TAJO-409

hyunsik

2013-12-11

# Contents

## Chapter 1

## Root issue TAJO-409

### 1.1 Summary

Add explored and explained annotations to Tajo function system

## 1.2 Description

Currently, it is hard for developers to add explanations to functions and user-defined functions. Java has annotation feature. We can make function system more explored and explained with java annotations.

#### h3. Proposal

A function should have the following annotations

- \* function name (string) optional
- \*\* If a function is user-defined, this field is ignored.
- \*\* the function name of user-defined function is given when it is registered.
- \* synonyms (string []) optional
- \*\* If a function is user-defined, this field is ignored.
- \*\* One or more aliases can be described.
- \* description (string)
- \*\* \*one\* line explanation for a function
- \* detail (string) optional
- \*\* more explanations which can be two or more lines
- \* example
- \*\* what are parameters and what is a result.

Function signatures can be derived from function name, parameters, and return types.

#### 1.3 Attachments

- 1. TAJO-409 20140119 22:11:45.patch
- 2. TAJO-409.patch

#### 1.4 Commits

- 1. Commit **d04f9a5** by **Hyunsik Choi** (2014-01-20): TAJO-409: Add explored and explained annotations to Tajo function system. (SeongHwa Ahn via hyunsik)
- 2. Commit fa2f400 by jihoonson (2012-02-05): TAJO-409: GlobalQueryPlanìİĎ ìţIJìăĄíŹŤíŢŸëŁŤ GlobalOptimizer ìĎďêşĎ ëřŔ êţňíŸĎ, TAJO-457: TabletServInfo íĄtëďŸìŁďëĕij HostInfo íĄtëďŸìŁďëaĮJ ëşĂêš;

#### 1.5 Comments

1. **epsilon:** I've done this work.

Actually, in addition to the original proposal, web ui for function list is also added.

please review it. Thank you.

- 2. **epsilon:** This new patch contains all bugs and features found in review board. The previous patch was already deleted.
- 3. tajoqa: {color:red}\*-1 overall.\*{color:red} Here are the results of testing the latest attachment http://issues.apache.org/jira/secure/attachment/12623296/TAJO-409.patch against master revision 69700bf.

{color:green}+1 @author. The patch does not contain any @author tags.{color:green}

{color:green}+1 tests included. The patch appears to include 2 new or modified test files.{color:green}

 $\{\text{color:green}\}+1 \text{ javac.}$  The applied patch does not increase the total number of javac compiler warnings. $\{\text{color:green}\}$ 

 $\{\text{color:green}\}+1 \text{ javadoc.}$  The applied patch does not increase the total number of javadoc warnings. $\{\text{color:green}\}$ 

{color:green}+1 checkstyle. The patch generated 0 code style errors.{color:green}

 $\{\text{color:red}\}$ -1 findbugs. The patch appears to introduce 695 new Findbugs (version 1.3.9) warnings. $\{\text{color:red}\}$ 

{color:green}+1 release audit. The applied patch does not increase the total number of release audit warnings.{color:green}

 $\{ color: green \} + 1 \ core \ tests. \ The \ patch \ passed \ unit \ tests \ in \ tajo-catalog/tajo-catalog-client \ tajo-catalog/tajo-catalog-core/tajo-core-backend. \\ \{ color: green \} - 1 \ core \ tests. \ The \ patch \ passed \ unit \ tests \ in \ tajo-catalog/tajo-catalog-client \ tajo-catalog-core-backend. \\ \{ color: green \} - 1 \ core \ tests. \ The \ patch \ passed \ unit \ tests \ in \ tajo-catalog-catalog-client \ tajo-catalog-core-backend. \\ \{ color: green \} - 1 \ core \ tests. \ The \ patch \ passed \ unit \ tests \ in \ tajo-catalog-catalog-core-backend. \\ \{ color: green \} - 1 \ core \ tests \ unit \ un$ 

