Guided Exercise 3.1: Using the OpenEdge Editor perspective

Guided Exercise 3.1: Using the OpenEdge Editor perspective

Overview

In this Guided Exercise, you will practice using OpenEdge Editor. You will create a procedure file, add ABL code and then modify the ABL code.

Important: You must complete this Guided Exercise to perform subsequent Guided Exercises in this course.

The exercise steps take approximately 15 minutes to complete.

Before you begin

Before you begin this Guided Exercise, you must:

- Set up your exercise environment, if you have not done so already. See the Before you begin module for details.
- Complete the steps of Guided Exercise 2.1, if you have not done so already.
- Ensure the Database Server for the sports2020 database is started.

Location of files:

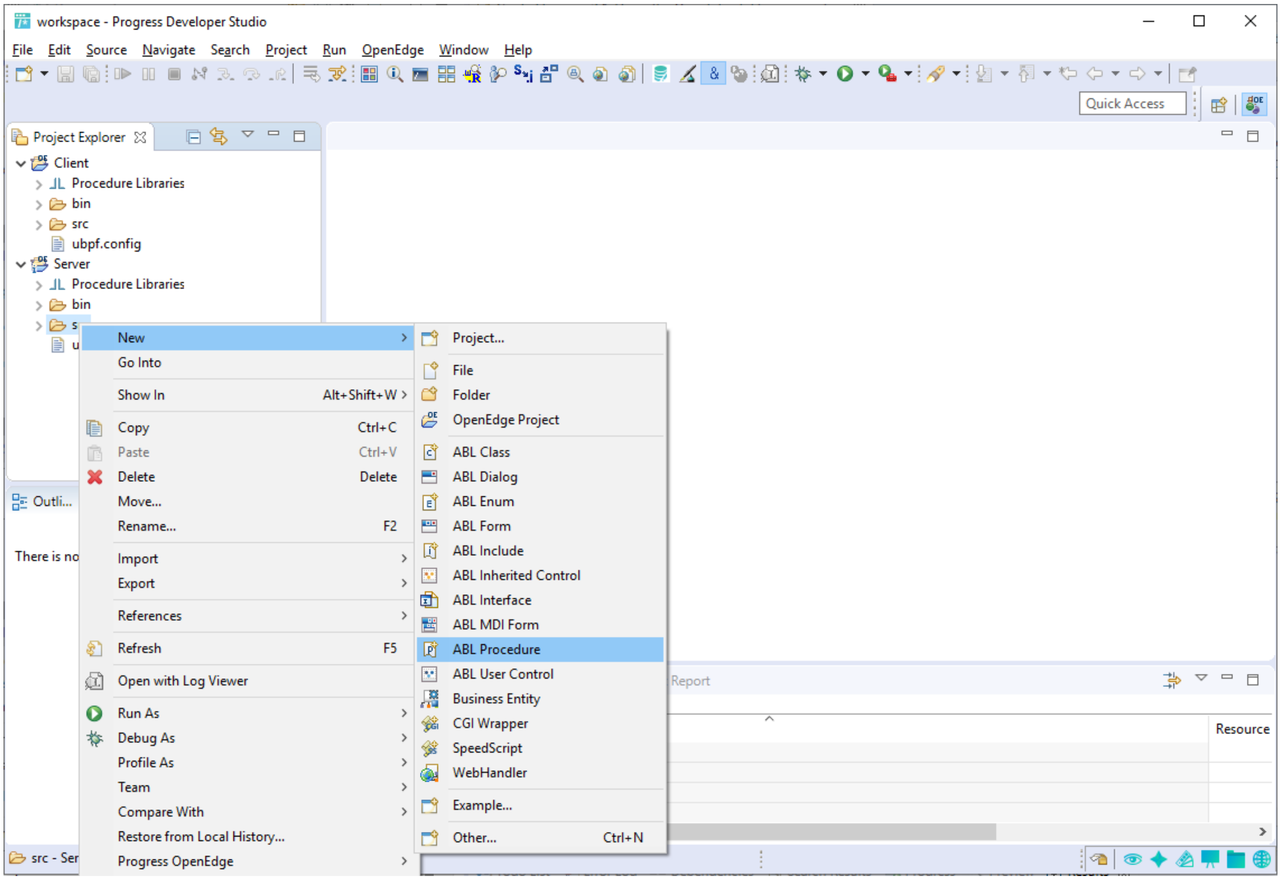
Exercise files: `C:\progress_education\openedge\DeveloperStudio\Exercise`.

Part 1—Creating an ABL procedure file and adding ABL code to it

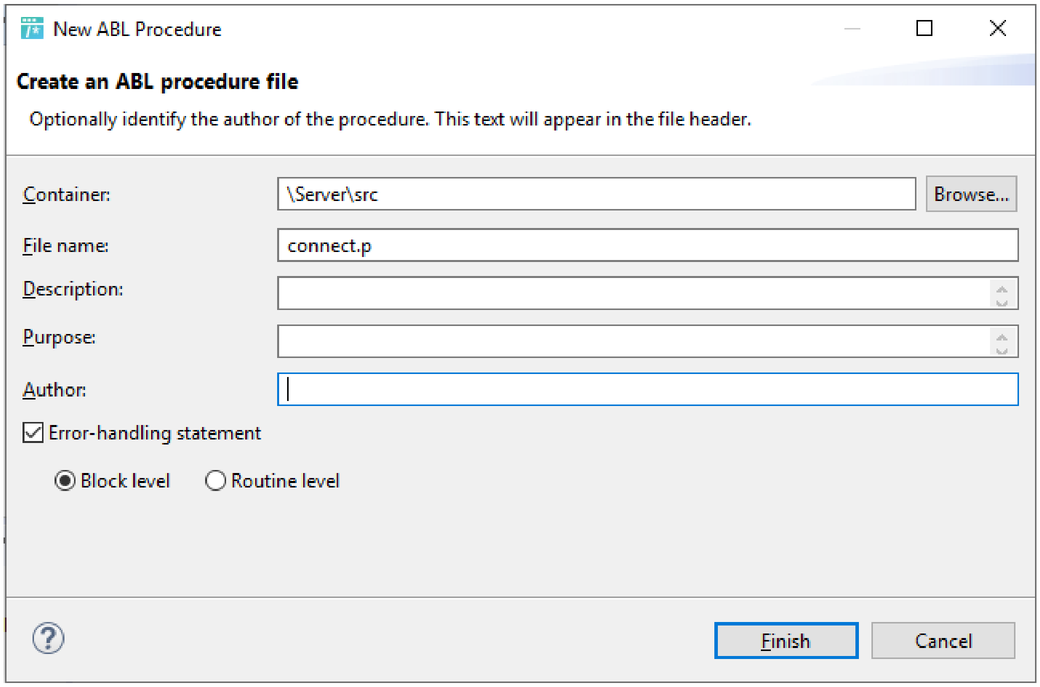
You will create an ABL procedure file that will be called by the client procedure to connect to the database. This will enable you to execute server-side ABL code that accesses the database. Normally, server-side ABL code runs in an application server that has a connection to the database, but in your Developer Studio environment you must explicitly connect to the database when you execute the ABL code.

1. In Project Explorer, navigate to the **src** folder in the **Server** project.

2. Right-click the **src** folder and then select **New > ABL Procedure**.



3. In the New ABL Procedure window, enter the name of the file, **connect.p**.



Create an ABL procedure file

Optionally identify the author of the procedure. This text will appear in the file header.

Container: \Server\src [Browse...]

File name: connect.p

Description:

Purpose:

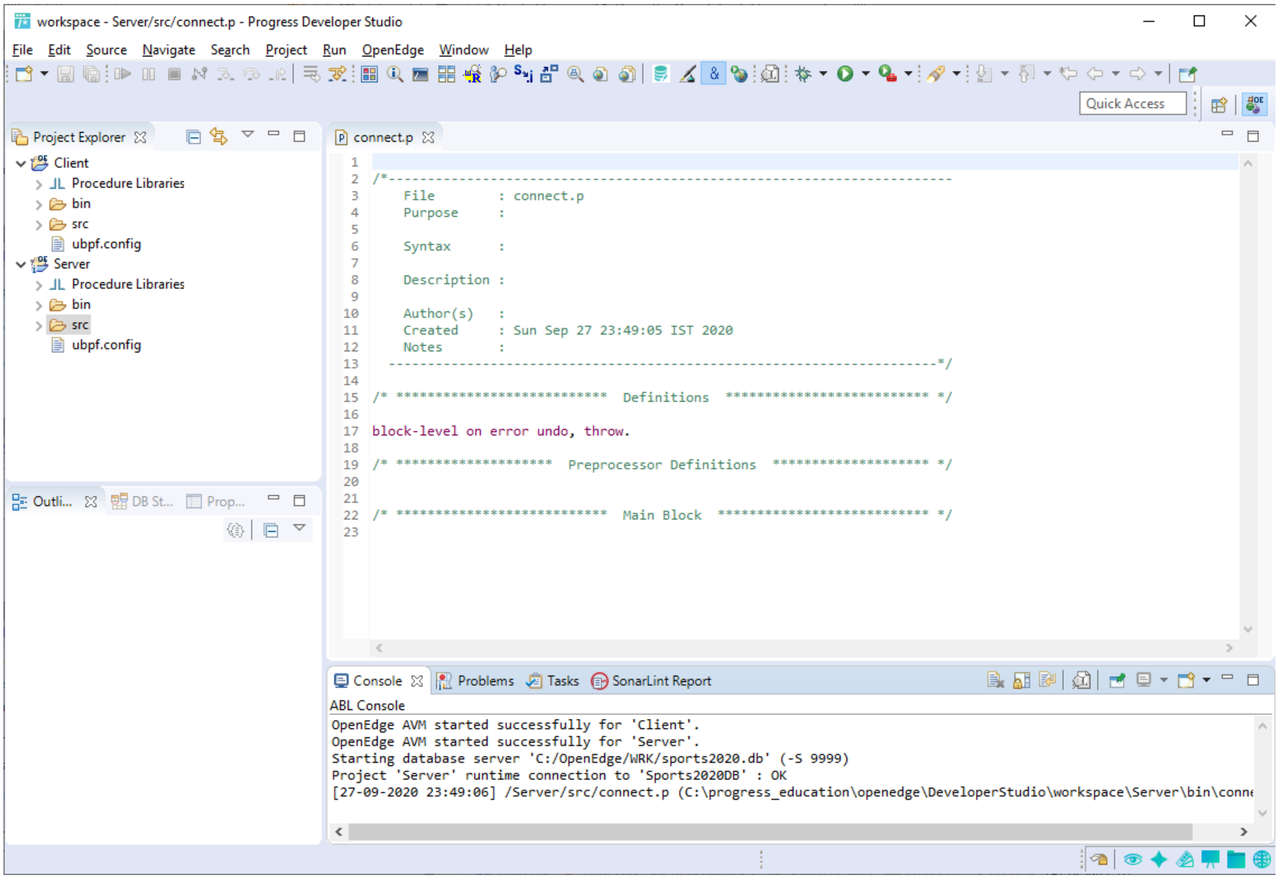
Author:

