1C:ENTERPRISE 8

1C:Subsystems Library 2.0 Developer's Guide

Powered by 1C:Enterprise 8 —
Business Applications Platform

Contents

About this guide

This document is intended for developers and administrators of 1C:Enterprise applications.

This document describes the following:

- Subsystems included in 1C:Subsystems Library.
- Creating service mode deployment example for the demo infobase delivered with 1C:Subsystems Library. You can use the example as a basis for deployment of any application based on the "Service mode" subsystem.
- Creating data exchange example between 1C:Subsystems Library infobases.

About 1C:Subsystems Library

Overview

1C:Subsystems Library contains a set of universal functionality subsystems intended for use in applications based on the 1C:Enterprise 8.3 platform. The library is not a complete applied solution. Developers can add some or all of the library subsystems to configurations being developed.

All of the library subsystems fall into the following categories:

1. Subsystems that implement standalone functionality.
2. Subsystems that add functionality to configuration objects (deep integration).

The categories reflect the complexity of subsystem integration. Subsystems that fall into the first category are integrated by simply adding their functionality to the configuration. They are usually accessible from the configuration interface and do not require complex setup. These subsystems can include user interfaces and provide APIs for use in the configuration.

To include a subsystem that implies deep integration, after adding the subsystem functionality to your configuration, you have to define which configuration objects require this functionality. Then you have to specify some additional settings and also modify the object forms and modules.

In addition to the subsystems, the library includes standard solution development examples, such as an example of setting session parameters.

List of subsystems

Table 1 describes the main features of each subsystem included in 1C:Subsystems Library.

Some subsystems have usage restrictions (they can be used only in applications that run either in the on-premises mode or in the service mode).

Table 1. Standard subsystems

NO.	SUBSYSTEM	MAIN FEATURES
1	Base functionality	• General-purpose procedures and functions • Setting the application title • Service features for administrators (deletion of marked objects, event log, and more) Service mode: **Yes** On-premises mode: **Yes**

NO.	SUBSYSTEM	MAIN FEATURES
2	Companies	• Maintaining the **Companies** catalog, which includes company contact information • A template for the **Companies** catalog development Service mode: **Yes** On-premises mode: **Yes**
3	Contact information	• Extending the list of catalog attributes with a custom set of attributes for storing contact information • Using predefined and custom contact information types Service mode: **Yes** On-premises mode: **Yes**
4	Data exchange	• Performing data exchange in a distributed infobase • Performing data exchange between different configurations based on the specified exchange rules • Starting data exchange manually or according to a schedule • Exchanging data through a variety of communication channels: local or network folders, email, or FTP folders • Specifying data exchange limitations • Performing data exchange monitoring and diagnostics Service mode: **Yes** On-premises mode: **Yes**
5	Email operations	• API for sending email messages • Viewing and editing the system account used for email operations • Basic user interface for sending email messages Service mode: **Yes** On-premises mode: **Yes**
6	Get files from Internet	• API for downloading files from the Internet • Downloading files from the network on the client • Saving files to the local computer or to the infobase • Requesting and storing proxy server settings Service mode: **Yes** On-premises mode: **Yes**
7	Infobase version update	• Filling the initial configuration version and updating the version during configuration updates • Displaying update information after the update is performed Service mode: **Yes** On-premises mode: **Yes**

NO.	SUBSYSTEM	MAIN FEATURES
8	Item order setup	• Ordering object items by using the **Move up** and **Move down** buttons Service mode: **Yes** On-premises mode: **Yes**
9	Object prefixation	• Generating prefixes automatically based on the specified settings • Generating prefixes with a breakdown by infobase or by catalog item • Generating numbers or codes for print forms Service mode: **Yes** On-premises mode: **Yes**
10	Scheduled jobs	• Viewing and editing scheduled job parameters (schedule, begin time, and end time) • Support of scheduled job execution in the file infobase mode Service mode: **No** On-premises mode: **Yes**

