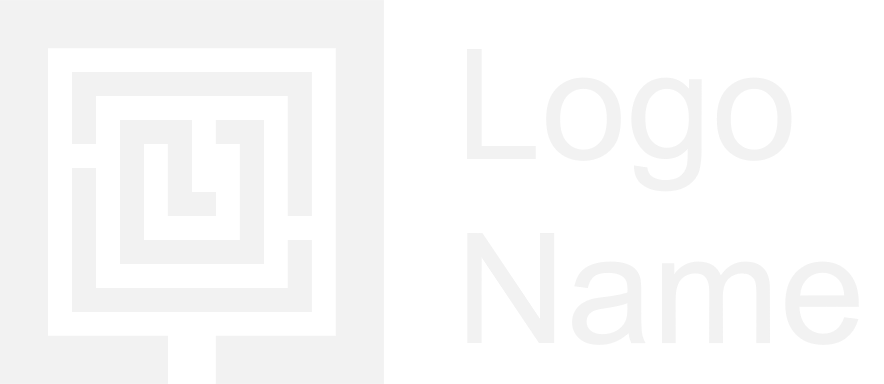


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| ST10458380  CLDV6211 |
| POE PART 2 |
| RWAFA BRADLEY |



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# THEORY

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| QUESTION 1 Conventional search engines Elasticsearch often utilize inverted‑index structures, tokenization, and statistical ranking models for example BM25. Queries submitted by users are processed into terms and compared to corresponding index. In comparison Azure Cognitive Search preserves the utilization of inverted‑index core but embellishes with AI powered intelligence enhancements such as key phrase and entity extraction and exposition aptitudes like synonym expansion.  Intelligence enhancements allow for the search feature to be better optimized specifically in fields concerning structured and semi-structured data. A bank may be able to index multiple processed documents and systematically through an automated process initiate a conversion procedure for them into text and utilize a language query intended to identify familiar/specific terms within the text an example of this would be identifying which documents mention foreclosure. A music curator can standardize synonyms and key phrases of song titles and utilize machine learning to elevate the results that persisted with contents of songs that were played after the most and accumulate those results into a document such aa a PDF and into and centralized index utilized by a music bot such as Spotify’s AI DJ which is then able to automatically find and play songs according  to the index its provided correlated with your song selection.  intelligence dexterity is the cost which is signified on a per use basis which is more cost efficient than most flat fee options. Stratified exposition may concur in ideally inaccurate outcomes while diminishing privacy and possibly jeopardise information security because of the confidential data accumulated by Microsoft AI which may negatively deter practitioner laws. In order to minimize the likelihood of such undesirable scenarios it is crucial that we utilise such systems in moderation such as planned dates of indexing or group indexing amidst periods of low activity and parallelise an aptitude implementation. In events whereby readily incorporated models are unable to perform desirably then you are able to implement your own personalised aptitudes through Azure Functions or an intermediary like containerized ML endpoints. Deployment is culmination of the process whereby we install our aptitude containers on to a private virtual network or locally in a physical setting in adherence to compliance standards for data control and cipher creation protocols. QUESTION 2 Database normalization is the process of breaking down data in tabular form in order to reduce redundancy and establish functional dependencies that prevent the occurrence of deletion, insertion and update anomalies. Azure SQL Database and Azure Database cost per utilized GB in PostgreSQL and per input and output operation and caching each certitude is incurable to lower input and output costs as well as lessened storage. A standardized OLTP schema allows for the easier perception of logic whereby exchanges occur and mitigating the occurrence of lock discord and high utilization of resources such as central processing unit overheads on intense or larger volumes of jobs.    Denormalization is an enhancement procedure that occurs after normalisation and in this procedure redundant data is colluded with singular to multiple tables in the data to mitigate the risk of exorbitant in relational databases this occurs with the exchange for larger storing capacities for enhanced functionality in reading velocities this in consideration that queries correspondingly lower levies. There is a substantially positive relative compatibility for this model in correlation with Azure Cosmos document accumulation. Individually JSON documents will behold all required information for their compliance this would provide the necessary circumstances for providing sub‑100 ms lookups which are preferably desirable in events whereby there is elevated bandwidth such as telemetry dashboards or advisory assisting engines. A disadvantage in this circumstance may be the requirement for numerous document reforms/upgrades additionally an enhancement for the probability of derivative or sequentially contradictory data.  In order to sustain an equilibrium with the exchangeable disadvantages azure architects proficiently utilize an adaption of composite by employing a standardized Azure store for integral OLTP and anchor actualized views or Azure Synapse Analytics efficient data retrieval for analytical reports. In similar circumstances we also have the option of utilising a polyglot continuity pattern employing relational for structured proceedings, using Cosmos DB for quick access to specific data entries and Azure Cache for Redis to disburden consistent perusal. Through correlating tasks to respectively adhering data models and scrupulously utilizing denormalization in cases where efficiency is preserved or optimized, we are able to retain data rectitude and pliability in productivity and efficiency on the cloud.   SCREENSHOT: |
| GITHUB REPO LINK: <https://github.com/RwafaBradley/part-2-poe-st10458380-cldv6211>  WEBSITE APP LINK: <https://myeventeaseapp-g9b8azdehze3dvec.southafricanorth-01.azurewebsites.net/Event>  Video link: [poe part 2 video.mp4](https://advtechonline-my.sharepoint.com/:v:/g/personal/st10458380_imconnect_edu_za/EXHuRtTlYCZKgG2rRGZeotIBonBt06GWXhOtZ_eYOyK86A?nav=eyJyZWZlcnJhbEluZm8iOnsicmVmZXJyYWxBcHAiOiJPbmVEcml2ZUZvckJ1c2luZXNzIiwicmVmZXJyYWxBcHBQbGF0Zm9ybSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXciLCJyZWZlcnJhbFZpZXciOiJNeUZpbGVzTGlua0NvcHkifX0&e=9Uxz1b) |
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