☑ Error-handling statement

● Block level ○ Routine level

4. Optionally enter any other information for the description of the procedure. This procedure will be used to connect to the sports2020 database.

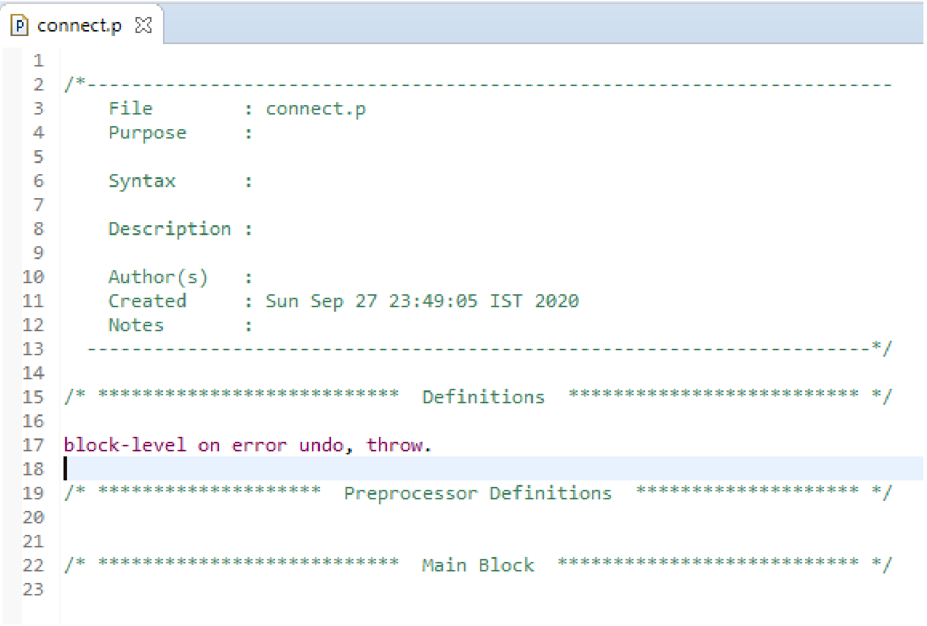
5. Click **Finish**. The newly created procedure file is now open in OpenEdge Editor.



```

/*------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.

/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */

```

```
OpenEdge AVM started successfully for 'Client'.
OpenEdge AVM started successfully for 'Server'.
Starting database server 'C:/OpenEdge/WRK/sports2020.db' (-S 9999)
Project 'Server' runtime connection to 'Sports2020DB' : OK
[27-09-2020 23:49:06] /Server/src/connect.p (C:\progress_education\openedge\DeveloperStudio\workspace\Server\bin\conne
```

6. In the definitions section, place the cursor after the block-level statement.

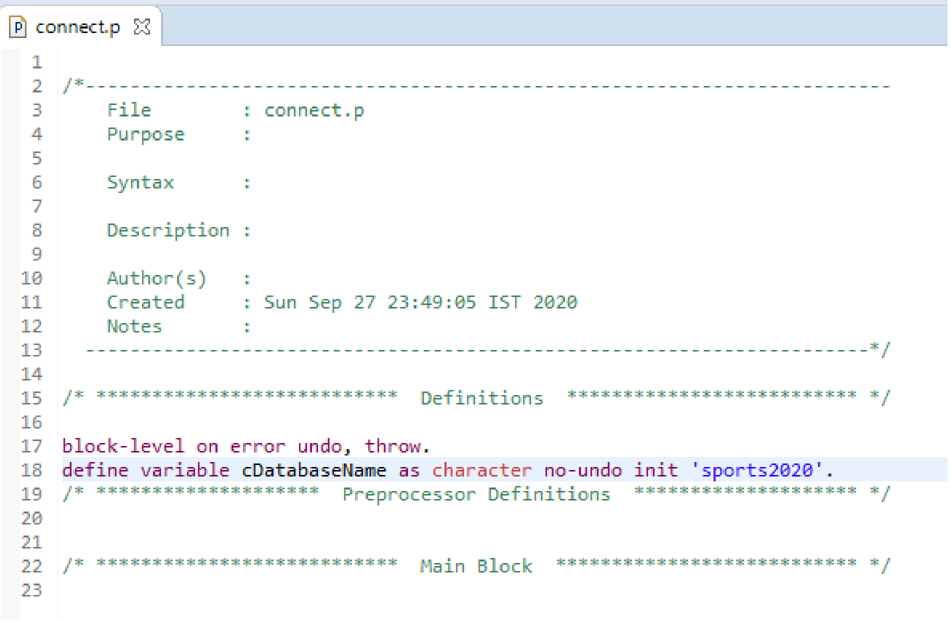


```

/*------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.

/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */

```

7. As you type an ABL keyword, if you press the space bar, the editor auto-completes keywords for you. For example, if you type **def** followed by the space character, the editor will display **define**. This occurs because you previously set an editor preference to expand keywords. Type the following ABL code.

```
define variable cDatabaseName as character no-undo init 'sports2020'.
```

Notice that by default the define, variable, as, no-undo, and init ABL keywords appear in maroon. You can change the default colors for the editor in your workspace preferences. In addition, character is red which is an ABL primitive data type. sports2020 in quotes is blue. All numeric and character constants appear in blue. And finally, the variable name cDatabaseName is black. Because the data type for the variable is character, its initial value must be specified as a character string in quotes. This ABL statement is complete and correct provided that it ends with a period. If you had omitted the period at the end of the ABL statement, it would produce a compilation error.

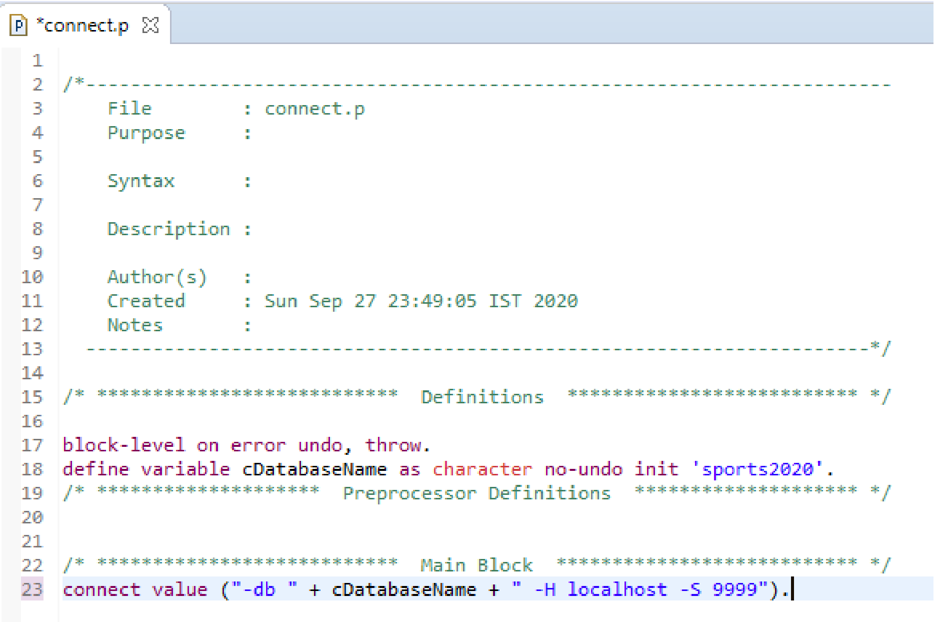


```

/*------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'.
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */

