Checklist for your final project
updated on 4/7/2016

- A working system (0% for non-working system)
- A web-based system (0% if not)
- Use RDBMS – bonus if you use other non-relational DBS
- At least 20 ***different types*** of queries (must be useful for your client. You have to justify it!)
- At least 5 analytics functionalities for your clients – pie charts, bar charts, downloadable Excel files, etc.
- An organized, complete, and readable report with chapters containing all required content.

What to turn in (software)

- In your project home directory of Azure (or other setting), you should have the following sub-directories and files:
  - **Report/**S16-ProjectName.pdf (your final project report)
  - **public_html/**(all files under the web directory)
  - **DBS/**16-ProjectName.dmp (dump file of your database account for your project)

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- Tar and gzip the above directories into a single file called S16-ProjectName.tar.gz
- Submit the gzip file (via a link from any cloud space) to the instructor.

What your report should contain:

- **You should have the following chapters in order:**

  - **Introduction**: Discuss the application domain, your client, the data, and any potential for product commercialization. Also include the URL for your project as well as sample (working) usernames and passwords for each type of user in your system.

  - **ERD**: Must include an ERD in any type of notation (Chen, Crow's Foot notation, or other variants). You should explain all constraints and provide DDL for all tables.

  - **Queries**: List at least 20 useful queries (with justification) for your system in natural language and SQL.

  - **Analytics**: List the top 5 useful analytic functions (with justification) for your system in natural language and SQL in addition to the 20 useful queries

  - **Normalization**: Provide an ***in-depth*** discussion of normalization, dependency preservation, and de-normalization with respect to your project.

  - **Indexing selection**: Give an ***in-depth*** discussion of indexing as it relates to your project including how/why you created specific additional indexes. Provide the associated SQL statement for creation of those indexes.

What your report should contain - more

- **You should have the following chapters in order**:
  - **Optimization and Tuning**: Discuss the topics covered in class, specifically how they impacted the design of your final project.
  - **Security setting**: Discuss the topics covered in class, specifically how they impacted your final project (e.g. any views you created for your project, including the SQL statement used to create the view; discretionary access control setting, etc.).
  - **Other topics**: If you included any other database-related items in your project (triggers, PL/SQL, SparkQL, etc.), you should provide codes and discuss their use.
  - **User's manual:** Provide a manual that allows anyone to learn how to operate every aspect of your project. Include screenshots of interfaces and step-by-step instructions. with interfaces and instructions to use your system.

- Weights for your final project:
  1. ERD (10%)
  2. Query methods and interfaces (10%)
  3. Analytics Functionalities and interface (10%)
  4. Normalization (10%)
  5. Indexing (10%)
  6. Optimization and Tuning (10%)
  7. Security (10%)
  8. Overall report including user's manual (15%)
  9. Presentation and Demonstration (10%)
  10. Evaluation from peers. (5%)
  11. Extra discussions. (2% for each, up to 4%)

Presentation and Demonstration

- The Powerpoint file and final report should be submitted by 5:00pm on May 4, 2016 via Canvas. Feel free to work on your group accounts until midnight of May 8.
- Presentations will take place on May 5, 2016 (9:30-10:45) and May 9 (12:30-2:30pm) during the final week.
  - Attendance is MANDATORY! Missing other groups' presentations will cost you 2% of final project; Missing your own presentation will cost you 10% of final project
- Length: ~20* minutes for each group.
  - This will include time for QAs
  - The amount of time per group may change depending on the number of project groups and room scheduling.
- Peer evaluations
  - You will evaluate individuals in all other groups while they are presenting.
  - You will submit an evaluation of members of your own group.

Grading

- Grading will start on May 8 until May 10. Do not modify anything after midnight May 7.

- If there is any discrepancy between your team members, I will call for a special meeting between May 8 and 10.