

# Reality DataBasic - Programming

## Introduction

DataBasic is a significant extension of the original Dartmouth BASIC. It uses a lot of the traditional easy to learn syntax with many modern day extensions that include:

- Flexible string handling
- Auto string/math typing
- Access to the Reality Database
- Access to Reality commands
- Remote access routines for MS Visual Basic / GUI...
- Access to TCP/IP sockets
- Web/HTML via integrated RealWeb API...

For typical "real world" applications deploying DataBasic can result in efficient application development and on-going support. Accessing data, implementing the required business model and providing the user interface can be carried out without a steep learning curve. Concurrently, this approach can be integrated with the other "open" data access methods that are required by various standard toolsets - e.g. ODBC, JDBC, MS Visual Basic, HTML, XML, Web Services...

## Key Components

As well as the language elements, which can be seen over the page, Reality DataBasic provides native components for modern application software development that are detailed below.

### RealWeb:

RealWeb is integrated within DataBasic as an API extension to provide from simple to very comprehensive Web development. With less than a dozen or so API calls, web pages can be built that utilize forms, graphics and sound – with all the data and objects required stored directly within the Reality Database.

Using more of the 100+ API calls provides for stylesheets and automatic data and web page format merging. RealWeb interacts with a Web Server using Java Servlet technology that interfaces with Remote DataBasic.

For more details refer to the Product Datasheet *RealWeb*.

### Web Services & XML:

You can expose DataBasic routines as a Web Service that can be accessed over an intranet or Internet network from any application that also supports this WWW Consortium open standard. Inbuilt XML data extraction and generating are also available to interoperate with XML documents.

For more details of refer to the Product Datasheet *Web Services & XML*.

### ActiveX – Remote Basic:

External applications can call subroutines using compliant products that include MS Visual Basic and Office VBA, .NET, 'C'...

### TCP/IP Socket Access:

Using the CONNECT statement you can access local and remote systems and network devices that support raw TCP. This allows DataBasic to directly interact with features like: web, ftp, telnet, SMTP/POP3 email servers, networked and XML based applications.

### Data Encryption:

Applications can run in a secure environment using encrypted files that are accessed transparently within DataBasic, providing the running process has the required privileges. There are also direct ENCRYPT/DECRYPT functions available for discreet encoding within programs.

### Code Profiler:

Tune your application using the integrated profiler, including optional open graphic output, to see where time and system resources are being expended.

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## Language Elements

The DataBasic language consists of the following key elements:

- Statement Constructs and Conditional Program Flow Control.
- Subroutines, both internal and external to the program and to remote Systems.
- Literals, Constants and Variables
- Arithmetic Expressions
- String Expressions and Concatenation
- Relational Expressions – operators, arithmetic/string relations and pattern matching.
- Data Output Format Strings and Conversions
- Database File and Item Locking
- Data Arrays
- Intrinsic Functions and PERFORMing of all Reality Operational Commands.
- Access to automatically sized data files.
- Access to data items using automatically updated and sized indexes.
- Access to multiple data files per dictionary, sequential files, host flat files and foreign relational databases.
- Providing both Terminal Screen and Web (Via Reallink extensions and RealWeb) User Interfaces.
- Printing to local and remote printers
- Embedded subroutines that can be automatically called in response to pre-defined actions: including triggers invoked when items in a database could be changed and calls from English dictionary processing.

DataBasic is fully described with examples in the On-Line Documentation.

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