```

8. Place your cursor in the area of the file below the main block comment and type the following ABL code:

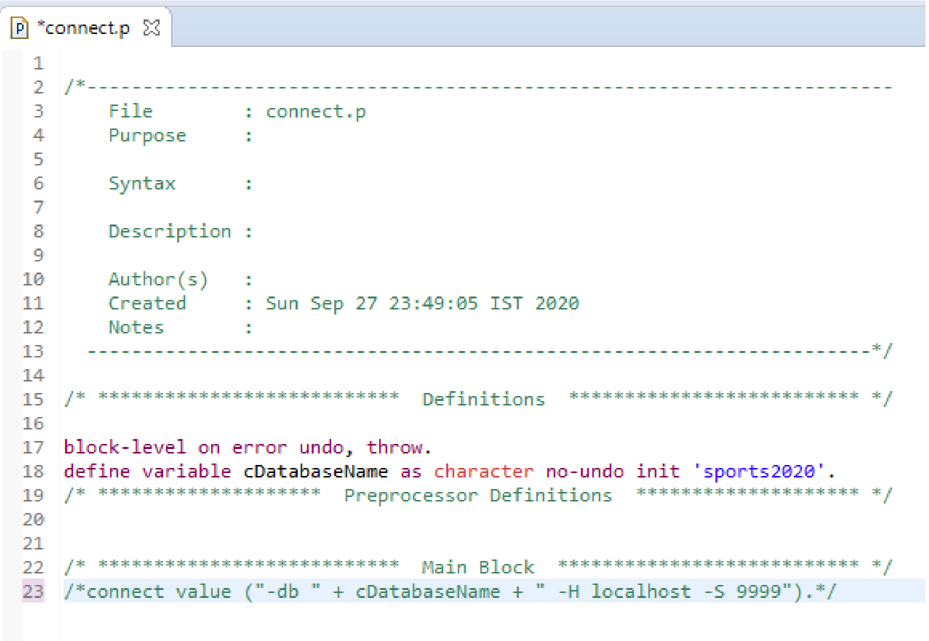
```
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

If the database that you started in the previous Guided Exercise used a different port number, replace 9999 with the port number you used.



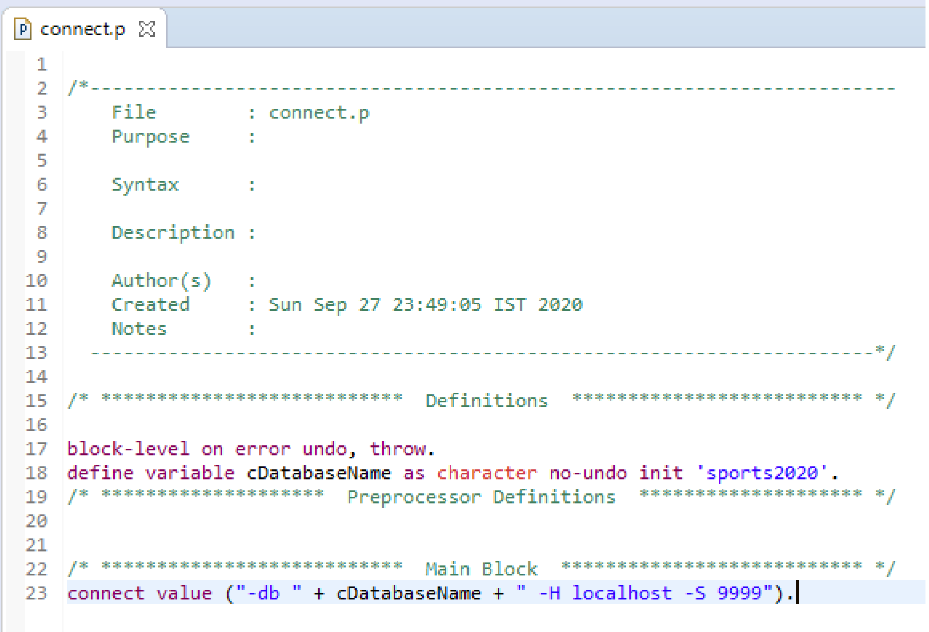
```

/*------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'.
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

9. During your code development, there may be parts of your code that you want to comment out. An easy way to do this is to place your cursor at the line you want to comment out, and then right-click and select **Source > Toggle Comment**. Comment out the last statement you entered. It should appear green.



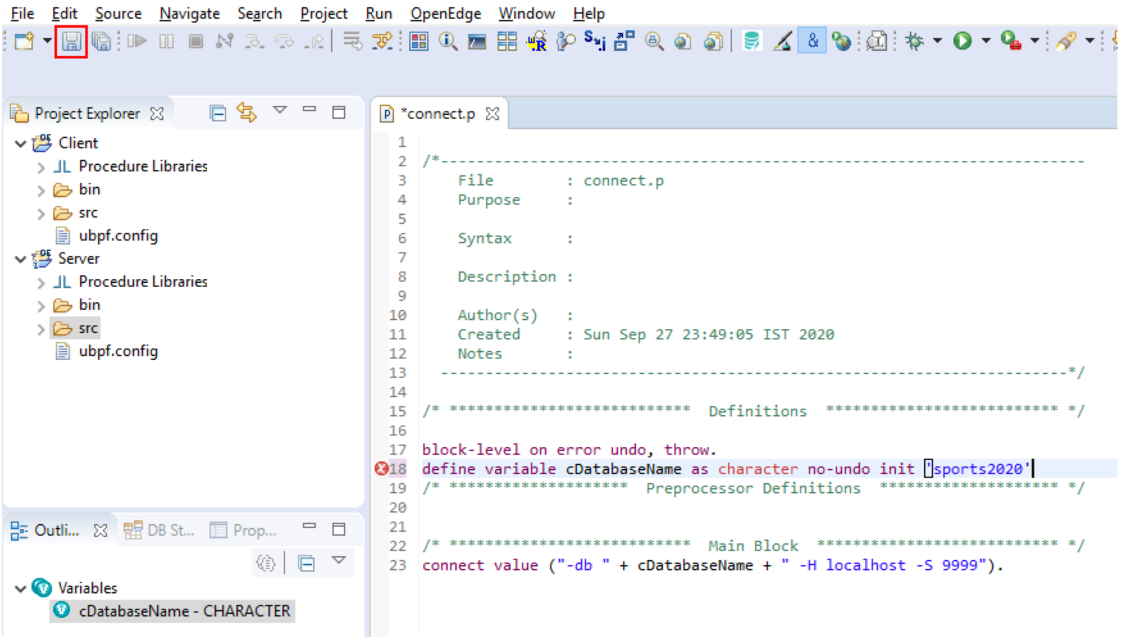
```

/*------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'.
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */
/*connect value ("-db " + cDatabaseName + " -H localhost -S 9999").*/
```

Then uncomment it.



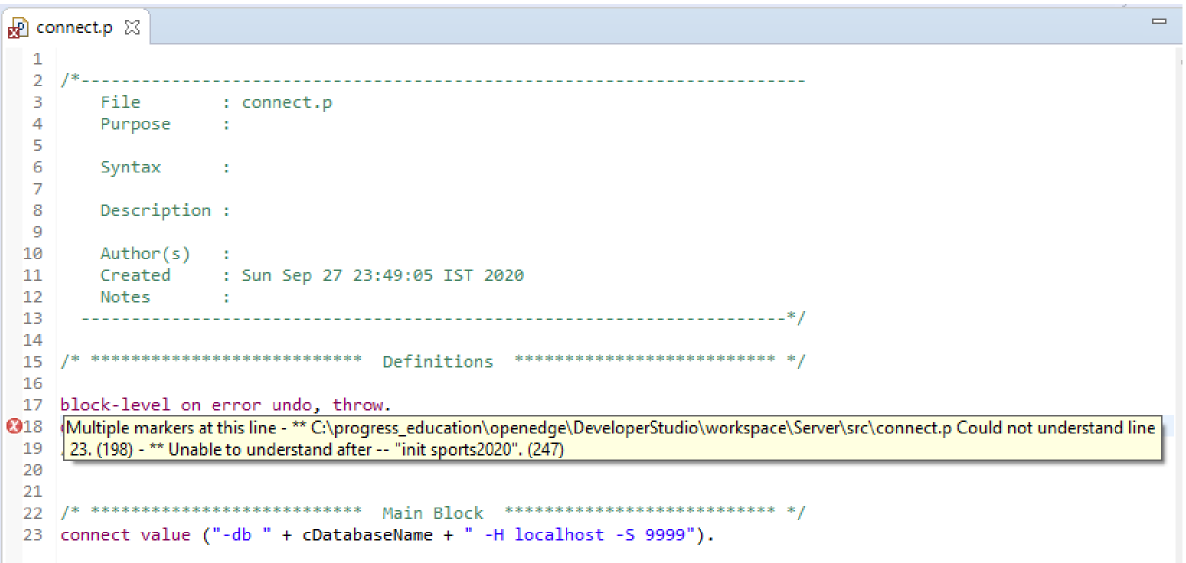
```

/*------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'.
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

10. In the define statement you entered earlier, remove the period at the end and then save the file.



```

/*----------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

Notice that a red “X” appears in the left margin when Developer Studio attempts to compile. You can hover over the error to see what it is.

