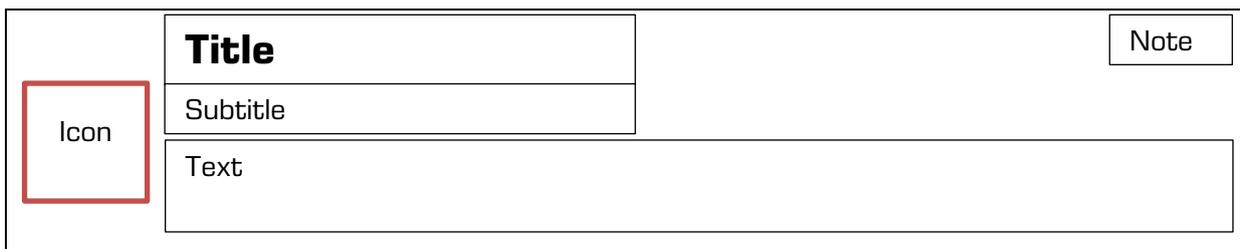


Image 36: XML document structure for specifying navigation table, menu and content

Navigation menu element:



Navigation table element:



6.1.2.2.7.1 The »view« element

It is used for menu navigation and selection of data display table. It can have several levels.

```
<view id ="SingleView ID" initial="true/false" source="String"
navigator="navigation ID" table="table ID" titleFontSize="number"
titleFontStyle="N/B/I" titleFontColor="[0-255],[0-255],[0-255]"
highlightColorTop="[0-255],[0-255],[0-255]" highlightColorBottom="[0-255],[0-
255],[0-255]" />
```

Attribute description of the »view« element (* marks required attributes):

- id* [string]: element id.
- initial [boolean]: (default: false) whether it is the first page after login window.
- source [string]: dataset id (service data source).
- navigator* [string]: navigation menu id.
- table [string]: content table id.
- titleFontSize [unsignedInt]: (default: 20) title font size in display in pixels.
- titleFontStyle [char]: (default: N) title font style in display
 - N: regular
 - B: bold
 - I: italics.
- titleFontColor [string]: (default: 150,150,150) font colour in RGB (e.g. 250, 244 ,23).
- highlightColorTop [string]: (default: 0,0,0) top gradient colour of the title bar in RGB (e.g. 250, 244, 23).
- highlightColorBottom [string]: (default: 0,0,0) lower gradient colour of the title bar in RGB (e.g. 250, 244, 23).

6.1.2.2.7.2 The »viewNav« element

It is used for menu navigation and selection of data display table. It can have several levels.

```
<viewNav id="navigation ID" enabled="true/false" collapse="true/false"
highlighted="true/false" highlightColorTop="[0-255],[0-255],[0-255]"
highlightColorBottom="[0-255],[0-255],[0-255]" width="size in pt"
cellHeight="size in pt"
labelFontColor="[0-255],[0-255],[0-255]" labelHighlightFontColor=
"[0-255],[0-255],[0-255]" labelLines="number of lines" labelJust="L/C/R"
labelFontSize="size in points" labelFontStyle="N/B/I" labelOffsetLeft="number"
IconOffsetLeft="number" >
<item icon="icon id" caption="text" target="table Id" context=""
default="true/false" />
<item icon="" caption="item2">
<item icon="icon id" caption="item2.1" default="true">
<item Icon="icon id" caption="item2.1.1" target="table ID"
context="@Username" />
</item>
```

```
</item>  
</viewNav>
```

Attribute description of the »viewNav« element (* marks required attributes):

- id* [string]: navigation menu id.
- enabled [boolean]: (default: true) possibility of influence on the menu elements
 - true: enabled menu element
 - false: disabled menu element (static, choice is not possible).
- collapse [boolean]: (default: true) navigator dynamics based on device orientation
 - true: navigation menu hides in portrait mode
 - false: navigation menu does not hide.
- highlighted [boolean]: (default: true) emphasis of selected cells
 - true
 - false.
- highlightColorTop [string]: (default: 0,0,0) upper gradient color of cell enhancement in RGB (e.g.: 250, 244, 23).
- highlightColorBottom [string]: (default: 0,0,0) lower gradient color of cell enhancement in RGB (e.g.: 250, 244, 23).
- width [unsignedInt]: (default: 320) menu width in pixels.
- cellHeight [unsignedInt]: (default: 40) menu element height in pixels.
- labelFontColor [string]: (default: 150,150,150) font color of the menu element label in RGB (e.g.: 250, 244, 23).
- labelHighlightFontColor [string]: (default: 150,150,150) label font color when emphasizing in RGB (e.g. 250, 244, 23).
- labelLines [unsignedInt]: (default: 0) number of lines for label element text display.
- labelJust [char]: (default: L) text position in label
 - L: left alignment
 - C: center alignment
 - R: right alignment.
- labelFontSize [unsignedInt]: (default: 20) label font size in pixels.
- labelFontStyle [char]: (default: N) label font style
 - N: regular
 - B: bold
 - I: italics.
- labelOffsetLeft [unsignedInt]: (default: 0) left offset of label element in pixels.

- `iconOffsetLeft` [unsignedInt]: (default: 0) left offset of image in pixels.

Attribute description of the navigation menu »item« element (cell) (* marks required attributes):

- `icon` [string]: (default: "") image id next to label.
- `caption` [string]: (default: "") label content.
- `target*` [string]: table view id that is shown when selected.
- `context` [string]: (default: "") context that is sent unchanged to service in order to choose contextually appropriate table data (e.g. *"@Name([CN];@UserName)"*).
- `default` [boolean]: (default: false) or the cell represents the first selected element on the navigation menu. In case of several `default="true"` attributes, choose the first one.

6.1.2.2.7.3 The »viewTable« element

It represents a set of »document stub« elements with basic data on each document.

```
<viewTable id="table id" source="dataset ID" marginLeft="pt" marginRight="pt"
  marginTop="pt" marginBottom="pt" cellHeight="pt" highlighted="true/false"
  dataOffsetLeft="pt/%" dataOffsetRight="pt/%" iconOffsetLeft="pt"
  highlightedTextColor="[0-255],[0-255],[0-255]" tableTitle="text"
  titleLines="number of lines"
  titleHeight="pt" titleJust="L/C/R" titleFontSize="number" titleFontStyle="N/B/I"
  titleFontColor="[0-255],[0-255],[0-255]" subTitleLines="number of lines"
  subTitleHeight="pt" subTitleJust="L/C/R" subTitleFontSize="number"
  subTitleFontStyle="N/B/I" subTitleFontColor="[0-255],[0-255],[0-255]"
noteWidth="pt/%"
  noteHeight="pt" noteLines="number of lines" noteJust="L/C/R"
noteFontSize="number"
  noteFontStyle="N/B/I" noteFontColor="[0-255],[0-255],[0-255]" textLines="number
of lines"
  textHeight="number" textJust="L/C/R" textFontSize="number" textFontStyle="N/B/I"
  textFontColor="[0-255],[0-255],[0-255]" />
```

The »viewTable« attribute description (* marks required attributes):

- `id*` [string]: table identifier.
- `source*` [string]: dataset identifier as registered in service.
- `marginLeft` [unsignedInt]: (default: 0) left offset of the »view« table in pixels.
- `marginRight` [unsignedInt]: (default: 0) right offset of the »view« table in pixels.
- `marginTop` [unsignedInt]: (default: 0) top offset of the »view« table in pixels.
- `marginBottom` [unsignedInt]: (default: 0) bottom offset of the »view« table in pixels.
- `cellHeight` [unsignedInt]: (default: 40) cell height in pixels.
- `highlighted` [boolean]: (default: true) cell highlighting when selected

