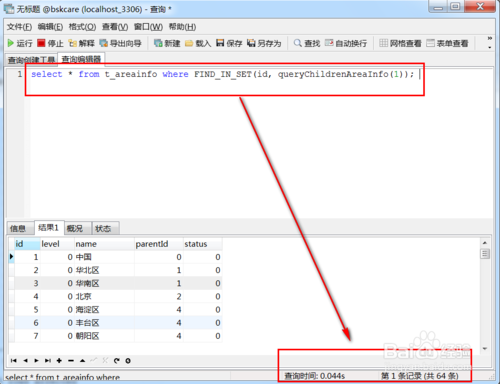
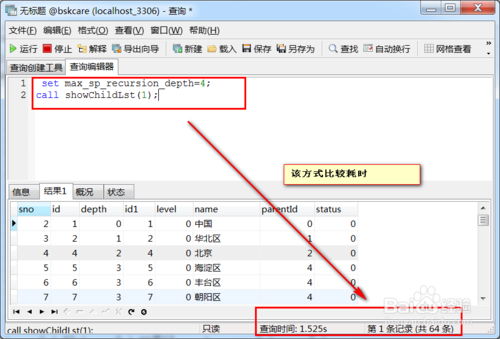
http://blog.csdn.net/jackiehome/article/details/6803978

比较两种mysql递归tree查询效率-mysql递归tree

本文目的为对比mysql递归树两种查询方式效率。





工具/原料

1. 1

**--创建表**

DROP TABLE IF EXISTS `t\_areainfo`;  
CREATE TABLE `t\_areainfo` (  
 `id` int(11) NOT '0' AUTO\_INCREMENT,  
 `level` int(11) DEFAULT '0',  
 `name` varchar(255) DEFAULT '0',  
 `parentId` int(11) DEFAULT '0',  
 `status` int(11) DEFAULT '0',  
 PRIMARY KEY (`id`)  
) ENGINE=InnoDB AUTO\_INCREMENT=65 DEFAULT CHARSET=utf8;

**--初始数据**

*INSERT INTO `t\_areainfo` VALUES ('1', '0', '中国', '0', '0');  
INSERT INTO `t\_areainfo` VALUES ('2', '0', '华北区', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('3', '0', '华南区', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('4', '0', '北京', '2', '0');  
INSERT INTO `t\_areainfo` VALUES ('5', '0', '海淀区', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('6', '0', '丰台区', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('7', '0', '朝阳区', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('8', '0', '北京XX区1', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('9', '0', '北京XX区2', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('10', '0', '北京XX区3', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('11', '0', '北京XX区4', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('12', '0', '北京XX区5', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('13', '0', '北京XX区6', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('14', '0', '北京XX区7', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('15', '0', '北京XX区8', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('16', '0', '北京XX区9', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('17', '0', '北京XX区10', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('18', '0', '北京XX区11', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('19', '0', '北京XX区12', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('20', '0', '北京XX区13', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('21', '0', '北京XX区14', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('22', '0', '北京XX区15', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('23', '0', '北京XX区16', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('24', '0', '北京XX区17', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('25', '0', '北京XX区18', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('26', '0', '北京XX区19', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('27', '0', '北京XX区1', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('28', '0', '北京XX区2', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('29', '0', '北京XX区3', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('30', '0', '北京XX区4', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('31', '0', '北京XX区5', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('32', '0', '北京XX区6', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('33', '0', '北京XX区7', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('34', '0', '北京XX区8', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('35', '0', '北京XX区9', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('36', '0', '北京XX区10', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('37', '0', '北京XX区11', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('38', '0', '北京XX区12', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('39', '0', '北京XX区13', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('40', '0', '北京XX区14', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('41', '0', '北京XX区15', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('42', '0', '北京XX区16', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('43', '0', '北京XX区17', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('44', '0', '北京XX区18', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('45', '0', '北京XX区19', '4', '0');  
INSERT INTO `t\_areainfo` VALUES ('46', '0', 'xx省1', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('47', '0', 'xx省2', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('48', '0', 'xx省3', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('49', '0', 'xx省4', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('50', '0', 'xx省5', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('51', '0', 'xx省6', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('52', '0', 'xx省7', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('53', '0', 'xx省8', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('54', '0', 'xx省9', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('55', '0', 'xx省10', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('56', '0', 'xx省11', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('57', '0', 'xx省12', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('58', '0', 'xx省13', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('59', '0', 'xx省14', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('60', '0', 'xx省15', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('61', '0', 'xx省16', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('62', '0', 'xx省17', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('63', '0', 'xx省18', '1', '0');  
INSERT INTO `t\_areainfo` VALUES ('64', '0', 'xx省19', '1', '0');*方式一：采用function获取所有子节点的id

