



TIBCO Rendezvous®

Using the IBM i Samples

Version 8.7.0 | October 2023

Contents

RPG Samples for Rendezvous	3
Listen Program	4
Send Program	6
Prototype File	8
Compiling the Samples	9
Binding Applications	10
Executing the Samples	11
Executing from the QSHELL Environment	11
Executing in Batch	11
Rendezvous Programming in RPG	12
TIBCO Documentation and Support Services	15
Legal and Third-Party Notices	18

RPG Samples for Rendezvous

The Rendezvous installation package for IBM i includes ILE RPG samples (source files and executables).

The samples `tibrvlisten.rpgle` and `tibrvsend.rpgle` parallel the functionality in `tibrvlisten.c` and `tibrvsend.c`.

The file `TIBRV.rpgle` contains API prototypes for the calls in these samples.

- [Listen Program](#)
- [Send Program](#)
- [Prototype File](#)
- [Compiling the Samples](#)
- [Executing the Samples](#)
- [Rendezvous Programming in RPG](#)

Listen Program

The program `tibrvlisten` receives Rendezvous messages and outputs them.

Copies of `tibrvlisten.rpgle` exist both in `QRPGLESRC(TIBRVLISTE)` and in the IFS (at `RV_IFS_HOME/src/examples/rpg`).

This implementation of `tibrvlisten` illustrates an RPG-style call interface with positional parameters.

For simplicity, the program uses the `DSPLY` operation to the `QSYSOPR` message queue for all output. To monitor this information without explicitly displaying the message queue, consider setting the queue to `*BREAK` mode:

```
CHGMSGQ MSGQ(QSYSOPR) DLVRY(*BREAK) SEV(0)
```

Syntax

```
call tibrvlisten service network daemon subject1  
                subject_list
```

Parameters

The first four parameters all accept either a specific value, or the keyword `*DEFAULT`.

Parameter	Description
<i>service</i>	Specify the service number. For details, see Service Parameter in TIBCO Rendezvous Concepts. The program interprets the keyword <code>*DEFAULT</code> as 7500.
<i>network</i>	Specify the network name. For details, see Network Parameter in TIBCO Rendezvous Concepts. The program interprets the keyword <code>*DEFAULT</code> as the null string.
<i>daemon</i>	Specify the daemon parameter. For details, see Daemon Parameter in

Parameter	Description
	TIBCO Rendezvous Concepts. The program interprets the keyword *DEFAULT as localhost:7500.
<i>subject1</i>	The program listens for messages with this subject name. The program interprets the keyword *DEFAULT as 'your.subject'.
<i>subject_list</i>	Optional. When present, the program also listens to these subject names. You may supply between zero and four additional subjects.

Call Examples

The first three examples specify equivalent behavior—the program uses the default values for all parameters.

```
ADDLIBLE tibrv_lib
CALL PGM(TIBRVLISTE)
ADDLIBLE tibrv_lib
CALL PGM(TIBRVLISTE) PARM(*DEFAULT *default *DEFAULT *DEFAULT)
ADDLIBLE tibrv_lib
CALL PGM(TIBRVLISTE) PARM(*DEFAULT *DEFAULT *DEFAULT )
```

In the next example, the user supplies a non-default network parameter, and a second listen subject.

```
ADDLIBLE tibrv_lib
CALL PGM(TIBRVLISTE) PARM('7500' *DEFAULT 'myhost.my_enterprise.com:7500' 'our.subject'
'your.subject')
```

Send Program

The send program sends Rendezvous messages.

Copies of `tibrvsend.rpgle` exist both in `QRPGLESRC(TIBRVSEND)` and in the IFS (at `RV_IFS_HOMERV_IFS_HOME/src/examples/rpg`).

In contrast to the listen program, this implementation illustrates a C-style call interface with parameter switches. The code uses fixed-column calculation specifications.

For simplicity, the program uses the `DSPLY` operation to the `*EXT` message queue to communicate with the user.

Syntax

```
call tibrvsend -service service -network network -daemon daemon  
               subject  
               msg_list
```

Parameters

The first three parameters (`-service`, `-network` and `-daemon`) are switched parameters; pair each switch with its value. You may enter these three pairs in any order. If you omit any of these three parameters, the program supplies default values.

Parameter	Description
<code>-service <i>service</i></code>	Optional. Specify the service number. For details, see Service Parameter in TIBCO Rendezvous Concepts. When absent, the default value is 7500.
<code>-network <i>network</i></code>	Optional. Specify the network name. For details, see Network Parameter in TIBCO Rendezvous Concepts. When absent, the default value is the null string.

