isCOBOL® Evolve

The comprehensive and cost-effective product to develop, maintain and modernize COBOL applications

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isCOBOL Evolve Suite brings a choice back to the COBOL market by providing a low-risk, extensible, and economical path forward for valuable business assets. By uniquely blending COBOL development with Java deployment, isCOBOL technology takes portability and scalability to new levels.

MODERN COBOL DEVELOPMENT FOR THE JAVA PLATFORM

The isCOBOL® Evolve Suite helps organizations preserve and modernize COBOL applications while taking full advantage of the Java ecosystem — **without rewriting, retraining, or disrupting existing business logic**. By compiling COBOL directly into Java and running on a 100% Java-based runtime, isCOBOL delivers true portability, scalability, and long-term application sustainability.

Develop in COBOL, deploy in Java

Preserve Your COBOL Investment

Compile Once. Run Anywhere

Modernize Without Risk

Zero source-code rewrite

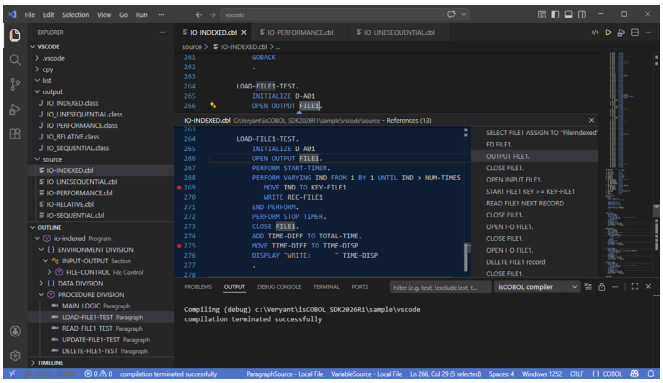

Figure 1. isCOBOL development using Visual Studio Code

WHY ISCOBOL EVOLVE

Develop in COBOL. Deploy Anywhere Java Runs.

isCOBOL retains the familiar COBOL development experience while transparently generating Java classes executable on any JVM. Applications automatically benefit from today's multi-threaded, multi-core server architectures and can run on any device or operating system that supports Java.

Flexible Deployment Models.

The suite supports on premise, cloud, hybrid, and browser based deployment without changing application code. Thin client capabilities, distributed processing, and web-enablement options make it easy to align COBOL applications with modern infrastructure and delivery strategies

Cost-Effective Modernization.

With portable technology, inclusive tools, and a predictable pricing structure, isCOBOL makes modernization projects more efficient, reduces risk, and lowers long-term maintenance costs.