- true
- false.
- dataOffsetLeft [unsignedInt]: (default: 0) left offset of cell content in pixels.
- dataOffsetRight [unsignedInt]: (default: 0) right offset of cell content in pixels.
- iconOffsetLeft [unsignedInt]: (default: 0) left offset of image in pixels.
- highlightedTextColor [string]: (default: 0,0,0) highlighted cell text color in RGB (e.g. 250, 244, 23).
- tableTitle [string]: (default: "") the table title is shown in the middle of the title bar/section when the table is shown.
- titleLines [unsignedInt]: (default: 0) number of lines for the title of the »document stub« in a cell.
- titleHeight [unsignedInt]: title height in a cell in pixels.
- titleJust [char]: (default: L) text position in a cell title
 - L : left alignment
 - C: center alignment
 - R: right alignment.
- titleFontSize [unsignedInt]: (default: 20) title font size in pixels.
- titleFontStyle [char]: (default: N) title font style
 - N: regular
 - B: bold
 - I: italics.
- titleFontColor [string]: (default: 0,0,0) font color in RGB (e.g. 250, 244, 23).
- subTitleLines [unsignedInt]: (default: 0) number of lines for the subtitle of the »document stub« in a cell.
- subTitleHeight [unsignedInt]: subtitle height in a cell in pixels.
- subTitleJust [char]: (default: L) text position in a cell subtitle
 - L : left alignment
 - C: center alignment
 - R: right alignment.
- subTitleFontSize [unsignedInt]: (default: 20) subtitle font size in pixels.
- subTitleFontStyle [char]: (default: N) subtitle font style
 - N: regular
 - B: bold
 - I: italics.

- subTitleFontColor [string]: (default: 0,0,0) font color in RGB (e.g. 250, 244, 23).
- noteWidth [string] : (default: 0) »document stub« label width:
 - pt (e.g. "20") : fixed offset in pixels
 - % (e.g. "15%") : offset in the percentage of cell width.
- noteLines [unsignedInt]: (default: 0) number of lines for the »document stub« label text.
- noteHeight [unsignedInt]: label height in a cell in pixels.
- noteJust [char]: (default: L) text position of a label in a cell
 - L: left alignment
 - C: center alignment
 - R: right alignment.
- noteFontSize [unsignedInt]: (default: 20) label font size in a cell in pixels.
- noteFontStyle [char]: (default: N) label font style
 - N: regular
 - B: bold
 - I: italics.
- noteFontColor [string]: (default: 0,0,0) label font color in RGB (e.g. 250, 244, 23).
- textLines [unsignedInt]: (default: 0) number of lines for the »document stub« context text in a cell.
- textHeight [unsignedInt]: content area height in a cell in pixels.
- textJust [char]: (default: L) text position in a cell
 - L (default): left alignment
 - C : center alignment
 - R : right alignment.
- textFontSize [unsignedInt]: (default: 20) content font size in a cell in pixels.
- textFontStyle [char]: (default: N) content font style
 - N (default): regular
 - B : bold
 - I : italics.
- textFontColor [string]: (default: 0,0,0) Content font color in RGB (e.g.: 250, 244, 23).

6.1.2.2.8 Document

The document shows content in detail, where the content is divided into sections.

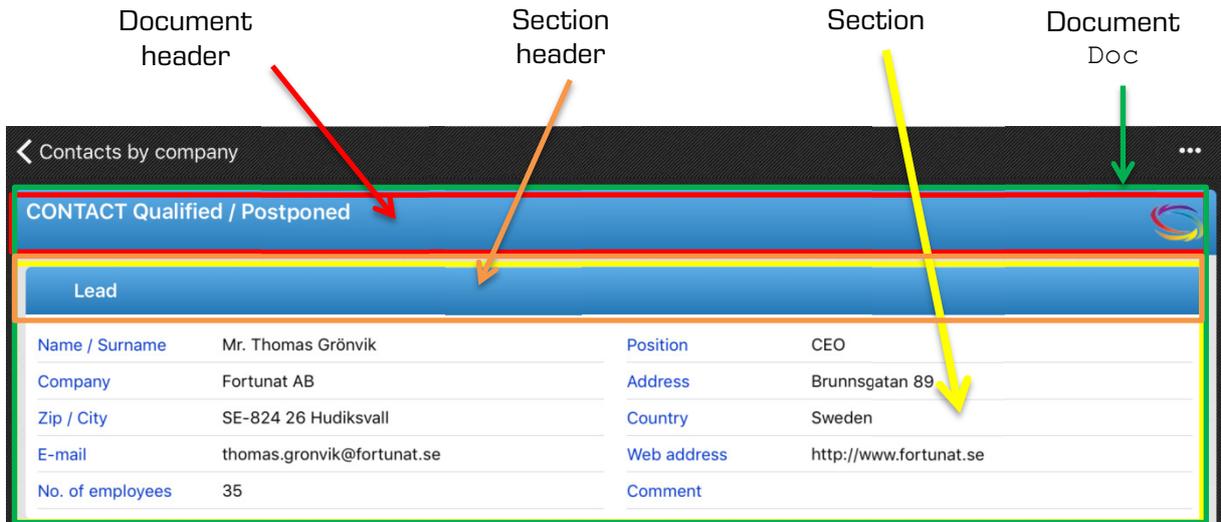


Image 37: XML document structure for determining display of document sections

Document header:



```
<doc id="Document ID" icon="icon ID"

headerBackgroundColorTop="[0-255],[0-255],[0-255]"
headerBackgroundColorBottom="[0-255],[0-255],[0-255]" headerHeight="pt"
sectionsOffset="pt" borderOffset="pt"

titleField="title" titleHeight="pt" titleJust="L/C/R" titleFontSize="number"
titleFontStyle="N/B/I" titleFontColor="[0-255],[0-255],[0-255]"

idField="idField" idHeight="pt" idJust="L/C/R" idFontSize="number"
idFontStyle="N/B/I" idFontColor="[0-255],[0-255],[0-255]"

createdField="created" createdHeight="pt" createdJust="L/C/R"
createdFontSize="number" createdFontStyle="N/B/I"
createdFontColor="[0-255],[0-255],[0-255]"

statusField="status" statusHeight="pt" statusJust="L/C/R"
statusFontSize="number" statusFontStyle="N/B/I"
statusFontColor="[0-255],[0-255],[0-255]"

authorField="author" authorLabel="text" authorHeight="pt" authorJust="L/C/R"
authorFontSize="number" authorFontStyle="N/B/I"
authorFontColor="[0-255],[0-255],[0-255]">

<section id="section ID" state="C/E/F"

headerBackgroundColorTop="[0-255],[0-255],[0-255]"
headerBackgroundColorBottom="[0-255],[0-255],[0-255]"
```

```

title="text" titleFontSize="number" titleFontStyle="N/B/I"
titleFontColor="[0-255],[0-255],[0-255]" titleJust="L/C/R"

labelJust="L/C/R" labelFontSize="number" labelFontStyle="N/B/I"
labelFontColor="[0-255],[0-255],[0-255]"

valueJust="L/C/R" valueFontSize="number" valueFontStyle="N/B/I"
valueFontColor="[0-255],[0-255],[0-255]"/>

</doc>

```

6.1.2.2.8.1 The »doc« section

The »doc« attribute description (* marks required attributes):