Parameter	Description
<code>-daemon <i>daemon</i></code>	<p>Optional.</p> <p>Specify the daemon parameter. For details, see Daemon Parameter in TIBCO Rendezvous Concepts.</p> <p>When absent, the default value is localhost:7500.</p>
<code><i>subject</i></code>	<p>Required.</p> <p>The program interprets the first non-switched parameter as the send subject name.</p>
<code><i>msg_list</i></code>	<p>Required.</p> <p>The program interprets all subsequent parameters as messages. It sends these messages on the send subject.</p> <p>The program parses the message strings, and supplies field names. You must supply the characters <code>**</code> to delimit each message string. Embedded space characters are permitted.</p>

Call Example

Notice that this example omits the `-service` and `-network` parameters. It supplies two messages.

```
ADDLIBLE tibrv_lib
CALL PGM(TIBRVSEND) PARM('-daemon' 'myhost.my_enterprise.com:7500' 'b.c.d' 'message 1**'
'message 2* foo **' )
```

Prototype File

The file TIBRV.rpgle contains the prototypes of the Rendezvous calls used in the two RPG examples (which constitute only a subset of the full Rendezvous API).

Copies of TIBRV.rpgle exist both in QRPGLSRC(TIBRV) and in the IFS (at RV_IFS_HOME/src/examples/rpg).

Compiling the Samples

To compile the samples, use the following command(s):

Procedure

1. Find the include file:

```
ADDLIB tibrv_lib
```

2. Create the module:

```
CRTPGMOD MODULE(libr_name/TIBRVSEND) SRCFILE(tibrv_lib/QRPGLESRC)
```

3. Bind the programs:

```
CRTPGM PGM(libr_name/TIBRVSEND) BNDSRVPGM((tibrv_lib/LIBTIBRVI)(tibrv_lib/LIBTIBRV))
```

Binding Applications

It is possible that several versions of Rendezvous are installed. In this situation, you must bind and run applications with the correct version of Rendezvous. Two options are available for binding a product version.

Option A

Statically bind applications to a specific service program. For example:

```
CRTPGM PGM(yourlib/TIBRVSEND) MODULE(yourlib/TIBRVSEND) BNDSRVPGM((tibrv_  
lib/LIBTIBRV) (tibrv_lib/LIBTIBRVI))
```

Option B

Dynamically bind applications with the service program, and determine the version of Rendezvous at run time. First add one of the Rendezvous product libraries to the library list, and then bind your program. For example:

```
ADDLIB tibrv_lib  
CRTPGM PGM(yourlib/TIBRVSEND) MODULE(yourlib/TIBRVSEND) BNDSRVPGM  
((*LIBL/LIBTIBRV) (*LIBL/LIBTIBRVI))
```

To verify the binding of your application, you may execute the following command (to see the library in which service program LIBTIBRV is found):

```
DSPPGM PGM(yourlib/TIBRVSEND) DETAIL(*SRVPGM)
```

Executing the Samples

You can execute the RPG sample programs either from the QSHELL environment or in batch.

Multi-threading is required in either environment.

Executing from the QSHELL Environment

Procedure

1. Enable multi-threading (before starting the QSHELL environment):

```
ADDENVVAR ENVVAR(QIBM_MULTI_THREADED) VALUE(Y) LEVEL(*SYS)
```

2. Start the QSHELL environment:

```
STRQSH
```

3. Start the program:

```
system "CALL PGM(libr_name/TIBRVLISTE) PARM('7500' *DEFAULT 'myhost.my_
enterprise.com:7500' 'our.subject' 'your.subject')"
```

Executing in Batch

Start the program:

```
SBMJOB CMD(CALL PGM(libr_name/TIBRVLISTE) PARM('7500' *DEFAULT 'myhost.my_
enterprise.com:7500' 'our.subject' 'your.subject')) LOG(4 0 *SECLVL) ALWMLTTHD(*YES)
```

Rendezvous Programming in RPG

Coding your own applications in RPG requires that you extend the prototype file to include all the Rendezvous calls that your application uses. Use the information in this section as a guide when you extend the prototype file, and when you code Rendezvous calls in RPG.

Parameter passing protocol in C differs from the parameter passing protocol in RPG. By default RPG passes parameters by reference, unless you explicitly code to pass by value. In contrast, C passes parameters by value (though you can explicitly supply a pointer referencing a location).

The following table guides the translation from C to RPG. Each section of the table addresses a specific type of parameter passing in C, followed by the equivalent constructs in RPG.