1. create function 函数名称（参数）  
    return 函数类型（函数类型的返回值）  
   begin   
   函数体  
    [end](https://www.baidu.com/s?wd=end&tn=44039180_cpr&fenlei=mv6quAkxTZn0IZRqIHckPjm4nH00T1YLmH6duyDdn1mzmWRsnWbk0ZwV5Hcvrjm3rH6sPfKWUMw85HfYnjn4nH6sgvPsT6KdThsqpZwYTjCEQLGCpyw9Uz4Bmy-bIi4WUvYETgN-TLwGUv3EPHR1nWmznjRYPHn1njfvPHnz)
2. 1

**--查询传入areaId及其以下所有子节点**

DROP FUNCTION IF EXISTS queryChildrenAreaInfo;

CREATE FUNCTION `queryChildrenAreaInfo` (areaId INT)

RETURNS VARCHAR(4000)

BEGIN

DECLARE sTemp VARCHAR(4000);

DECLARE sTempChd VARCHAR(4000);

SET sTemp = '$';

SET sTempChd = cast(areaId as char);

WHILE sTempChd is not NULL DO

SET sTemp = CONCAT(sTemp,',',sTempChd);

SELECT group\_concat(id) INTO sTempChd FROM t\_areainfo where FIND\_IN\_SET(parentId,sTempChd)>0;

END WHILE;

return sTemp;

END;

1. 2

**--调用方式**

*select queryChildrenAreaInfo(1);*

*select \* from t\_areainfo where FIND\_IN\_SET(id, queryChildrenAreaInfo(1));*

END

方式二：采用临时表和存储过程完成

1. 1

**-- 创建存储过程**

*drop PROCEDURE showChildList;*

*CREATE PROCEDURE showChildList (IN rootId INT)*

*BEGIN*

*CREATE TEMPORARY TABLE*

*IF NOT EXISTS tmpList (*

*sno INT PRIMARY KEY auto\_increment,*

*id INT,*

*depth INT*

*);*

*DELETE FROM tmpList;*

*CALL createChildList (rootId, 0);*

*SELECT tmpList.\*, t\_areainfo.\* FROM tmpList, t\_areainfo*

*WHERE*

*tmpList.id = t\_areainfo.id*

*ORDER BY*

*tmpList.sno;*

*END;*

*drop PROCEDURE createChildList;*

*CREATE PROCEDURE createChildList (IN rootId INT, IN nDepth INT)*

*BEGIN*

*DECLARE done INT DEFAULT 0;*

*DECLARE b INT;*

*DECLARE cur1 CURSOR FOR SELECT id FROM t\_areainfo WHERE parentId = rootId;*

*DECLARE CONTINUE HANDLER FOR NOT FOUND*

*SET done = 1;*

*INSERT INTO tmpList VALUES (NULL, rootId, nDepth);*

*OPEN cur1;*

*FETCH cur1 INTO b;*

*WHILE done = 0 DO*

*CALL createChildList (b, nDepth + 1);*

*FETCH cur1 INTO b;*

*END WHILE;*

*CLOSE cur1;*

*END;*

1. 2

**-- 调用方式**

*call showChildList(1);*

END

两种方式对比：

1. 1

**--简易程度**

首先我们可以通过sql语句就可以看的出，方式二的代码量差不多是方式一的两倍，而且又是临时表又是游标的，极易出错。

**--效率对比**

可以通过图片可以看到，同样的查询结果，方式一仅仅需要0.044s既可以完成查询，而方式二则需要1.525s,效率远远低于方式一。

END

结论：

1. 1

强烈推荐用方式一，当然你脑子不够数，用方式二我也管不着。

END

注意事项

* 执行方式二是系统出报错，错误原因是因为没有指定控制递归调用层数上线，可以通过利用系统参数 max\_sp\_recursion\_depth 来控制递归调用的层数上限。