

VS Code Extension for ABL

★ Roadmap ★

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About the speaker

- Founded Riverside Software in 2007
- Continuous integration, source code analysis and development environment with OpenEdge
- Official SonarSource partner

VS Code - History

- Announced in April 2015 by Microsoft
- First stable release in April 2016
- Code editor based on Electron framework
 - Files and workspaces
 - Debugger support
 - Terminal
 - Source control
 - Remote development + web based development
 - Containers
 - Extensions + marketplace

VS Code – LSP & DAP

- Language Server Protocol and Debug Adapter Protocol
- Component between the code editor and target language
- Open specification
- Language Servers and Debug Adapters can be reused in any other editor

ABL Extension - History

- Announced in November 2021 during the POET Summit
- First release on the marketplace in July 2022

- Syntax highlight
- Code completion
- Task execution
- Hover
- Definition
- Debugger

ABL Extension – Sponsored by Progress

- Announced in June 2025 during the French PUG event

File Edit Selection View Go Run Terminal Help

sonaroe-test-project [Dev Container @ desktop-linux]

EXPLORER

SONAROE-TEST-PROJECT [DEV CONTAINER ...]

- .builder
- .devcontainer
- sonarlint
- .vscode
- build
- conf
- src
- target
- .dbconnection
- gitignore
- .propath
- build.xml
- localSonarScanner.bat
- openedge-project.json
- README.md
- xmitask.jar

debugger01.p

```
src > main > ahl > debugger01.p > ...
1  DEFINE TEMP-TABLE tt1 NO-UNDO
2  FIELD fld1 AS CHARACTER.
3  DEFINE TEMP-TABLE tt2 NO-UNDO
4  FIELD fld1 AS CHARACTER
5  FIELD fld2 AS INT64
6  FIELD fld3 AS RAW.
7  DEFINE TEMP-TABLE tt3 NO-UNDO
8  FIELD fld4 AS CHARACTER
9  FIELD fld5 AS DECIMAL.
10
11 DEFINE DATASET ds1 FOR tt1, tt2, tt3.
12
13 DEF VAR c1 AS CHAR NO-UNDO.
14 DEF VAR c2 AS CHAR NO-UNDO.]
15 DEF VAR i1 AS INT NO-UNDO.
16 DEF VAR i2 AS INT NO-UNDO.
17 DEF VAR i3 AS INT EXTENT 10 NO-UNDO.
18 // Should be caught by SQ secrets sensor
19 define variable sqToken as character initial 'squ_30b8185f4f3d94e6c3ab4aa5df39de198533b8
20
21 i1 = 1.
22 i2 = 10000000.
23 c1 = "Test Unicode å Γ é à". // Unicode
24 c2 = FILL('--', 20).
25
26 CREATE tt1.
27 ASSIGN tt1.fld1 = "foobar".
28 CREATE tt1.
29 ASSIGN tt1.fld1 = "foobar2".
30
31 MESSAGE THIS-PROCEDURE SESSION.
32 i3[1] = 111.
33 i3[2] = 222.
```

PROBLEMS OUTPUT TERMINAL

bash - sonaroe-test-project

File Edit Search Buffer Compile Tools Help

File: Untitled:1

OUTLINE

TIMELINE

F1=RUN F3=MENUS F5=OPEN F6=SAVE F8=CLOSE

Insert

PORTS

Port	Forwarded Ad...	Running Process
pasoe:8810	localhost:8810	
35557	localhost:35557	Process informati...
45887	localhost:45887	/usr/bin/qemu-x...

Add Port

OneDrive - riverside-software.fr
À jour

Gilles Querret [2 years ago] Ln 14, Col 29 Spaces: 2 UTF-8 CRLF {} OpenEdge ABL 1 project(s) • 0 task(s)

SH

t

this-procedure:

- ACCEPT-CHANGES () - METHOD
- ACCEPT-ROW-CHANGES () - METHOD
- ADD () - METHOD
- ADD-BUFFER () - METHOD
- ADD-CALC-COLUMN () - METHOD

CLASS BROWSER

- Test Project
 - Project Classes
 - { } (default package)
 - { } pscw

the data in one temp-table or all temp-tables in a
AL
bject handle, ProDataSet object handle

THEN DO:

```

MESSAGE ENTRY(element: 1,list: STRING(source: NOW)) PROGRAM-NAME(n: 1) "lab-
RUN module/plan_rit.p(i_mode: INPUT 'VD', /*Validation*/
  i_rit_nr: INPUT INT(if_hist_mut.rit_nr), /*Rit_nr */
  i_princip: INPUT if_hist_mut.princip, /*Princip */
  i_ord_nr: INPUT if_hist_mut.verk_ord_nr, /*Ord_nr */
  i_reg_nr: INPUT spec.verk_reg_nr, /*Reg_nr */
  i_lever_vn: INPUT spec.lever_vn, /*Lever_vn */
  i_aant_hnd_lev: INPUT 0, /*Aant_hnd
  i_aant_adm_lev: INPUT 0, /*Aant_adm
  i_laad_vn: INPUT 0, /*Laad_vn */
  i_ENTRY_vn: INPUT 0, /*ENTRY_vn */
  o_file_nr: OUTPUT h_meld_file_nr,
  o_mess_nr: OUTPUT h_meld_volg_nr).

