**编 号：**

**版本号：VERX.X**

**APM项目文档**

# Pinpoint

XX公司

**2018年3月**

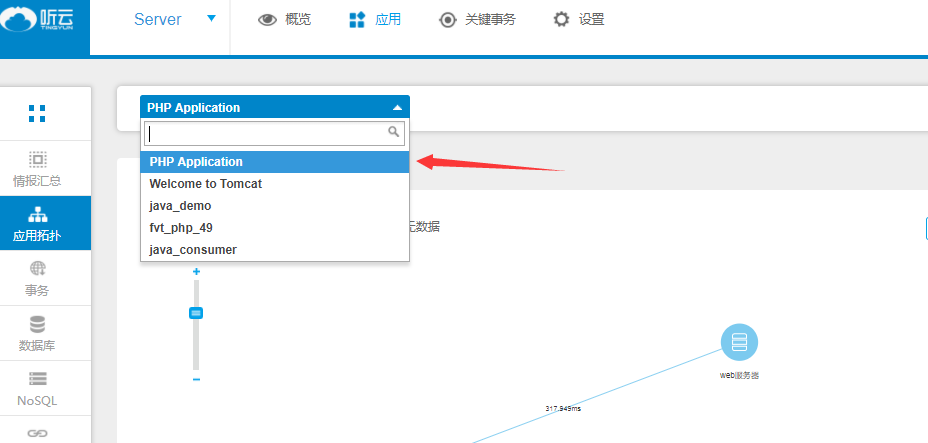
## 1.aaaaaa

根据《[SS 案](http://mail.ym.163.com/jy3/read/readdata.jsp?sid=40IA67U8p6r4o9j14jWpax9xa1jk4Ev5&mid=AA2AqgBeAZ02sQdRJ2skkKq9&mode=download&part=3)

## 2.ppweb工程

### 2.1接口实现

###### 2.1.1.获取应用列表

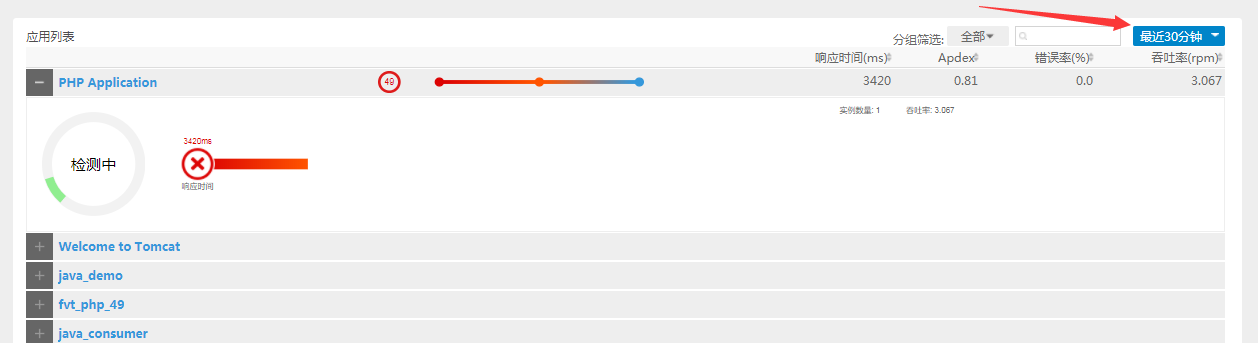


|  |  |
| --- | --- |
| /apm/apmApplications.pinpoint | |
| applicationName | 应用名称 |
| id | 应用id |

|  |  |
| --- | --- |
| 相关sql | |
| 查询所有应用 | SELECT \* FROM application; |

###### 2.1.2.获取应用列表信息

查询时间默认设置为当前1小时，此处功能前端再实现



|  |
| --- |
| /apm/apmApplicationInfo.pinpoint?timeSection=查询时间毫秒值，（默认1小时） |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "instanceCount": 0,  "apdex": null,  "errPercentage": null,  "rpm": null,  "responseTime": null,  "applicationName": "MyTestPP",  "appId": "2"  },  {  "instanceCount": 0,  "apdex": "0.375",  "errPercentage": "0.428571428",  "rpm": "4.0",  "responseTime": 725,  "applicationName": "appname1",  "appId": "11"  } |

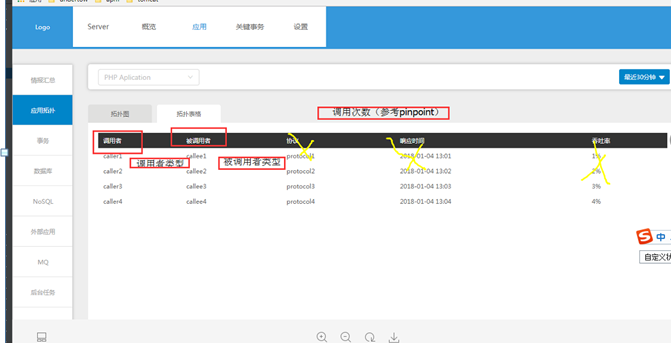
|  |  |
| --- | --- |
| 相关sql | |
| 获取响应时间 |  |
| 获取apdex值 |  |
| 错误率 |  |
| Rpm |  |

错误率查询的是span表中的errorCode ,如果errorCode 为0就没有错误。

问题：上述的rpm 是调用次数除以时间段（秒值），一般调用不频繁的话该值为0.

###### 2.1.3应用拓扑列表信息

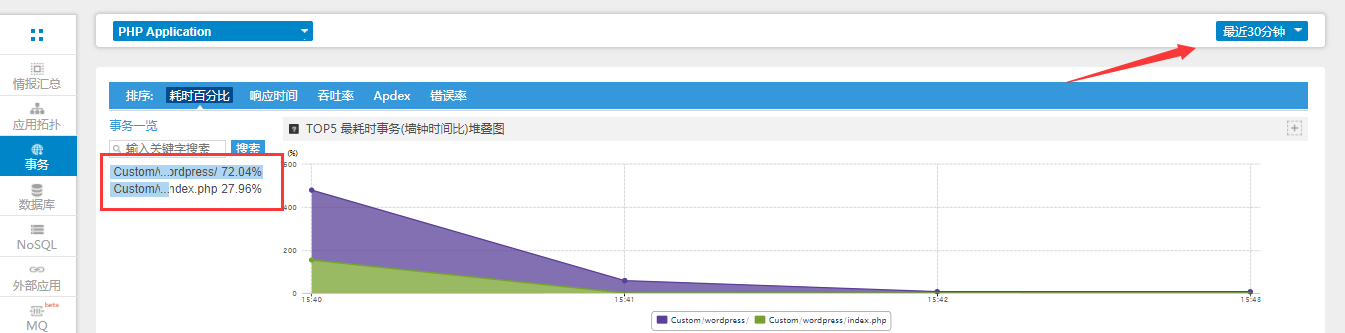
查询时间默认设置为当前1小时，此处功能前端再实现



|  |
| --- |
| [/apm/topologyInfo.pinpoint](http://localhost:8082/apm/topologyInfo.pinpoint)? appId= &timeSection= |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "callerMap": {  "callerId": null,  "timestamp": null,  "callerCode": null,  "callerDesc": null,  "calleeCode": null,  "calleeDesc": null,  "isError": null,  "callerAppId": null,  "calleeAppId": 22  },  "callTimes": 2,//次数  "apperName": "appname1",//调用者name  "apperType": "TOMCAT", //调用者type  "appeeName": "mysqlname",//被。。。  "appeeType": "MYSQL"//被。。。。。  },  {  "callerMap": {  "callerId": null,  "timestamp": null,  "callerCode": null,  "callerDesc": null,  "calleeCode": null,  "calleeDesc": null,  "isError": null,  "callerAppId": null,  "calleeAppId": 33  },  "callTimes": 1,  "apperName": "appname1",  "apperType": "TOMCAT",  "appeeName": "redisname",  "appeeType": "REDIS"  }  ],  "objectMaps": null,  "obj": null,  "success": true  } |