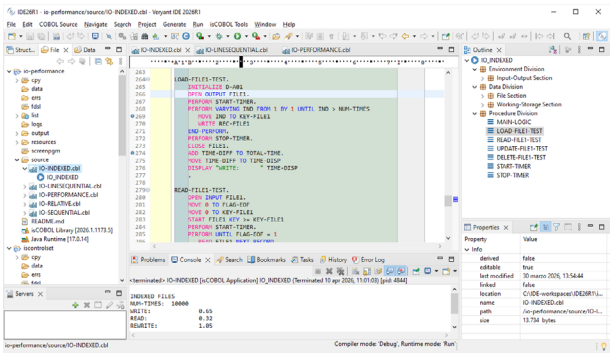

Figure 2. isCOBOL development using Eclipse

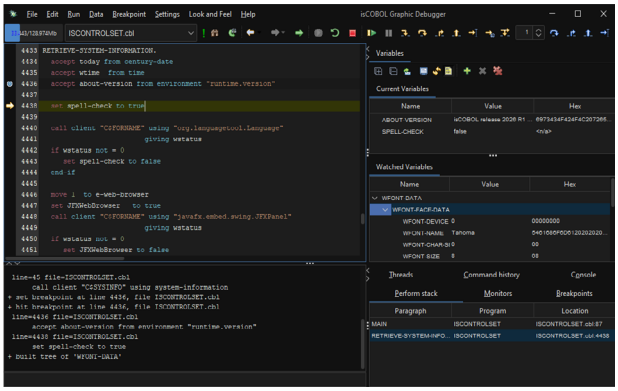

Figure 3. isCOBOL multiplatform GUI debugger

Development Tools Included

- Eclipse–Based IDE, Eclipse plugin, and VS Code Extension
- Compiler that converts COBOL code to Java Classes
- Options to generate readable and maintainable Java source code
- Runtime that runs on any JRE platform
- Graphical Local and Remote Debugger
- Application Server, File server, Distribuited Server and Thin Client
- WebClient to run your app in a web browser with no code changes
- File Handlers for most types of data, including COBOL file i-o code access to RDBMS
- REST/SOAP and other WebServices support
- Object Orienting Programming
- Natural COBOL to Java and COBOL to C interoperability

> *"The sales and support staff at Veryant were very supportive and technically proficient at recognizing our."*
>
> *During this second step, initial test phase, we have seen how fast."*
>
> *Gregory L.,*
> *U.S. Army Europe and Africa Registry of Motor Vehicles.*

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ISCOBOL EVOLVE KEY COMPONENTS

COBOL Compiler

A platform-agnostic, ANSI-compliant COBOL compiler that:

- Generates pure Java bytecode for execution on any JRE
- Supports extended ANSI features (e.g., PIC X ANY LENGTH, OCCURS DYNAMIC)
- Includes compatibility with major legacy COBOL dialects
- Provides Object Oriented COBOL support
- Applies on-the-fly code changes during compilation via custom preprocessors and regular expressions — without modifying the original source
- Automatically translates Embedded SQL (ESQL) into JDBC-compatible Java
- Includes extensions for Ant and Maven build systems

Development Environments

Eclipse-Based IDE, a full featured COBOL IDE with:

- Real time syntax checking
- Project and code management
- Integrated compiling, testing, and debugging
- Remote compilation for server-side workflows
- WYSIWYG Screen and Report designer
- Build, test, and deploy web applications with an HTML UI and COBOL backend

Visual Studio Code Extension

A lightweight alternative providing:

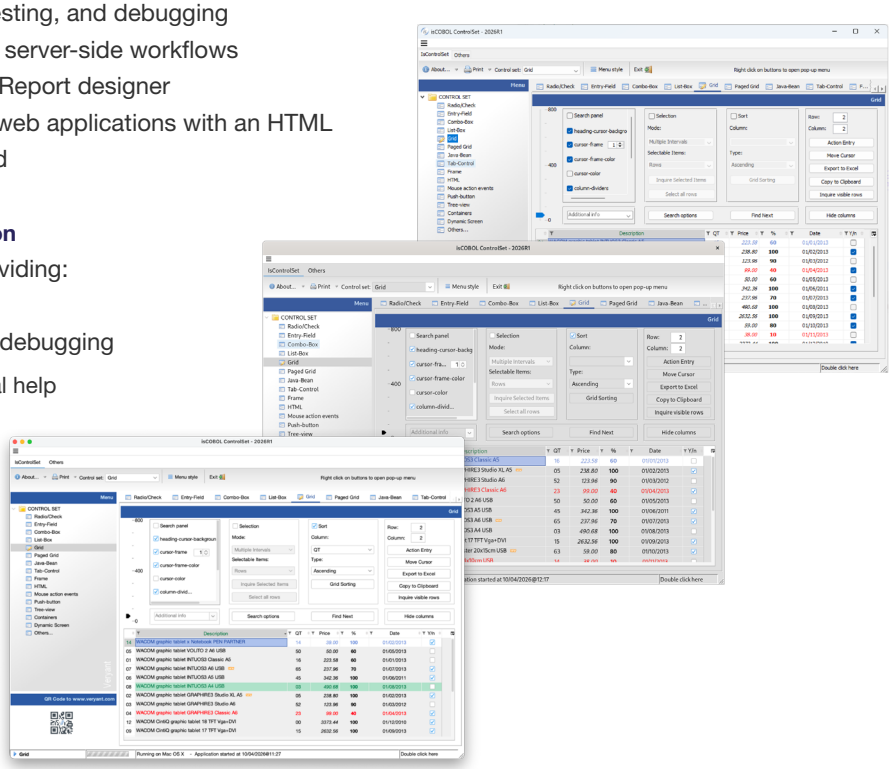
- Syntax highlighting
- Editing, compiling, and debugging
- Templates and contextual help