- id* [string]: document identifier.
- headerBackgroundColorTop [string]: (default: 0,0,0) top gradient color of document header in RGB (e.g. 250, 244, 23).
- headerBackgroundColorBottom [string]: (default: 0,0,0) bottom gradient color of document header in RGB (e.g. 250, 244, 23).
- headerHeight [unsignedInt]: (default: 60) document header height in pixels.
- sectionsOffset [unsignedInt]: (default: 0) offset of sections in pixels.
- borderOffset [unsignedInt]: (default: 0) border offset in pixels.
- titleField* [string]: field identifier of document title.
- titleHeight [unsignedInt]: (default: 20) height in pixels of document title.
- titleJust [char]: (default: L) text position in a document title
 - L : left alignment
 - C : center alignment
 - R : right alignment.
- titleFontSize [unsignedInt]: (default: 20) font size in document title in pixels.
- titleFontStyle [char]: (default: N) font style of document title
 - N (default) : regular
 - B : bold
 - I : italics.
- titleFontColor [string]: (default: 0,0,0) font color of document title in RGB (e.g. 250, 244, 23).
- idField : [string]: the »id« field identifier (document id).
- idHeight [unsignedInt]: (default: 20) height of the »id« field in pixels.
- idJust [char]: (default: L) text position in the »id« field

- L : left alignment
- C : center alignment
- R : right alignment.
- idFontSize [unsignedInt]: (default: 20) font size of the »id« field.
- idFontStyle [char]: (default: N) font style in the »id« field
 - N : regular
 - B : bold
 - I : italics.
- idFontColor [string]: (default: 0,0,0) font color in the »id« field in RGB (e.g. 250, 244, 23).
- createdField [string]: identifier of the »created« field (the date the document was created).
- createdHeight [unsignedInt]: (default: 20) height of the »created« field in pixels.
- createdJust [char]: (default: L) text position in the »created« field
 - L : left alignment
 - C : center alignment
 - R : right alignment.
- createdFontSize [unsignedInt]: (default: 20) font size in the »created« field.
- createdFontStyle [char]: (default: N) font style in the »created« field
 - N: regular
 - B: bold
 - I: italics.
- createdFontColor [string]: (default: 0,0,0) font color in the »created« field in RGB (e.g., 250, 244, 23).
- statusField [string]: identifier of the »status« field (current status of document).
- statusHeight [unsignedInt]: (default: 20) height of the »status« field in pixels.
- statusJust [char]: (default: L) text position in the »status« field
 - L : left alignment
 - C : center alignment
 - R : right alignment.
- statusFontSize [unsignedInt]: (default: 20) font size in the »status« field.
- statusFontStyle [char]: (default: N) font style in the »status« field
 - N : regular
 - B : bold

- I : italics.
- statusFontColor [string]: (default: 0,0,0) font color in RGB (e.g. 250, 244, 23).
- authorField [string]: identifier of the »author« field (author of the document).
- authorHeight [unsignedInt]: height of the »author« field in pixels.
- authorJust [char]: (default: L) text position in the »author« field
 - L : left alignment
 - C : center alignment
 - R : right alignment.
- authorFontSize [unsignedInt]: (default: 20) font size in the »author« field.
- authorFontStyle [char]: (default: N) font style in the »author« field
 - N : regular
 - B : bold
 - I : italics.
- authorFontColor [string]: (default: 0,0,0) font color in the »author« field in RGB (e.g. 250, 244, 23).
- icon [string]: (default: "") identifier of the »icon« field (document logo).

Description of the »section« attributes (* marks required attributes):

- id* [string]: section identifier.
- state* [char]: initial state of section
 - C - collapse: closed section, enhancement/closing options
 - E - expanded: open section, enhancement/closing options
 - F - fix: open section, no enhancement/closing options.
- headerBackgroundColorTop [string]: (default: 0,0,0) top gradient colour of section header in RGB (e.g. 250, 244, 23).
- headerBackgroundColorBottom [string]: (default: 0,0,0) bottom gradient colour of section header in RGB (e.g. 250, 244, 23).
- headerHeight [unsignedInt]: (default: 40) height of section header.
- height [unsignedInt]: (default: 200) section height (in case of »wrapper«, the value is used for height of container).
- title [string]: (default: "") section title.
- titleJust [char]: (default: L) text position in section title
 - L : left alignment
 - C : center alignment

- R : right alignment.
- titleFontSize [unsignedInt]: (default: 20) font size in section title.
- titleFontStyle [char]: (default: N) font style in section title
 - N : regular
 - B : bold
 - I : italics.
- titleFontColor [string]: (default: 0,0,0) font color in section title in RGB (e.g. 250, 244, 23).
- labelJust [char]: (default: L) label text position in section
 - L : left alignment
 - C : center alignment
 - R : right alignment.
- labelFontSize [unsignedInt]: (default: 15) label font size in section.
- labelFontStyle [char]: (default: N) font style
 - N: regular
 - B: bold
 - I: italics.
- labelFontColor [string]: (default: 0,0,0) label font color in section in RGB (e.g. 250, 244, 23).
- valueJust [char]: (default: L) position of value text in section
 - L : left alignment
 - C : center alignment
 - R : right alignment.
- valueFontSize [unsignedInt]: (default: 15) font size of value in section.
- valueFontStyle [char]: (default: N) font style
 - N: regular
 - B: bold
 - I: italics.
- valueFontColor [string]: (default: 0,0,0) font color of value in section in RGB (e.g. 250, 244, 23).

6.1.2.2.8.2 The »section« section

Represents the structure of individual sections in a document. A section is divided into columns with tables.

Lead	
Name / Surname	Mr. Thomas Grönvik
Company	Fortunat AB
Zip / City	SE-824 26 Hudiksvall
E-mail	thomas.gronvik@fortunat.se
No. of employees	35
Position	CEO
Address	Brunnsgatan 89
Country	Sweden
Web address	http://www.fortunat.se
Comment	

Image 38: XML document structure for specifying individual sections

```
<section id="section Id" type="T/W" contentOffset="pt/%" columnOffset="pt/%"
rowOffset="pt" type="T">
  <col labelWidth="pt/%" valueWidth="pt/%">
    <field Id="field1 id" type="B/C/D/T/DT/DBL/INT/RT/S" label="text"
orientation="H/V"/>
    <field id="field2 id" type="D" label="Date of input" orientation="H"
/>
  </col>
</section>

<section id="section Id" type="T/W" contentOffset="pt/%" columnOffset="pt/%"
rowOffset="pt" type="W">
  <col labelWidth="0%" valueWidth="100%">
    <wraper id="wraper id" target="navigation id/id" />
  </col>
</section>
```

If shares are used, it is advisable that the sum of all shares (columnOffset, labelWidth, valueWidth) is equal to 100%.

Section - »section«

Attribute description (* marks required attributes):

- id* [string]: section identifier.
- type* [char]: section type
 - T – table : section that consists of tables
 - W – wrapper : section that includes form.
- contentOffset (Section Type="T") [unsignedInt/string]: (default: 0) top, bottom, left and right offset of content from section margins
 - pt (e.g. "20") : fixed offset in pixels
 - % (e.g. "15%") : offset in percentage of section width.
- columnOffset (sectionType="T") [unsignedInt/string]: (default: 0) column offset in section

- pt (e.g. "20") : fixed offset in pixels
- % (e.g. "15%") : offset in percentage of content area width.
- rowOffset (sectionType="T") [unsignedInt/string]: (default: 7) offset of cells in a table (top and bottom margins)
 - pt (e.g. "20") (default: 7): fixed offset in pixels.

Column – »col«

Attribute description (* marks required attributes):

- labelWidth [unsignedInt/string]: (default: 0) label width in section:
 - pt (e.g. "20") : fixed width in pixels
 - % (e.g. "15%") : width in percentage of content area width
 - valueWidth [unsignedInt/string]: (default: 0) value width in section
 - pt (e.g. "20") : fixed offset in pixels
 - % (e.g. "15%") : offset in percentage of section width.

