

database_engineering

March 6, 2018

0.1 Database Engineering

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In [1]: import pandas as pd

In [2]: # Read in cleaned CSV files
measurements_df = pd.read_csv('clean_measurements.csv')
stations_df = pd.read_csv('clean_stations.csv')

In [3]: # SQLAlchemy dependencies
from sqlalchemy import create_engine
from sqlalchemy.ext.declarative import declarative_base
# create base
Base = declarative_base()

In [4]: # Data types from SQLAlchemy
from sqlalchemy import Column, Integer, String, Float, Date

In [5]: # Create base classes
class Measurements(Base):
    __tablename__ = 'measurements'
    meas_id = Column(Integer, primary_key=True)
    station = Column(String(255))
    date = Column(Date)
    prcp = Column(Float)
    tobs = Column(Float)

class Stations(Base):
    __tablename__ = 'stations'
    id = Column(Integer, primary_key=True)
    station = Column(String(255))
    name = Column(String(255))
    latitude = Column(Float)
    longitude = Column(Float)
    elevation = Column(Float)

In [6]: # Create sqlite engine
engine = create_engine("sqlite:///hawaii.sqlite")
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In [7]: # Add metadata to tables
        Base.metadata.create_all(engine)

In [8]: # Append data from CSV created df to correct classes(tables)
        measurements_df.to_sql('measurements', engine, if_exists='append', index=False)

In [9]: stations_df.to_sql('stations', engine, if_exists='append', index=False)

In [10]: from sqlalchemy.orm import Session
          session = Session(bind=engine)

In [11]: session.commit()
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