Indexes are powerful tools that when used properly can drastically improve the speed of your database queries, but when used carelessly can cause more harm than good. Like all powerful tools the user needs to be responsible and know what they are doing. Plan ahead, test your changes in small batches and don’t be afraid to go back and undo/change an index you have created if it isn’t giving you the improvement you were expecting.

We covered:

* What an index is and how they function.
* How to see what indexes exist on a table

SELECT \*  
FROM pg\_indexes  
WHERE tablename = '<table\_name>';

* EXPLAIN ANALYZE can be a powerful tool to see how your queries are impacted by an index.
* How to build an index

CREATE INDEX <index\_name> ON <table\_name> (column\_name);

* Multicolumn indexes allow for more than one column to be used in combination as an index on a table

CREATE INDEX <index\_name> ON <table\_name> (<column\_name1>, <column\_name2>...);

* You can drop an index. This might be useful to do if you are modifying a large number of records on an indexed table.

DROP INDEX IF EXISTS <index\_name>;

* To see the size of a database table you can run the script

SELECT pg\_size\_pretty (pg\_total\_relation\_size('<table\_name>'));

* Some of the benefits and burdens of indexes:
  + Increase in speed of searches/filtering
  + Increase in storage space
  + Increase in runtime for Insert/Update/Delete on impacted indexes.