When C Passes a Non-String by Value	
C Prototype	foo(int order)
C Program Call	int order; foo(order);
RPG Prototype	...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 d foo pr d order 10i 0 value
RPG Program Call	...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 D order S 10i 0 inz(37) C callp foo(order)

When C Passes a Non-String by Reference

C Prototype	foo(int* order)
-------------	-----------------

C Program Call

```
int order;
foo(&order);
```

RPG Prototype

```
...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5
d foo      pr
d order          10i 0
```

RPG Program Call

```
...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5
D order      S      10i 0 inz(37)
C           callp  foo(order)
```

When C Passes a String by Value

C Prototype

```
foo(char* desc)
```

C Program Call

```
char* desc;
foo(desc);
```

RPG Prototype

```
...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5
d foo      pr
d desc          *  value
```

RPG Program Call

```
...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5
D desc      S      11A
/free
  desc = 'TIBRVLISTE' + X'00';
  foo(%addr(desc));
/end-free
```

When C Passes a String by Reference

C Prototype	<pre>foo(char** desc)</pre>
C Program Call	<pre>char* desc; foo(&desc);</pre>
RPG Prototype	<pre>...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 d foo pr d desc *</pre>
RPG Program Call	<pre>...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 D desc S 11A D pDesc S * inz(%addr(desc)) /free desc = 'TIBRVLISTE' + X'00'; foo(pDesc); /end-free</pre>

TIBCO Documentation and Support Services

For information about this product, you can read the documentation, contact TIBCO Support, and join TIBCO Community.

How to Access TIBCO Documentation

Documentation for TIBCO products is available on the [Product Documentation website](#), mainly in HTML and PDF formats.

The [Product Documentation website](#) is updated frequently and is more current than any other documentation included with the product.

Product-Specific Documentation

The following documentation for this product is available on the [TIBCO Rendezvous® Product Documentation](#) page:

- *TIBCO Rendezvous® Concepts* - Read this book first. It contains basic information about Rendezvous components, principles of operation, programming constructs and techniques, advisory messages, and a glossary. All other books in the documentation set refer to concepts explained in this book.
- *TIBCO Rendezvous® Administration* - Begins with a checklist of action items for system and network administrators. This book describes the mechanics of TIBCO Rendezvous® licensing, network details, plus a chapter for each component of the TIBCO Rendezvous® software suite. Readers should have TIBCO Rendezvous Concepts at hand for reference.
- *TIBCO Rendezvous® Installation* - Includes step-by-step instructions for installing TIBCO Rendezvous® software on various operating system platforms.
- *TIBCO Rendezvous® C Reference* - Detailed descriptions of each data type and function in the TIBCO Rendezvous® C API. Readers should already be familiar with the C programming language, as well as the material in TIBCO Rendezvous Concepts.
- *TIBCO Rendezvous® C++ Reference* - Detailed descriptions of each class and method in the TIBCO Rendezvous® C++ API. The C++ API uses some data types and functions from the C API, so we recommend the TIBCO Rendezvous C Reference as an

additional resource. Readers should already be familiar with the C++ programming language, as well as the material in TIBCO Rendezvous Concepts.

- *TIBCO Rendezvous® .NET Reference* - Detailed descriptions of each class and method in the TIBCO Rendezvous® .NET interface. Readers should already be familiar with either C# or Visual Basic .NET, as well as the material in TIBCO Rendezvous Concepts.
- *TIBCO Rendezvous® Java Reference* - Detailed descriptions of each class and method in the TIBCO Rendezvous® Java language interface. Readers should already be familiar with the Java programming language, as well as the material in TIBCO Rendezvous Concepts.
- *TIBCO Rendezvous® Configuration Tools* -Detailed descriptions of each Java class and method in the TIBCO Rendezvous® configuration API, plus a command line tool that can generate and apply XML documents representing component configurations. Readers should already be familiar with the Java programming language, as well as the material in TIBCO Rendezvous Administration.
- *TIBCO Rendezvous® z/OS Installation and Configuration* - Information about TIBCO Rendezvous® for IBM z/OS systems regarding installation and maintenance. Some information may be also useful for application programmers.
- *TIBCO Rendezvous® Release Notes* - Lists new features, changes in functionality, deprecated features, migration and compatibility information, closed issues and known issues.

To directly access documentation for this product, double-click the following file:

`TIBCO_HOME/release_notes/TIB_rv_8.7.0_docinfo.html`

where `TIBCO_HOME` is the top-level directory in which TIBCO products are installed.

- On Windows, the default `TIBCO_HOME` is `C:\tibco`.
- On UNIX systems, the default `TIBCO_HOME` is `/opt/tibco`.

How to Contact Support for TIBCO Products

You can contact the Support team in the following ways:

- To access the Support Knowledge Base and getting personalized content about products you are interested in, visit our [product Support website](#).
- To create a Support case, you must have a valid maintenance or support contract with a Cloud Software Group entity. You also need a username and password to log in to the our [product Support website](#). If you do not have a username, you can

request one by clicking **Register** on the website.