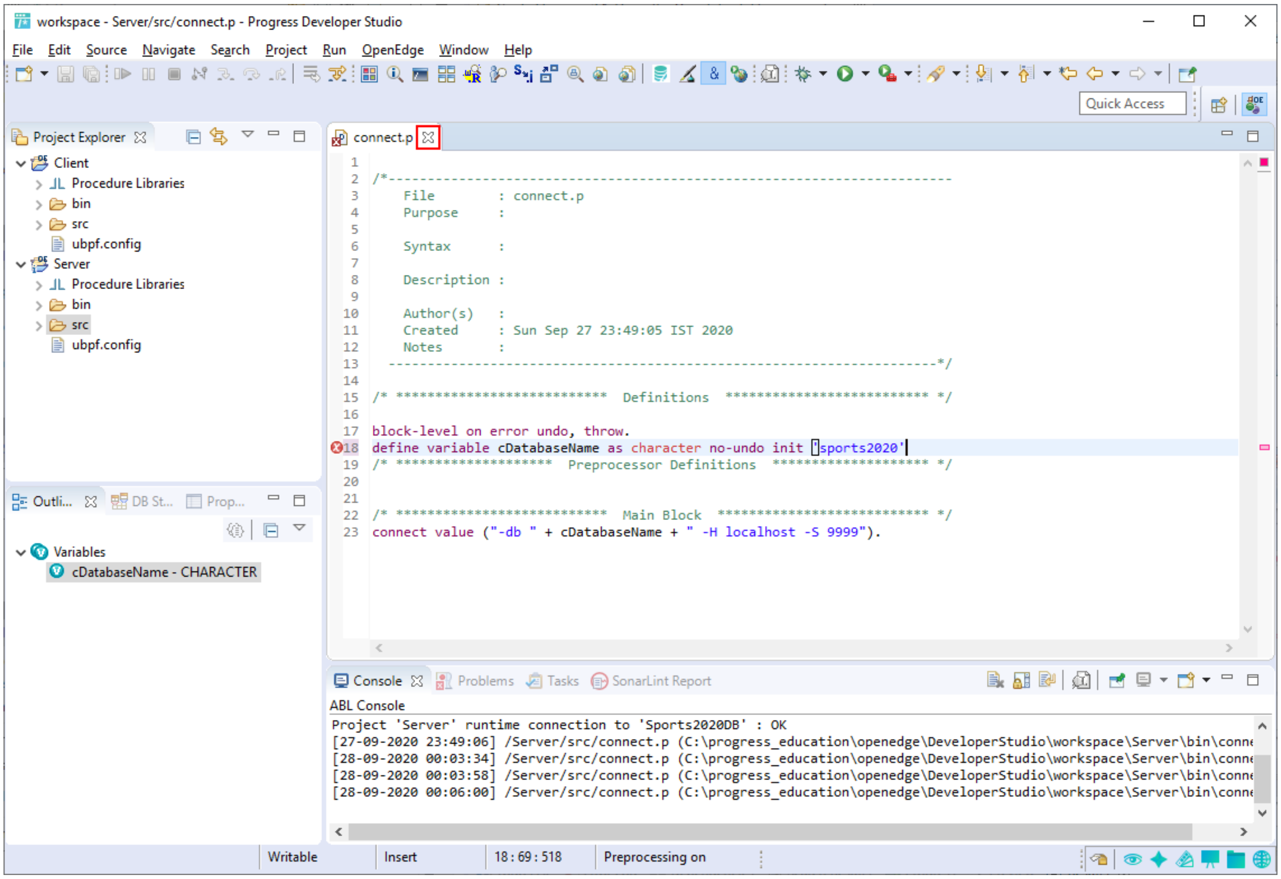


```

/*----------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
```

Multiple markers at this line - ** C:\progress_education\openedge\DeveloperStudio\workspace\Server\src\connect.p Could not understand line 23. (198) - ** Unable to understand after -- "init sports2020". (247)

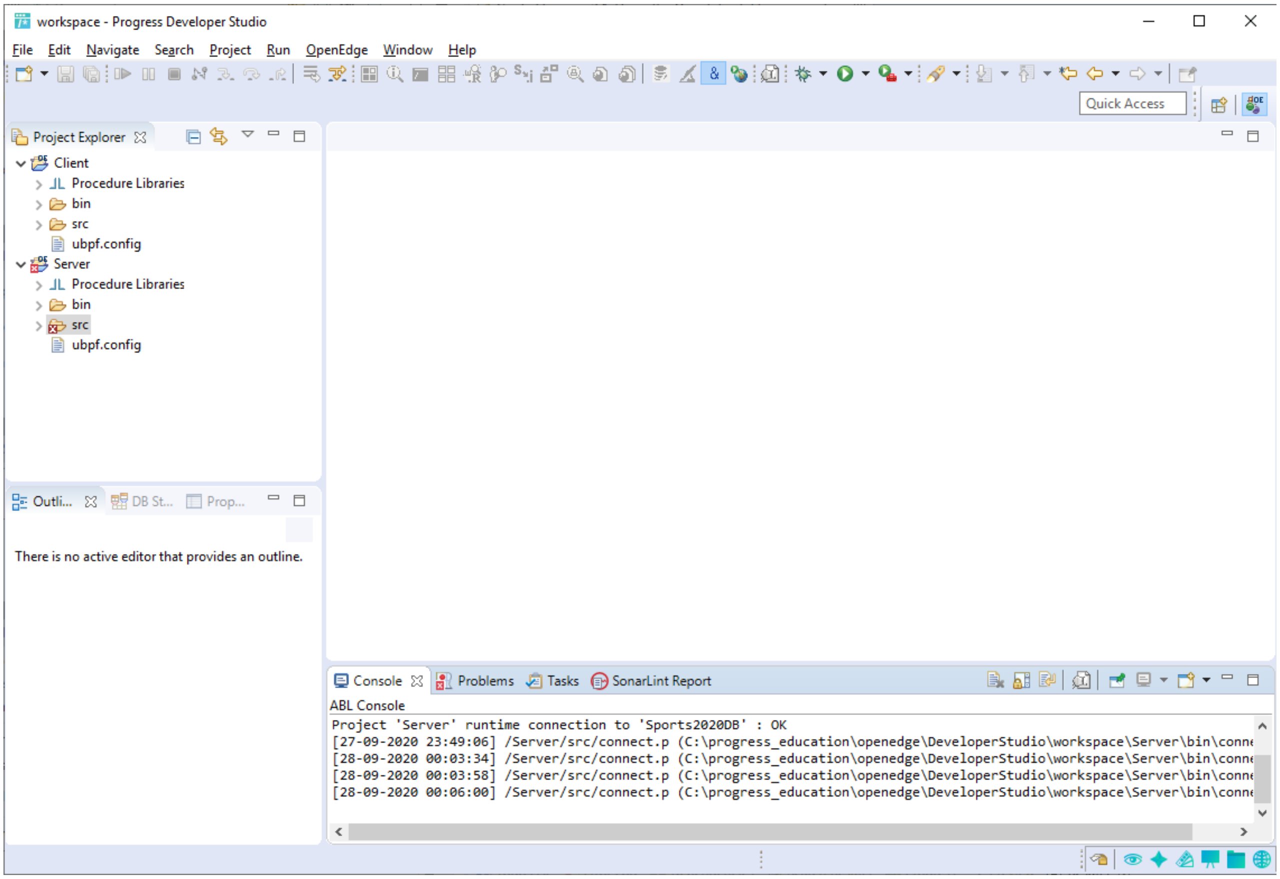
```


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

11. Close the **connect.p** procedure by clicking the “X” on the tab for the open file.



```

/*------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

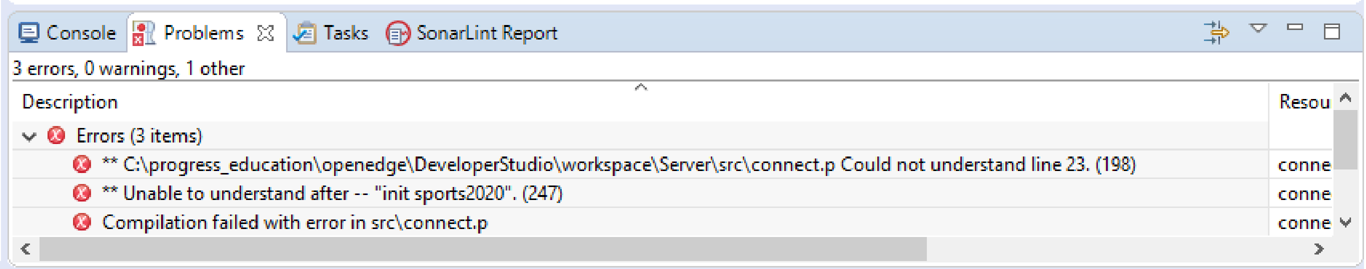
```
Project 'Server' runtime connection to 'Sports2020DB' : OK
[27-09-2020 23:49:06] /Server/src/connect.p (C:\progress_education\openedge\DeveloperStudio\workspace\Server\bin\conne
[28-09-2020 00:03:34] /Server/src/connect.p (C:\progress_education\openedge\DeveloperStudio\workspace\Server\bin\conne
[28-09-2020 00:03:58] /Server/src/connect.p (C:\progress_education\openedge\DeveloperStudio\workspace\Server\bin\conne
[28-09-2020 00:06:00] /Server/src/connect.p (C:\progress_education\openedge\DeveloperStudio\workspace\Server\bin\conne
```


workspace - Progress Developer Studio
File Edit Navigate Search Project Run OpenEdge Window Help
Quick Access
Project Explorer
Client
Procedure Libraries
bin
src
ubpf.config
Server
Procedure Libraries
bin
src
ubpf.config
Outli... DB St... Prop...
Console Problems Tasks SonarLint Report
ABL Console

There is no active editor that provides an outline.

