Natural Business Services

Natural Business Services Tools and Utilities

Version 8.2.1

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Natural Business Services

This document applies to Natural Business Services Version 8.2.1.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Preface

Natural Business Services Tools and Utilities describes the tools and utilities provided by Natural Business Services (NBS).

This documentation is intended for developers who are familiar with Natural Business Services and want to learn how to use the tools and utilities supplied with NBS.

Natural Business Services Tools and Utilities covers the following topics:

Broker Driver Program	Describes the Broker Driver program, which you can use to send and receive low-level Broker calls for testing purposes.
NBS Tester	Describes the NBS tester, which you can use to test the connections used to access your business services.
NBS Server Monitor	Describes the Server Monitor application provided by Natural Business Services (NBS). The **NBS Server Monitor** provides GUI access to the Business Service Administration subsystem, where you can monitor and control active NBS servers.

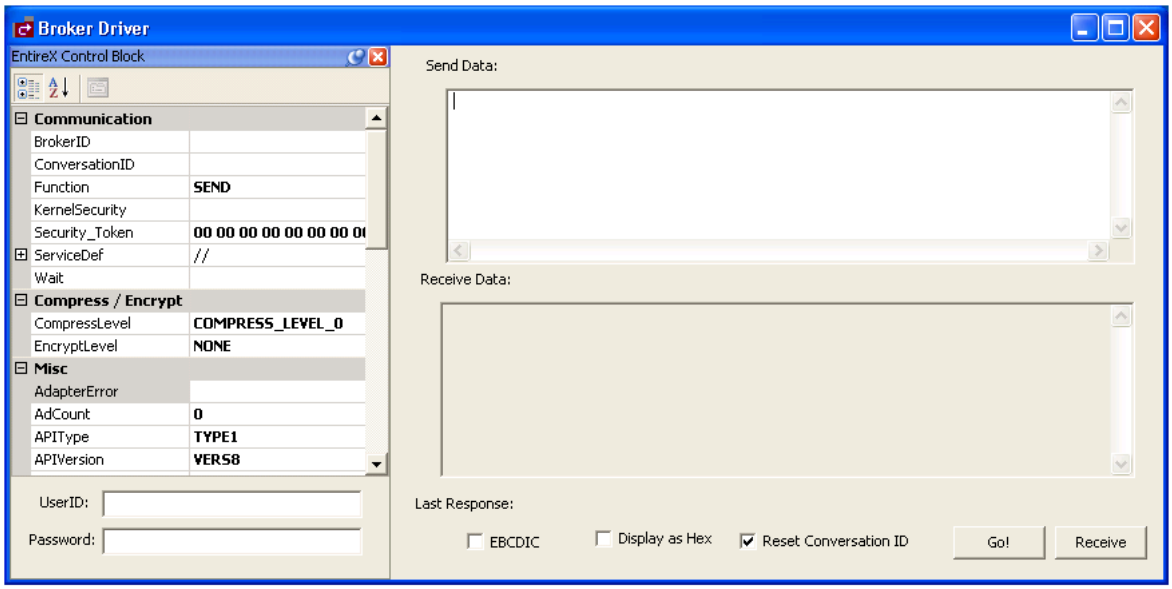
1 Broker Driver Program

You can use the Broker Driver program to send and receive low-level EntireX Broker calls for testing purposes.

To access the Broker Driver program:

1 Select **All Programs > Software AG Natural Business Services > Broker Driver** on the **Start** menu.

The **Broker Driver** window is displayed. For example:



2 Define information about the Broker call in the appropriate input fields.

For example, the Broker ID and Kernel Security settings for the call. Use the scroll bar to display additional input fields.

Note: For information on the Broker call settings, see the EntireX Communicator documentation.

3 Type the user ID and password for the connection you are testing.

4 Select **Go!**.

The Broker Driver program sends the data to the server.

5 Select **Receive** to display the data returned from the server.

2 NBS Tester

Using the NBS Tester, you can build a test suite to test the connections used to access your business services. The NBS Tester is available on the **Tools** menu in the Natural Business Services Natural plug-in or as a stand-alone utility on the **Start** menu.

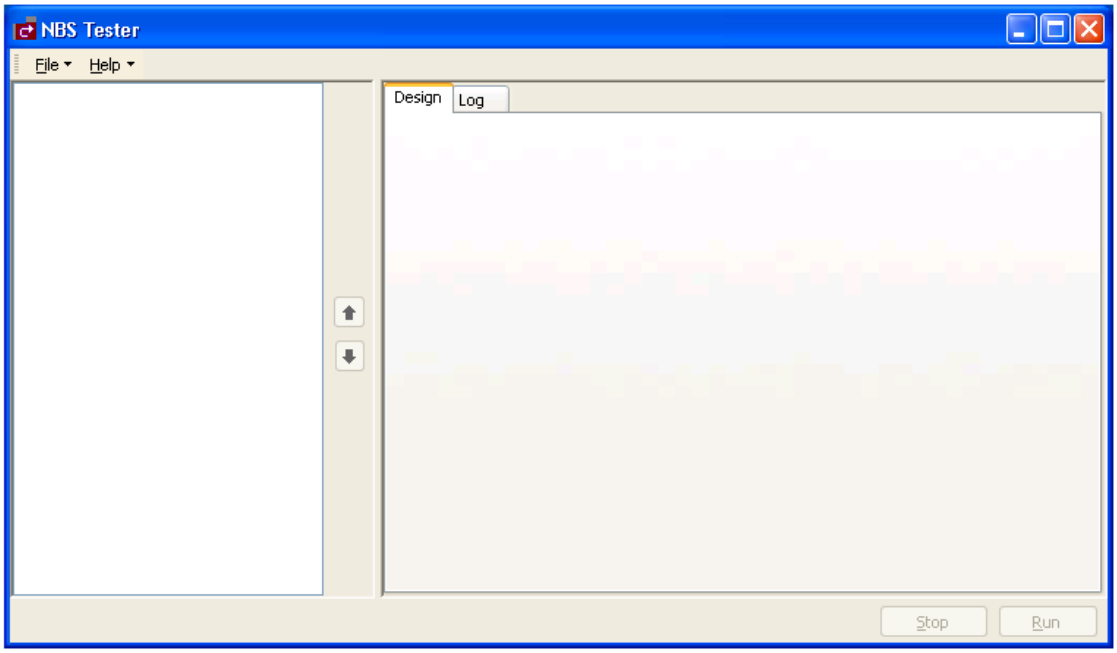
- If you run this utility from the Natural plug-in, the current mapped connection is tested.
- If you run the utility from the **Start** menu, you can select which connection to test.

