At TimeStored we believe time-series data is everywhere and that with the correct skills and technology an enormous amount of knowledge and profit can be gained from that data. We have expertise in the creation of time-series analysis software, particularly kdb+ and Java with a focus on market data capture and analysis.

Introduction to Kdb

This practical introduction to Kdb+ from KX is for those that have no prior experience and want to become competent at selecting data, writing scripts and creating functions. From the philosophy behind kdb, through the core building-blocks and up to writing advanced analytics that use parallel processing we will help you master kdb. On completion, a comprehensive set of notes, examples, exercises and example scripts are provided to take away.

Course Content

Day 1

The Basics	Origins of kdb, installation, configuring a development environment running q scripts/commands.
Data Types	The philosophy behind kdb, the data types it provides, particularly its support for time.
Casting and Parsing	How to cast from one type to another in kdb+ and parse strings to numbers.
Lists	Create, Read, Update and Delete from Lists
Dictionaries	Create, Read, Update and Delete from Dictionaries
Primitive Operations	Built-in functions, using these functions on atoms / lists and dictionaries.
Enumeration	Storing character data: strings and symbols, when to use which and why.

Day 2

Functions	Defining functions, control statements, accessing global variables. Protected evaluation and catching exceptions
Tables	Defining, updating, deleting, adding columns, sorting. Creating relationships between tables using enumeration and Foreign Keys
Importing Data	Importing from csv and other file formats.
Table Attributes	How and when to use attributes to make your sql queries faster.
qSQL	Standard SQL queries: "select col from table where ..", what's unique to qSQL How to perform updates, delete rows, delete columns and perform execs.
Joins	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

Day 3

Inter-Process Communication	Communication between servers, sending data (a)synchronously, buffering Security / Stream processing - by overriding event handlers
Adverbs	The adverbs: each, over, scan, each-right, each-left and what each does.
Timeseries Table Joins	Joining timeseries data from two tables using latest time or a time window between selected start and end periods.
Functional Form Queries	Kdbs answer to dynamic sql, functional select allows variable column selection and update, delete.
Disk Storage	**Text Output and Standard serialization** - for saving small files **Splaying / Partitioning** - For storing large amounts of historical data
HTTP Web Interface	Querying kdb+ using a web browser.

This class is a good fit for you if you have a little or no prior kdb experience. By the end of the 3 days you will have a broad understanding of most areas giving you the ability to confidently use kdb to solve most problems.

If you already have significant kdb experience our Data Manipulation or Architecture and Administration courses would be a better fit. If you're unsure which is more suitable please contact us.