Runtime Framework

The isCOBOL Runtime Framework, written entirely in Java, enables:

- Full portability across Windows, Linux, UNIX, and cloud platforms
- Consistent execution on any Java JVM
- Seamless Java interoperability — use native Java classes and Swing components directly within your COBOL programs
- Extensibility through custom Java classes that implement Veryant's interfaces, giving you deep control over runtime behavior
- Integrated debugging, thin client application distribution, and file system support
- High-availability file access through c treeRTG®, isCOBOL JISAM, and ACUCOBOL GT Vision formats

Figure 4. Windows, Linux and MacOSX multiplatform GUI



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Application Server & Web Enablement

Application, File and HTTP Server

The isCOBOL Application Server delivers:

- Multi-threaded performance and efficient client interaction
- Reduces network bandwidth demands
- A single UI codebase across deployment models
- Access to remote indexed, sequential, and relative files—no code changes required
- Automatic client workstation updates when the server is updated

Load Balancer

Distributes workloads across server clusters for horizontal scalability and fault tolerance.

WebClient

Run existing character or GUI applications **as is** inside a web browser—no code modifications required.

- Zero-client, browser-based execution reduces network bandwidth demands
- Desktop-like interactivity streamed from the server
- Session persistence for disrupted connections
- Real-time monitoring of CPU, memory, and session states for administrators
- Built-in remote assistance tools for end-user support
- Cloud-ready clustering and multi-server management via WebClient Admin

Extend Internet System (EIS)

Tools for building modern service based COBOL applications, with support for:

- REST and SOAP web services
- XML and JSON data formats
- HTTP/HTTPS communication
- HTML5 based user interface design
- Deployment within standard Java servlet containers including Apache Tomcat

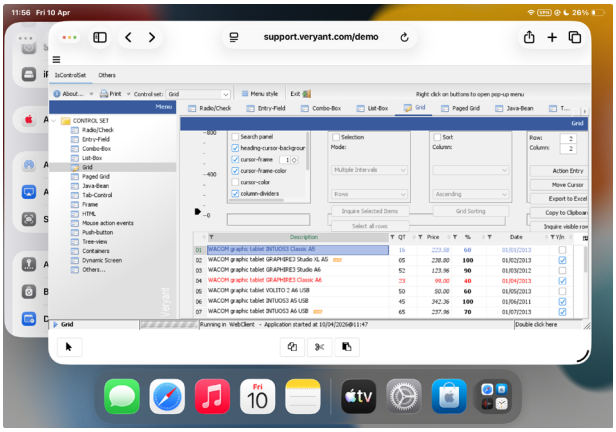

Figure 5. isCOBOL UI in a WebBrowser

Key features and benefits

Rich GUI

- Export to Excel
- Look and feel (LAF)
- Embedded HTML
- Scale layout manager
- MDI windows
- PDF and Print Preview capabilities
- QR code and barcode generation
- Support for JavaBean graphical controls
- RGB and advanced images

Internationalization

- Unicode support
- multi-language resource feature
- date field decimal and and currency management

Regular Expressions

- Support for regular expressions at compile time and in many areas of COBOL code such as file START, entry-field validation, and string searches.

Interoperability

- Easy bridge to Java and C languages, EXTFH and EXTSH APIs
- EXTFH and EXTSM interfaces

> *"The Veryant solution has given us improved cross-platform application portability, provided a very cost-effective solution with a fast time to value, and we find the performance is excellent."*
>
> *Mark Rawlins CEO, InfoTrax*

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ISCOBOL FOR THE WEB AND CLOUD

isCOBOL Evolve offers a comprehensive set of options to migrate your COBOL applications to the cloud without rewriting them.

WebClient

Run existing COBOL applications in any modern browser—no code changes required.