Build a New Test Suite

To create a new test suite:

1 Select **All Programs > Software AG Natural Business Services > NBS Tester** on the **Start** menu.

The **NBS Tester** window is displayed. For example:

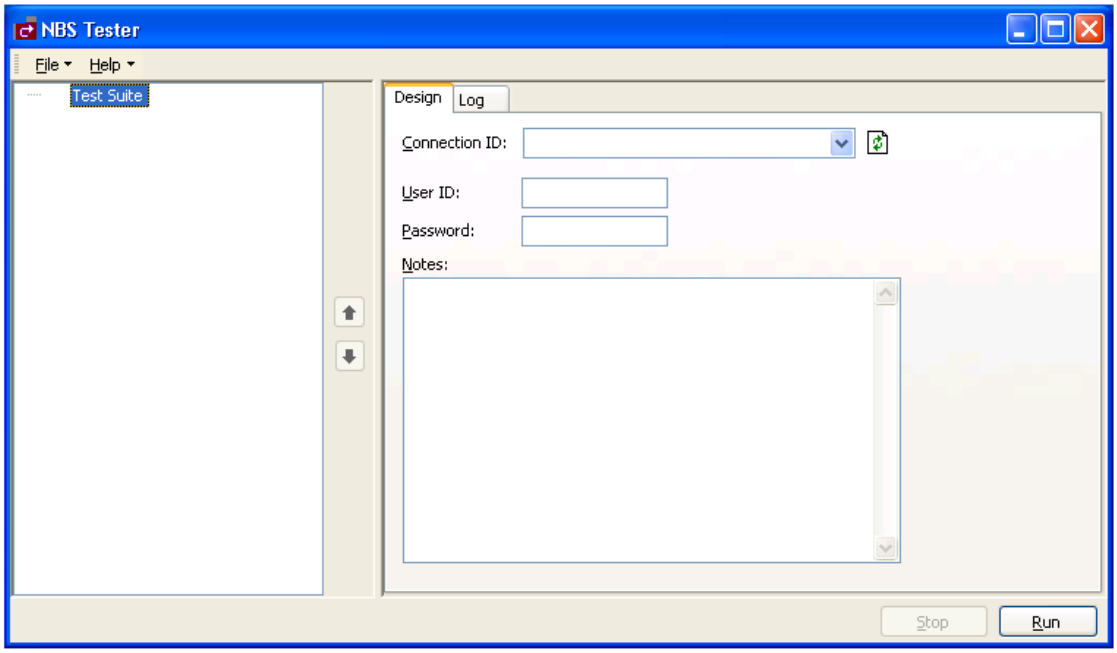


2 Select **New** on the **File** menu.

Test Suite is displayed in the upper left corner of the window.

3 Select **Test Suite**.

The **Design** tab becomes active. For example:



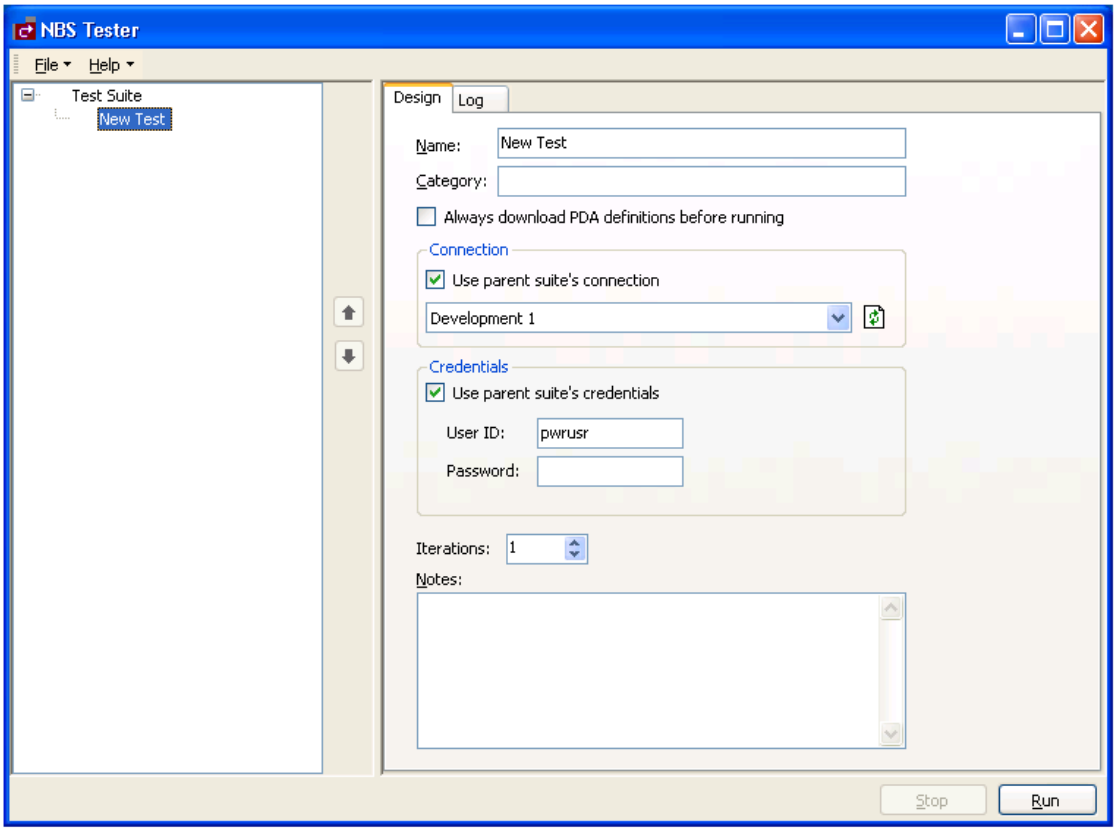
4 Select the connection ID in **Connection ID**.

5 Type the user ID and password for the connection.

6 Open the context menu for Test Suite.

7 Select **Add Test**.

The **Design** tab displays the specifications for a new test. For example:



8 Type a descriptive name for the test you are creating in **Name** (for this example, type "Test example").

The name is displayed in the Test Suite tree. You can optionally specify the following information for the test:

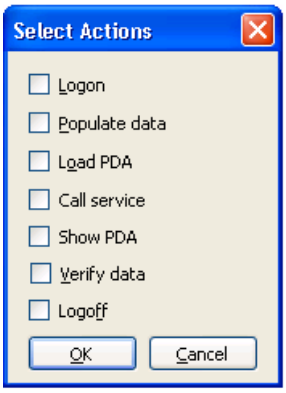
Option	Description
Category	Name of the category for this test suite (for example, Development).
Always download PDA definition before running	If this option is selected, the PDA definition is downloaded before the test is run.
Connection/Use parent suite's connection	If this option is selected, the test suite is part of another test suite and will use the parent test suite's connection ID. If this option is not selected, select the connection ID to use for this test suite.
Credentials/Use parent suite's credentials	If this option is selected, the test suite is part of another test suite and will use the parent test suite's credentials. If this option is not selected, type the user ID and password to use for this test suite.
Iterations	Number of times to run the test.
Notes	Information about the test suite.

9 Open the context menu for the new test in the Test Suite tree.

For this example, the Test example node.

10 Select **Add Actions**.

The **Select Actions** window is displayed. For example:



This window lists the actions available for the test suite.