```

```

"dependent
{ "group
{ "group
{ "group
{ "group
],

```

"zip" }

in be either a character-string value (event name) or
tion. The LASTKEY function returns the keycode for
er read from an input file. Event can also be 'ERROR',
ock or by other standard error handling techniques.
It system actions and events, see the Handle-based

- AT phrase
- AUDIT-ENABLED function
- AVAILABLE function
- BASE64_DECODE function

Example

• |

- neckObjë...
- poColle...
- Iterator(): CLASS
- IsEmpty(): LOGICAL
- ToTable(OUTPUT tt AS HA...
- Remove(INPUT oldObject ...
- RemoveAll(INPUT collectio...
- RetainAll(INPUT oCol AS C...

Future improvements

SonarQube MCP Server

```
App.js — myapp
JS App.js x
JS App.js > [@] default
1 import logo from './logo.svg';
2 import './App.css';
3
4 function App() {
5   return (
6     <div className="App">
7       <header className="App-header">
8         <img src={logo} className="App-logo" alt="logo" />
9         <p>
10          Edit <code>src/App.js</code> and save to reload.
11        </p>
12        <a
13          className="App-link"
14          href="https://reactjs.org"
15          target="_blank"
16          rel="noopener noreferrer"
17        >
18          Learn React
19        </a>
20      </header>
21    </div>
22  );
23 }
24
25 export default App;
```

Analyze file with SonarQube

JS App.js
analyze the current file with sonarqube

Thought for 5s

I'll help you analyze the current file with SonarQube. Let me first check what SonarQube projects are available, and then analyze the code snippet.

> Called search_my_sonarqube_projects ✓

Thought for 3s

Now I'll analyze your App.js file with SonarQube using one of your available projects:

> Called analyze_code_snippet ✓

Thought for 2s

SonarQube Analysis Results

✅ **Analysis Complete:** Your App.js file has been successfully analyzed with SonarQube.

Result: No Sonar issues found in the code snippet.

@ JS App.js
Plan, search, build anything

Agent #11 | claude-4-sonnet

Dependency Management

- **The problem**
- OpenEdge projects depend on shared libraries (.pl, r-code, sources)
- Today: manual copy, shared network drives, no versioning
- Upgrading a shared library means touching every project

- **The goal**
- Declare dependencies in openedge-project.json
- Language server resolves and downloads them automatically
- Transitive dependencies handled transparently

Dependency Management

- **Maven artifact format**
- groupId / artifactId / version — standard Maven coordinates
- Classifiers: sources (.zip), r-code (.zip), procedure libraries (.pl)
- Hosted on a Nexus / Artifactory repository

- **Language server integration**
- Maven Resolver (Eclipse Aether) — no CLI Maven required
- Repository authentication via settings.xml
- Transitive dependency graph resolved automatically

Dependency Management

- **Declaration in openedge-project.json**
- `{ "groupId": "com.example", "artifactId": "mylib", "version": "1.0.0" }`
- **Status & roadmap**
- Direct dependencies: available in current builds
- Transitive resolution: in progress (Maven Resolver)
- Publish your own libs: Nexus/Artifactory + Maven deploy
- Progress OpenEdge artifacts: planned for future releases

Extension Entrypoints

- **What are entrypoints?**
- VS Code extensions can expose a public API to other extensions
- Consumed with `vscode.extensions.getExtension('id').exports`

- **What the ABL extension exposes**
- Language server instance and connection handle
- Project model: propath, databases, build output
- Commands: compile, run, check syntax — callable programmatically

Extension Entrypoints

- **Use cases for third-party extensions**
- SonarLint: retrieve proppath to analyse ABL files in context
- Custom build tools: trigger compile/run without shell scripts
- AI extensions: query project model to provide accurate context

- **Roadmap**
- Stable, versioned API contract
- Event system: notify consumers on project reload or LS restart

Language Model Tool API

- Function that can be invoked as part of a language model request
 - Retrieve information from a database
 - Perform some calculation
 - Call online API
 - ...
- Not executed by the LLM
- LLM only generates the parameters used by the tool
- Check syntax on generated files
- Create XREF
- Execute debugger

Not on the
roadmap (in the
core extension)

- No GUI for .Net
- No PASOE management

Feedback