Test results: https://builds.apache.org/job/PreCommit-TAJO-Build/46//testReport/

Findbugs warnings: https://builds.apache.org/job/PreCommit-TAJO-Build/46//artifact/incubator-tajo/patchprocess/newPatchFindbugsWarningstajo-core-backend.html

 $Findbugs\ warnings:\ https://builds.apache.org/job/PreCommit-TAJO-Build/46//artifact/incubator-tajo/patchprocess/newPatchFindbugsWarningstajo-catalog-client.html$ 

 $Findbugs\ warnings:\ https://builds.apache.org/job/PreCommit-TAJO-Build/46//artifact/incubator-tajo/patchprocess/newPatchFindbugsWarningstajo-catalog-common.html$ 

Findbugs warnings: https://builds.apache.org/job/PreCommit-TAJO-Build/46//artifact/incubator-tajo/patchprocess/newPatchFindbugsWarningstajo-catalog-server.html

Console output: https://builds.apache.org/job/PreCommit-TAJO-Build/46//console

This message is automatically generated.

4. epsilon: Findbugs told me several information regarding antlr, hive, proto and some trivial things.

How should I handle these problems?

- 5. **charsyam:** [~epsilon] currently, please just ignore Findbugs. :) the rules will be changed.
- 6. **charsyam@gmail.com:** currently, please just ignore Findbugs. :) the rules will be changed.

2014/1/16 SeongHwa Ahn (JIRA) < iira@apache.org>

7. jhkim: Guys,

I'm testing the findBugs filter.

Please just ignore generated codes, tajo parser, hive parser

- 8. hyunsik: I'm reviewing this. I'll leave comments today's night.
- 9. hyunsik: Updated the review request against branch master in reviewboardhttps://reviews.apache.org/r/16853/
- 10. hyunsik: +1

I commented in RB. https://reviews.apache.org/r/16853/

- 11. hyunsik: committed it to master branch. Thank you for your contribution!
- 12. hudson: SUCCESS: Integrated in Tajo-master-build #19 (See [https://builds.apache.org/job/Tajomaster-build/19/])

TAJO-409: Add explored and explained annotations to Tajo function system. (SeongHwa

\* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/datetime/ToCharTimestamp.java

Ahn via hyunsik) (hyunsik: https://git-wip-us.apache.org/repos/asf?p=incubator-tajo.git&a=commit&h=d04f9a56

- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Degrees.java
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/Date.java
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/BitLength.java
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Lower.java
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Mod.java
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/FindInSet.java
- $*\ tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/tajo/engine/function/builtin/AvgFloat.java/org/apache/function/builtin/AvgFloat.java/org/apache/function/fu$
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- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Asin.java
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Sign.java/org/apache/tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Sign.java/org/apache/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Sign.java/org/apache/tajo-core-backend/src/main/java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/Sign.java/org/apache/tajo-engine/function/math/sign.java/org/apache/function/mat
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/GeneralFunction.java
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/annotation/ParamOptionTypes.ja
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/datetime/ToTimestamp.java
- $*\ tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/ToBin.java/org/apache/tajo/engine/function/string/toba/engine/$
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/SplitPart.java
- \* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/InCountry.java

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* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/AbsLong.java
* tajo-catalog/tajo-catalog-server/src/test/java/org/apache/tajo/catalog/TestCatalog.java
* tajo-core/tajo-core-backend/src/main/resources/webapps/admin/functions.jsp
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/BTrim.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Tan.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Atan.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/CountValueDistinct.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Chr.java
* tajo-core/tajo-core-backend/src/main/jaya/org/apache/tajo/engine/function/math/AbsInt.jaya
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Cos.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Substr.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/ToHex.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/MinDouble.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Rpad.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Locate.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/MaxDouble.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/MaxFloat.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/StrPosb.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/AvgInt.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Exp.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/CharLength.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Reverse.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/SumLong.java
* tajo-catalog/tajo-catalog-common/src/main/java/org/apache/tajo/catalog/FunctionDesc.java
* tajo-catalog/tajo-catalog-common/src/main/proto/CatalogProtos.proto
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/AbsDouble.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/MinFloat.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Div.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/SumFloat.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Ceil.java
* tajo-catalog/tajo-catalog-common/src/main/java/org/apache/tajo/catalog/function/Function.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/LTrim.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/AvgLong.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Length.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Decode.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/CountValue.java
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* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/CountRows.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/AggFunction.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Sqrt.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/master/TajoMaster.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/MaxInt.java
* tajo-core/tajo-core-backend/src/main/jaya/org/apache/tajo/engine/function/string/RTrim.jaya
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* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/MinInt.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/RegexpReplace.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Md5.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/StrPos.java
* tajo-catalog/tajo-catalog-client/src/main/java/org/apache/tajo/catalog/AbstractCatalogClient.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/MaxLong.java
* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Encode.java
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\* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Radians.java