Field – »field«

Valid for sectionType "T", represents a field in a section table can be multivalued.

Attribute description (* marks required attributes):

- id* [string]: unique field identifier.
- type* [string]: type of field value
 - B – boolean (e.g.: T/F)
 - C – currency : currency in ISO currency format (e.g. CurrencyCode = 'EUR')
 - D – date (e.g. 2013-04-13)
 - T – time (e.g. 11:31:04)
 - DT – date time (e.g. 2013-04-13T09:31:20+02:00)
 - DBL – double (e.g. 3.43E+2)
 - INT – integer (e.g. 56)
 - RT - rich Text (only a fixed size text view where we navigate is supported)
 - S – string
 - IMG – image (image with image ID from configuration).
- label [string]: (default: "") field label (it can be defined through dataSource section with the displayName attribute).
- orientation* [char]: field orientation
 - H – horizontal: the positions of label and value are in the same line
 - column width = labelWidth + valueWidth

- V – vertical: the positions of label and value are in separate lines
 - column width = Max (labelWidth , valueWidth).

<field id="field1 id" type="B/C/D/T/DT/DBL/INT/RT/S" label="text" orientation="H/V"/>.

Wrapper - »wrapper«

Valid for sectionType "W".

Attribute description (* marks required attributes):

- id* [string]: container id (wrapper)
- target* [string]: id of the contained form.

6.2 »DATASETS«

The section **Datasets** deals with configurations that define document sets.

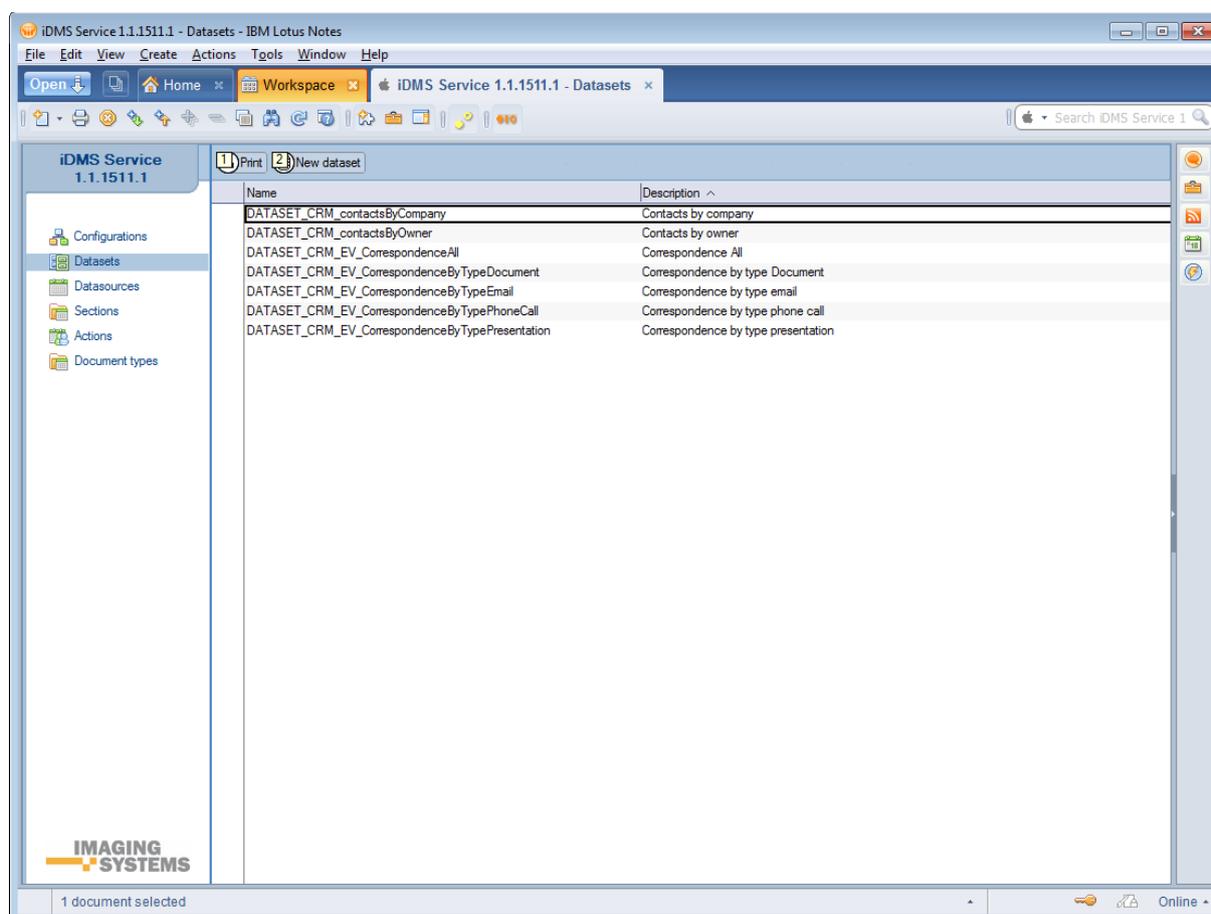


Image 39: View of the »Datasets« section

Document fields are divided into the following sets:

- Basic information.
- Source.
- Execute.
- Data source.
- Source options.
- Data.
- Sections.

6.2.1 Basic information

The »Basic information« header specifies a name for a document set and connects to a configuration.

DATASET		IMAGING SYSTEMS	
Basic information			
Name:	DATASET_CRM_contactsByCompany	Description:	Contacts by company
Assigned configurations:	Tablets on iOS 7.* & 8.* & 9.* - 1/0		

Image 40: View of settings in the »Basic information« header

[Name] Name of a document set. Data is required.

[Description] Description of a document set. Data is not required.

[Assigned configurations] Assigned configurations. All configurations are available.

More than one can be selected. Data is not required.

6.2.2 Source

The »Source« header specifies the source of a document set.

Source			
Source type:	View	Max collection size	100
Database:	IMiSDev/IMiS dev\imis\idmscm.nsf	View name:	ContactsByCompany

Image 41: View of settings in »Source« header

[Source type] Source type of a document set. The options available: »View«, »Database search« and »Custom«.

Choose the »View« option if you have an index of selected documents available.

Efficiency-wise, this option is the best as there is no need for document search. The service uses the existing index.

Choose the »Database search« option if index is not available or if there is some other dynamic condition. (e.g., using the »@Today« function). Just as with the »View« option, you are limited to documents from one database. Efficiency-wise, this option is disputable if a set contains a high number of documents.

The »Custom« option allows the developer to implement his/her own logic for document search. The main advantage of this option is that documents can be stored in various databases.

Efficiency-wise, this option depends on how it is implemented. For more information on the prescribed interface, see [chapter 6.2.3 Execute](#) and [chapter 6.2.8 Logic implementation for document search](#). Data is required.

[[Max collection size](#)] The highest number of documents in a set. For efficiency reasons, the number should be more than 5000. Data is required.

[[Database](#)] Database that represents the source of a document set. It is available only in the View« or »Database search« types of document source. Data is required.

[[View name](#)] Name of index that represents the source of document set. It is available if the document source type is »View«. Data is required.

[[Selection <@>](#)] Selection formula that represents the source of a document set. It is available if the document source type is »Database search«. Data is required.

6.2.3 Execute

The »Execute« header specifies an interface for document set retrieval if document source type is »Custom«.

Execute	
Database:	IMISDev/IMIS dev\imis\idmscm.nsf
Get collection database context: <@>	@UserName
Agent name:	(getCollection)
Execute action database context: <@>	

Image 42: View of settings in the »Execute« header

[[Database](#)] A database with an agent for document set retrieval. Data is required.