11 Select the actions you want to test.

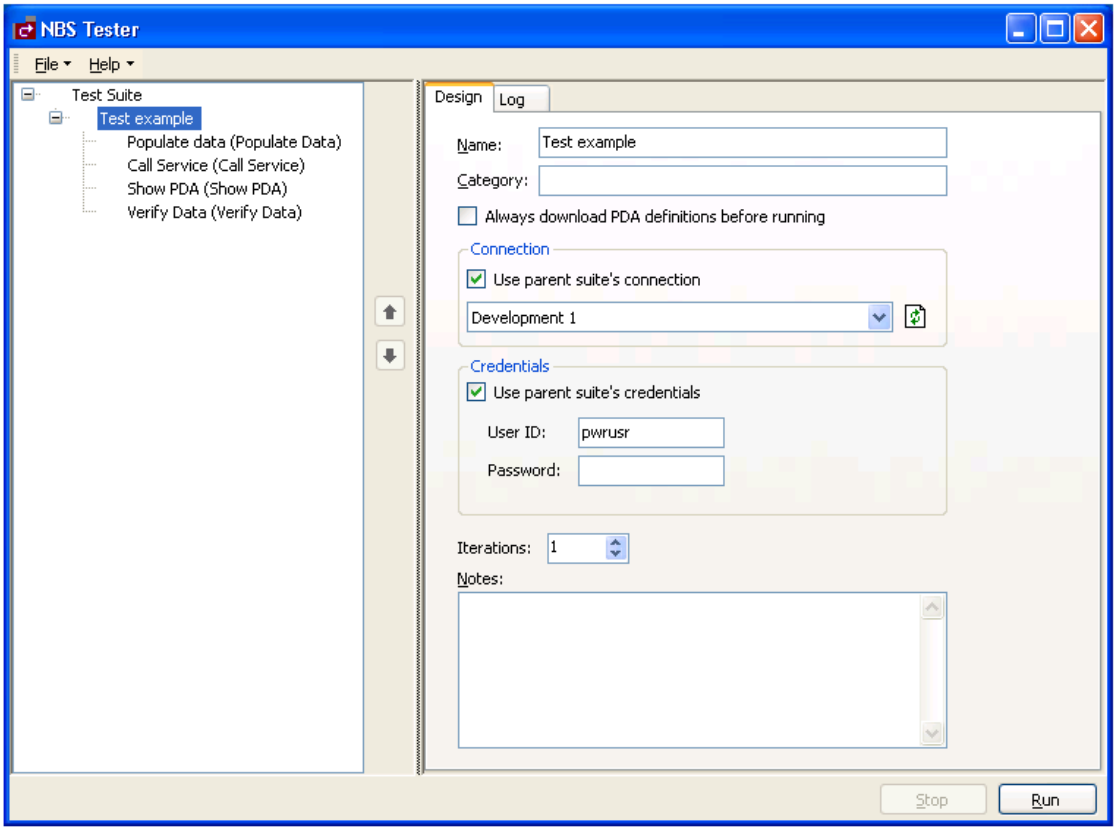
For this example, select the following actions:

- Populate data
- Call service
- Show PDA
- Verify data

12 Select **OK**.

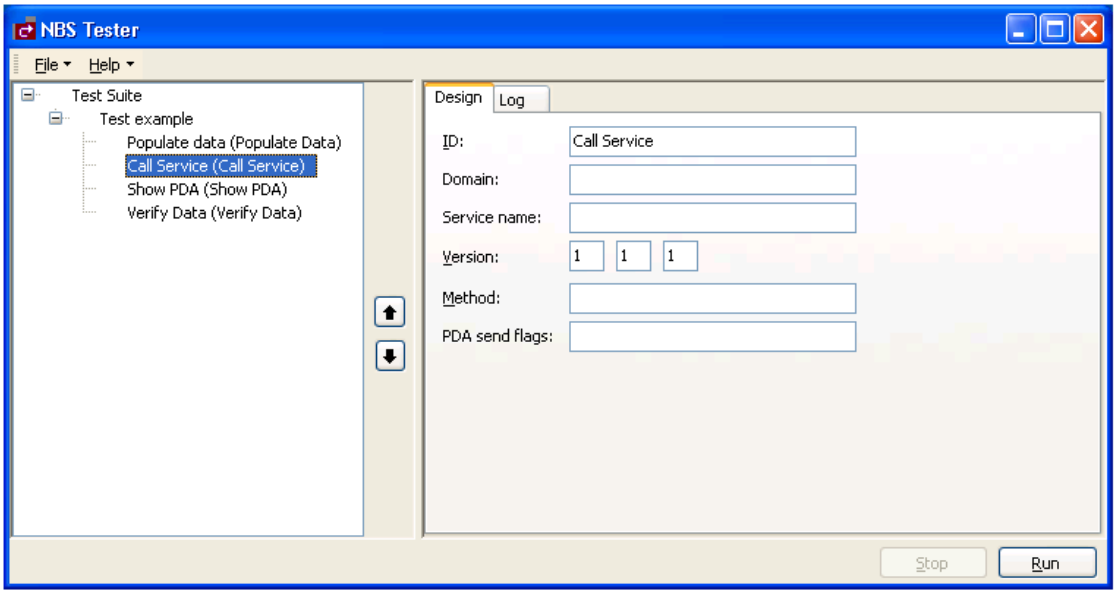
13 Expand the Test example node.

For example:



14 Select **Call Service** to specify which service to call.

The call service information is displayed on the **Design** tab. For example:



15 Type the following information:

Field	Input
Domain	DEMO
Service name	Calculator
Method	Add

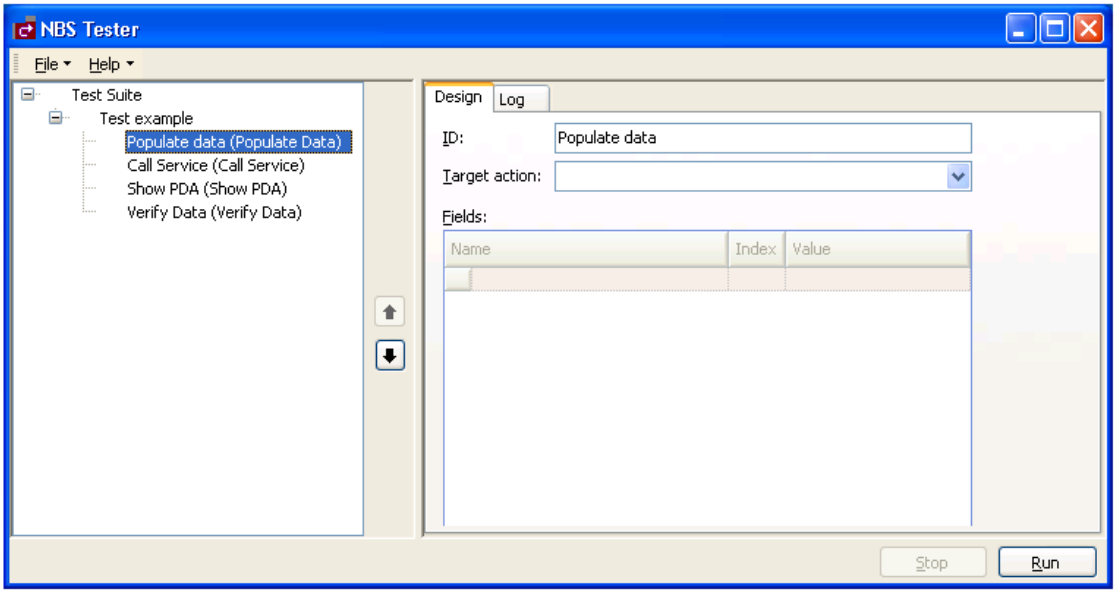
Note: Ensure the input values use the same case as indicated above.