How to Join TIBCO Community

TIBCO Community is the official channel for TIBCO customers, partners, and employee subject matter experts to share and access their collective experience. TIBCO Community offers access to Q&A forums, product wikis, and best practices. It also offers access to extensions, adapters, solution accelerators, and tools that extend and enable customers to gain full value from TIBCO products. In addition, users can submit and vote on feature requests from within the [TIBCO Ideas Portal](#). For a free registration, go to [TIBCO Community](#).

Legal and Third-Party Notices

SOME CLOUD SOFTWARE GROUP, INC. (“CLOUD SG”) SOFTWARE AND CLOUD SERVICES EMBED, BUNDLE, OR OTHERWISE INCLUDE OTHER SOFTWARE, INCLUDING OTHER CLOUD SG SOFTWARE (COLLECTIVELY, “INCLUDED SOFTWARE”). USE OF INCLUDED SOFTWARE IS SOLELY TO ENABLE THE FUNCTIONALITY (OR PROVIDE LIMITED ADD-ON FUNCTIONALITY) OF THE LICENSED CLOUD SG SOFTWARE AND/OR CLOUD SERVICES. THE INCLUDED SOFTWARE IS NOT LICENSED TO BE USED OR ACCESSED BY ANY OTHER CLOUD SG SOFTWARE AND/OR CLOUD SERVICES OR FOR ANY OTHER PURPOSE.

USE OF CLOUD SG SOFTWARE AND CLOUD SERVICES IS SUBJECT TO THE TERMS AND CONDITIONS OF AN AGREEMENT FOUND IN EITHER A SEPARATELY EXECUTED AGREEMENT, OR, IF THERE IS NO SUCH SEPARATE AGREEMENT, THE CLICKWRAP END USER AGREEMENT WHICH IS DISPLAYED WHEN ACCESSING, DOWNLOADING, OR INSTALLING THE SOFTWARE OR CLOUD SERVICES (AND WHICH IS DUPLICATED IN THE LICENSE FILE) OR IF THERE IS NO SUCH LICENSE AGREEMENT OR CLICKWRAP END USER AGREEMENT, THE LICENSE(S) LOCATED IN THE “LICENSE” FILE(S) OF THE SOFTWARE. USE OF THIS DOCUMENT IS SUBJECT TO THOSE SAME TERMS AND CONDITIONS, AND YOUR USE HEREOF SHALL CONSTITUTE ACCEPTANCE OF AND AN AGREEMENT TO BE BOUND BY THE SAME.

This document is subject to U.S. and international copyright laws and treaties. No part of this document may be reproduced in any form without the written authorization of Cloud Software Group, Inc.

TIBCO, the TIBCO logo, the TIBCO O logo, TIB, Information Bus, FTL, eFTL, Rendezvous, and LogLogic are either registered trademarks or trademarks of Cloud Software Group, Inc. in the United States and/or other countries.

Java and all Java based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates.

All other product and company names and marks mentioned in this document are the property of their respective owners and are mentioned for identification purposes only. You acknowledge that all rights to these third party marks are the exclusive property of their respective owners. Please refer to Cloud SG’s Third Party Trademark Notices (<https://www.cloud.com/legal>) for more information.

This document includes fonts that are licensed under the SIL Open Font License, Version 1.1, which is available at: <https://scripts.sil.org/OFL>

Copyright (c) Paul D. Hunt, with Reserved Font Name Source Sans Pro and Source Code Pro.

Cloud SG software may be available on multiple operating systems. However, not all operating system platforms for a specific software version are released at the same time. See the “readme” file

for the availability of a specific version of Cloud SG software on a specific operating system platform.

THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT.

THIS DOCUMENT COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE PERIODICALLY ADDED TO THE INFORMATION HEREIN; THESE CHANGES WILL BE INCORPORATED IN NEW EDITIONS OF THIS DOCUMENT. CLOUD SG MAY MAKE IMPROVEMENTS AND/OR CHANGES IN THE PRODUCT(S), THE PROGRAM(S), AND/OR THE SERVICES DESCRIBED IN THIS DOCUMENT AT ANY TIME WITHOUT NOTICE.

THE CONTENTS OF THIS DOCUMENT MAY BE MODIFIED AND/OR QUALIFIED, DIRECTLY OR INDIRECTLY, BY OTHER DOCUMENTATION WHICH ACCOMPANIES THIS SOFTWARE, INCLUDING BUT NOT LIMITED TO ANY RELEASE NOTES AND "README" FILES.

This and other products of Cloud SG may be covered by registered patents. For details, please refer to the Virtual Patent Marking document located at <https://www.tibco.com/patents>.

Copyright © 1997-2023. Cloud Software Group, Inc. All Rights Reserved.