

MainSpace for IBM z/OS is a RESTful interface to DB2, providing full-function SQL statement processing for web and mobile applications. It eliminates the complexity surrounding the development of new mainframe applications.

MainSpace allows web and mobile application developers to make use of program logic, multiple SQL calls, commit and rollback the same way a COBOL developer would code a business application, but with the advantage of using modern programming languages (e.g. JavaScript, Swift, HTML5, etc).

MainSpace Features

The MainSpace DB2 service provides a range of capabilities to access and administer mainframe DB2 sub-systems via a single interface. It uses its own HTTP Server and can run as either a started task or batch job. MainSpace runs with both flavours of the MfC Agent:

- > Client Agent; and
- > Web Services Agent

The Client Agent is a 'black box' solution that contains all API functionality within Mainframe Cloud's 'no-install' platform. The Client Agent does not require a Customer Web Application framework or Web Server in order to operate.

The Web Services Agent can be called by any standard web application and must be installed by the customer. It requires a customer to have their own Web Application Framework.

Features include:

- > Ad-hoc dynamic SQL statement execution.
- > Ability to handle multiple SQL statements comprising a logical transaction over several API calls;
- > Mapping of SQL numeric and character string datatypes;
- > Ability to invoke SQL utilities (e.g. REORG, LOAD/UNLOAD, files of SQL statements);

- > TCP/IP port sharing for high availability;
- > Full error handling, including exposing SQLCA structure in the response schema;
- > Fine-grained control of 'big data' functions, including control of fetch "block size" or row count and isolation level. Note: 'big data' is currently only supported in the Client Agent;
- > Full user authentication and tracing for support purposes;
- > User authentication is performed on initial connection. Subsequent API calls can make use of a unique log on session token; removing the need for security information to be passed on each call;
- > Full control over commit and rollback processing at any stage of a logical transaction. Uncommitted updates are automatically rolled back if session drops out, thus ensuring data integrity (Web Services Agent only); and
- > Control of logical unit of work. Each invocation of the API is treated as a discrete logical unit of work, or as part of a sequence of calls to comprise a business transaction.

Critical Differentiators

- > MainSpace is targeted at those developers with limited mainframe experience. It allows mainframe organisations to harness the skills and creativity of its web and mobile developers to build feature rich applications in modern programming languages;
- > Use of public programming class libraries (programming templates) allows new applications to be developed quickly and at minimal cost;
- > Eliminating the need to develop complex GUI's results in significant time savings;
- > Provide direct (real-time) access to your mainframe data without needing to invoke a service;
- > Incorporate data into your applications from other non-mainframe sources, mash it up into one GUI;
- > Build new applications that decouple your business application logic from the mainframe whilst retaining DB2 as your database of choice;
- > Alternatively, if your strategy is to transfer workloads off DB2 onto a distributed platform, the MfC 'Write Once, Run Anywhere' strategy allows this to become a reality.

Features to be added in subsequent releases

The limit to what customers can do with MainSpace is limited only by the sub-systems that our Agents connect with. Currently MainSpace only exposes DB2. Future versions will expose:

- > MVS, VSAM datasets and UNIX files;
- > CICS;
- > IMS;
- > MQ;
- > SMF records; and
- > SDSF functions

Additional features that will be added to later versions of the MfC Agents include:

Client Agent

- > Return of data from stored procedures;
- > Timeouts to cater for broken socket sessions not reported back to a waiting Agent; and
- > Commit and rollback processing.

Web Services Agent

- > Return of data from stored procedures;
- > Addition of idle timeout logic for open DB2 connections; and
- > A start-up option will also be added allowing customers to customise their own DB2 timeout value. Automatic rollback when a socket session drops out is already catered for.

For more information visit mainframecloud.com.

Mainframe Cloud creates innovative mainframe software for the next generation. At the heart of the Mainframe Cloud solution is its proprietary hybrid cloud platform. The platform brings agile to the mainframe and accelerates digital transformation by eliminating the complexity associated with the deployment, installation and development of mainframe applications. New applications can be developed in modern programming languages and deployed with minimal infrastructure.