###### 2.1.4事务一览

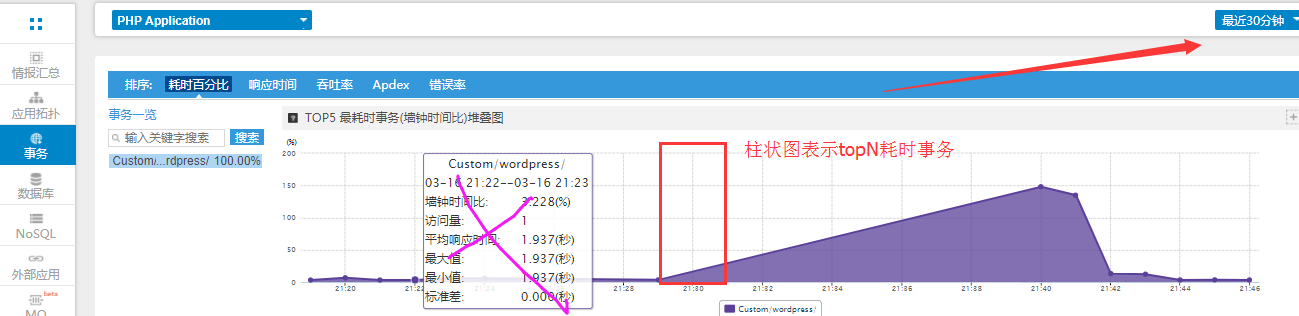
默认查询时间为1小时，前端可以再做时间选择框



|  |
| --- |
| http://localhost:8082/apm/transactionList.pinpoint?appId=11&timeSection=111111111111113 |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "transaction": {  "id": null,  "rpc": "/aa/bb",  "startTime": null,  "endTime": null,  "elapsed": null,  "appllicationId": "11"  },  "transactionPer": 0.62,  "maxTransactionTime": null,  "minTransactionTime": null,  "avgTransactionTime": null,  "transactionCount": null  },  {  "transaction": {  "id": null,  "rpc": "/ee/ff",  "startTime": null,  "endTime": null,  "elapsed": null,  "appllicationId": "11"  },  "transactionPer": 0.38,  "maxTransactionTime": null,  "minTransactionTime": null,  "avgTransactionTime": null,  "transactionCount": null  }  ],  "objectMaps": null,  "obj": null,  "success": true  } |

|  |
| --- |
| 相关事务列表sql |
|  |

###### 2.1.5topN事务



|  |
| --- |
| http://localhost:8082/apm/expensiveTranList.pinpoint?appId=11&timeSection=111111111111113&topNum=5 |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "transaction": {  "id": null,  "rpc": "/aa/bb",  "startTime": null,  "endTime": null,  "elapsed": null,  "appllicationId": "11"  },  "transactionPer": 0.62,  "maxTransactionTime": 1000,  "minTransactionTime": 200,  "avgTransactionTime": "600.0000",  "transactionCount": 3  },  {  "transaction": {  "id": null,  "rpc": "/ee/ff",  "startTime": null,  "endTime": null,  "elapsed": null,  "appllicationId": "11"  },  "transactionPer": 0.38,  "maxTransactionTime": 1100,  "minTransactionTime": 1100,  "avgTransactionTime": "1100.0000",  "transactionCount": 1  }  ],  "objectMaps": null,  "obj": null,  "success": true  } |

|  |
| --- |
| 相关sql |
|  |

###### 2.1.6慢事务列表

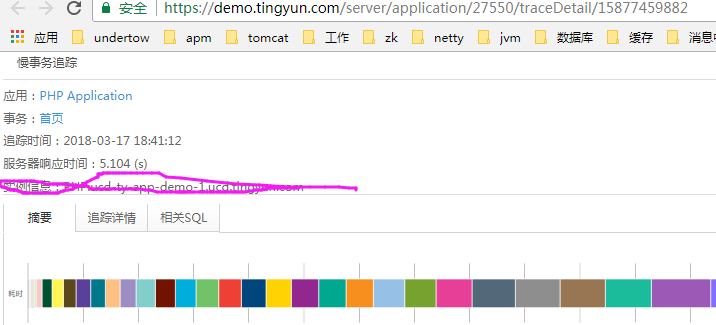


|  |
| --- |
| http://localhost:8082/apm/slowTransaction.pinpoint?appId=11&timeSection=111111111111113 |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "startTime": "1516959606000",  "rpc": "/aa/bb",  "applicationId": "11",  "elapsed": 2134,  "transactionId": "5",  "spanId": "7"  },  {  "startTime": "1517899658510",  "rpc": "/aa/bb",  "applicationId": "11",  "elapsed": 122,  "transactionId": "1",  "spanId": "1"  },  {  "startTime": "1516959606000",  "rpc": "/aa/bb",  "applicationId": "11",  "elapsed": 66,  "transactionId": "1",  "spanId": "2"  },  {  "startTime": "1516959606000",  "rpc": "/aa/bb",  "applicationId": "11",  "elapsed": 1,  "transactionId": "1",  "spanId": "3"  },  {  "startTime": "1516959606000",  "rpc": "/ee/ff",  "applicationId": "11",  "elapsed": 1,  "transactionId": "2",  "spanId": "5"  },  {  "startTime": "1516959606000",  "rpc": "/aa",  "applicationId": "11",  "elapsed": 0,  "transactionId": "6",  "spanId": "8"  }  ],  "objectMaps": null,  "obj": null,  "success": true  } |

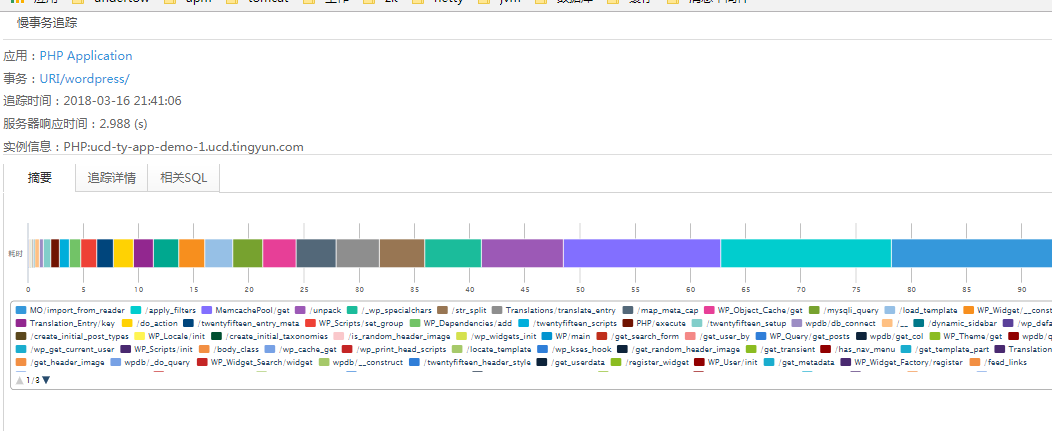
|  |
| --- |
| 相关sql |
|  |

###### 2.1.6事务追踪（参数已经重构，通知前端）

* 顶部信息



|  |
| --- |
| http://localhost:8082/apm/traceTitleInfo.pinpoint?spanId=1 |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": null,  "objectMaps": null,  "obj": {  "applicationName": "appname1",  "rpc": "/aa/bb",  "traceTime": "2018-03-17 19:33:57",  "responseTime": 122  },  "success": true  } |



|  |
| --- |
| http://localhost:8082/apm/tranInvokeTrace.pinpoint?spanId=1 |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "spanEventId": "1",  "endElapsed": 1,  "methodId": "1",  "apiInfo": "org.apache.catalina.connector.Request.recycle()"  },  {  "spanEventId": "2",  "endElapsed": 2,  "methodId": "2",  "apiInfo": "org.apache.catalina.core.StandardHostValve.invoke(org.apache.catalina.connector.Request request, org.apache.catalina.connector.Response response)"  },  {  "spanEventId": "3",  "endElapsed": 3,  "methodId": "3",  "apiInfo": "Tomcat Servlet Process"  },  {  "spanEventId": "4",  "endElapsed": 4,  "methodId": "4",  "apiInfo": "redis.clients.jedis.Jedis.Jedis(java.lang.String host, int port)"  },  {  "spanEventId": "5",  "endElapsed": 5,  "methodId": "5",  "apiInfo": "redis.clients.jedis.Jedis.Jedis(redis.clients.jedis.JedisShardInfo shardInfo)"  },  {  "spanEventId": "6",  "endElapsed": 6,  "methodId": "6",  "apiInfo": "redis.clients.jedis.Jedis.set(java.lang.String key, java.lang.String value)"  },  {  "spanEventId": "7",  "endElapsed": 7,  "methodId": "7",  "apiInfo": "redis.clients.jedis.Jedis.get(java.lang.String key)"  },  {  "spanEventId": "8",  "endElapsed": 8,  "methodId": "8",  "apiInfo": "redis.clients.jedis.Jedis.del(java.lang.String[] keys)"  },  {  "spanEventId": "9",  "endElapsed": 9,  "methodId": "8",  "apiInfo": "redis.clients.jedis.Jedis.del(java.lang.String[] keys)"  }  ],  "objectMaps": null,  "obj": null,  "success": true  } |