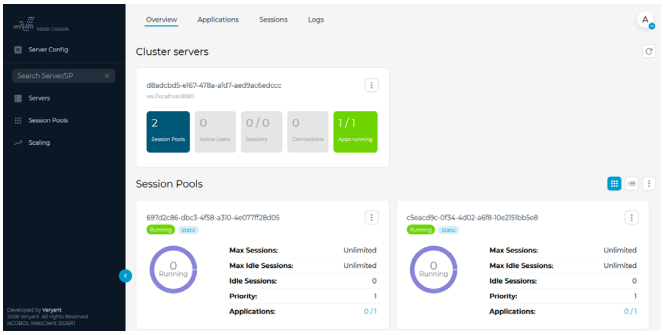
WebClient enables organizations to deliver existing GUI or character-based COBOL applications directly through a web browser. The application runs on the server while the browser receives a visual representation of the UI. This design eliminates client installation and simplifies cloud deployment.

- **Zero client deployment**: Users access applications through a browser—no software to install, update, or manage.
- **Full desktop-like interaction:** The browser displays the application as if it were running natively on a desktop
- **Real-time monitoring**: Administrators can view CPU, memory usage, and response times for active sessions.
- **Built-in remote assistance:** Administrators can mirror a user's screen and take control to assist or troubleshoot.
- **Clustering and scalability**: WebClient Admin can manage multiple WebClient servers across cloud nodes, enabling horizontal scale for busy periods.
- **Mobile-optimized experience**: Improved handling for touch devices and high DPI displays

Why It's Ideal for Cloud

WebClient's server centric model makes it perfect for containerized or virtualized cloud infrastructure. You can easily add or remove WebClient server nodes during peak workloads—such as seasonal spikes—without modifying the application itself.

Figure 6. Webclient administration panel



Extend Internet System (EIS)

Transform COBOL applications into modern API-driven, service-enabled systems

EIS gives COBOL developers the ability to integrate with modern web architectures and build services that expose application processes to external systems. It's a complete toolkit for creating cloud-friendly, interoperable COBOL applications.

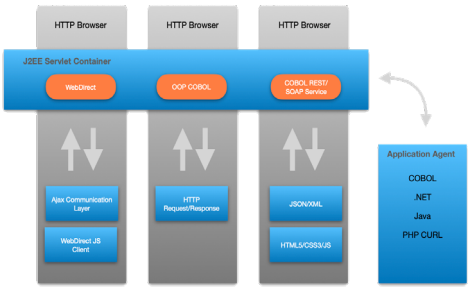
- **Native REST and SOAP Web Services:** EIS supports both major web service models directly from COBOL.
- **HTTP/HTTPS-based communication:** Ideal for integrating with cloud services, microservices, and third party APIs
- **JSON and XML support:** Easily exchange structured data with modern web applications and platforms.
- **HTML5 UI creation:** Build new user interfaces using HTML5 and CSS3—without abandoning COBOL business logic.
- **Integration with servlet containers**: EIS-powered components can be deployed in popular Java application servers (e.g., Tomcat).

Why It's Ideal for Cloud

EIS allows COBOL applications to participate fully in service-oriented and API-first architectures. This makes it easier to migrate business logic to:

- Microservices
- Cloud-native applications
- Multi-tier web platforms

Because EIS runs within Java servlet containers, it fits naturally into existing enterprise cloud platforms and orchestration tools.



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isCOBOL DATA ACCESS AND MANAGEMENT

isCOBOL Evolve offers numerous options for ISAM files and RDBMS systems, and a comprehensive ESQL Generator.

ISAM File Systems

- **JISAM:** An affordable 100% Java-based indexed sequential access (ISAM) file system with fast and flexible data retrieval
- **c-treeRTG isCOBOL Edition**: A powerful, scalable, server-based indexed file system with compression, encryption, automatic recovery and transaction management options
- **VisionJ**: 100% Java-based interface to the Acucobol-GT Vision File System
- **File Connectors**: Access to indexed file systems from other COBOL dialects — enabling isCOBOL applications to read and write production data directly, without conversion or migration. Supported formats include C-ISAM, Btrieve, and more.