NO.	SUBSYSTEM	MAIN FEATURES

11	Service mode	Includes a set of subsystems required for running the configuration in service mode:
		• Base service mode functionality
		  • Data separation support
		  • Maintaining the list of data areas and managing them
		• Data import and export
		  • Importing and exporting data in XML format
		• Data exchange in service mode
		  • Support of data exchange in service mode
		• Message exchange
		  • Guaranteed message delivery between infobases that have different structure
		  • Subscription to specific message channels
		• Infobase version update in service mode
		  • Handlers for common data updates
		  • Updating data areas using the job queue
		• Job queue
		  • Sequential job execution in various data areas
		  • Parallel execution of multiple jobs with the option to limit the number of jobs being executed in parallel
		• Users in service mode
		  • Checking shared user rights
		  • Synchronizing data area user lists with the service manager
		• Supplied data
		  • Getting common data from the service that manages supplied data
		  • Support of separated instances of supplied data in multiple data areas
		• Remote administration
		  • Handling command messages from the service manager
		  • Sending control messages to the service manager
		Service mode: **Yes**
		On-premises mode: **No**

NO.	SUBSYSTEM	MAIN FEATURES
12	User sessions	• Locking user sessions • Terminating user sessions • Prohibiting execution of scheduled jobs (in the client/server mode) Service mode: **Yes** On-premises mode: **Yes**
13	Users	• Viewing and editing the user list and the external user list • Viewing and editing the rights of users and external users • Identifying the current user or the current external user on application startup • Viewing and editing names, passwords, interface languages, and other user or external user properties • Linking external users to infobase objects Service mode: **Yes** On-premises mode: **Yes**

Creating a service mode example

This section provides a service mode deployment example for the demo infobase delivered with 1C:Subsystems Library. You can use the example as a basis for deployment of any application based on the "Service mode" subsystem.

What is service mode

Service (SaaS) mode of 1C:Enterprise applications is the infobase operation mode when users connect to the infobase over the Internet using web browsers and the infobase is stored on a server that belongs to a service provider company. This company guarantees data security and confidentiality, and performs configuration and common data updates.

In this case users operate in a single infobase but their data is separated, so that users of a service subscriber do not have access to data of another service subscriber. This is implemented using common attributes as data separators.

Creating and publishing infobases

This section describes how to create a demo infobase that will run in the service mode.

To create and publish a demo infobase

1. Create an infobase based on the **Subsystems Library 2.0** template.

   Set the infobase name in the cluster to "SLTest_Demo".

2. Open the infobase in Designer and create an administrator account with the following properties:

FIELD	VALUE
Name	Administrator
Password	Password1
Available roles	Full access Full administrator

3. Open the infobase in 1C:Enterprise mode with the **/CInitSeparatedInfoBase** command-line option.

   This must be the first opening of the infobase in 1C:Enterprise mode, as this initializes the infobase as a shared one.

   The following is an example of a .bat file for initialization on Windows Server 2008:

```
SET ONE_C_PATH="C:\Program Files (x86)\1cv8\8.3.3.687\bin\1cv8.exe"
SET SERVER=Service
```

```
SET ADMINISTRATOR=Administrator

SET PASSWORD=Password1

%ONE_C_PATH% ENTERPRISE /S"%SERVER%\SLTest_Demo"
/CInitSeparatedInfoBase /N%ADMINISTRATOR% /P%PASSWORD%
```

4. Publish the web services and the web client of this infobase on the web server.

   Pay attention to the following:

   - On the **Other** tab, in the **Data split** list, in the **DataArea** line, select the check boxes in the first column and in the **Specification** column. This is required to allow the web server to pass DataArea in URLs.
   - When publishing the web services, do not set data area publishing.
   - Publish the web services to a private location that will be accessible for the service agent and the service manager.
   - Publish the web client to a location accessible for users who will use the service over the Internet.

5. Create infobases for the Service Agent and the Service Manager.

   Set the infobase name in the cluster to "SLTest_SA" and "SLTest_SM", respectively.