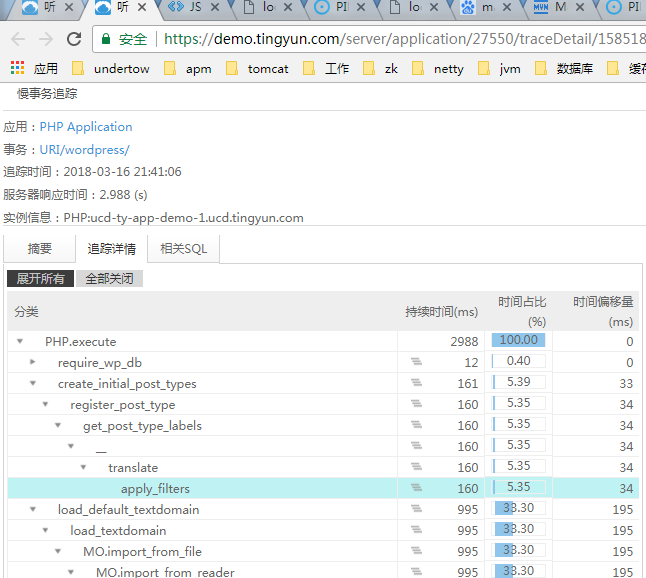
|  |
| --- |
| 相关sql |
|  |

###### 2.1.6慢组件列表（参数已经重构，通知前端）

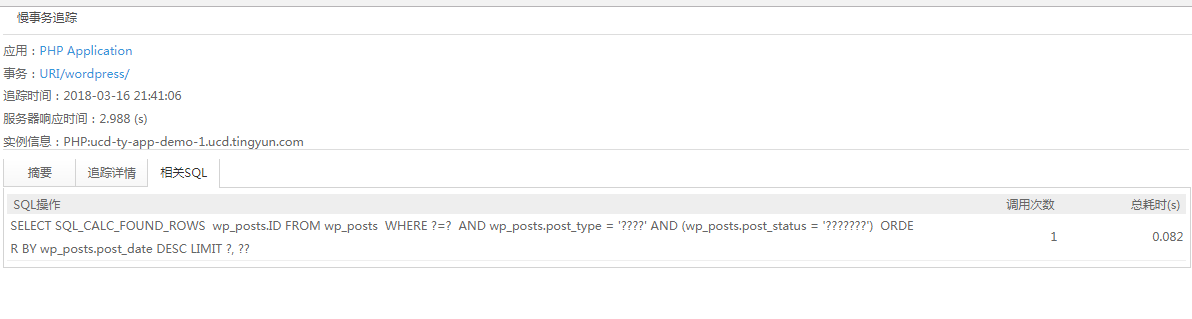


|  |
| --- |
| http://localhost:8082/apm/slowestComponentList.pinpoint?spanId=1 |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "totalTime": "9",  "invokeCount": 1,  "timePer": "0.2000",  "apiInfo": "com.hcb.f9()",  "apiId": "111111119"  },  {  "totalTime": "8",  "invokeCount": 1,  "timePer": "0.1778",  "apiInfo": "com.hcb.f8()",  "apiId": "111111118"  },  {  "totalTime": "7",  "invokeCount": 1,  "timePer": "0.1556",  "apiInfo": "com.hcb.f7()",  "apiId": "111111117"  },  {  "totalTime": "6",  "invokeCount": 1,  "timePer": "0.1333",  "apiInfo": "coml.hcb.f6()",  "apiId": "111111116"  },  {  "totalTime": "5",  "invokeCount": 1,  "timePer": "0.1111",  "apiInfo": "com.hcb.f5()",  "apiId": "111111115"  },  {  "totalTime": "4",  "invokeCount": 1,  "timePer": "0.0889",  "apiInfo": "com.hcb.f4()",  "apiId": "111111114"  },  {  "totalTime": "3",  "invokeCount": 1,  "timePer": "0.0667",  "apiInfo": "com.hcb.f3()",  "apiId": "111111113"  },  {  "totalTime": "2",  "invokeCount": 1,  "timePer": "0.0444",  "apiInfo": "com.hcb.f2()",  "apiId": "111111112"  },  {  "totalTime": "1",  "invokeCount": 1,  "timePer": "0.0222",  "apiInfo": "com.hcb.f1()",  "apiId": "111111111"  }  ],  "objectMaps": null,  "obj": null,  "success": true  } |

###### 2.1.7追踪详情(参数已经重构，通知前端)



|  |
| --- |
| http://localhost:8082/apm/tracedetail.pinpoint?spanId=1 |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": null,  "objectMaps": null,  "obj": {  "startTime": 0,  "elapsed": 122,  "spanEventList": [  {  "spanEventId": 1,  "endElapsed": 1,  "afterSpanEvent": {  "spanEventId": 2,  "totalTime": 0,  "timePercent": 0.0  },  "childSpanEventList": [    ],  "totalTime": 0,  "timePercent": 0.0082,  "apiInfo": "com.hcb.f1()",  "simpleApiInfo": "--:c.h.f1"  },  {  "spanEventId": 2,  "endElapsed": 2,  "beforeSpanEvent": {  "spanEventId": 1,  "totalTime": 0,  "timePercent": 0.0  },  "afterSpanEvent": {  "spanEventId": 8,  "totalTime": 0,  "timePercent": 0.0  },  "childSpanEventList": [  {  "spanEventId": 3,  "endElapsed": 3,  "parentSpanEvent": {  "spanEventId": 2,  "totalTime": 0,  "timePercent": 0.0  },  "afterSpanEvent": {  "spanEventId": 6,  "totalTime": 0,  "timePercent": 0.0  },  "childSpanEventList": [  {  "spanEventId": 4,  "endElapsed": 4,  "parentSpanEvent": {  "spanEventId": 3,  "totalTime": 0,  "timePercent": 0.0  },  "afterSpanEvent": {  "spanEventId": 5,  "totalTime": 0,  "timePercent": 0.0  },  "childSpanEventList": [    ],  "totalTime": 0,  "timePercent": 0.0328,  "apiInfo": "com.hcb.f4()",  "simpleApiInfo": "--:c.h.f4"  },  {  "spanEventId": 5,  "endElapsed": 5,  "parentSpanEvent": {  "spanEventId": 3,  "totalTime": 0,  "timePercent": 0.0  },  "beforeSpanEvent": {  "spanEventId": 4,  "totalTime": 0,  "timePercent": 0.0  },  "childSpanEventList": [    ],  "totalTime": 0,  "timePercent": 0.041,  "apiInfo": "com.hcb.f5()",  "simpleApiInfo": "--:c.h.f5"  }  ],  "totalTime": 0,  "timePercent": 0.0246,  "apiInfo": "com.hcb.f3()",  "simpleApiInfo": "--:c.h.f3"  },  {  "spanEventId": 6,  "endElapsed": 6,  "parentSpanEvent": {  "spanEventId": 2,  "totalTime": 0,  "timePercent": 0.0  },  "beforeSpanEvent": {  "spanEventId": 3,  "totalTime": 0,  "timePercent": 0.0  },  "afterSpanEvent": {  "spanEventId": 7,  "totalTime": 0,  "timePercent": 0.0  },  "childSpanEventList": [    ],  "totalTime": 0,  "timePercent": 0.0492,  "apiInfo": "coml.hcb.f6()",  "simpleApiInfo": "--:c.h.f6"  },  {  "spanEventId": 7,  "endElapsed": 7,  "parentSpanEvent": {  "spanEventId": 2,  "totalTime": 0,  "timePercent": 0.0  },  "beforeSpanEvent": {  "spanEventId": 6,  "totalTime": 0,  "timePercent": 0.0  },  "childSpanEventList": [    ],  "totalTime": 0,  "timePercent": 0.0574,  "apiInfo": "com.hcb.f7()",  "simpleApiInfo": "--:c.h.f7"  }  ],  "totalTime": 0,  "timePercent": 0.0164,  "apiInfo": "com.hcb.f2()",  "simpleApiInfo": "--:c.h.f2"  },  {  "spanEventId": 8,  "endElapsed": 8,  "beforeSpanEvent": {  "spanEventId": 2,  "totalTime": 0,  "timePercent": 0.0  },  "afterSpanEvent": {  "spanEventId": 9,  "totalTime": 0,  "timePercent": 0.0  },  "childSpanEventList": [    ],  "totalTime": 0,  "timePercent": 0.0656,  "apiInfo": "com.hcb.f8()",  "simpleApiInfo": "--:c.h.f8"  },  {  "spanEventId": 9,  "endElapsed": 9,  "beforeSpanEvent": {  "spanEventId": 8,  "totalTime": 0,  "timePercent": 0.0  },  "childSpanEventList": [    ],  "totalTime": 0,  "timePercent": 0.0738,  "apiInfo": "com.hcb.f9()",  "simpleApiInfo": "--:c.h.f9"  }  ]  },  "success": true  } |