Optionally, you can:

- Type a different call service in **ID**
- Type a different version number in **Version** (by default, 1.1.1)
- Specify how the PDA will be sent to the server in **PDA send flags**

16 Select **Populate data** to specify which data to send to the service for the test.

The Populate data information is displayed on the **Design** tab. For example:



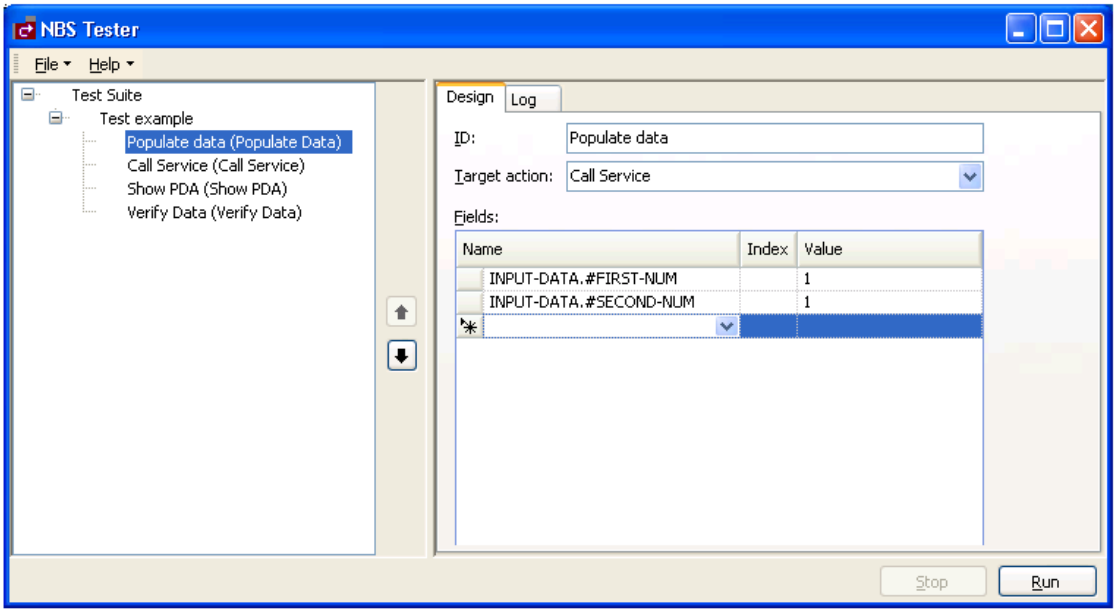
17 Select **Call Service** in **Target action**.

18 Type the following two lines in **Name**:

```
INPUT-DATA.#FIRST-NUM
INPUT-DATA.#SECOND-NUM
```

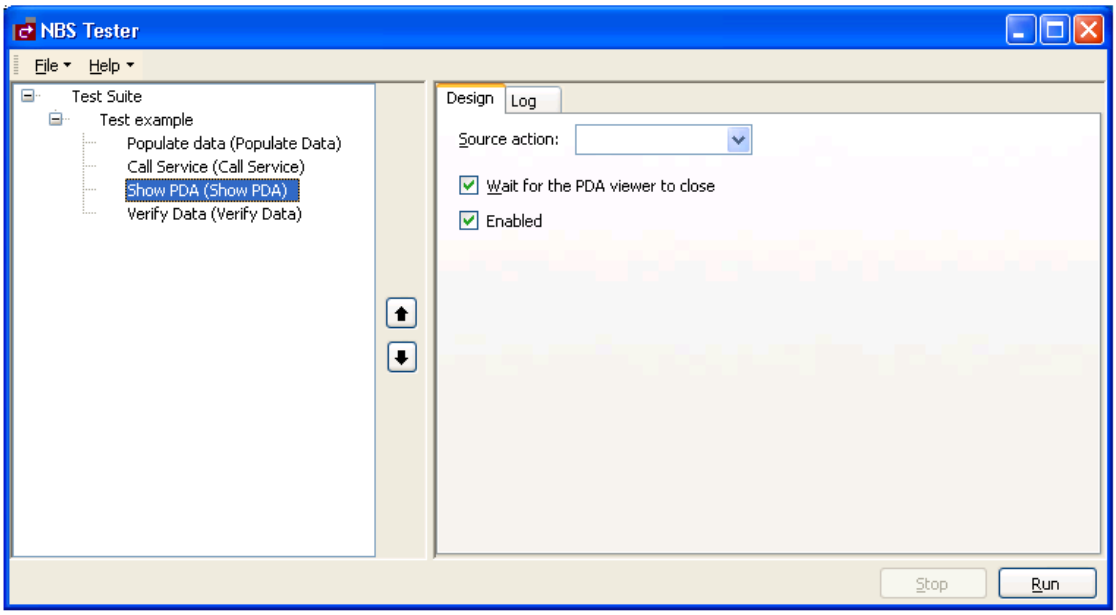
19 Type "1" in **Value** for both numbers.

For example:



20 Select **Show PDA**.

This action allows you to debug the service for testing purposes. The Show PDA information is displayed on the **Design** tab. For example:

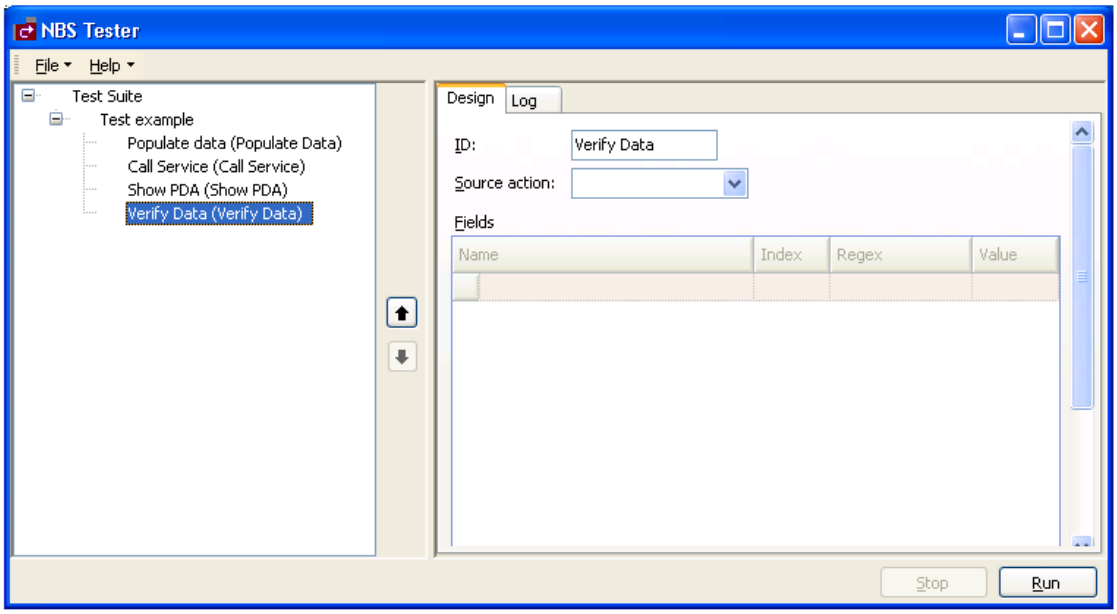


21 Select **Call Service** in **Source action**.

The source action must be specified. This value will be any call service in your test.