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* tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/AbsFloat.java/org/apache/tajo-core-backend/src/main/java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/tajo-engine/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/AbsFloat.java/org/apache/function/math/absFloat.java/org/apache/function/math/absFloat.java/org/apache/function/math/absFloat.java/o
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## 1.6 Pull requests

No pull requests

 $<sup>*\</sup> tajo-core/tajo-core-backend/src/main/resources/webapps/admin/catalogview.jsp$ 

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/annotation/Description.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Acos.java

<sup>\*</sup> tajo-catalog/tajo-catalog-common/src/test/java/org/apache/tajo/catalog/TestFunctionDesc.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Ascii.java

<sup>\*</sup> CHANGES.txt

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/SumInt.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/util/JSPUtil.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/Today.java

 $<sup>*\</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/OctetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/tajo/engine/function/string/octetLength.java/org/apache/function/string/octetLength.java/org/apache/function/string/octetLength/strin$ 

 $<sup>*\</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/util/ClassUtil.java$ 

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Repeat.java

 $<sup>*\</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Floor.java$ 

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Sin.java/org/apache/tajo/engine/function/math/sin.java/org/apache/tajo/engine/function/math/sin.java/org/apache/tajo/engine/function/math/sin.java/org/apache/function/func

 $<sup>*\</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/InitCap.java$ 

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Left.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Round.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Pi.java

 $<sup>*\</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent.java/org/apache/tajo/engine/function/string/QuoteIdent/string/q$ 

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/planner/ExprAnnotator.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/Country.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/math/Pow.java-core-backend/src/main/java/org/apache/tajo-core-backend/src/main/java/org/apache/tajo-engine/function/math/Pow.java-core-backend/src/main/java/org/apache/tajo-engine/function/math/Pow.java-core-backend/src/main/java/org/apache/tajo-engine/function/math/Pow.java-core-backend/src/main/src/main/src/m

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/string/Upper.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/AvgDouble.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/SumDouble.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/builtin/MinLong.java

<sup>\*</sup> tajo-core/tajo-core-backend/src/main/java/org/apache/tajo/engine/function/annotation/ParamTypes.java

# Chapter 2

# Connected issue TAJO-512

## 2.1 Summary

(Umbrella) 0.8 Release Preparation

## 2.2 Description

It's the time to discuss 0.8 release. There are some issues for the release. This is an umbrella issue for 0.8 release preparation. We will create sub tasks for that.

#### 2.3 Attachments

No attachments

#### 2.4 Commits

1. Commit d6961c4 by Hyunsik Choi (2012-03-16): TAJO-512: ìżňě§ij ìİtëeĎ alias ìğÅìŻŘ

Change-Id: I75e1d03d330f0582a21207f639d0b9f01eee3647 Reviewed-on: https://dbserver.korea.ac.kr/reviews/102 Tested-by: Jenkins <build@dbserver.korea.ac.kr> Reviewed-by: Hyunsik Choi <hyunsik.choi@gmail.com>

### 2.5 Comments

1. **hyunsik:** In my opinion, TAJO-305 must be included in this release. So, I just linked TAJO-305 as a blocker.

## 2.6 Pull requests

No pull requests