|  |
| --- |
| 相关sql |
| 略，较复杂，请参考代码 |

###### 2.1.8 相关sql(参数已经重构)

|  |
| --- |
| http://localhost:8082/apm/sqlDetailByTranIdAndAppId.pinpoint?spanId=1 |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "sql": {  "sqlMetaDataId": 2,  "agentId": null,  "agentStartTime": null,  "sqlId": 2,  "sqlInfo": "select \* from person"  },  "spanId": null,  "sqlCount": 1,  "totalSqlTime": 2  },  {  "sql": {  "sqlMetaDataId": 1,  "agentId": null,  "agentStartTime": null,  "sqlId": 1,  "sqlInfo": "update person set name=?,delete \* from person"  },  "spanId": null,  "sqlCount": 3,  "totalSqlTime": 23  }  ],  "objectMaps": null,  "obj": null,  "success": true  } |

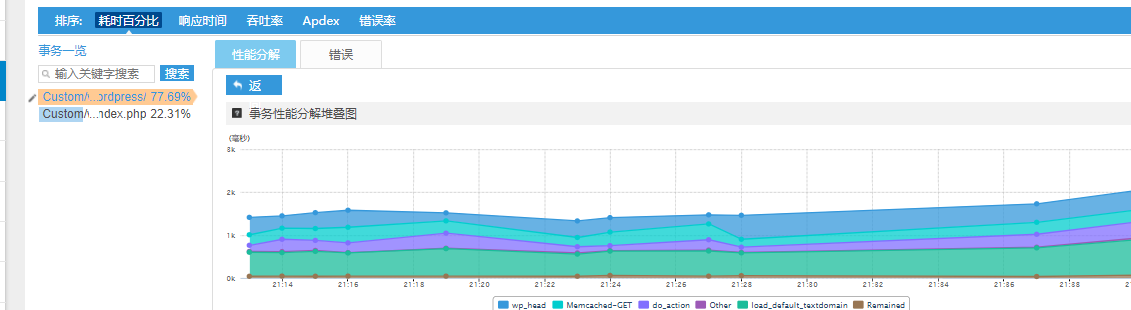
2.1.9

|  |
| --- |
| http://localhost:8082/apm/eachSpanInTransaction.pinpoint?spanId=1&appId=11 |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "averageTime": 1,  "maxTime": 1,  "minTime": 1,  "rpc": null,  "invokeCount": 1,  "theSpanPer": "0.0052",  "applicationId": "11",  "applicationName": "appname1"  },  {  "averageTime": 47,  "maxTime": 122,  "minTime": 1,  "rpc": null,  "invokeCount": 4,  "theSpanPer": "0.9896",  "applicationId": "11",  "applicationName": "appname1"  },  {  "averageTime": 1,  "maxTime": 1,  "minTime": 1,  "rpc": null,  "invokeCount": 1,  "theSpanPer": "0.0052",  "applicationId": "11",  "applicationName": "appname1"  }  ],  "objectMaps": null,  "obj": null,  "success": true  } |

|  |
| --- |
| 相关sql |
|  |

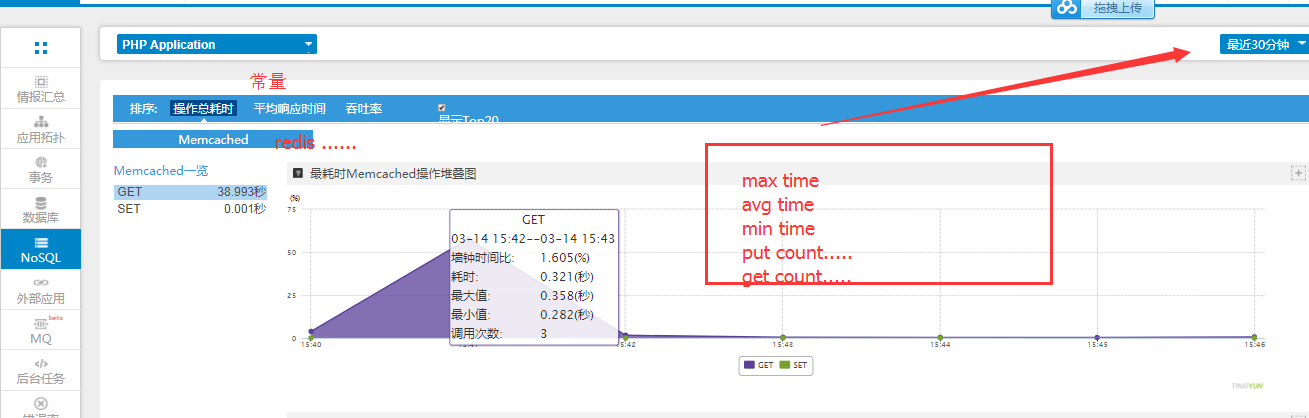
###### 2.1.9某类事物详情

可以按消耗时间查询（orderType=ELAPAED\_ORDER\_TYPE），按最近查询（orderType=TIME\_ORDER\_TYPE）。



|  |
| --- |
| http://localhost:8082/apm/eachSpanInTransaction.pinpoint?spanId=1&appId=11&orderType=ELAPAED\_ORDER\_TYPE&rpc=/aa/bb |
| {  "errMsg": null,  "responeCode": "ok",  "objectList": [  {  "elapsed": 122,  "applicationName": "appname1",  "startTime": 1517899658510,  "remoteAddr": "192.168.213.127",  "avgElapsed": 47  },  {  "elapsed": 66,  "applicationName": "appname1",  "startTime": 1516959606000,  "remoteAddr": "192.168.213.127",  "avgElapsed": 47  },  {  "elapsed": 1,  "applicationName": "appname1",  "startTime": 1516959606000,  "remoteAddr": "192.168.213.127",  "avgElapsed": 47  },  {  "elapsed": 1,  "applicationName": "appname1",  "startTime": 1516959606000,  "remoteAddr": "10.221.192.11",  "avgElapsed": 47  }  ],  "objectMaps": null,  "obj": null,  "success": true  } |

|  |
| --- |
| 相关sql |
|  |



### 2.1 Wrapped

## 3.collector 工程

在移植过程中

### 3.1 JBOdddddd

经过Jboss7.1Beta

## 4.插件

### 4.1 插件开发说明

###### 4.1.1 目标插件支持

中间件支持 支持国产中间件以及主流商用和开源中间件，包括东方通、金蝶、中创、Tomcat、Weblogic、Websphere、Resin、Play、JBoss、Grails、Glassfish、ColdFusion、WildFly、Maven等

数据库性能监控 支持对国产数据库、商用及开源数据库性能监控、包括达梦、金仓、神通、MySQL、Oracle、MS SQL Server、PostgreSQL、Memcahed、MongoDB、Redis等