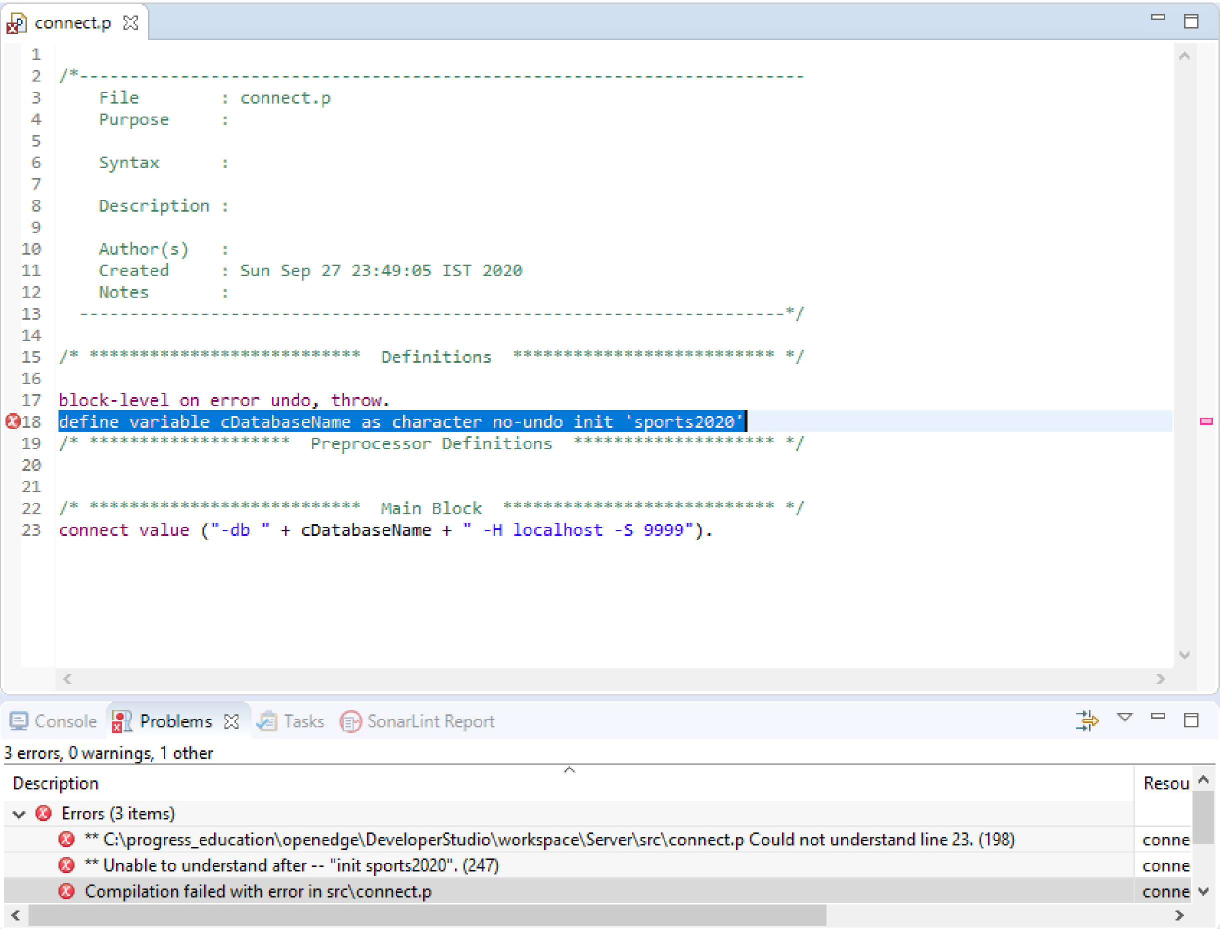
```
Project 'Server' runtime connection to 'Sports2020DB' : OK
[27-09-2020 23:49:06] /Server/src/connect.p (C:\progress_education\openedge\DeveloperStudio\workspace\Server\bin\conne
[28-09-2020 00:03:34] /Server/src/connect.p (C:\progress_education\openedge\DeveloperStudio\workspace\Server\bin\conne
[28-09-2020 00:03:58] /Server/src/connect.p (C:\progress_education\openedge\DeveloperStudio\workspace\Server\bin\conne
[28-09-2020 00:06:00] /Server/src/connect.p (C:\progress_education\openedge\DeveloperStudio\workspace\Server\bin\conne
```

12. In addition, the error also appears in the Problems pane.



```
3 errors, 0 warnings, 1 other
Description                                                                                          Resou
Errors (3 items)
  ** C:\progress_education\openedge\DeveloperStudio\workspace\Server\src\connect.p Could not understand line 23. (198)   conne
  ** Unable to understand after -- "init sports2020". (247)                                          conne
  Compilation failed with error in src\connect.p                                                     conne
```

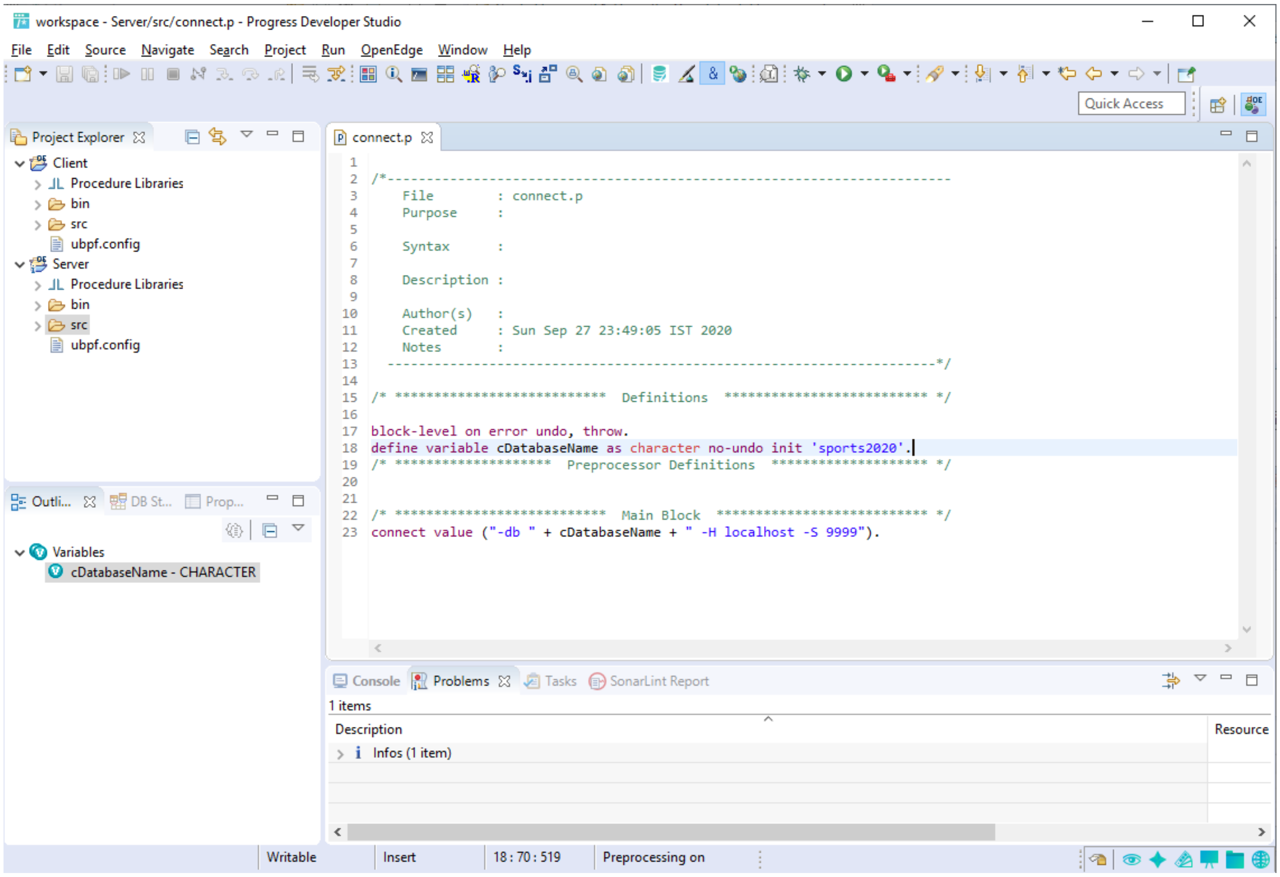
Double-click the compilation error in the Problems pane. The **connect.p** file opens.



```
1
2  /*--------------------------------------------------------------------------
3      File        : connect.p
4      Purpose     :
5
6      Syntax      :
7
8      Description :
9
10     Author(s)   :
11     Created     : Sun Sep 27 23:49:05 IST 2020
12     Notes       :
13   ------------------------------------------------------------------------*/
14
15 /* ***************************  Definitions  ************************** */
16
17 block-level on error undo, throw.
18 define variable cDatabaseName as character no-undo init 'sports2020'
19 /* ********************  Preprocessor Definitions  ******************** */
20
21
22 /* ***************************  Main Block  *************************** */
23 connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

