# Cillian Reilly

kdb+/q developer

Experienced kdb+ developer, hailing from a mathematical background. I enjoy programming as a craft, rather than simply using it as a means to an end. I have several years programming experience in the finance industry in various locations around the world. During this time, kdb+ was the main development language used.

## Work Experience

**kdb+ Developer / Core Operations Engineer, Virtu Financial, Singapore**
**Sep 2020 - Present**

- Development on the various kdb+ products at Virtu Financial, e.g. client trading data, market data and reference data. Development of analytics and tools to aid client TCA via the frontend endpoint (portal.virtu.com).
- Migration of legacy ITG kdb+ infrastructure and services to Virtu technology e.g. datacenters, market and reference data sources etc.
- Responsible for the deployment, maintenance and enhancement of Virtu's electronic trading system. Day to day tasks include system health checks, identifying and remedying issues, and managing operational risk, all in high pressure and time sensitive situations.
- Handling internal production issues and external market alerts and outages, and interfacing with exchanges, brokers, clients and other external parties to support a smooth trading day.
- Work includes migration of various legacy broker/exchange connections to Virtu infrastructure (networking/testing etc), automation improvements to aid daily tasks and creation of unit test frameworks for production configurations.

**kdb+ Developer, Kx Systems, subsidiary of First Derivatives PLC, London, Toronto & Singapore**
**Jul 2017 - Sep 2020**

- Knowledge of full stack kdb+ architectures (tp/rdb/hdb/cep) and implementations. Experience in batch processing of data in various forms into kdb+ (csv, json, xml etc)
- Experience of working with real-time feedhandlers (Java, Kafka) publishing to kdb+ from upstream, and also with various kdb+ interfaces: embedPy, pyq, ffi, C api etc.
- Work includes developing a complete MiFID II solution for a top five Canadian bank. This involved integration with many upstream trading sources within the bank, receiving both real-time and batched data, applying regulatory and enrichment logic to the data, and interaction with regulators, through the use of FIX message handlers and sFTP connections. Other work includes 1.5 years on the Kx Surveillance product for various clients. Processing of large amounts of batched data, schema creation, data write-down and optimized queries.

## Education

**Msc Mathematics**
**Sep 2016 - May 2017**

Maynooth University, Maynooth, Co. Kildare, Ireland
1.1 First Class Honours Degree

**Theoretical Physics and Mathematics**
**Sep 2013 - May 2016**

Maynooth University, Maynooth, Co. Kildare, Ireland
2.1 Double Honours Degree

## Certifications

**Machine Learning Engineer, Udacity**
**Issued: Mar 2019**
**Certificate**

**CPR+AED Course, Singapore First Aid Training Centre**
**Issued: May 2022**
**Certificate: On request**

## Achievements

- Awarded the Stokes Prize from NUI Maynooth for the academic year 2013-2014
- Invited to and attended Iverson College in 2018. Interacted with core kdb+ developers along with some veterans in the field, while gaining invaluable programming experience.
- Active member of the kdb+ community, contributing to code.kx.com material and various Kx github repositories.
- Created a Personal Assistant using kdb+, featuring voice and CLI input, machine learning, SMS capabilities and various internet based API's.
- Keen sports enthusiast, and have completed several 10k runs and 2 half marathons.

## References

Available on request.

## Personal Details

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Available on request

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**Github:**

github.com/cillianreilly

**Website:**

cillianreilly.com

## Skills

kdb+/q: ●●●●○ (Excellent)

Unix: ●●●○○ (Intermediate)

Python: ●●●○○ (Intermediate)

**Others:**

Linux-based OS, Bash/Shell, sFTP, Git, Subversion, Jenkins, Eclipse-based IDEs, Visual Studio Code, Jupyter Notebooks, xml, json, HTML, CSS, Powershell, WebSockets, HTTP, Machine Learning, Test Driven Development

## Languages

English: ●●●●● (Native)

Irish: ●●●●● (Bilingual)

Chinese (Mandarin) ●○○○○ (Beginner)