应用框架监控 支持对Spring、Hessian、Jersey、Dubbo、HttpClient、Restful、Yii、Django等应用框架的监控

备注：ColdFusion，Grails，Play，Yii，Django等后支持。

###### 4.1.2 插件规范

Pinpoint插件官网：https://github.com/naver/pinpoint-plugin-sample

参考资料：

<https://note.youdao.com/share/?token=2AFD555C7FD840F0BECD33A1F8C99B1C&gid=42856110#/>

4.1.2.1 插件开发规范

* ServiceType Code 全部范围规范

|  |  |
| --- | --- |
| 类型 | 范围 |
| Internal Use | 0 ~ 999 |
| Server | 1000 ~ 1999 |
| DB Client | 2000 ~ 2999 |
| Cache Client | 8000 ~ 8999 |
| RPC Client | 9000 ~ 9999 |
| Others | 5000 ~ 7999 |

ServiceType Code 私有区域范围

|  |  |
| --- | --- |
| 类型 | 范围 |
| Server | 1900 ~ 1999 |
| DB Client | 2900 ~ 2999 |
| Cache Client | 8900 ~ 8999 |
| RPC Client | 9900 ~ 9999 |
| Others | 7500 ~ 7999 |

Pinpoint 官方插件已经使用ServiceCode 一览表(pp1.7.1)：

|  |  |  |
| --- | --- | --- |
| 相应jar包 | ServiceName | ServiceCode |
| pinpoint-activemq-client-plugin-1.7.1.jar | ACTIVEMQ\_CLIENT | 8310 |
| pinpoint-arcus-plugin-1.7.1.jar | ARCUS | 8100 |
| pinpoint-arcus-plugin-1.7.1.jar | ARCUS\_FUTURE\_GET | 8101 |
| pinpoint-arcus-plugin-1.7.1.jar | ARCUS\_EHCACHE\_FUTURE\_GET | 8102 |
| pinpoint-arcus-plugin-1.7.1.jar | ARCUS\_INTERNAL | 8103 |
| pinpoint-arcus-plugin-1.7.1.jar | MEMCACHED | 8050 |
| pinpoint-arcus-plugin-1.7.1.jar | MEMCACHED\_FUTURE\_GET | 8051 |
| pinpoint-cassandra-driver-plugin-1.7.1.jar | CASSANDRA | 2600 |
| pinpoint-cassandra-driver-plugin-1.7.1.jar | CASSANDRA\_EXECUTE\_QUERY | 2601 |
| pinpoint-commons-dbcp2-plugin-1.7.1.jar | DBCP2 | 6052 |
| pinpoint-commons-dbcp-plugin-1.7.1.jar | DBCP | 6050 |
| pinpoint-cubrid-jdbc-driver-plugin-1.7.1.jar | CUBRID | 2400 |
| pinpoint-cxf-plugin-1.7.1.jar | CXF\_CLIENT | 9080 |
| pinpoint-dubbo-plugin-1.7.1.jar | DUBBO\_PROVIDER | 1110 |
| pinpoint-dubbo-plugin-1.7.1.jar | DUBBO\_CONSUMER | 9110 |
| pinpoint-google-httpclient-plugin-1.7.1.jar | GOOGLE\_HTTP\_CLIENT\_INTERNAL | 9054 |
| pinpoint-gson-plugin-1.7.1.jar | GSON | 5010 |
| pinpoint-hikaricp-plugin-1.7.1.jar | HIKARICP | 6060 |
| pinpoint-httpclient3-plugin-1.7.1.jar | HTTP\_CLIENT\_3 | 9050 |
| pinpoint-httpclient3-plugin-1.7.1.jar | HTTP\_CLIENT\_3\_INTERNAL | 9051 |
| pinpoint-httpclient4-plugin-1.7.1.jar | HTTP\_CLIENT\_4 | 9052 |
| pinpoint-httpclient4-plugin-1.7.1.jar | HTTP\_CLIENT\_4\_INTERNAL | 9053 |
| pinpoint-hystrix-plugin-1.7.1.jar | HYSTRIX\_COMMAND | 9120 |
| pinpoint-hystrix-plugin-1.7.1.jar | HYSTRIX\_COMMAND\_INTERNAL | 9121 |
| pinpoint-ibatis-plugin-1.7.1.jar | IBATIS | 5500 |
| pinpoint-ibatis-plugin-1.7.1.jar | IBATIS\_SPRING | 5501 |
| pinpoint-jackson-plugin-1.7.1.jar | JACKSON | 5011 |
| pinpoint-jboss-plugin-1.7.1.jar | JBOSS | 1040 |
| pinpoint-jboss-plugin-1.7.1.jar | JBOSS\_METHOD | 1041 |
| pinpoint-jdk-http-plugin-1.7.1.jar | JDK\_HTTPURLCONNECTOR | 9055 |
| pinpoint-jetty-plugin-1.7.1.jar | JETTY | 1030 |
| pinpoint-jetty-plugin-1.7.1.jar | JETTY\_METHOD | 1031 |
| pinpoint-json-lib-plugin-1.7.1.jar | JSON-LIB | 5012 |
| pinpoint-jsp-plugin-1.7.1.jar | JSP | 5005 |
| pinpoint-jtds-plugin-1.7.1.jar | MSSQL | 2200 |
| pinpoint-jtds-plugin-1.7.1.jar | MSSQL\_EXECUTE\_QUERY | 2201 |
| pinpoint-log4j-plugin-1.7.1.jar | ？？？？？？ | ？？？？ |
| pinpoint-logback-plugin-1.7.1.jar | ？？ | ？？ |
| pinpoint-mariadb-jdbc-driver-plugin-1.7.1.jar | MARIADB | 2150 |
| pinpoint-mariadb-jdbc-driver-plugin-1.7.1.jar | MARIADB\_EXECUTE\_QUERY | 2151 |
| pinpoint-mybatis-plugin-1.7.1.jar | MYBATIS | 5510 |
| pinpoint-mysql-jdbc-driver-plugin-1.7.1.jar | MYSQL | 2100 |
| pinpoint-mysql-jdbc-driver-plugin-1.7.1.jar | MYSQL\_EXECUTE\_QUERY | 2101 |
| pinpoint-netty-plugin-1.7.1.jar | NETTY | 9150 |
| pinpoint-netty-plugin-1.7.1.jar | NETTY\_INTERNAL | 9151 |
| pinpoint-netty-plugin-1.7.1.jar | NETTY\_HTTP | 9152 |
| pinpoint-ning-asynchttpclient-plugin-1.7.1.jar | ASYNC\_HTTP\_CLIENT | 9056 |
| pinpoint-ning-asynchttpclient-plugin-1.7.1.jar | ASYNC\_HTTP\_CLIENT\_INTERNAL | 9057 |
| pinpoint-okhttp-plugin-1.7.1.jar | OK\_HTTP\_CLIENT | 9058 |
| pinpoint-okhttp-plugin-1.7.1.jar | OK\_HTTP\_CLIENT\_INTERNAL | 9059 |
| pinpoint-oracle-jdbc-driver-plugin-1.7.1.jar | ORACLE | 2300 |
| pinpoint-oracle-jdbc-driver-plugin-1.7.1.jar | ORACLE\_EXECUTE\_QUERY | 2301 |
| pinpoint-postgresql-jdbc-driver-plugin-1.7.1.jar | POSTGRESQL | 2500 |
| pinpoint-postgresql-jdbc-driver-plugin-1.7.1.jar | POSTGRESQL\_EXECUTE\_QUERY | 2501 |
| pinpoint-redis-plugin-1.7.1.jar | REDIS | 8200 |
| pinpoint-resin-plugin-1.7.1.jar | RESIN | 1200 |
| pinpoint-resin-plugin-1.7.1.jar | RESIN\_METHOD | 1201 |
| pinpoint-resttemplate-plugin-1.7.1.jar | REST\_TEMPLATE | 9140 |
| pinpoint-rxjava-plugin-1.7.1.jar | RX\_JAVA | 6500 |
| pinpoint-rxjava-plugin-1.7.1.jar | RX\_JAVA\_INTERNAL | 6501 |
| pinpoint-spring-boot-plugin-1.7.1.jar | SPRING\_BOOT | 1210 |
| pinpoint-spring-plugin-1.7.1.jar | SPRING\_MVC | 5051 |
| pinpoint-thrift-plugin-1.7.1.jar | THRIFT\_SERVER | 1100 |
| pinpoint-thrift-plugin-1.7.1.jar | THRIFT\_CLIENT | 9100 |
| pinpoint-thrift-plugin-1.7.1.jar | THRIFT\_SERVER\_INTERNAL | 1101 |
| pinpoint-thrift-plugin-1.7.1.jar | THRIFT\_CLIENT\_INTERNAL | 9101 |
| pinpoint-tomcat-plugin-1.7.1.jar | TOMCAT | 1010 |
| pinpoint-tomcat-plugin-1.7.1.jar | TOMCAT\_METHOD | 1011 |
| pinpoint-user-plugin-1.7.1.jar | -- | -- |
| pinpoint-vertx-plugin-1.7.1.jar | VERTX | 1050 |
| pinpoint-vertx-plugin-1.7.1.jar | VERTX\_INTERNAL | 1051 |
| pinpoint-vertx-plugin-1.7.1.jar | VERTX\_HTTP\_SERVER | 1052 |
| pinpoint-vertx-plugin-1.7.1.jar | VERTX\_HTTP\_SERVER\_INTERNAL | 1053 |
| pinpoint-vertx-plugin-1.7.1.jar | VERTX\_HTTP\_CLIENT | 9130 |
| pinpoint-vertx-plugin-1.7.1.jar | VERTX\_HTTP\_CLIENT\_INTERNAL | 9131 |
| pinpoint-websphere-plugin-1.7.1.jar | WEBSPHERE | 1060 |
| pinpoint-websphere-plugin-1.7.1.jar | WEBSPHERE\_METHOD | 1061 |