[[Agent name](#)] Name of the agent for document set retrieval. Data is required.

[[Get collection database context <@>](#)] A formula representing context for document set retrieval. Data is not required.

Example: @UserName.

[[Execute action database context <@>](#)] Not in use at the moment, but its use is predicted in the future. Data is not required.

6.2.4 Data source

The »Data source« header specifies data source in case of document opening.

Data source	
Definition: <@>	"DATASOURCE_CRM_contact"

Image 43: View of settings in »Data source« header

[[Definition <@>](#)] Formula for specifying data source in case of document opening. It has to be recalculated for the name of an existing [Data source](#) document. Data is required.

6.2.5 Source options

The »Source options« header specifies search options.



Image 44: View of settings in the »Source options« header

[Allow search types] Search types. Options available: »Full text search« and »Result set search«. Choose the »Full text search« option if you want to search the full text. The user enters criteria on a mobile device.

Warning: For greater efficiency, it is advisable to already have an index for full-text database search.

Choose the »Result set search« option if you want to allow editing of search results directly on a mobile device. Data is not required.

[Relevance score] A display of result relevance. If you want to graphically display result frequency, an available option is »Show relevance«. This option is considered only if a document has been found in a full-text search. Data is not required.

6.2.6 Date

The »Data« header specifies document data in the document set view on a mobile device.

A document record consists of five (5) parts: title, subtitle, content, note, and icon.



Image 45: View of settings in the »Data« header

[Title <@>] Formula for title specification. Data is required.

[Subtitle <@>] Formula for subtitle specification. Data is required.

[Content <@>] Formula for content specification. Data is required.

[Note <@>] Formula for bookmark specification. Data is required.

[Icon <@>] Formula for icon specification. It should be calculated on the name of an existing icon specified in a **Configuration** document, or a blank string if an icon does not come into consideration. Data is required.

6.2.7 Sections

In the »Sections« header, select sections connected to a document set. Actions available: »Add« and »Remove«. Only section types »Actions« and »Dynamic actions« apply.



Image 46: View of settings in the »Sections« header

6.2.8 Logic implementation for document search

If you choose »Custom« as a document set type, you need to take care of logic implementation for returning the document set.

In the »Execute« partition, specify a database and agent that is contacted in such case.

Service calls the agent and forwards a context document with the following fields:

[sourceName] Name of document set.

[sourceDbContext] Possible context for document set extraction that is calculated based on the [Get collection database context <@>] field content in a Dataset document.

The content of the field converts to a string if necessary. If the calculation results are multivalued, only the first value applies.

[sourceContext] Possible context for the section that is calculated based on field content.

[Context <@>] in a Section document. Content of the field converts to a string if necessary.

If the evaluation results are multivalued, only the first value applies.

[sourceFilter] Possible filter for full-text search that should present a valid condition for full-text search. The user enters it on a mobile device.

Service expects the agent to present document set data in fields [docInfo1], [docInfo2], ... [docInfo<N>].

Each field can have any number of records in the following format:

```
<Database server>#<Database file path>#<Document NoteID>#<Document full-text search score>
```

[Database server] Server where the document is stored. Data is required.

[Database file path] Path and name of the database where the document is stored.

Data is required.

[Document NoteID] Document NoteID. Data is required.

[[Document full-text search score](#)] Result frequency as returned by *NotesDocument.FTSearchScore*. Data is optional and does not apply in case of conditions for full-document search.

6.3 »DATASOURCES«

The [Datasources](#) section deals with configurations that specify document content.

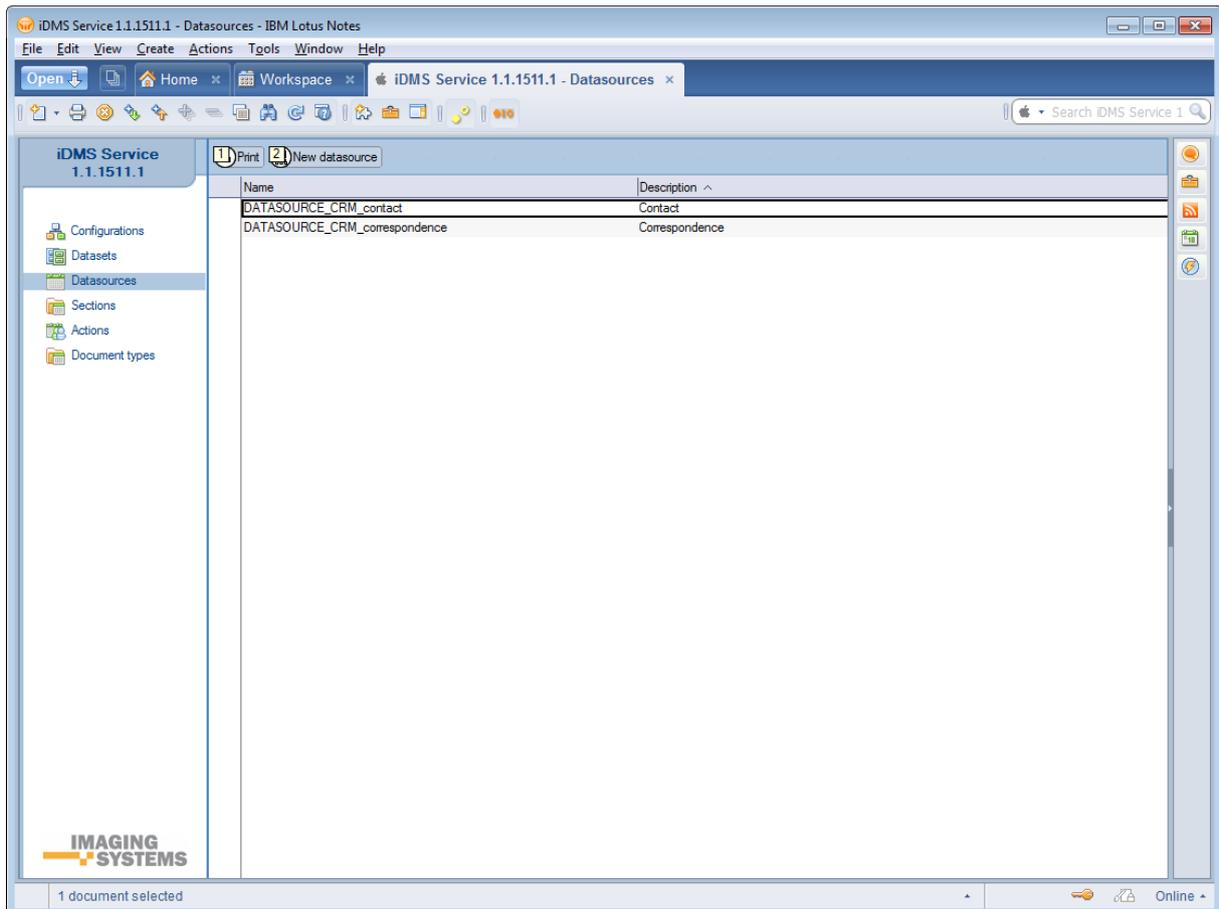


Image 47: View of the »Datasources« section

Document fields are divided into the following headers:

- Basic information.
- Source.
- Sections.

6.3.1 Basic information

The »Basic information« header specifies a name of document content and connects to a configuration.

