**Project Setup**

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**Database import**

* All scripts need to be executed in the PostgreSQL database
* Create all tables with the create\_tables script in /Import
* Execute the federallandsresidents script in /Import
* Execute all copy scripts in /Import
* Execute all update and view scripts in /Import
* Execute all alter table scripts in /Import
* Execute the createRoleElector script for access to the database in /Import
* Execute all scripts in /Blatt 5/Skripte to create all necessary functions

**Generate and import elector and voting data**

* Execute changed\_candidateinelection in PostgreSQL in /Generator to insert generated candidates that are missing in the kerg files
* Setup the java project in /Generator with all libraries in /libs
* Execute ElectorGenerator.java to generate and import all electors for both elections. This could take a while (up to multiple hours)
* Execute VoteGenerator.java to generate csv files containing vote data for both elections. This process should not take more than 5 minutes.
  + First just run the file to generate vote data for 2009
  + Then change the year in the java file to 2013 and run it again
* Execute copy\_generated\_votes\_2009 and copy\_generated\_votes\_2013 in PostgreSQL to import the generated data. This process could take up to 1 hour

**Benchmark client**

* This benchmark client will generate a valid input file for JMeter
* Configuration with command-line parameters:
  + -t wait time in milliseconds
  + -d total duration of the test in seconds
  + -w workload mix, followed by 6 integer values for the percentage of the requests
  + -n number of terminals
  + -p path of the JMeter installation
  + -f file name for the generated test plan file
  + e.g. -t 1200 -d 100 -n 15 -w 15 15 15 15 20 20
* run Benchmark.java with all libraries in /libs added to the build path

**Server and website setup**

* Install node.js Version 4.2.2 (x86).
  + The node package manger (npm) should be integrated in the installer.
* Navigate to the project directory (/Projekt) via command line.
* Execute npm install. This will install all needed modules.
* The modules are specified in the dependencies section in the package.json file.
* Execute node server.js or npm start to start the application server
* The site can be accessed via http://127.0.0.1:8080/ or http://localhost:8080/.
* All registered invocations will be logged to the console output (e.g. for debugging information).

**Dependencies in general**

**Website**

* PostgreSQL
* D3
* Node.js
* Express
* Jade
* Stylus
* Nib
* morgan
* pg
* connect-timeout
* body-parser
* connect-flash
* cookie-parser
* express-session

**Generator**

* Java 7
* Data-Factory
* OpenCSV
* Jdbc for PostgreSQL

**Benchmark**

* JMeter
* Java 7
* JDom