6. Publish the web service for these infobases.

   Pay attention to the following:

   - The publishing names must match the infobase names in the cluster.
   - Publish Service Manager web client on a public web server to make it accessible for users that will register service subscribers using Service Manager over the Internet.

7. To perform automatic initialization of the Service Agent, open it in 1C:Enterprise mode. Log on with name "Administrator**"** and empty password.

   You have to repeat this operation every time the Service Agent configuration is changed.

8. In Service Agent, in the **Administration** section, on the **Tools** menu, click **Application settings**, click the **Job execution** tab, and specify the following value:

FIELD	VALUE
Path to Designer	C:\Program Files (x86)\1cv8\8.3.3.687\bin This is an example value. The actual value includes your actual 1C:Enterprise version.

9. To perform automatic initialization of the Service Manager, open it in 1C:Enterprise mode. Log on with name "Administrator**"** and empty password.

10. In Service Agent, in the **Administration** section, on the **Tools** menu, click **Application settings**, click the **Access settings** tab, and specify the following values:

FIELD	VALUE
External URL of this application	http://<yourdomain.com>/SLTest_SM When specifying this value for a custom infobase, pay attention to the following: • The last part of the URL is the infobase name that you specified during the publishing. • This name is case-sensitive for any operating system.
Internal URL of this application	http://localhost/SLTest_SM When specifying this value for a custom infobase, pay attention to the following: • The last part of the URL is the infobase name that you specified during the publishing. • This name is case-sensitive for any operating system.
Main page URL	http://<yourdomain.com>/SLTest_SM/?N=Anonymous

11. In Service Manager, in the **Dashboard** section, in the **Configurations** list, create a configuration with the following parameters:

FIELD	VALUE
Code	SL
Description	SL 2.0
Type	Applied solution
Name	SL 2.0

12. In Service Manager, in the **Dashboard** section, click **Service agents**, and then create a service agent with the following parameters:

FIELD	VALUE
Description	Service Agent
Service segment	Create a new item with the following parameters: • Description: Service. • Primary agent: once you save the service agent being created, specify this server agent here. This is described in step 14 of the procedure.

FIELD	VALUE
URL	http://localhost/SLTest_SA When specifying this value for a custom infobase, pay attention to the following: • The last part of the URL is the infobase name that you specified during the publishing. • This name is case-sensitive for any operating system.

13. In the service agent form, test the connection by clicking **Check connection**.

    During the connection testing, the infobase will be initialized, as it will be the first run of data exchange between Service Manager and Service Agent.

14. Select the created service agent as the primary agent for the "Service" service segment.
15. In Service Manager, in the **Dashboard** section, in the **Infobases** list, create an infobase with the following parameters:

FIELD	VALUE
Description	SL 2.0
Configuration version	Create a new item with the following parameters: • Version: 2.0.1.15 • Type: Release • Configuration file: specify the configuration file of the SL 2.0 configuration
Usage mode	Working

Cluster	Create a new item with the following parameters:
	• Description: Service
	• Service segment: Service
	• Central server: create a new item with the following parameters:
	  • Description: Main
	  • Service segment: Service
	  • Port: 1540
	  • Name: localhost
	• Port: 1541

Name in cluster	SLTest_Demo

FIELD	VALUE
URL	http://<yourdomain.com>/SLTest_Demo When specifying this value for a custom infobase, pay attention to the following: • The last part of the URL is the infobase name that you specified during the publishing. • This name is case-sensitive for any operating system.
Management URL	http://localhost/SLTest_Demo When specifying this value for a custom infobase, pay attention to the following: • The last part of the URL is the infobase name that you specified during the publishing. • This name is case-sensitive for any operating system.
Management user name	Administrator
Management user password	Password1

16. In the infobase form, test the connection by clicking **Check connection**.

    During the connection testing, the infobase will be initialized, as it will be the first run of data exchange between Service Manager and the infobase.