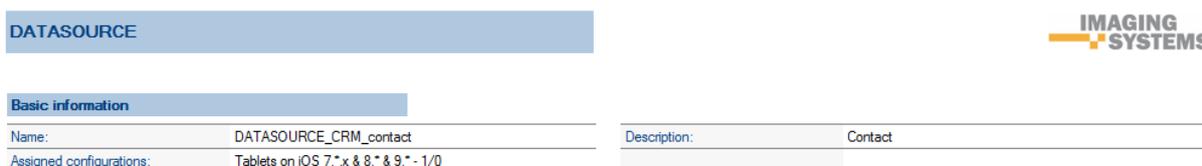


Image 48: View of settings in the »Basic information« header

[Name] Name of document content. Data is required.

[Description] Description of document content. Data is not required.

[Assigned configurations] Assigned configurations. All configurations are available.

More than one can be chosen. Data is not required.

6.3.2 Source

The »Source« header specifies the source of document content.



Image 49: View of settings in the »Source« header

[Database] A database that represents the source of document content. Data is required.

[Replica ID] An ID database replica that represents the source of document content.

It fills up automatically when a database is chosen.

6.3.3 Sections

In the »Sections« header, select sections connected to document content. Actions available: »Add« (for adding sections) and »Remove« (for removing sections). Sections of all types are applicable.

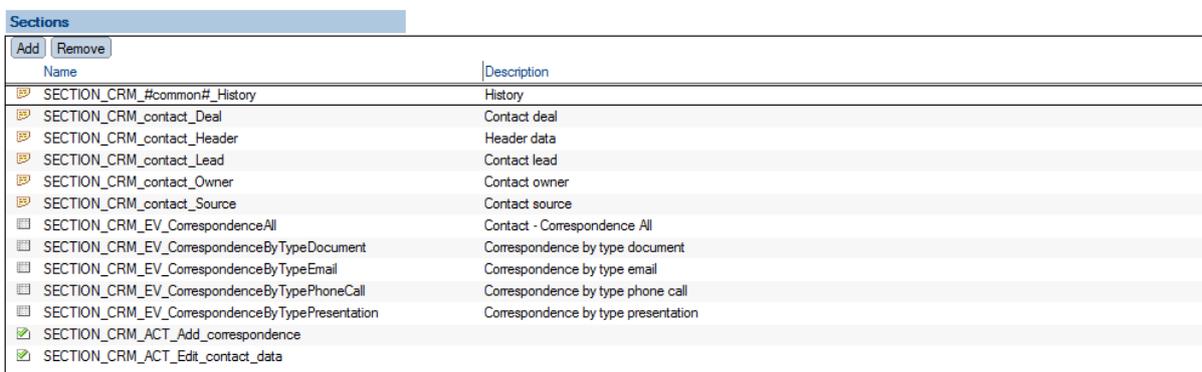


Image 50: View of settings in the »Sections« header

6.4 »SECTIONS«

In the **Sections** section, we deal with configurations that specify sections intended for multiple use.

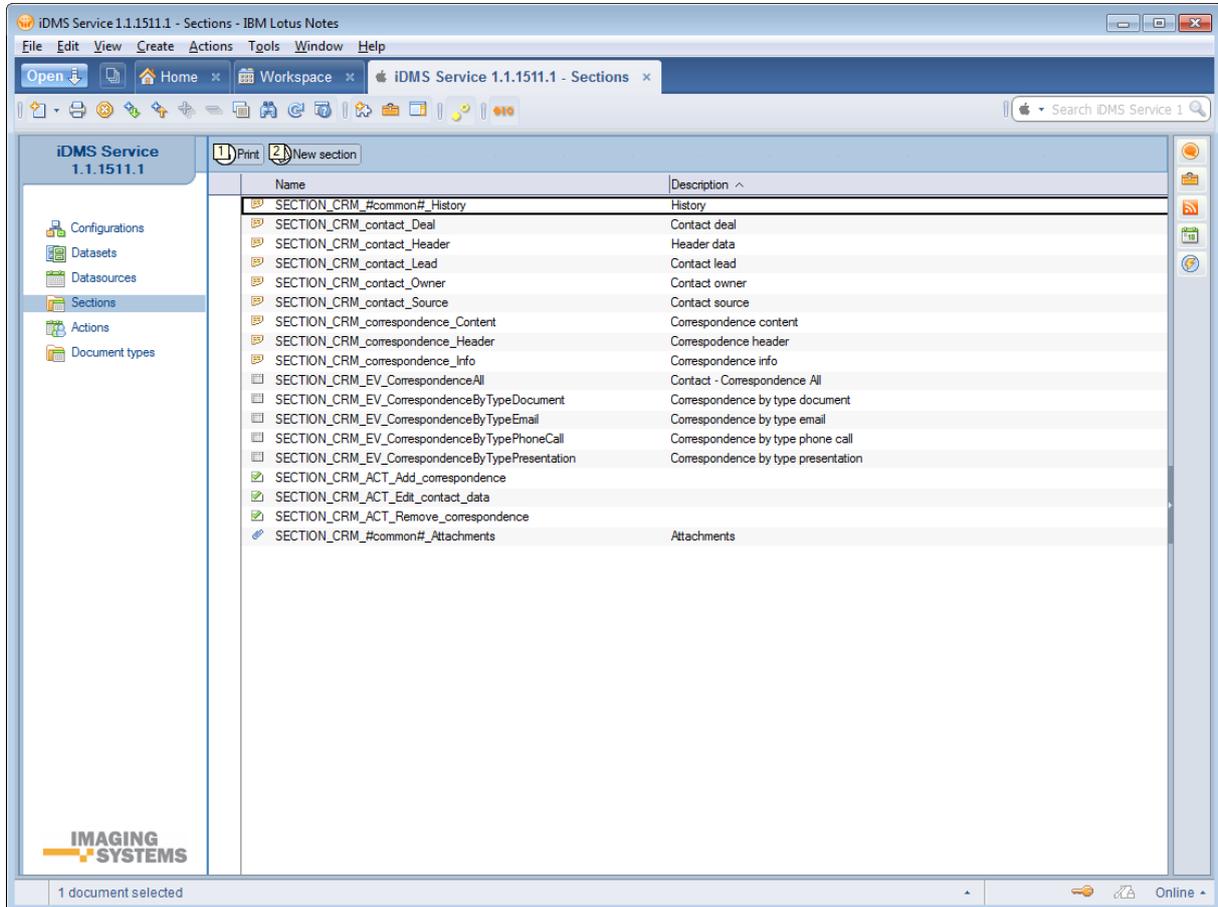


Image 51: View of the »Sections« section

Document fields are divided into the following headers:

- Basic information.
- Data.
- Dataset.
- General.
- Actions.
- Interface agents.
- Content.

6.4.1 Basic information

The »Basic information« header specifies a name and type of section.

SECTION		IMAGING SYSTEMS	
Basic information			
Name:	SECTION_CRM_contact_Deal	Description:	Contact deal
Data type:	Data		

Image 52: View of settings in the »Basic information« header

[Name] Name of the section. Data is required.

[Description] Description of section. Data is not required.

[Data type] Type of section. Options available: »Data«, »Dataset«, »Actions«, »Dynamic actions«, »IMiS objects« and »Attachments«. The »Data« option is intended for document data display. The »Dataset« option is applicable if we want to display a document set within a document that is usually connected to the content of the document. The »Actions« option is used for display of predefined action sets, whereas the »Dynamic actions« option is used for display of actions sets and is specified dynamically based on the context of a document. The »IMiS objects« option is intended for display of IMiS® objects on a document, whereas the »Attachments« option is intended for display of document attachments.

Data is required.

6.4.2 Data

The »Data« header specifies a set of display fields if »Data« as a type of section is selected.