```
3 errors, 0 warnings, 1 other
Description                                                                                          Resou
Errors (3 items)
  ** C:\progress_education\openedge\DeveloperStudio\workspace\Server\src\connect.p Could not understand line 23. (198)   conne
  ** Unable to understand after -- "init sports2020". (247)                                          conne
  Compilation failed with error in src\connect.p                                                     conne
```

13. Correct the error by adding the period at the end of the define statement. When you save the file again, **Connect.p** should compile without errors.



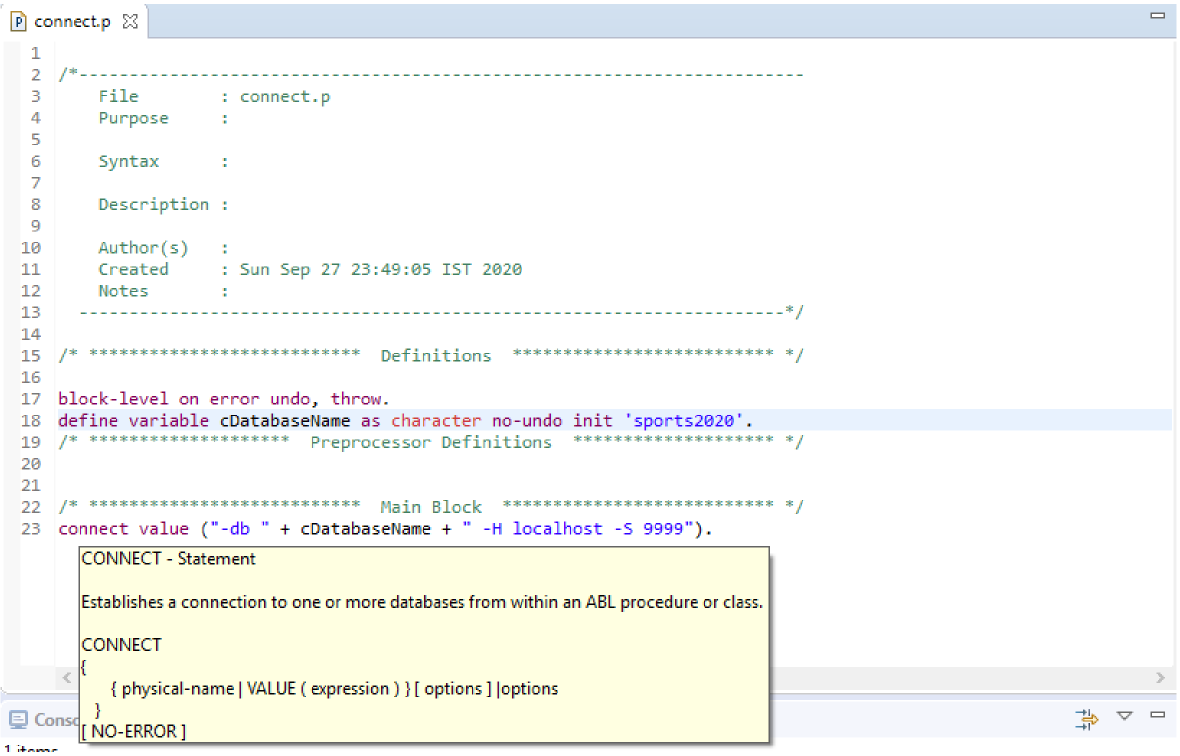
```
/*-------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'.
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

1 items

Description	Resource
Infos (1 item)	

Writable | Insert | 18 : 70 : 519 | Preprocessing on

14. Develop Studio provides contextual help for an ABL keyword. To view contextual help for a particular keyword, hover over the keyword in the editor window.



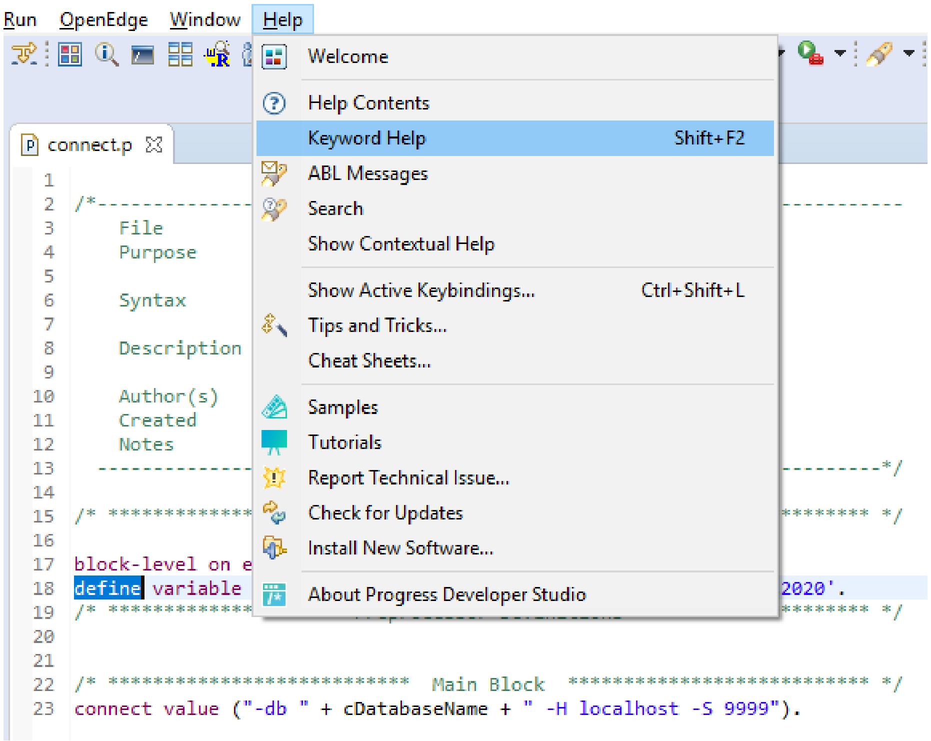
```

/*------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'.
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

CONNECT - Statement

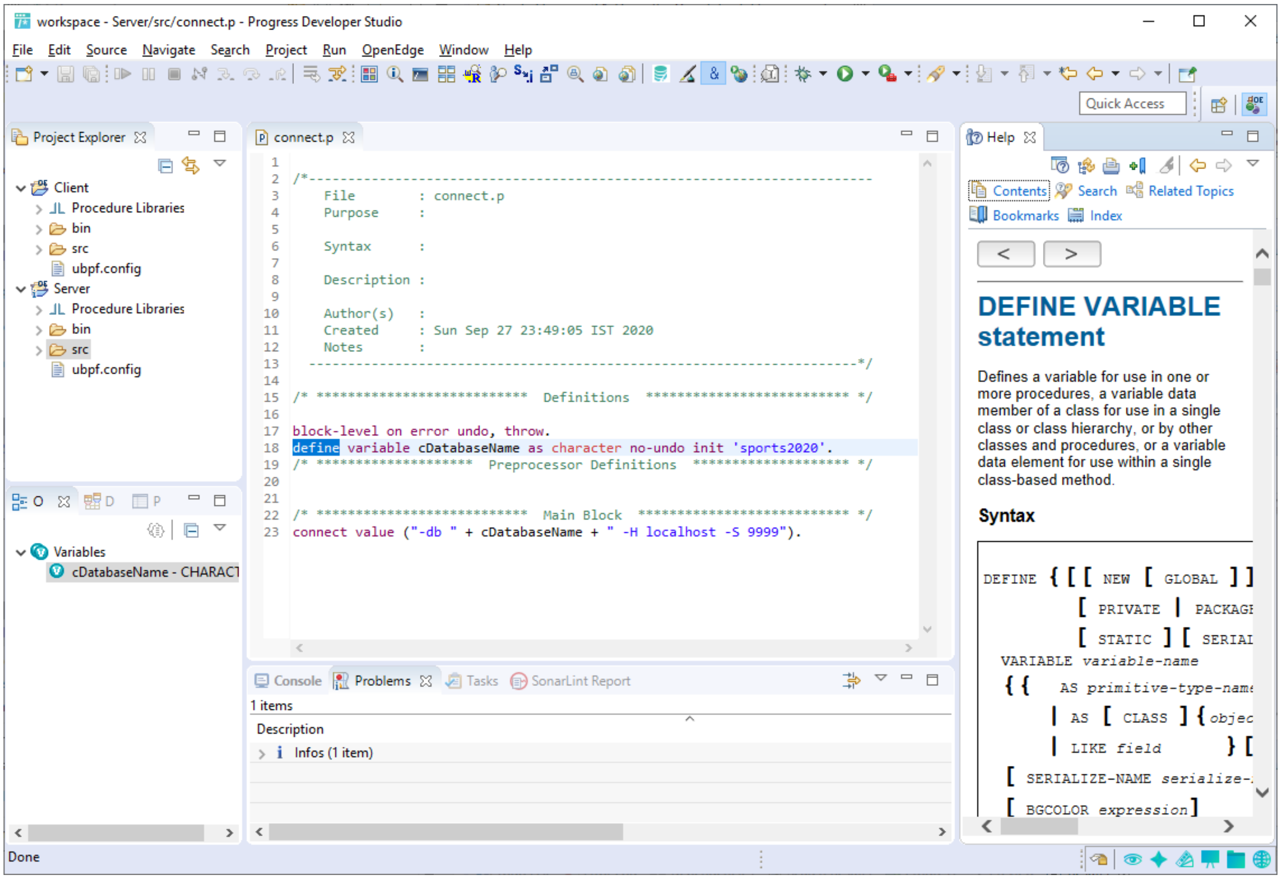
Establishes a connection to one or more databases from within an ABL procedure or class.

```
CONNECT
{
   { physical-name | VALUE ( expression ) } [ options ] |options
 }
[ NO-ERROR ]
```

15. View the full syntax help for a particular keyword by double-clicking the keyword in your file and then click **Help>Keyword Help**. This opens a panel on the right that contains the full syntax for the keyword.