22 Select **Verify Data** to verify that the service is working correctly.

The Verify data information is displayed on the **Design** tab. For example:



23 Select **Call Service** in **Source action**.

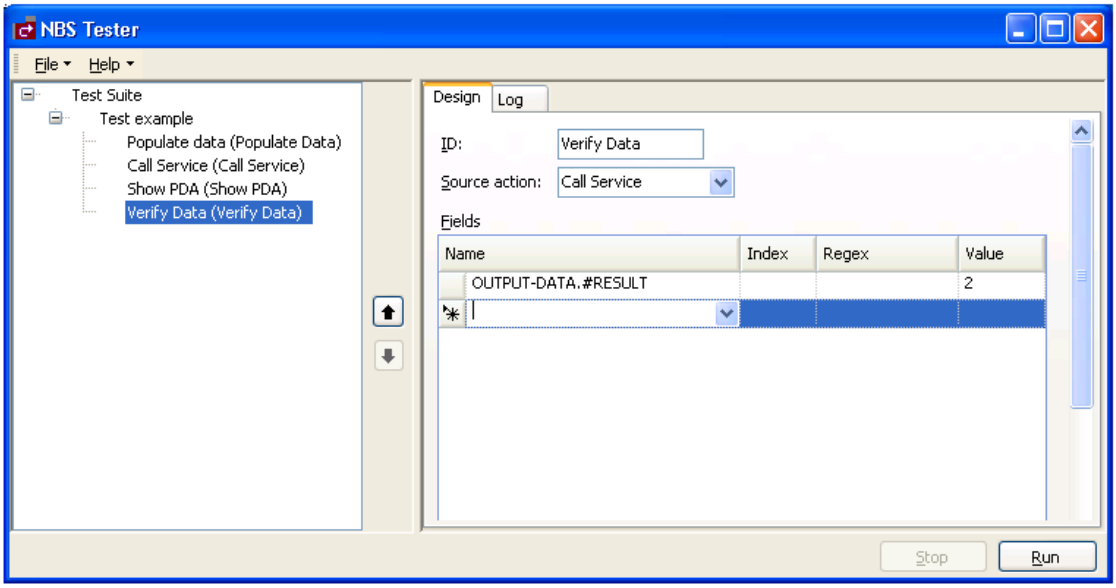
24 Type the following in **Name**:

```
OUTPUT-DATA.#RESULT
```

Note: Regex indicates a Regular Expression. You can use this field to specify a Regex pattern to check for matches.

25 Type "2" in **Value**.

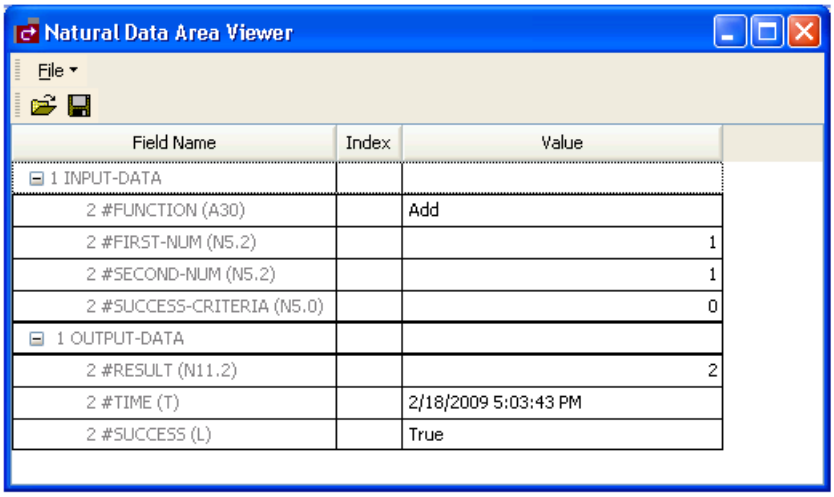
For example:



This value indicates that the expected result of the test is 2.

26 Select **Run**.

Because you selected **Show PDA**, the **Natural Data Area Viewer** window is displayed. For example:

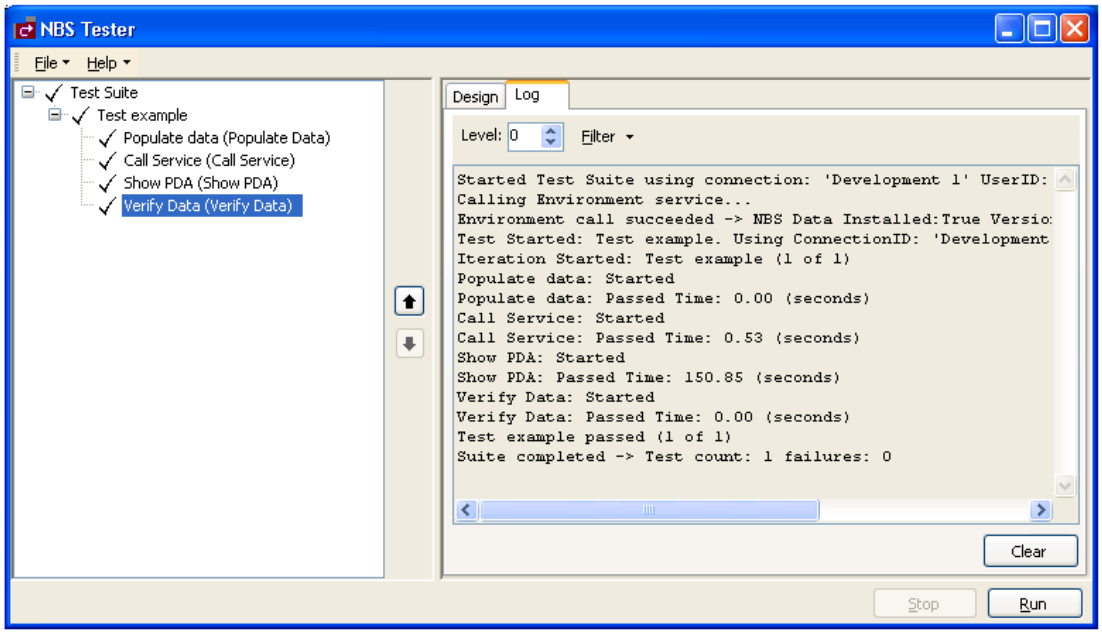


This window displays the INPUT/OUTPUT data in the PDA for the service.