Data					
No.	Field name	Type	Display name <@>	Condition <@>	Value <@>
1.	product	String			product
2.	dealValue	String			@Text (dealValue: "F,2") + " " + currency

Image 53: View of settings in the »Data«, »Currency options« and »Keywords options« headers

Specify for each of the fields:

[Field name] Field name. Data is required.

[Field type] Field type. Options available: »String«, »Date«, »Time«, »Date/Time«, »Integer«, »Double«, »Currency«, »Boolean«, »Keywords« and »Image«. Data is required.

[Display name <@>] Displayed name of field. Data is not required.

[Condition <@>] The condition under which the field is visible. Data is not required.

If the condition is not given, the field is visible.

[Value <@>] Field value. If field value is not of the appropriate type, the field is not forwarded to a mobile device. Data is required.

If the field type is »Currency«, we also specify:

[Currency code <@>] Currency label. Data is required.

If »Keywords« is the field type, also specify:

[Choices <@>] A set of possible values. Synonyms are supported. For example, if »Person|1« is specified in the possible value set and the reference field value is »1«, »Person« is sent to the mobile device. In other cases, the reference field value is sent to the mobile device.

Data is required.

Field value can be multivalued. All values are forwarded to a mobile device which takes care of an appropriate display.

6.4.3 Dataset

The »Dataset« header specifies a source of a document set if »Dataset« is the selected section type.



Image 54: View of settings in the »Dataset« header

[Dataset name] Name of document set. All document sets are available.

Data is required.

[Context <@>] Document context for document set. Data is not required.

6.4.4 General

The »General« header specifies basic data on action sets if »Actions« or »Dynamic actions« are the selected section type.



Image 55: View of settings in the »General« header

[Display name] Display name of action sets. Data is required.

[Action weight <@>] »Weight« of action sets that reflects in the position of action sets in the list of action sets if there are more than one action sets. Data is required.

6.4.5 Actions

The »Actions« header specifies display field sets if »Actions« is the selected section type.

Actions		
No.	Name	Condition <@>
1.	EditClientRating	
2.	EditClientStatus	
3.	EditClientDealValue	

Image 56: View of settings in the »Actions« header

Each action needs specified:

[Name] Action name. All actions are available. Data is required.

[Condition <@>] A condition under which the action is visible. Data is not required. If condition is not stated, the action is visible.

6.4.6 Interface agents

The »Interface agents« header specifies an interface for action set retrieval if »Dynamic actions« is the document source type. [For more information, see chapter 6.5.5.1 Extraction of dynamic action sets.](#)

Interface agents			
Database:	IMiSDev/IMiS dev\imis\vdmscm.nsf		
Agent name [Get actions]:	GetProcessActions	Agent name [Execute action]:	ExecuteProcessAction

Image 57: View of settings in »Interface agents« header

[Database] Database with the agent for action set retrieval. Data is required.

[Agent name [Get actions]] Name of agent for action set retrieval. Data is required.

[Agent name [Execute action]] Name of agent for action implementation. Data is required.

6.4.7 Content

The »Content« header specifies data on document content view if »IMiS objects« or »Attachments« is the selected section type.

Content	
Name filter: <@> \$ATTNAME represents attachment name	item filter: <@> \$ITEMNAME represents richtext item name

Image 58: View of settings in the »Content« header

[Name filter <@>] The condition under which an IMiS® object or attachment is available based on the IMiS® object description or name of the attachment. The reserved word for description of an IMiS® object reference is \$OBJDESC and \$ATTNAME for attachment. Data is not required.

If the condition is not stated, the IMiS® object or attachment is available.

[Item filter <@>] The condition under which an attachment is available based on the rich-text item that contains the attachment. The reserved word for field name reference is \$ITEMNAME. It is available if »Attachments« is the section type.

Data is not required. If the condition is not stated, the IMiS® object or attachment is available.

6.5 »ACTIONS«

In the **Actions** section, we deal with configurations that specify pre-selected actions.

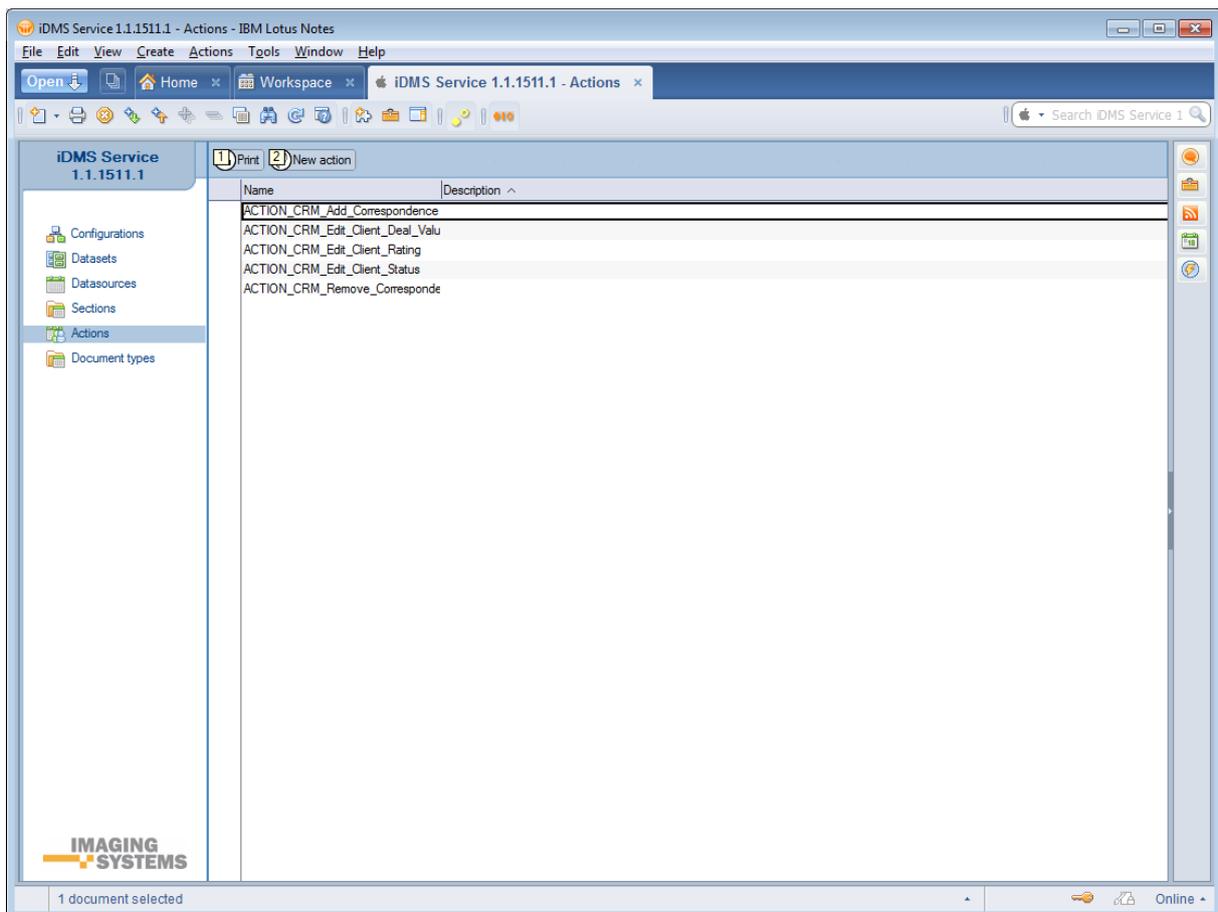


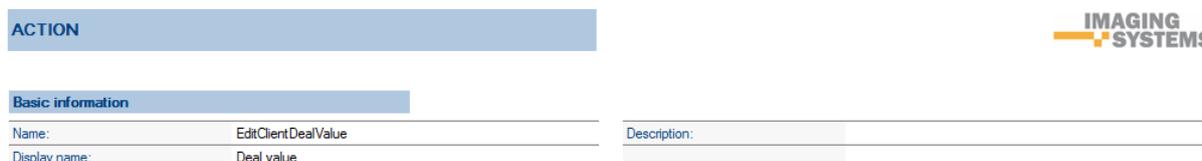
Image 59: View of the »Actions« section

Document fields are divided into the following headers:

- Basic information.
- Additional information.
- Execute.
- Parameters.

