**LSEG Trade Logging API System Design**

**Considerations:**

* Performance
  + Vertical scaling
  + Horizontal scaling
  + API Gateway
  + Load balancing
  + Caching
    - In mem, Redis/Memchached, DB caching
  + Data server locations if international
* Security
  + API Gateway
  + OAuth
* Observability
  + Logging, metrics, traces
* Storage
  + Time series for trades (KDB+)
  + Relational for stocks (SQL Server)
* Hosting
  + For MVP
  + For scaled system
* Availability/Resilience
  + Passive/active redundancy
  + Checksum
  + API Gateway
* Additional Functionality

**Additional Functionality**

* User management
* Broker management
* Stock management
* Company management
  + Outlook
* TA
* Timeframe stock metrics
* International Expansion
  + Different exchanges, currencies, time zones
* History of stock prices (without looking through trades), redundancy for performance

**MVP Scaffold**

* Separate controller/repo/context for stocks and trades
* Exception handling
* Validation handling
* Use async throughout
* FK Reference to stock ID in trade, one to many relationship between stock and trade