27 Close the window.

28 Select the Log tab to see the results of the test.

For example:



29 Select **Save** on the **File** menu to save the test suite.

A window is displayed to type a name for the test and select a location to store the test suite.

Note: You can repeat this procedure to create additional test suites.

Add a Test to an Existing Test Suite

After saving a test suite, you can add other tests to the suite.

To add a test to an existing test suite:

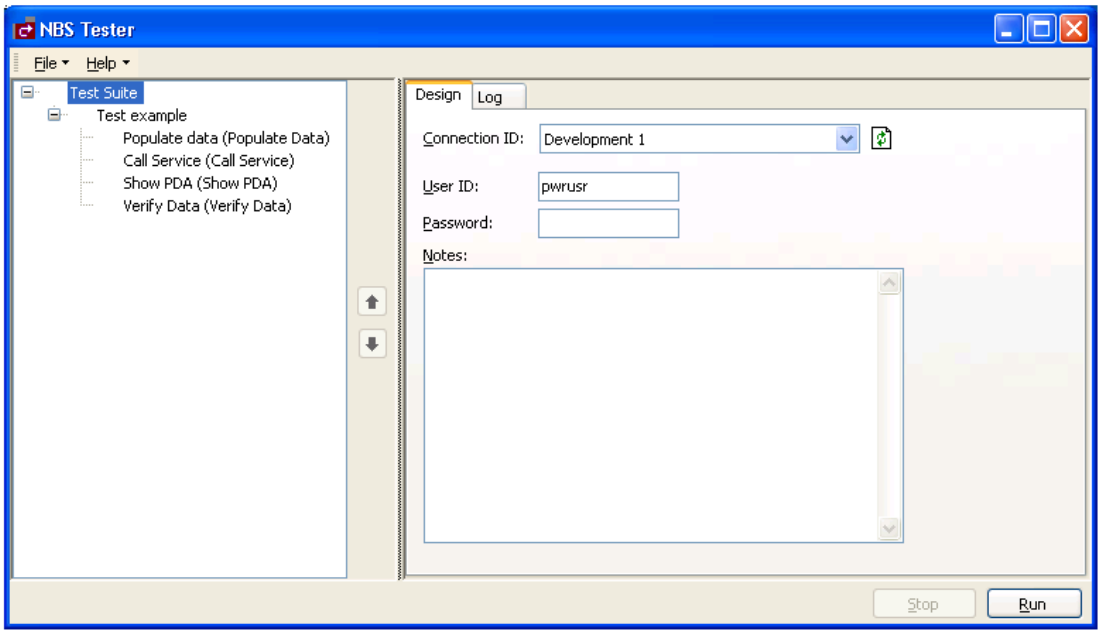
1 Select **Open** on the **File** menu.

A selection window is displayed.

2 Select the test suite.

The selected test suite is displayed in the NBS Tester window.

Expand the Test node to see the actions for the test. For example:



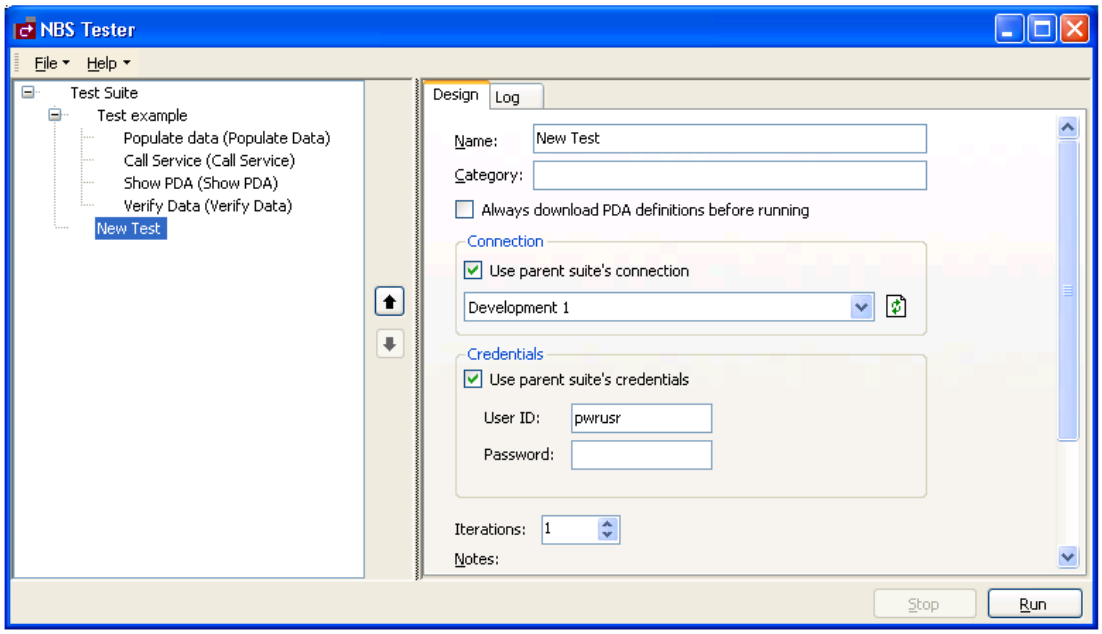
Optionally, you can use this window to:

- Change the connection ID for the new test
- Change the user ID or password

3 Open the context menu for Test Suite.

4 Select **Add Test**.

The new test is added to the test suite. For example:



5 Enter the specifications for the new test.

For information, see *Build a New Test Suite*.

6 Select **Save** on the **File** menu to save the changes.

Reorder a Test in an Existing Test Suite

You can reorder the tests in an existing test suite.

To reorder a test in an existing test suite:

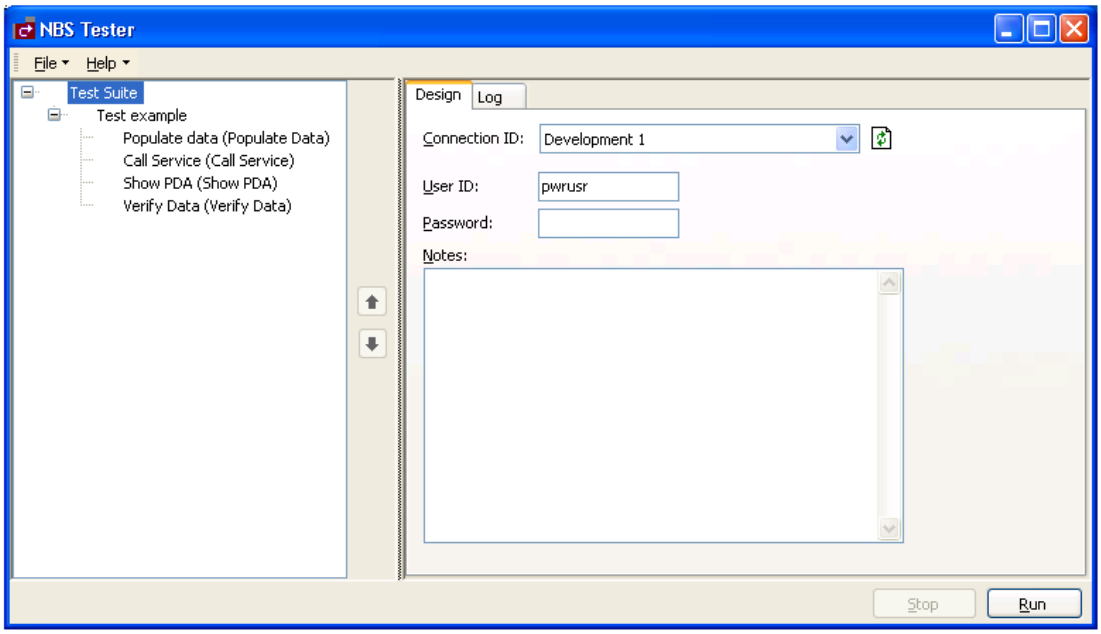
1 Select **Open** on the **File** menu.

A selection window is displayed.

2 Select the test suite.

The selected test suite is displayed in the NBS Tester window.

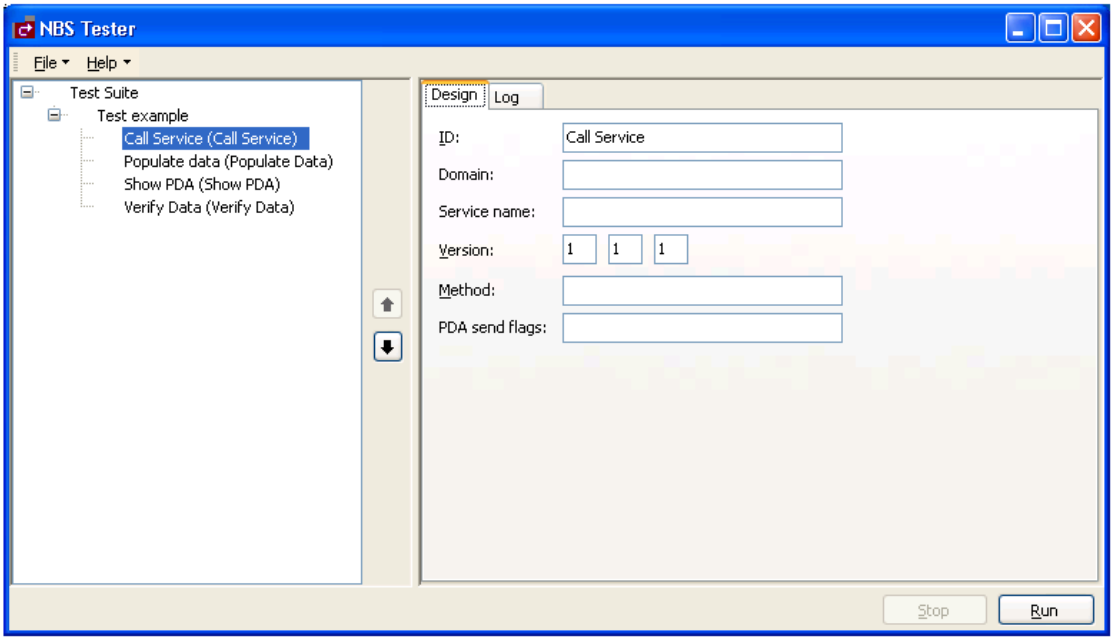
Expand the Test node to see the actions for the test. For example:



3 Select the test you want to reorder.

4 Select the up or down arrow to move the test to a new position.

In the following example, the Call Service action was moved up in the list:



5 Select **Save** on the **File** menu to save the changes.

Delete a Test Suite

To delete an existing test suite:

1 Open the context menu for the test suite.

2 Select **Delete**.

3 Select **Save** on the **File** menu to save the changes.

Delete a Test from a Test Suite

To delete a test from an existing test suite:

1 Open the context menu for the test suite.

2 Select **Delete**.

3 Select **Save** on the **File** menu to save the changes.

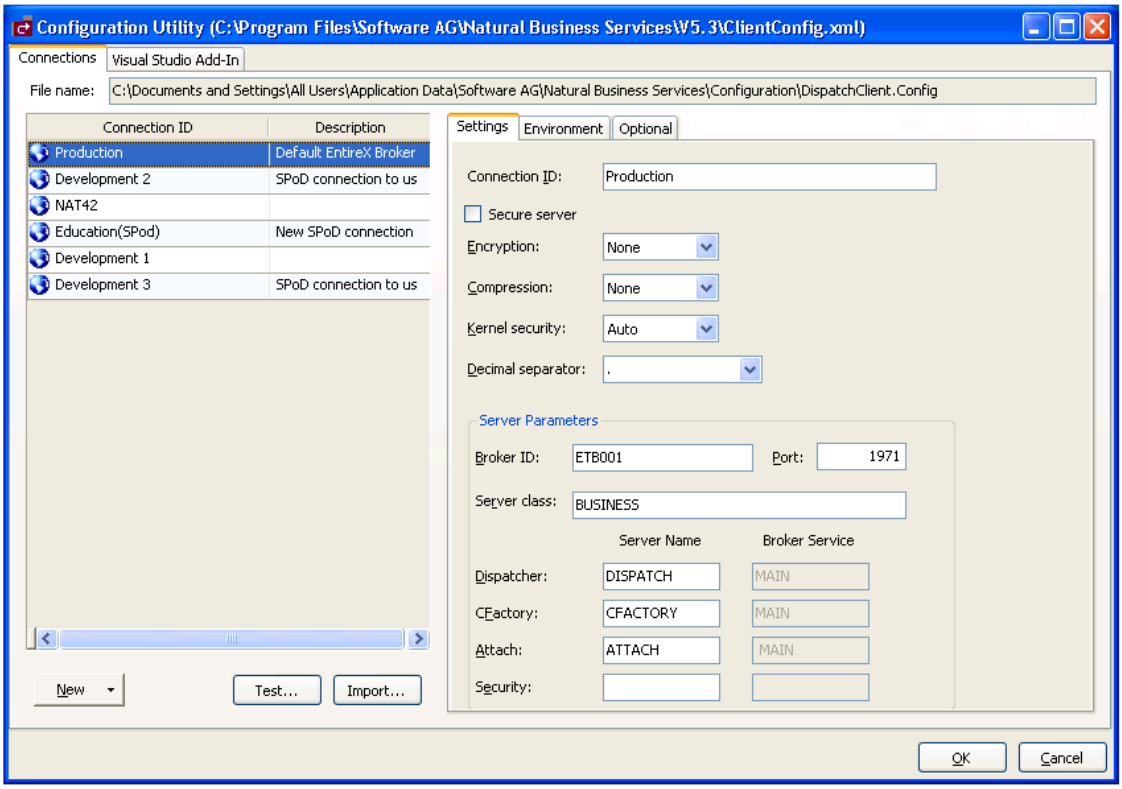
Access the NBS Configuration Utility

You can use the NBS Tester to access the Configuration utility.