###### 4.1.3插件开发步骤

###### 4.1.3通用插件

* 模板工程

替换变量，包名

* jar 包

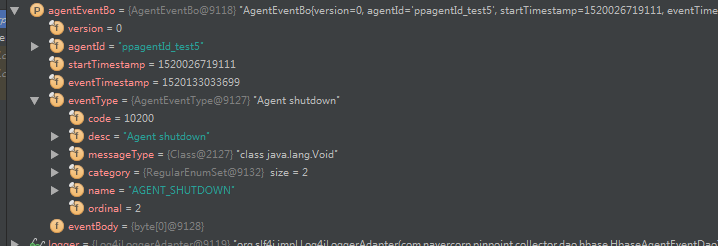
## 5.mysql数据库表说明

### 5.1 数据表说明

###### 5.1.1 agent\_event表：

该表对应AgentEventBo实体类，

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| agentEventId | int | 主键 |
| agentId | int | agent标识 |
| eventTimestamp | bigint | 事件开始时间 |
| eventType\_code | int | 事件类型码 |
| eventType\_desc | varchar(32) | 事件类型描述 |
| eventType\_name | varchar(16) | 事件类型名称 |
| eventType\_messageType | varchar(16) | 消息类型 |
| eventType\_category | varchar(16) | 事件类型策略 |
| version | int | 版本 |
| startTimestamp | bigint | 开始时间 |
| eventBody | varchar(64) | 事件主体 |



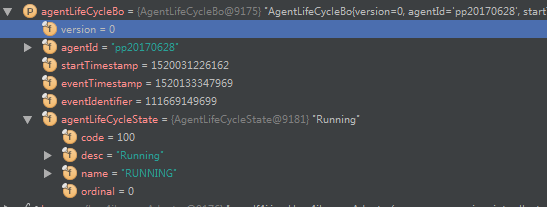
该表在ppweb 中暂时未使用。

该表的插入代码已经写好，但是后台有类似心跳的程序一直检索插入，数据量会很大，暂时关闭了插入

###### 5.1.2 agent\_life\_cycle表：

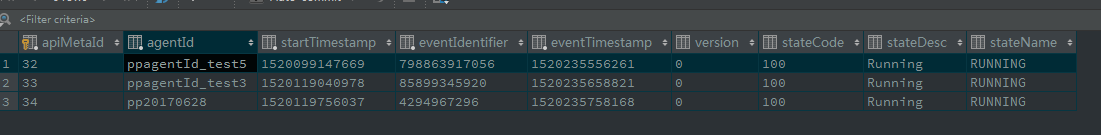
该表对应，AgentLifeCycleBo

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| apiMetaId | int | 主键(该主键名，要是否重构。) |
| agentId | int | agent标识 |
| startTimestamp | datetime | 开始时间 |
| eventTimestamp | datetime | 事件耗时 |
| eventIdentifier | varchar(32) | 事件标识 |
| version | int |  |
| stateCode | int |  |
| stateDesc | varchar(16) |  |
| stateName | varchar(16) |  |



插入方式，每次collector启动，都会检索所有的agent,并存入hbase。

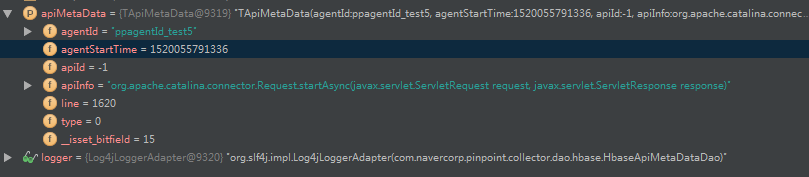
Mysql的处理方式是每个agentId存一条，这样其它的一下如state等就用不到了。



###### 5.1.3 api\_me ta\_data表

说明：对应ApiMetaDataBo，tomcat的管理控制台，一通乱点，就可以进入端断点

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| apiMetaId | int | 主键，（是否要重构名称） |
| apiInfo | varchar(64) | 描述api信息 |
| line | int | 表示方法所在源码位置 |
| type | int | 请求方法类型，比如 WEB\_REQUEST |
| agentId | Varchar(16) |  |
| agentStartTime | Bigint(20) |  |
| type | int |  |
| apiId | int |  |

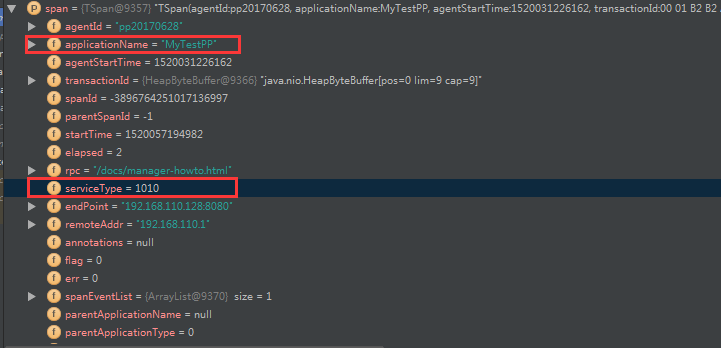


###### 5.1.4 application表:

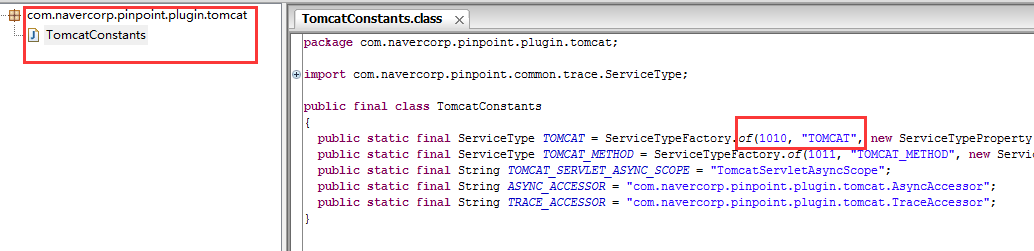
该表为ppweb 工程 数据展示需要而创建。

|  |  |
| --- | --- |
| id | 主键 |
| applicationName | 应用名 |
| code | 类型servicetype, 比如1010 表示tomcat |
| applicationType | 配合上述的code如果code,是1010，则下述的type为TOMCAT |