Creating administrative accounts

This section describes how to create a tenant user with administrative rights for the infobase created in the previous section.

To assign an administrative account

1. In Service Manager, in the **Dashboard** section, click **Clusters**, open the **Service** cluster, and create an administrative account with the following properties:

FIELD	VALUE
Name	The cluster administrator name. If there are no cluster administrators specified, leave this field empty.
Password	The cluster administrator password. If there are no cluster administrators specified, leave this field empty.

2. In the SL 2.0 infobase, in the **Dashboard** section, in the **Infobases** list, open the infobase, click **Administration accounts**, and create an administrative account with the following properties:

FIELD	VALUE
Name	Administrator
Password	Password1

3. To allow sending registration confirmations and other notifications, in the SL 2.0 infobase, in the **Dashboard** section, click **Email accounts**, open the **System account** and fill the following fields:

FIELD	VALUE
Description	System account
Name	SL Test Service
Email	sltest_demo@<yourdomain.com>
User	sltest_demo@<yourdomain.com>
Password	<password for this email account>
Remember password	Select the check box
POP3 server	pop.<yourdomain.com>
SMTP server	smtp.<yourdomain.com>
Use account for sending	Select the check box
Use account for receiving	Select the check box

4. In the **System account** form, click **Advanced settings of mail servers** and fill the following fields:

FIELD	VALUE
POP3 server port	110
SMTP server port	587
Server timeout (sec.)	30
POP3 authentication	Ordinary
SMTP server requires authentication	Select the check box
Same as POP3 server	Select the check box

Creating service subscribers accounts

Once the applications are prepared as described in the previous sections, they can be assigned to subscribers. Subscribers are companies or individuals that buy the service for their employees or for themselves.

Subscribers can register themselves using the web client of Service Manager and the Anonymous account.

To register a subscriber

1. Open the URL http://<yourdomain.com>/SLTest_SM/?N=Anonymous
2. Click **Register** and fill all of the fields.
3. Check the email account that you specified during the registration for the email with a confirmation code.
4. Return to the registration webpage, click **Confirm registration**, and enter the confirmation code.

Registered subscribers are automatically added to the Service Manager and assigned to an application. In the SLTest_Demo infobase, a data area is created and initialized, and then a user with **Full access** role is created and the subscriber can log on to the application.

To log on to Service Manager as a subscriber

1. Open the URL http://<yourdomain.com>/SLTest_SM/
2. Enter the subscriber user name and password.

To log on to SL 2.0 infobase

1. In Service Manager, select an application and click **Log on**.

   –OR-

   Open the URL http://<yourdomain.com>/SLTest_Demo/<application code>

2. Enter the subscriber user name and password.

Application administrators have the option to create users inside the application by using the **Users** subsystem functionality.

Creating data exchange example between 1C:Subsystems Library infobases

1C:Subsystems Library includes a demo exchange plan and the rules required to set up an exchange between two 1C:Subsystems Library infobases.

To set up data exchange

1. Open the first infobase in 1C:Enterprise mode as an administrator with the **AddEditDataExchanges** role.
2. Ensure that the second infobase has a user with the **ExecuteDataExchange** role, which can be used during exchanges.
3. In the first infobase, in the **Settings** section, on the **Tools** menu, click **General settings** and select the following check boxes: **Use data exchange** and **Use data exchange in local mode**.
4. Restart the first infobase for the settings to take effect.

   Once you restart the application, the **Data exchanges** list is added to the **Dashboard**.

5. In the **Data exchanges** list, click **Create** and select **Create exchange with the Standard subsystems library**, and then follow the wizard instructions.

   For example, to set up exchange over direct connection with the second infobase that runs in the file mode, specify the path to the infobase, the user with the **ExecuteDataExchange** role, and its password. To test the connection, click **Check connection**.

To edit a data exchange

1. In the **Data exchanges** list, on the **Setup** menu, click **Execute with setting**.
2. Click **Edit**.