To access the Configuration utility:

- Select **NBS Configuration** on the **File** menu.

  The Configuration utility is displayed. For example:



For information about the settings on this panel, see:

- For the Eclipse plug-in, *Configure Connections*
- For the Visual Studio add-in, *Configure Connections*

3 NBS Server Monitor

The **NBS Server Monitor** is a GUI application that provides functionality similar to the character-based Manage Servers function in the Business Service Administration subsystem ("SA MS" on the command line). Use the **NBS Server Monitor** windows to monitor and control active Natural Business Services servers. This application accepts the same commands as are available using the Manage Servers function. The only restriction is that at least one instance of the Attach Manager must be running, which prevents its use to initiate the first session of that server.

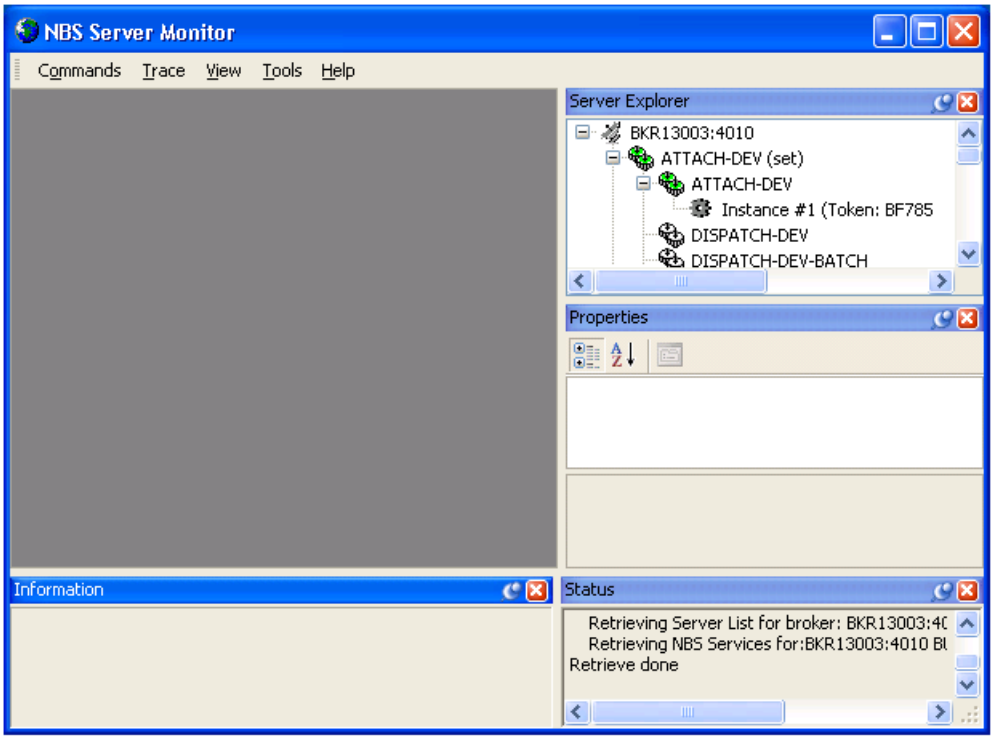
Note: Before you can use the **NBS Server Monitor**, you must specify the development configuration settings for the client. For information see *Configure the Client Component*.

Access the NBS Server Monitor

To access the NBS Server Monitor:

- Select **All Programs > Software AG Natural Business Services > Server Monitor** on the **Start** menu.

  The **NBS Server Monitor** is displayed. For example:



The **NBS Server Monitor** attempts to connect to all pre-defined servers and display detailed information about the servers that are currently running.

Use the NBS Server Monitor Windows

The following table describes the **NBS Server Monitor** windows:

Window	Description
Main	Displays the commands sent to the servers. Commands issued via the context menu are also recorded in this window, which allows you to modify and re-submit the commands to the same server. The main window also contains the output from most commands sent to the servers.
Server Explorer	Contains a tree view of all pre-defined Broker nodes, as well as the names of all the NBS servers and services currently running under each node.
Properties	Contains detailed information about the server selected in the **Server Explorer** window.
Information	Contains additional details about the server selected in the **Server Explorer** window.
Status	Contains information about the status of the connection for each Broker node. **Tip:** Use this window as a starting point for debugging communication problems.

Arrange the NBS Server Monitor Windows

Each of the **NBS Server Monitor** windows can be displayed in the following modes:

- docked
- floating
- hidden
- auto-hide

To select the display mode:

1 Open the context menu for the window's title bar.

2 Select one of the display modes listed on the submenu.

Note: You can also use drag-and-drop functionality to move any window by its title bar.

To restore all windows to their original arrangement:

- Select **Reset** on the **View** menu.

Refresh Data

Since the server information is constantly changing, you may want to refresh the data periodically. This section describes how to refresh the data manually and how to set up the **NBS Server Monitor** to automatically retrieve fresh data at predefined intervals.

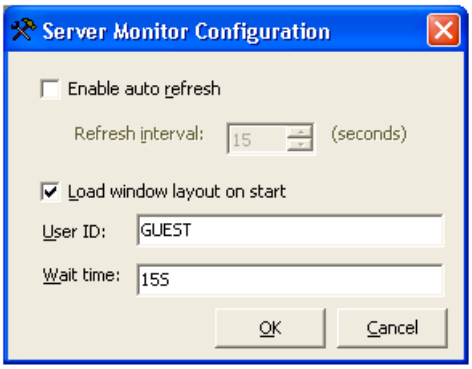
To manually refresh data:

- Select **Refresh** on the **View** menu.

To set up the NBS Server Monitor to automatically refresh data:

1 Select **Configuration** on the **Tools** menu.

The **Server Monitor Configuration** window is displayed. For example:



2 Select **Enable auto refresh**.

The **Refresh interval** option is enabled.

3 Select the number of seconds before refreshing data.

4 Select **OK**.

Set Security Credentials

To set Broker security credentials for a remote Broker node:

1 Open the context menu for the Broker node in the **Server Explorer** window.

Tip: You can also select **Set Credentials** on the **Tools** menu.

The **Set Credentials** window is displayed, prompting you to enter your user ID and password.

2 Select **OK**.

3 Select **Refresh** on the **View** menu to refresh the **NBS Server Monitor** window.

Send Commands to the Servers

You can send commands to any server, provided there is at least one copy of an Attach Manager running under the corresponding Broker node.

To send commands to a server:

1 Open the context menu for the server in the **Server Explorer** window.

Tip: You can also open the **Commands** menu.

2 Select the command from the commands listed.

Create Trace Files

To create trace files for any active server:

1 Open the context menu for the server in the **Server Explorer** window.

Tip: You can also select **Create** on the **Trace** menu.

2 Select **Trace**.