由于是业务需求，新增加表，数据来源，HbaseApplicationTraceIndexDao.java 中的insert（）方法，



比如ServiceType的1010 表示tomcat, 这个对应关系要查询tomcat插件找对应关系

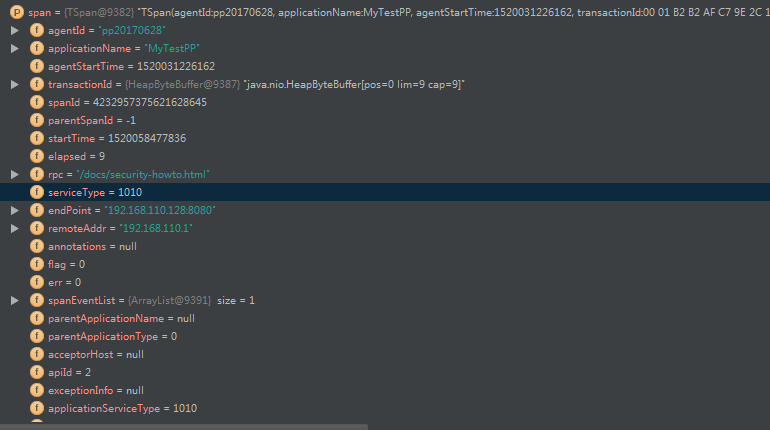


上述表明，一个监控环境中，applicationName应该是唯一的。

###### 5.1.5 application\_trace\_index表

该表在HbaseApplicationTraceIndexDao中可以下断点查询

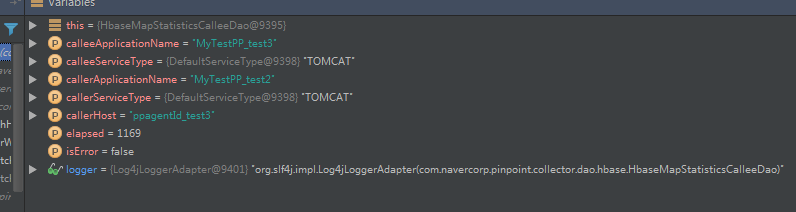
|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| atiId | int | **主键** |
| elapsed | int | 时间间隔 |
| err | int | 错误码 |
| agentId | varchar(16) | agent标识 |
| acceptedTime | bigint | 接收信息时间 |
| applicationName | varchar(16) | 应用名称 |



未插入到Mysql

###### 5.1.6 map\_satistics\_caller表

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| callerId | bigint | **主键** |
| timestamp | bigint | 时间间隔 |
| caller\_code | int | 比如1010 表示tomcat |
| caller\_desc | varchar(16) | 配合caller\_code，TOMCAT |
| callee\_code | int |  |
| callee\_desc | varchar(16) |  |
| isError | int(11) |  |
| caller\_appId | Int(11) |  |
| Callee\_appId | Int(11) |  |

****

根据applicationName 擦caller\_appId

###### 5.1.7 monitor表

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| id | int | **主键** |
| rpm | int | 吞吐率 |
| time | int | 持续时间 |
| type | varchar(30) | 类型 |
| threshold | int | 阈值。 |

备注：上述的type值为：MONITOR\_APDEX，MONITOR\_ERROR，MONITOR\_RESPNOSE\_TIME

###### 5.1.8监控表-monitorstrategy

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| id | int | **主键** |
| name | Varchar | 监控名（用户定义） |
| type | int | 类型 |
| monitors | varchar(30) | monitor表的id |

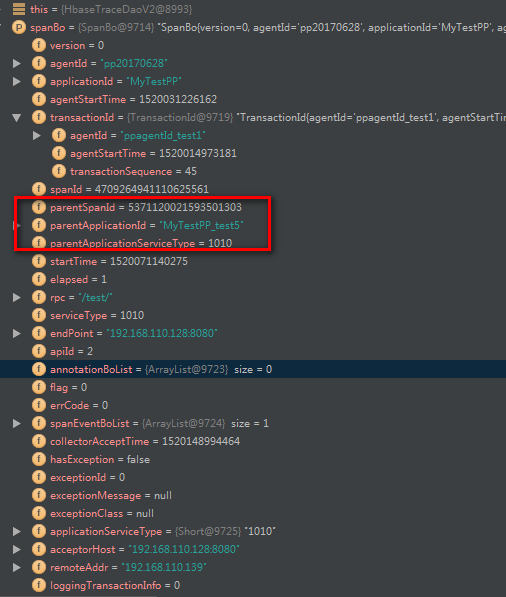
备注：上述的type,值为：app，transaction，outService

###### 5.1.9 监控表-monitorpro

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| id | int | **主键** |
| appId | Varchar | 监控某个应用 |
| userId | Varchar | 用户id,(逗号分割) |
| strategyId | int | Monitorstrategy的id |

###### 5.1.10 Span表

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| spanId | Bigint(20) | 主键 |
| transactionId | Varchar(128) | 事务ID |
| agentId | Varchar(16) | 如pp20170628 |
| transactionSequence | Bigint(20) | 探针开始时间 |
| acceptedTime | Bigint(20) | 应用ID |
| type | Int(11) |  |
| applicationId | Varchar(16) | 应用id |
| version | Int(11) | 版本 |
| serviceType | Int(11) | 服务类型(如1010) |
| parentSpanId | Bigint(20) | 上一级spanId |
| startTime | Bigint(20) | 开始时间 |
| elapsed | Int(11) | 经历过的时间 |
| rpc | Varchar(32) | 远程调用 |
| endPoint | varchar(32 ) | agent所处应用服务器地址和端口号 |
| remoteAddr | varchar(32 ) | 用户客户端地址 |
| apiId | int | 方法标识（影响不大） |
| errCode | int | 错误码 |
| exceptionId | int | 异常ID(0 正常，其他异常。) |
| exceptionMessage | varchar(32 ) | 异常信息 |
| flag | int |  |
| loggingTransactionInfo | int |  |
| acceptorHost | varchar(32 ) | 监控数据接收主机地址 |

****

###### 5.1.11 Spanevent表：

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| spanEventId | long | 主键 |
| transactionId | long | 事务ID |
| spanId | long | 外键，事件所属的span |
| startElapsed | long | 开始时间(本字段值加上span表中的开始时间为spanevent 的1970年以来的毫秒值) |
| endElapsed | long | 持续时间 |
| sequence | int | ----- |
| depth | int | 层级 |
| serviceType | int | 服务类型 |
| rpc | varchar(32 ) | 远程调用 |
| endPoint | varchar(32 ) | agent所处应用服务器地址和端口号 |
| destinationId | varchar(32 ) | 目标地址和端口号 |
| apiId | int | 方法标识 |
| nextSpanId | long | 下一个调用的span |
| exceptionId | int | 异常ID |
| exceptionMessage | varchar(32 ) | 异常信息 |
| nextAsyncId | int | （暂时保留） |
| sqlId | int | Sql 的id |
| parentSaneventId | Bigint(20) | 父spanevnet id |
| NextSpaneventId | Bigint(20) | 下一个 兄弟spanevent Id |
| beforeSpaneventId | Bigint(20) | 上一个兄弟spanevent id |

****

**备注，spanevent中exceptionid 为0表示正常，该字段不能有null监控错误率时设计)**

###### 5.1.12 sql\_meta\_data\_ver2表

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| sqlMetaDataId | int | 主键 |
| agentId | int | ageng标识 |
| agentStartTime | datetime | agent开始时间 |
| sqlId | int | sql标识 |
| sqlInfo | varchar(128) | 记录数据库操作的sql语句 |

对应TsqlMetaData实体类

###### 5.1.13 table string\_meta\_data 表：

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| ID | int | 主键 |
| agentId | int | ageng标识 |
| agentStartTime | datetime | agent开始时间 |
| stringId | int |  |
| stringValue | varchar(128) | 记录数据库操作的连接属性 |

