

No	概要	対象	ユーザ	コマンド	確認 (確認コマンド等)	備考
1	PostgreSQLの起動	PostgreSQLサーバ (既存PostgreSQL)	postgres	\$ pg_ctl start server starting.	\$ pg_ctl status pg_ctl: server is running (PID: 23121) /usr/local/pgsql/bin/postgres	
2	PostgreSQLのバージョン確認	PostgreSQLサーバ (既存PostgreSQL)	postgres	\$ psql psql (9.3.0) Type "help" for help. postgres=# select version(); version ----- PostgreSQL 9.3.0 on x86_64-unknown-linux-gnu, compiled by gcc (GCC) 4.4.7 20120313 (Red Hat 4.4.7-3), 64-bit (1 row)		
3	JdbcRunnerのインストール	任意のサーバ	任意	JdbcRunnerのインストールは、「別紙_01_付帯ツールのインストール_手順」を参照して下さい。		
4	検証用データベースの作成	PostgreSQLサーバ (既存PostgreSQL)	postgres	\$ createdb tpcc	\$ psql -l List of databases Name Owner Encoding Collate CType Access privileges ----- postgres postgres UTF8 C C template0 postgres UTF8 C C c/postgres + template1 postgres UTF8 C C c/postgres + tpcc postgres UTF8 C C	
5	検証用データの投入	任意のサーバ	任意	\$ export CLASSPATH=\$CLASSPATH:JdbcRunnerを展開したディレクトリ/jdbcrunner-1.2.jar \$ java JR.JdbcRunnerを展開したディレクトリ/scripts/tpcc_load.js -jdbcDriver org.postgresql.Driver -jdbcUrl jdbc:postgresql://PostgreSQLサーバのIPアドレス:5432/tpcc -jdb cPass postgres -jdbcUser postgres -logDir 任意のログ出力ディレクトリ	\$ psql -d tpcc tpcc=# \d List of relations Schema Name Type Owner ----- public customer table postgres public district table postgres public history table postgres public item table postgres public new_orders table postgres public order_line table postgres public orders table postgres public stock table postgres public warehouse table postgres (9 rows)	
6	検証用データの件数確認	PostgreSQLサーバ (既存PostgreSQL)	postgres	検証用データの投入確認のため、以下のSQL文を実行 \$ psql -d tpcc =# select count(*) from customer; =# select count(*) from district; =# select count(*) from history; =# select count(*) from item; =# select count(*) from new_orders; =# select count(*) from order_line; =# select count(*) from orders; =# select count(*) from stock; =# select count(*) from warehouse;	count ----- 480000 (1 row) count ----- 160 (1 row) count ----- 490069 (1 row) count ----- 100000 (1 row) count ----- 143969 (1 row) count ----- 4902352 (1 row) count ----- 489967 (1 row) count ----- 1600000 (1 row)	
7	PostgreSQLの停止	PostgreSQLサーバ (既存PostgreSQL)	postgres	\$ pg_ctl stop waiting for server to shut down.... done server stopped	\$ pg_ctl status pg_ctl: no server running	
8	既存PostgreSQLのアンインストール	PostgreSQLサーバ (既存PostgreSQL)	root	# cd /usr/local/src/postgresql-9.3.0 # make uninstall	# su - postgres \$ which psql /usr/bin/which: no psql in (/usr/local/pgsql/bin:/usr/lib64/qt- 3.3/bin:/usr/local/bin:/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/sbin:/usr/local/zookeeper- 3.4.5/bin:/usr/local/stom/bin:/home/postgres/bin)	
9	PostgreSQL 9.3.2のインストール	PostgreSQLサーバ (新規PostgreSQL)	-	PostgreSQLのインストールは、「別紙_00_PostgreSQLインストール_手順」を参照して下さい。 ※ただし、データベースクラスタの作成(initdb)は行わないこと。		
10	PostgreSQL起動	PostgreSQLサーバ (新規PostgreSQL)	postgres	\$ pg_ctl start server starting	\$ pg_ctl status pg_ctl: server is running (PID: 1395) /usr/local/pgsql/bin/postgres	
11	新規PostgreSQLのバージョン確認	PostgreSQLサーバ (新規PostgreSQL)	postgres	\$ psql psql (9.3.2) Type "help" for help. postgres=# select version(); version ----- PostgreSQL 9.3.2 on x86_64-unknown-linux-gnu, compiled by gcc (GCC) 4.4.7 20120313 (Red Hat 4.4.7-3), 64-bit (1 row)		
