Backend Path for starters

- [ ] **API(s)**
  - [ ] A Beginner’s Quick Guide to APIs: Definition and Types https://blog.postman.com/understanding-api-basics-beginners/
  - [ ] REST API
    - [ ] What is a REST API? https://www.redhat.com/en/topics/api/what-is-a-rest-api
    - [ ] Idempotency https://www.youtube.com/watch?v=4OuaONkZw1I
    - [ ] REST API (tutorial) https://www.restapitutorial.com/
  - [ ] Django
    - [ ] Complete everything from here: https://www.djangoproject.com/start/ including all sections of "Intro to Django"
    - [ ] Tutorial (optional) https://www.youtube.com/watch?v=rHux0gMZ3Eg
    - [ ] Tutorial (optional) https://www.youtube.com/watch?v=F5mRW0jo-U4 (this one is recommended by a friend)
    - [ ] **Portfolio projects:** https://www.youtube.com/watch?v=qPtScmB8CgA (pick any two projects and implement using everything you've learnt)
- [ ] **Database(s)**
  - [ ] Database paradigms: https://www.youtube.com/watch?v=W2Z7fbCLSTw
  - [ ] MySQL logic rundown/refresh video: https://www.youtube.com/watch?v=Cz3WcZLRaWc
  - [ ] Database indexing:
    - [ ] https://www.youtube.com/watch?v=-qNSXK7s7_w
    - [ ] https://www.youtube.com/watch?v=T9n_-_oLrbM

- [ ] Horizontal vs Vertical Database partitioning https://www.youtube.com/watch?v=QA25cMWp9Tk
- [ ] PostgreSQL and MySQL: differences, pros and cons
- [ ] SQLite (most SQL features apply here) https://www.tutorialspoint.com/sqlite/index.htm

- [ ] **Linux Basics**
  - [ ] Linux Directories https://www.youtube.com/watch?v=42iQKuQodW4
  - [ ] Crash course/tutorial https://www.youtube.com/watch?v=2PGnYjbYuUo

- [ ] **Cloud**
  - [ ] Server-client model https://www.geeksforgeeks.org/client-server-model/
  - [ ] Server less paradigm https://www.youtube.com/watch?v=W_VV2Fx32_Y (very good tutorial with Firebase Cloud Functions, you'll need a credit card for upgrading to Blaze plan, but don't worry they don't charge you any money within the free tier limits)
    The tutorial is a Node.js demo, doing it in python should be easy using python package, open-access documentation because **Google**
  - [ ] Multi-tenancy architecture(used by cloud providers) https://www.youtube.com/watch?v=x8vtmX4vF9I
  - [ ] Server basics: https://www.youtube.com/watch?v=JhpUch6lWMw
  - [ ] Open source servers
    - [ ] Apache/HTTPD https://medium.com/@me.sanjeev3d/https-medium-com-me-sanjeev3d-apache-webserver-a0d7f8167063
    - [ ] NGINX (I prefer NGINX for various reasons)
      - [ ] https://www.youtube.com/watch?v=WHv_t_yK-QM (watch this for why NGINX is preferred more over Apache)
      - [ ] NGINX crash course: https://www.youtube.com/watch?v=WC2-hNNBWII (this one is very good)
  - [ ] Server hosting basics (need an AWS/GCP billing enabled account, I'm not sure about Azure, will check later)

- [ ] **Interview question experience**

    - **What are the main differences between serverless and server-based models? Why is the serverless model gaining popularity?**
      Answer: There are multiple answers. Just google!
    - **SQL and NoSQL databases: what are some advantages and disadvantages of one over the other?**
      Answer: Google is your best friend here too.
    - **Why are NoSQL databases becoming the more preferred database choice?**
      Answer: Database scaling over multiple regions, and performance consistency using **sharding** even when data volume scales. The concept of sharding is a bit more critical with SQL databases. Also most people like to avoid direct SQL queries by using ORMs.
    - **Name some use cases of each type of databases. Which DB type is more usable for which type of data?**
      Answer: nosql for time-series related data, redundancy infused data models. sql for critical and sensitive information, and for transactions

will be adding topics to this page with time