```
/*-------------                                  -----------
    File
    Purpose

    Syntax

    Description

    Author(s)
    Created
    Notes
  -------------                                  ---------*/

/* ************                                  ******** */

block-level on e
define variable                                  2020'.
/* ************                                  ******** */


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```



```
/*-----------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'.
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

DEFINE VARIABLE statement

Defines a variable for use in one or more procedures, a variable data member of a class for use in a single class or class hierarchy, or by other classes and procedures, or a variable data element for use within a single class-based method.

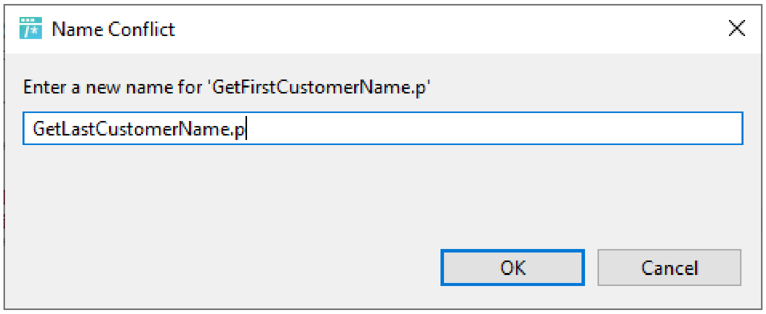
Syntax

```
DEFINE { [ [ NEW [ GLOBAL ] ]
           [ PRIVATE | PACKAGE
           [ STATIC ] [ SERIAL
  VARIABLE variable-name
  { {   AS primitive-type-name
      | AS [ CLASS ] { objec
      | LIKE field       } [
  [ SERIALIZE-NAME serialize-
  [ BGCOLOR expression]
```

Part 2—Copying an ABL procedure file and modifying ABL code

Next, you will create a copy of an existing file in your Server project and modify it.

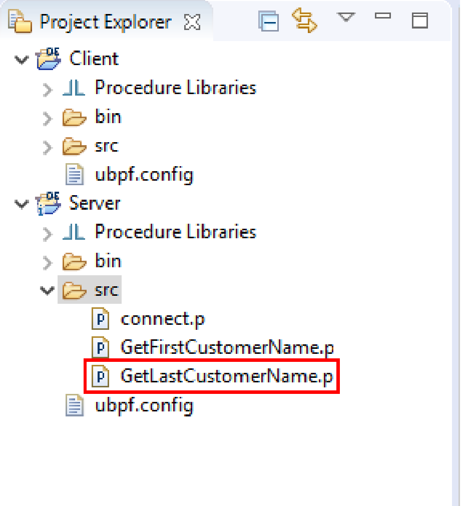
1. Make a copy of the **GetFirstCustomerName.p** procedure file and name it **GetLastCustomerName.p**:
    a. In Project Explorer, right-click the file, **GetFirstCustomerName.p** in the **src** folder of the **Server** project and then select **Copy**.
    b. Right-click the **src** folder of the **Server** project then then select **Paste**.
    c. In the Name Conflict window, modify the name of the procedure file to be **GetLastCustomerName.p**.



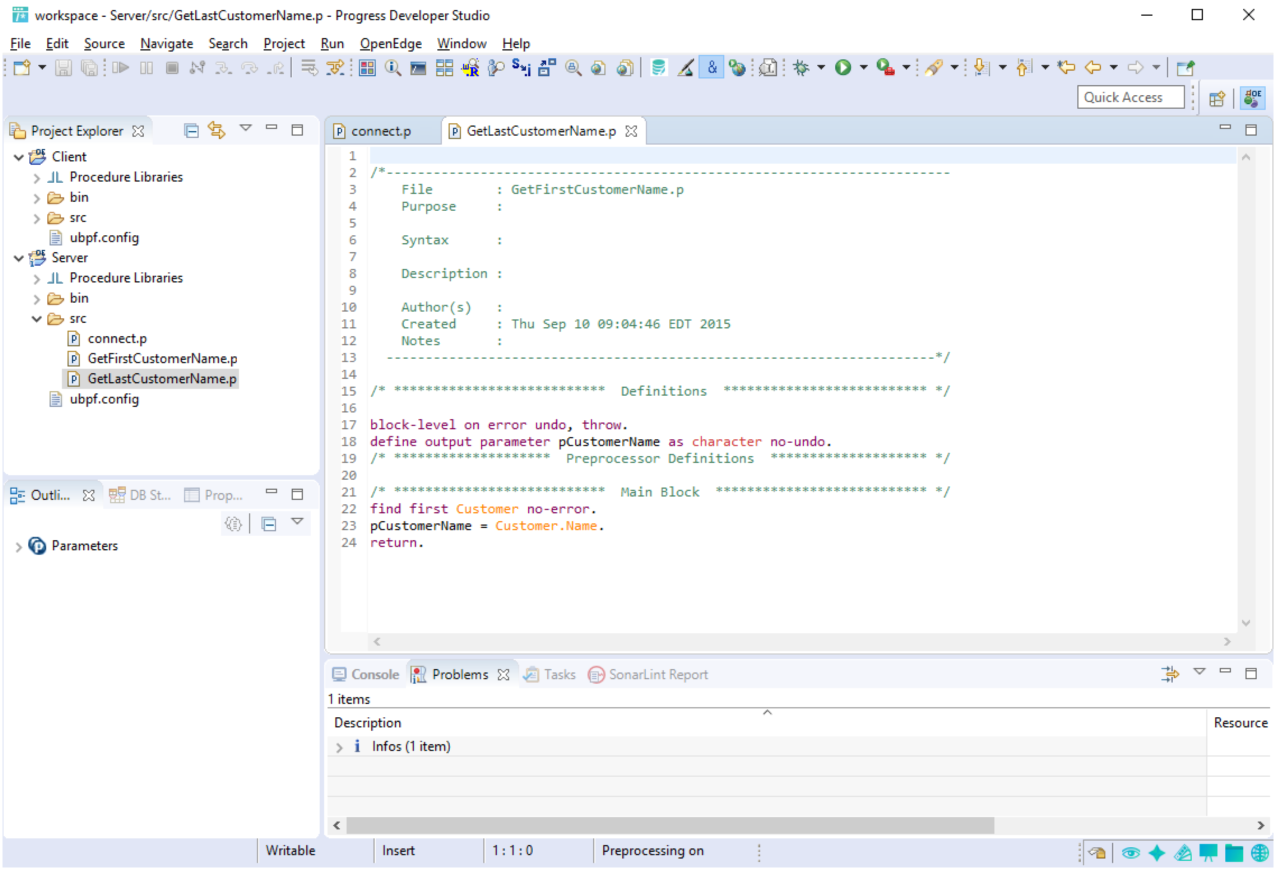
Enter a new name for 'GetFirstCustomerName.p'

GetLastCustomerName.p

    d. Click **OK**.

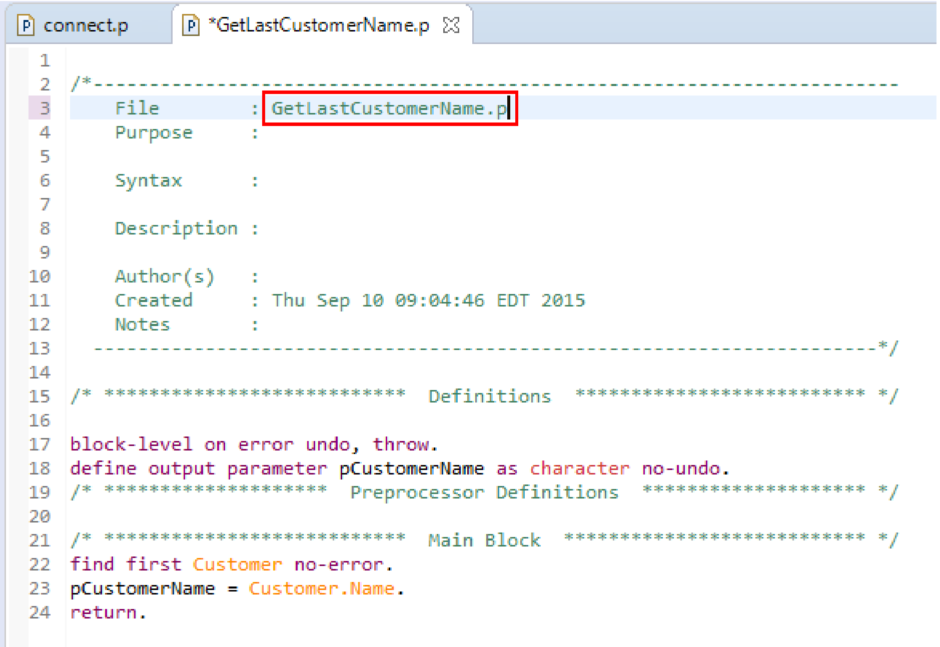


2. Open the **GetLastCustomerName.p** file by double-clicking it in Project Explorer.



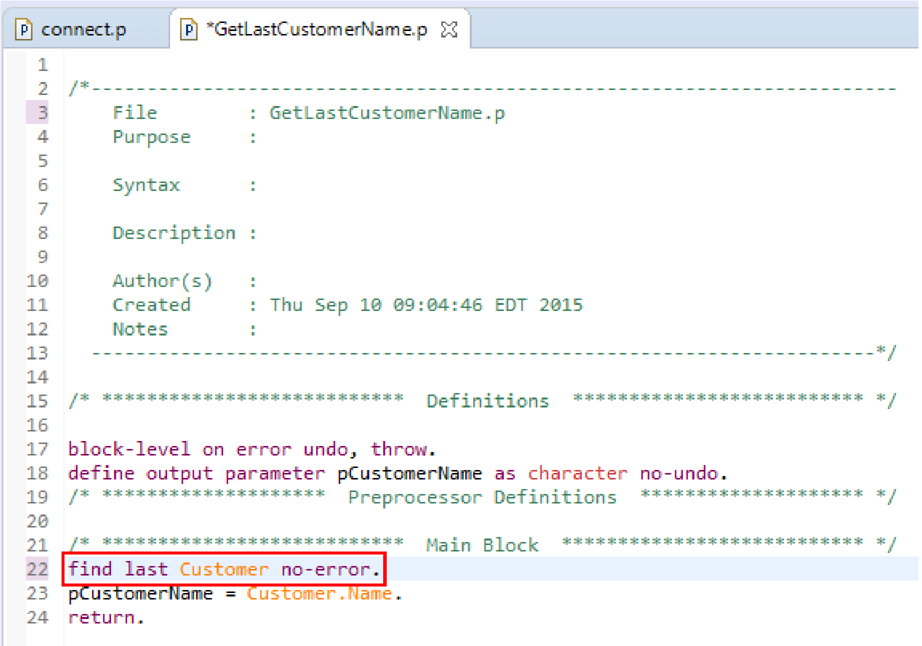
```

/*--------------------------------------------------------------------------
    File        : GetFirstCustomerName.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Thu Sep 10 09:04:46 EDT 2015
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define output parameter pCustomerName as character no-undo.
/* ********************  Preprocessor Definitions  ******************** */

/* ***************************  Main Block  *************************** */
find first Customer no-error.
pCustomerName = Customer.Name.
return.
```

3. Modify the comment with the name of the file to the new file name.