###### 5.1.14 Transaction表

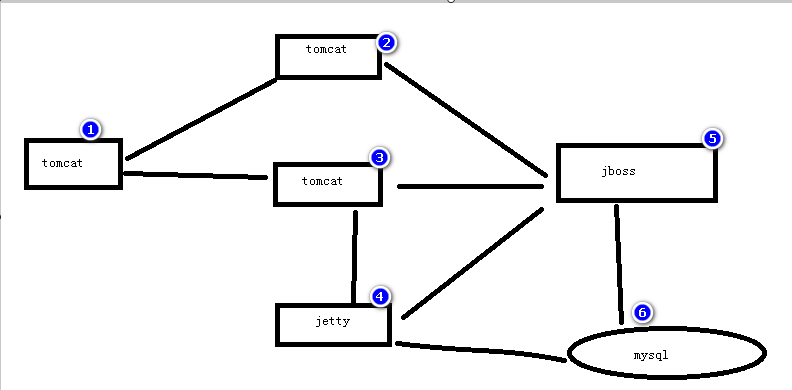
（该表从span表中抽取数据，减轻查询压力）

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| Id | int | 主键（对于span表的transactionid） |
| rpc | Varcahr(32) | url |
| startTime | bigint | 开始时间,本条transaction在某application中的时间 |
| Elapsed | Elapsed | 持续时间 |
| endtime | Bigint | 结束时间 (开始时间加持续时间) |

###### 5.1.15 User表

|  |  |  |
| --- | --- | --- |
| **列名** | **类型** | **描述** |
| Number | int | 该字段用处不大 |
| User\_id | Varcahr(32) | url |
| name | bigint | Name |
| pwd | Elapsed | pwd |
| phonenumber | Varchar(100) | phonenumber |
| email | Varchar(100) | email |

## 5.测试



## 6、其它

### 6.1 git账号密码

|  |  |
| --- | --- |
| 账号 |  |
| 密码 |  |
| Git ssl key 配置指导 |  |

## 7、网络资料连接

### 7.1 Agent(插件端)

|  |  |
| --- | --- |
| Agent加载过程 | https://note.youdao.com/share/?token=7E54827CED6E4D8B8C772C8573A93592&gid=42856110#/ |
| agent各个端口数据发送的过程和数据结构 | https://note.youdao.com/share/?token=20FC388915DB4B3AA6368F2EBD1FFE14&gid=42856110#/ |
|  |  |
|  |  |

6.2.1 常见问题

###### 5.1.15 User表

## 8、常见问题与bug

1. 工程注册后，拓扑图中显示但ApplicationList看不到

agent的pinpoint.config中pp-colloector中的ip地址配错了，修改为正确的ip即可。说明trace生成和agent注册过程没有耦合。

1. 请求数据丢失(来源网络)

网页上显示成功的请求数与我测试实际发送的请求数差太多，已经设置过采样率为1，也抓包看了，数据包的个数与我发送的请求数吻合。初步断定为hbase入库不完整导致，但是对hbase不熟悉，不知道hbase是怎么把数据弄丢的。是hadoop的集群环境

1. 部署agent的tomcat 启动抛出异常，agent的插件无法追踪埋点，拓扑图可以先生tomcat，但是不可以显示其中调用的redis,mysql等等。

原因：在tomcat中部署客户的项目，客户的项目中的lib包中误添加了pinpoint 的相关jar,如：pinpoint-bootstrap-core-1.7.1.jar、pinpoint-commons-1.7.1.jar

Agent启动异常如下：



## 9、实施

### 9.1 初始数据导入

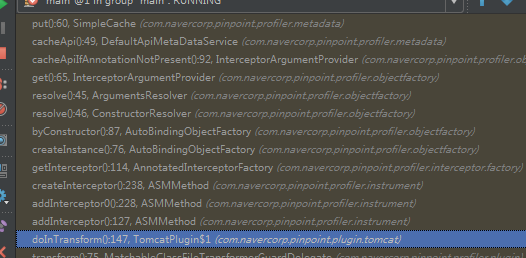
###### 9.1.1 application表：

导入pinpoint 已有插件的applicationName ,applicationCode数据。

## 10数据采集

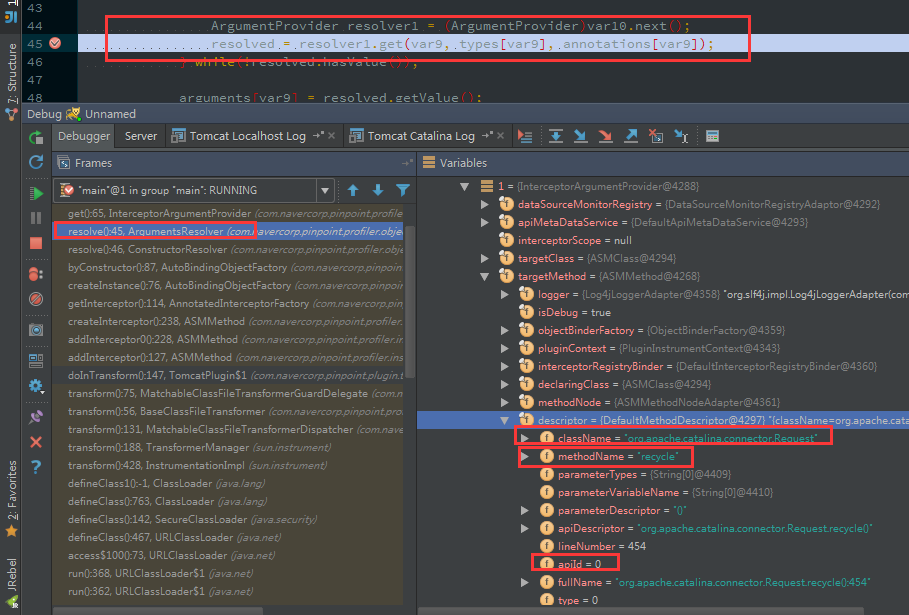
###### 5.1.1 apiId的生成

* 堆栈图

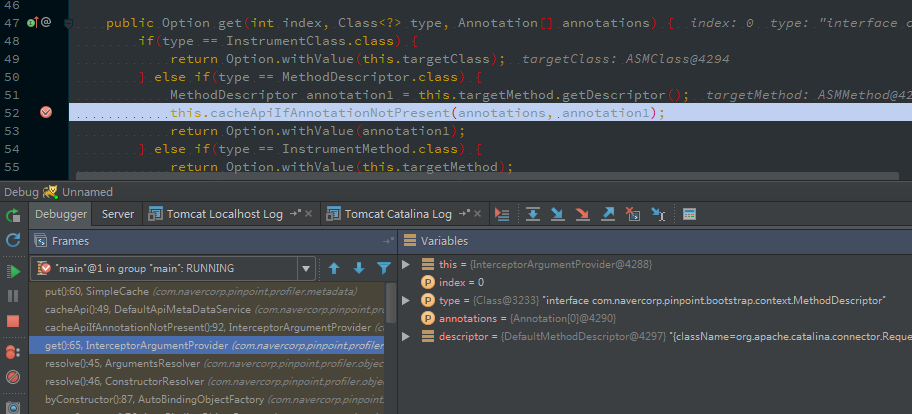


* ArgumentsResolver===resolve（）45行

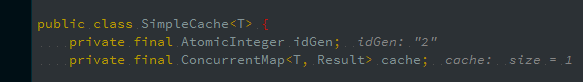
针对tomcat的Request 的recycle方法，在45行执行第四次循环时，会给该方法设置一个apiId



* InterceptorArgumentProvider==52行从缓存中取。

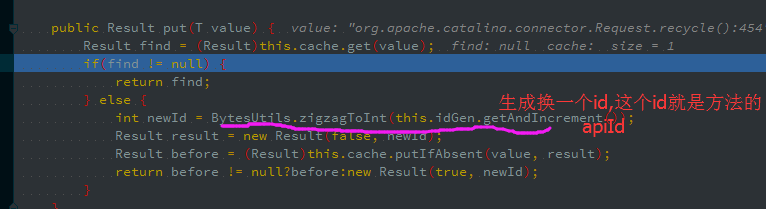


* InterceptorArgumentProvider==75行
* DefaultApiMetaDataService==》35行 获取result
* SimpleCache类，该类是一个缓存类。



该类中用一个ConcurrentMap 做缓冲，同时用AtomicInteger 作为map 的value, map的key 是 某个方法的全类名加方法名加行号，比如

org.apache.catalina.connector.Request.recycle():454。 如果缓存中没有，那么就从这个AtomicInteger中生成一个。



**TIPs:**

* 多台tomcat,在插件相同的情况下，同样一个堆栈其生成的id 是相同的。
* 对于一个埋点，ppagent 会收集该埋点所在class 的所有方法，尽管有的方法没有被拦截。所有的方法都会有apiId.