6.5.1 Basic information

The »Basic information« header specifies the name of action.



ACTION		IMAGING SYSTEMS	
Basic information			
Name:	EditClientDealValue	Description:	
Display name:	Deal value		

Image 60: View of settings in the »Basic information« header

[Name] Name of action. Data is required.

[Description] Action description. Data is not required.

[Display name] Displayed action name. Data is required.

6.5.2 Additional information

The »Additional information« header specifies additional information for action.



Additional information	
Confirmation message:	
Options:	<input checked="" type="checkbox"/> Don't close document after action

Image 61: View of settings in the »Additional information« header

[Confirmation message] A confirmation message on action implementation. Data is not required.

[Options] Additional options. Data is not required.

Option set:

- the document remains open after action implementation.

6.5.3 Execute

The »Execute« header specifies an interface for action implementation. [For more information, see chapter 6.5.5.2 Action implementation.](#)



Execute	
Database:	IMiSDev/IMiS dev\imis\idmscrm.nsf
Agent name:	IDMSAction

Image 62: View of settings in the »Execute« header

[Database] A database where agent for action implementation is located. Data is required.

[Agent name] Name of agent for action implementation. Data is required.

6.5.4 Parameters

The »Parameters« header specifies a field set for action parameters.

Parameters						
No	Name	Display name	Type	Options	Condition <@>	Default value <@>
1.	value	Deal value	Double	Required		dealValue

Image 63: View of settings in the »Parameters« header

For each parameter, specify:

[Name] Name of parameter. Data is required.

[Display name] Display name of parameter. Data is required.

[Type] Type of parameter. Options available: »String«, »Date«, »Time«, »Date/Time«, »Integer«, »Double«, »Currency«, »Boolean«, »Keywords« and »Image«. Data is required.

[Options] Additional options. Data is not required. Option set:

- »Required« (parameter entry is required)
- »Read only« (parameter is intended for reading only - e.g., advisable for the »image« type).

[Condition <@>] Condition under which the parameter is available. Data is not required. If the condition is not stated, the parameter is available.

[Default value <@>] Default parameter value. If it is specified, it should be calculated for the assigned type of parameter. Data is not required.

6.5.5 Action logic implementation

Make a distinction between predetermined and dynamic actions. If possible, use Predetermined actions.

Dynamic actions apply when an action set cannot be anticipated in advance or if the condition on action availability is too complex or undeterminable. Usually, that is when the action set is requested by complex business logic.

In that case, business logic specifies action set. If an application is demanding, it is advisable to create an intermediate database (provider) for requests that specify action sets.

This intermediate database ensures the request is forwarded to an appropriate application with the required application logic.

Action implementation is in the domain of business logic application, be it a predetermined or dynamic action. In this case, it is also worth considering creating an intermediate database (provider) for requests that specify action sets and are then forwarded to an appropriate application with an appropriate application database.

6.5.5.1 Extraction of dynamic action sets

The »Agent name [Get actions]« partition first specifies a database and an agent that is contacted in such case.

The service calls the agent and forwards a context document with the following fields:

[sourceDbServer] Server containing the document.

[sourceDbFilePath] Path and name of database containing the document.

[sourceDocUNID] Universal document ID.

[sourceUserName] Name of effective user. If the »Run as a web user« option is selected for service, the user is logged in a mobile application otherwise it is a code signer. The first option is advisable due to traceability and the fact that an action set can depend on the user or the user's access rights.

After receiving a call from the agent, the service first checks content in the [errorMessage] field.

[errorMessage] A description of a possible error when specifying action set. In that case, the service stops the process of specifying an action set and forwards an error description to a mobile device.

If there is no error when specifying an action set, the service expects that the number of actions is given in the [actCount] field, and action data in the [name_<i>], [displayName_<i>], [confirmMessage_<i>], [options_<i>] and [parCount_<i>] fields where <i>=1 is <action number>.

[actCount] Number of actions (numeric type). Data is required.

[name_<i>] Unique name of action. Data is required.

[displayName_<i>] Unique displayed name of action. Data is required.

[confirmMessage_<i>] Confirmation message of action implementation. Data is not required.

[options_<i>] Additional options. Data is not required.

Option set:

- »1« - the document remains open after action implementation

[parCount_<i>] Number of parameters for action (numeric type). Data is required.

If parameters are anticipated for action, the service expects data on parameters in the [parName_<jj>_<i>], [parDisplayName_<jj>_<i>], [parType_<jj>_<i>], [parOptions_<jj>_<i>], [parConditionFrm_<jj>_<i>], [parDefaultValueFrm_<jj>_<i>], [parCurrCode_<jj>_<i>] and [parChoicesFrm_<jj>_<i>] fields, where <i> is action sequence number, and <jj>=01...<number of action parameters>.

[parName_<jj>_<i>] Unique name of parameter. Data is required.

[parDisplayName_<jj>_<i>] Unique displayed name of parameter. Data is required.

[parType_<jj>_<i>] Type of parameter. Data is required.

Option set:

- »1« - String
- »2« - Date
- »3« - Time
- »4« - Date/Time
- »5« - Integer
- »6« - Double
- »7« - Currency
- »8« - Boolean
- »9« - Keywords
- »10« - Image.

[parOptions_<jj>_<i>] Additional options. Data is not required.

Option set:

- »1« - parameter entry is required
- »2« - parameter is intended for reading only (for example, advisable with the »image« type).

[parConditionFrm_<jj>_<i>] Condition under which the parameter is available. Parameter is available if no condition is stated. Data is not required.

[parDefaultValueFrm_<jj>_<i>] Default value of parameter. If it is specified, it has to be calculated for the assigned type of parameter. Data is not required.

[parCurrCode_<jj>_<i>] Currency label. Applicable only with the »currency« type of parameter. Data is not required.

[parChoicesFrm_<jj>_<i>] A set of possible values. Synonyms are supported. It is applicable only with the »keywords« type of parameter. Data is required.

6.5.5.2 Action implementation

The »Agent name [Execute action]« partition fist specifies the database and agent that is contacted in such case.

The service calls the agent and forwards a context document with the following fields:

[sourceDbServer] Server containing the document.

[sourceDbFilePath] Path and name of database containing the document.

[sourceDocUNID] Universal ID of document.

[sourceDocLastModified] Date and time of last document modification at the time of opening the document on a mobile device. It is advisable for the business logic to check whether the document has been modified during that time. In that case, action implementation is not advisable as it could lead to a conflict when saving the document.

[sourceUserName] Name of effective user. If the »Run as a web user« option is selected for service, the user is logged in a mobile application otherwise it is a code signer. The first option is advisable due to traceability and the fact that an action set can depend on the user or the user's access rights.

[sourceAction] Name of selected action.

If parameters are anticipated for action, the service expects data on parameters in the [parName_<jj>], [parType_<jj>] and [parValue_<jj>] fields, where <jj>=01 is <number of action parameters>.

[parName_<jj>] Name of parameter.

[parType_<jj>] Type of parameter. The option set is identical as with extraction of option sets.

[parValue_<jj>] Value of parameter.