

git_comments:**git_commits:**

1. **summary:** Build support for PostgreSQL 9.2
message: Build support for PostgreSQL 9.2 Jira: MADLIB-662 The decision-tree code contained the function table_exists(), which calls RangeVarGetRelid(), which used to be a two-parameter function, but is now a three-parameter macro.

github_issues:**github_issues_comments:****github_pulls:****github_pulls_comments:****github_pulls_reviews:****jira_issues:**

1. **summary:** New k-means: Crashes on debug builds of Greenplum
description: The new k-means crashes on development builds of Greenplum: {noformat} schopf=# SELECT * FROM madlib.internal_execute_using_kmeans_args(\$sql\$ schopf\$# SELECT madlib.kmeans(schopf\$# \$1, \$2, schopf\$# (schopf\$# SELECT madlib.matrix_agg(centroid) schopf\$# FROM census_1990_10_centroids schopf\$#), schopf\$# \$3, \$4, \$5, \$6) schopf\$# \$sql\$, schopf(# 'census_1990_10k_rows', 'point', schopf(# 'madlib.squared_dist_norm2', 'madlib.avg', 20, 0.001); FATAL: Unexpected internal error (mcxt.c:433) DETAIL: FailedAssertion("!(!'Memory context error!')"), File: "mcxt.c", Line: 433) HINT: Process 24912 will wait for gp_debug_linger=120 seconds before termination. Note that its locks and other resources will not be released until then. server closed the connection unexpectedly This probably means the server terminated abnormally before or while processing the request. The connection to the server was lost. Attempting reset: Succeeded. {noformat} However, {code:sql} SELECT madlib.kmeans('census_1990_10k_rows', 'point', (SELECT madlib.matrix_agg(centroid) FROM census_1990_10_centroids), 'madlib.squared_dist_norm2', 'madlib.avg', 20, 0.001); {code} works just fine.
label: code-design
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jira_issues_comments:

1. **body:** It turns out that the function {{internal_execute_using_kmeans_args()}}, which is internally implemented by the C function {{exec_sql_using()}}, calls the function {{datumCopy()}} to copy the result datum from an SPI query. However, this is done inside {{SPI_connect()}} and {{SPI_finish()}} , i.e., in a memory context that will be destroyed by {{SPI_finish()}}. Debug builds of Greenplum intentionally overwrite deallocated memory, which makes the problem reproducible. The overwritten memory then caused the datum to have invalid header information, which then causes subsequent usage of that datum to exhibit undefined behavior. The solution is to copy the result datum into the "upper executor context", e.g., with the function {{SPI_copytuple()}}.
label: code-design
2. Fixed with commit [671c685]https://github.com/madlib/madlib/commit/671c6851e4ad63803782793a1d8dec44889f39b4].
3. Set status as closed since test passed. GPDB & MADlib versions: {noformat} GPDB Version: PostgreSQL 8.2.15 (Greenplum Database 4.2 build 38200) on x86_64-unknown-linux-gnu, compiled by GCC gcc (GCC) 4.4.2 compiled on Oct 17 2012 10:49:45 (with assert checking) MADlib version: 0.4.1, git revision: v0.4.1-101-g43a879a, cmake configuration time: Tue Oct 30 22:32:07 UTC 2012, build type: RelWithDebInfo, build system: Linux-2.6.18-194.11.3.el5, C compiler: gcc 4.1.2, C++ compiler: gcc 4.1.2 {noformat} {noformat} SELECT * FROM madlib.internal_execute_using_kmeans_args(\$sql\$SELECT madlib.kmeans('madlibtestdata.km_us_census_1990', 'position', (SELECT madlib.matrix_agg(position) FROM madlibtestdata.km_us_census_1990 WHERE pid <= 6), 'madlib.squared_dist_norm2', 'madlib.avg', 20, 0.001) \$sql\$, 'madlibtestdata.km_us_census_1990', 'position', 'madlib.squared_dist_norm2', 'madlib.avg', 20, 0.001); centroids | objective_fn | frac_reassigned | num_iterations -----

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5456} } | 1525010013.39258 | 0.000680555753299556 | 10 (1 row) SELECT madlib.kmeans('madlibtestdata.km_us_census_1990', 'position', (SELECT
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