RDBMS Options

Support for major relational databases including:

- Oracle
- IBM DB2
- MySQL / MariaDB
- PostgreSQL
- Microsoft SQL Server
- DBMaker

Any JDBC-compliant database

ESQL and JDBC Tools

- Automatic **ESQL-to-Java** translation for seamless SQLJ connectivity, with full support of IBM DB2
- **Database Bridge** to generate file system interfaces from existing COBOL data descriptions and syntax, enabling access to your RDBMS through a jdbc connection
- **U**niversal **D**ata**B**ase **C**onnector enabling ODBC and JDBC access to indexed files
- **c-treeRTG COBOL Enterprise** Edition to add RDBMS capabilities to existing ISAM structures without code changes
- **NoSQL Bridge**, a lightweight, stateless REST layer offering JSON/HTTP access to all isCOBOL supported indexed. It includes a Jetty-based server with optional WAR deployment for servlet containers.

Developer & Modernization Tools

Tools to help you

- Move to isCOBOL
- Interoperate with other languages
- Work with data
- Modernize your application

Testing tools

- Code Coverage
- Unit Test
- WebClient automated testing
- Performance Profiler
- Abend Diagnostics

Comperhensive Documentation

- Includes End-to-End Guidance for Developers
- Transition guides for most other COBOL dialects to make your conversion to isCOBOL easier and faster
- COBOL knowledge base

Cost Effective Modernization

- Lower TCO
- Future-proof architecture
- All tools included
- Turn existing COBOL applications into web enabled solutions
- Work with any database or ISAM file without code changes

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Subscribe to our YouTube channel and watch our demonstration videos.

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SUPPORTED PLATFORMS

sCOBOL Evolve supports the following platforms and third-party technologies:

Application development
- isCOBOL IDE
- isCOBOL Evolve plugin for Eclipse
- isCOBOL Evolve extension for Visual Studio Code
- isCOBOL Evolve SDK

Application deployment
- isCOBOL Application Server

Development Evvironment
- Eclipse
- Visual Studio Code

Platforms
- Apple OSX Intel and ARM
- HP-UX Itanium and PA-RISC
- IBM AIX
- Solaris SPARC and Intel
- Suse, RedHat and CentOS
- Oracle Red Hat Compatible and Unbreakable
- Ubuntu and Rocky
- Windows and Windows Server

Java
- Oracle Java
- Adopt OpenJDK
- Azul Zulu Core

Application servers
- Glashfish
- Tomcat based on Javax
- Tomcat based on Jakarta
- JBOSS
- Websphere and Websphere Liberty
- WebLogic

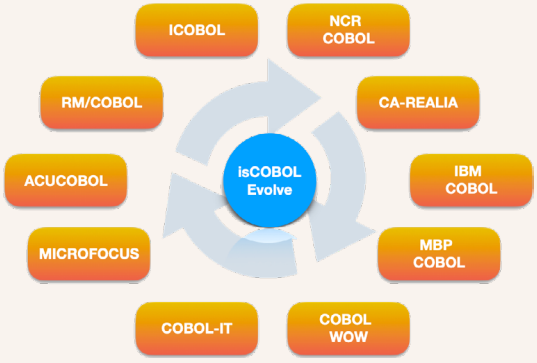
Relational databases
- Oracle
- SQL Server
- MySQL / MariaDB
- DB2
- Informix
- PostGreSQL
- DBMaker

Middleware
- Tuxedo
- XFrame
- Liber*M

Docker
- Community and Enterprise Editions

Cloud
- AWS
- Azure
- Google Cloud

Evolve your COBOL with isCOBOL



Next Steps

Interested? Let Veryant work with your code to review and generate a complimentary, no pressure, Code Analysis Report (CAR).

This report will include an analysis of what the migration effort to isCOBOL would be, what steps are necessary and advice on a migration path – all before any investment occurs on your side.

If your program data is stored in flat files or a RDBMS, there is no data migration involved in a move to isCOBOL.

If data resides in an indexed file system it can be moved to isCOBOL JISAM, c-treeRTG or another database of your choice with the aid of an isCOBOL data migration utility.

Transition services are also available for companies who would like to supplement in-house staff or prefer a turnkey solution to move to isCOBOL software.

Contact us at:
info@veryant.com

For additional information:
Visit veryant.com

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Evolution, without revolution

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