12	VACUUMの実施	PostgreSQLサーバ (新規PostgreSQL)	postgres	\$ psql tpcc =# \timing Timing is on. =# VACUUM VERBOSE; INFO: vacuuming "pg_catalog.pg_statistic" INFO: index "pg_statistic_reld_att_inh_index" now contains 422 row versions in 4 pages DETAIL: 0 index row versions were removed. 0 index pages have been deleted, 0 are currently reusable. CPU 0.00s/0.00u sec elapsed 0.00 sec. INFO: "pg_statistic": found 0 removable, 422 nonremovable row versions in 18 out of 18 pages (中略) VACUUM Time: 45253.710 ms		
13	ANALYZEの実施	PostgreSQLサーバ (新規PostgreSQL)	postgres	\$ psql tpcc =# \timing Timing is on. =# ANALYZE VERBOSE; INFO: analyzing "pg_catalog.pg_type" INFO: "pg_type": scanned 8 of 8 pages, containing 352 live rows and 0 dead rows; 352 rows in sample, 352 estimated total rows INFO: analyzing "public.history" INFO: "history": scanned 5180 of 5180 pages, containing 480000 live rows and 0 dead rows; 30000 rows in sample, 480000 estimated total rows INFO: analyzing "public.item" (中略) ANALYZE Time: 2605.188 ms		
14	検証用データの件数確認	PostgreSQLサーバ (新規PostgreSQL)	postgres	リストア確認のため、以下のSQL文を実行 \$ psql -d tpcc =# select count(*) from customer; =# select count(*) from district; =# select count(*) from history; =# select count(*) from item; =# select count(*) from new_orders; =# select count(*) from order_line; =# select count(*) from orders; =# select count(*) from stock; =# select count(*) from warehouse;	count ----- 480000 (1 row) count ----- 160 (1 row) count ----- 980138 (1 row) count ----- 100000 (1 row) count ----- 143969 (1 row) count ----- 4902352 (1 row) count ----- 489967 (1 row) count ----- 1600000 (1 row) count ----- 16 (1 row)	

15	JdbcRunnerの実行	PostgreSQLサーバ (新規PostgreSQL)	任意	<pre> \$ export CLASSPATH=\$CLASSPATH:JdbcRunnerを展開したディレクトリ/jdbcrunner-1.2.jar \$ java JR JdbcRunnerを展開したディレクトリ/scripts/tpcc.js -jdbcDriver org.postgresql.Driver -jdbcUrl jdbc:postgresql://PostgreSQLサーバのIPアドレス:5432/tpcc -jdbcPass postgres -jdbcUser postgres -logDir 任意のログ出力ディレクトリ </pre>	<pre> # java JR /usr/local/src/jdbcrunner-1.2/scripts/tpcc.js -jdbcDriver org.postgresql.Driver -jdbcUrl jdbc:postgresql://localhost:5432/tpcc -jdbcPass postgres -jdbcUser postgres -logDir /tmp 13:48:29 [INFO] > JdbcRunner 1.2 13:48:29 [INFO] [Config] Program start time : 20140220-134828 Script filename : /usr/local/src/jdbcrunner-1.2/scripts/tpcc.js JDBC driver : org.postgresql.Driver JDBC URL : jdbc:postgresql://localhost:5432/tpcc JDBC user : postgres Warmup time : 0 sec Measurement time : 60 sec Number of tx types : 5 Number of agents : 16 Connection pool size : 16 Statement cache size : 40 Auto commit : false Sleep time : 0,0,0,0 msec Throttle : - tps (total) Debug mode : false Trace mode : false Log directory : /tmp Parameter 0 : 0 Parameter 1 : 0 Parameter 2 : 0 Parameter 3 : 0 Parameter 4 : 0 Parameter 5 : 0 Parameter 6 : 0 Parameter 7 : 0 Parameter 8 : 0 Parameter 9 : 0 13:48:30 [INFO] Tiny TPC-C 1.125,60,62,62 tx 13:48:52 [INFO] [Progress] 21 sec, 68,61,9,6,4 tps, 677,686,69,68,66 tx (中略) 13:49:32 [INFO] [Response time (99%tile)] 1122,1045,285,1168,609 msec 13:49:32 [INFO] [Response time (maximum)] 1476,1548,303,1245,1088 msec 13:49:32 [INFO] < JdbcRunner SUCCESS </pre>	<p>デフォルトの900秒では長いので、60秒で処理が終わるように設定を以下のように変更する。 <pre> # vi JdbcRunnerを展開したディレクトリ/scripts/tpcc.js var warmupTime = 0; var measurementTime = 60; </pre> </p>
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