```

/*--------------------------------------------------------------------------
    File        : GetLastCustomerName.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Thu Sep 10 09:04:46 EDT 2015
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define output parameter pCustomerName as character no-undo.
/* ********************  Preprocessor Definitions  ******************** */

/* ***************************  Main Block  *************************** */
find first Customer no-error.
pCustomerName = Customer.Name.
return.
```

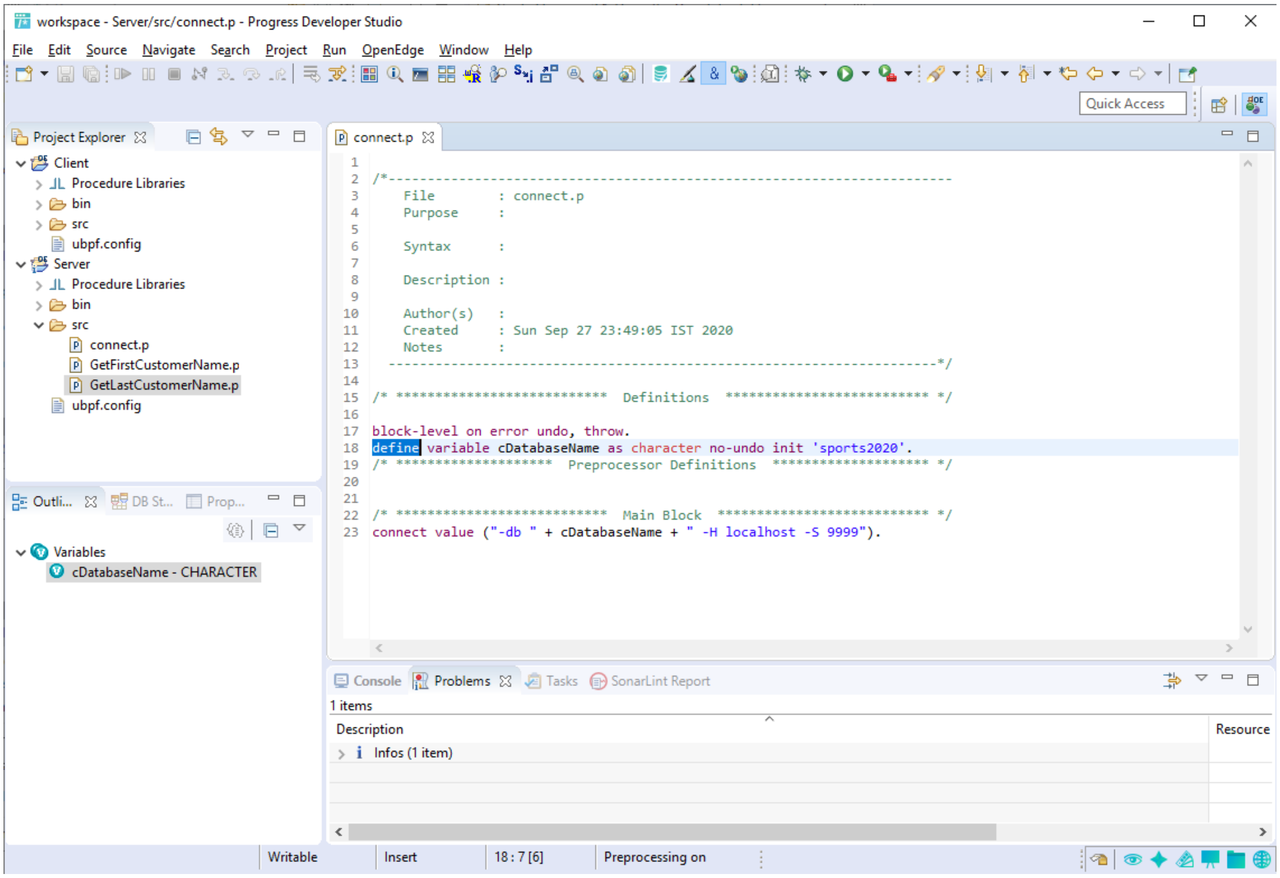
4. In the main block of code, change “find first” to “find last”.



```

/*------------------------------------------------------------------------
    File        : GetLastCustomerName.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Thu Sep 10 09:04:46 EDT 2015
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define output parameter pCustomerName as character no-undo.
/* ********************  Preprocessor Definitions  ******************** */

/* ***************************  Main Block  *************************** */
find last Customer no-error.
pCustomerName = Customer.Name.
return.
```

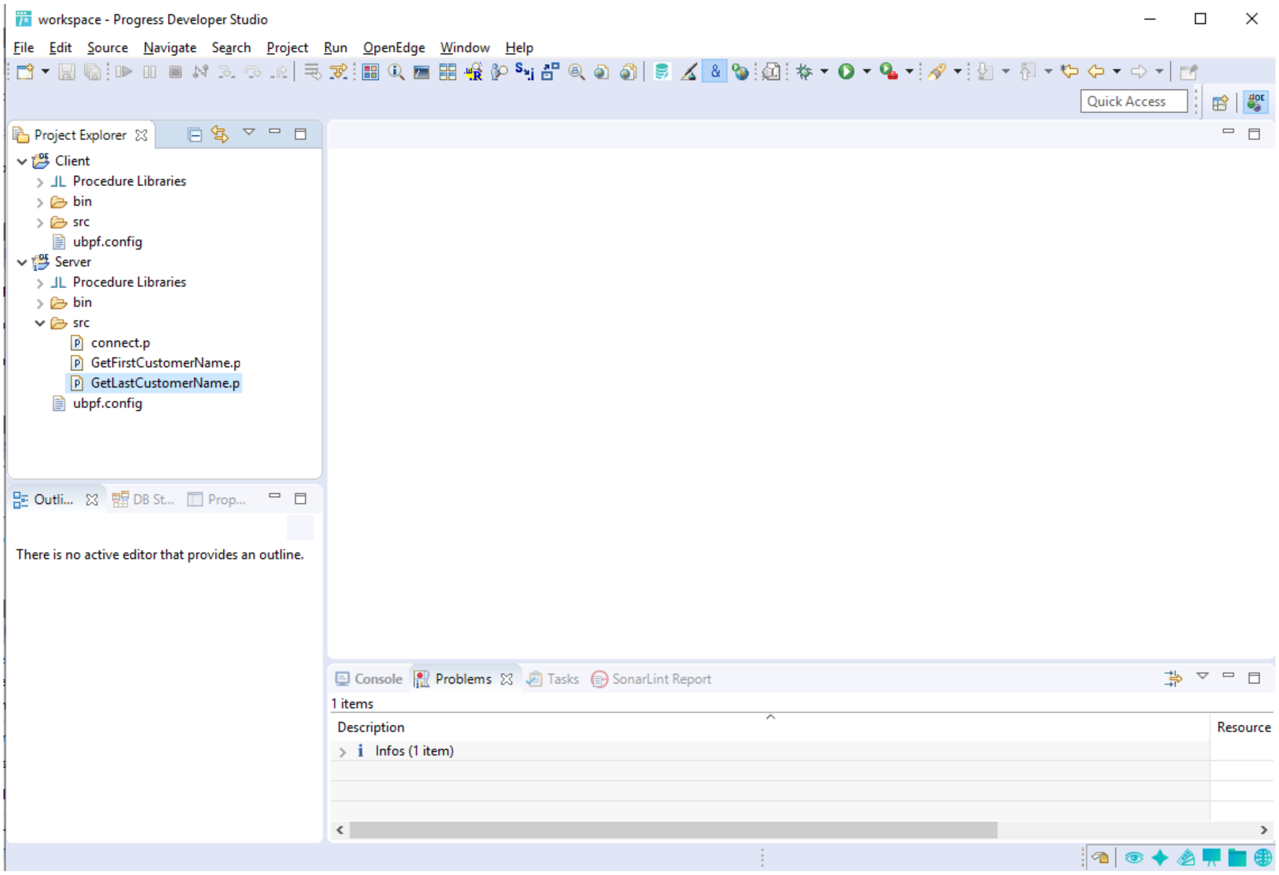
5. Save **GetLastCustomerName.p**.

6. Close the **GetLastCustomerName.p** file by clicking the “X” in the top tab for the file.



```

/*------------------------------------------------------------------------
    File        : connect.p
    Purpose     :

    Syntax      :

    Description :

    Author(s)   :
    Created     : Sun Sep 27 23:49:05 IST 2020
    Notes       :
  ----------------------------------------------------------------------*/

/* ***************************  Definitions  ************************** */

block-level on error undo, throw.
define variable cDatabaseName as character no-undo init 'sports2020'.
/* ********************  Preprocessor Definitions  ******************** */


/* ***************************  Main Block  *************************** */
connect value ("-db " + cDatabaseName + " -H localhost -S 9999").
```

7. Close the **connect.p** file by clicking the “X” in the top tab for the file.



There is no active editor that provides an outline.

1 items

Wrap-up

In this Guided Exercise, you practiced using OpenEdge Editor. You created a procedure file, added ABL code and then modified the ABL code.