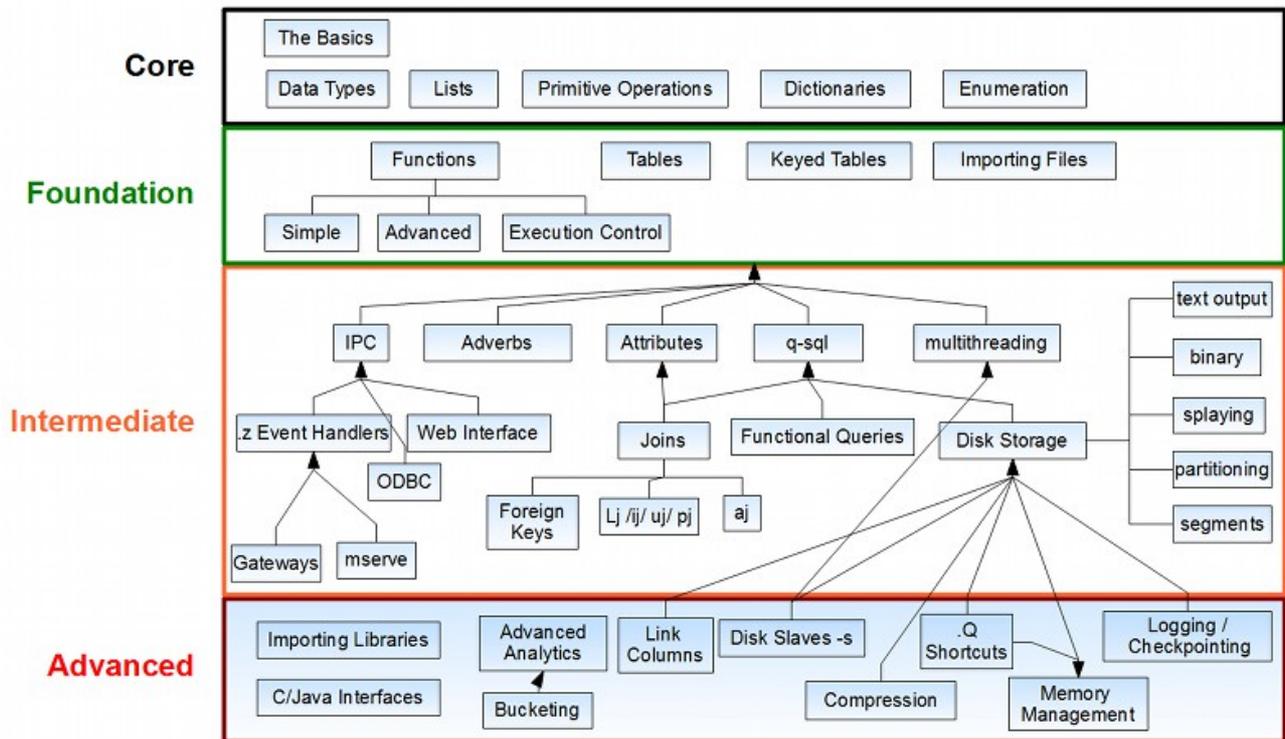


# Customized Kdb Training Courses

Our instructors can come on site and tailor a course specifically to meet the needs of your team. The diagram below shows most of the modules included in our other courses. You can choose a list or if you have something else entirely you want covered we have an extensive range of in-house expertise that covers many areas.

## Available Modules



### Core

Starting kdb, data types and manipulating each of the core data types.

<b>The Basics</b>	Origins of kdb, installation, configuring a development environment, running q scripts/commands.
<b>Data Types</b>	The philosophy behind kdb, the data types it provides, particularly its support for time.
<b>Dictionaries / Lists</b>	Create, Read, Update and Delete from these core data structures.
<b>Primitive Operations</b>	built-in functions, using these functions on atoms / lists and dictionaries.
<b>Enumeration</b>	Storing character data: strings and symbols, when to use which and why.

[training@timestored.com](mailto:training@timestored.com)

TimeStored Ltd, 88-90 Hatton Garden, Holborn, London, EC1N 8PG, UK

## Foundation

<b>Functions</b>	Defining functions, control statements, accessing global variables. Protected evaluation and catching exceptions
<b>Tables</b>	Defining, updating, deleting, adding columns, sorting. Creating relationships between tables using enumeration and Foreign Keys
<b>Importing Data</b>	Importing from csv and other file formats.

## Intermediate

<b>Inter-Process Communication</b>	Communication between servers, sending data (a)synchronously, buffering Security / Stream processing - by overriding event handlers Load Balancing - distributing real time and historical queries over multiple machines
<b>qSQL</b>	Standard SQL queries: "select col from table where ..", what's unique to qSQL
<b>Joins</b>	Covers the standard SQL joins left-join, inner-join, union-join, Specialized kdb joins: plus-join, equi-join, asof-join Optimizing joins and queries using attributes
<b>Multithreading</b>	built-in threading, Parallel processing.
<b>Disk Storage</b>	<b>Text Output and Standard serialization</b> - for saving small files <b>Splaying / Partitioning</b> - For storing large amounts of historical data <b>Segments</b> - For storing extremely large data sets and processing them efficiently in parallel

## Advanced

<b>Importing Libraries</b>	Creating C DLL's and calling that code from kdb
<b>C / Java Interfaces</b>	Calling kdb from c/Java
<b>Advanced Analytics</b>	Building on our knowledge of qSQL and disk storage Efficiently constructing analytics e.g. VWAP / TWAP
<b>Logging / Check pointing</b>	Crash recovery, Transactions and rolling back
<b>Memory Management</b>	Kdb's memory model, garbage collection
<b>Disk Slaves</b>	Segmented databases with multiple CPUs, what is happening below the covers, Best practices for constructing map-reduce queries and edge cases to be careful of.
<b>Compression</b>	Data Compression, when to use it and which data to use it on.

## Personalized Training

By delivering the training on site we can:

- Tailor the course content to your needs
- Adjust the schedule to fit around your availability
- Attune our discussions to your company's use of kdb

[training@timestored.com](mailto:training@timestored.com)

TimeStored Ltd, 88-90 Hatton Garden, Holborn, London, EC1N 8PG, UK