支付工具类

说明：

支付工具类目前封装了微信支付与支付宝支付，支持的支付方式如下：

微信支付：扫码支付，刷卡支付，公众号支付，H5支付，APP支付；

支付宝支付：手机网站支付，电脑网站支付，当面付，APP支付；

使用：

1.将pay-core作为模块导入项目中或引入pay-core-1.0-SNAPSHOT.jar；

2.调用PayApi.java中的pay方法实现支付功能；

3.pay方法请求参数为json格式的字符串，返回类型为PayResponse，不同的支付方式对应的请求参数不同，具体见字段详细说明

请求参数：

| 字段名 | 变量名 | 必填 | 类型 | 说明 |
| --- | --- | --- | --- | --- |
| 支付渠道 | payChannel | 是 | String | 详见数据字典 |
| 支付方式 | payMode | 是 | String | 详见数据字典 |
| 支付渠道分配的账号ID | appid | 是 | String |  |
| 支付渠道分配的商户号 | mch\_id | 否 | String | 微信支付必填 |
| 平台设置的密钥key | key | 否 | String | 微信支付必填 |
| 应用私钥 | privateKey | 否 | String | 支付宝支付必填 |
| 支付宝公钥 | publicKey | 否 | String | 支付宝支付必填 |
| 用户标识 | openid | 否 | String | payMode="wxpay"时必填 |
| 终端IP | spbill\_create\_ip | 否 | String | 微信支付必填 |
| 支付后返回的url | return\_url | 否 | String | 支付宝支付时使用 |
| 通知地址 | notify\_url | 是 | String | 异步通知地址 |
| 支付授权码 | auth\_code | 否 | String | "micropay","tradepay"时必填 |
| 商品ID或者订单号 | product\_id | 否 | String | payMode="scancode1"时必填 |
| 商户订单号 | out\_trade\_no | 是 | String |  |
| 商品描述 | body | 是 | String |  |
| 订单金额 | total\_fee | 是 | String | 单位(元)，保留两位小数点 |
| 附加数据 | attach | 否 | String | 携带的自定义数据 |
| 场景信息 | scene\_info | 否 | String | payMode="h5pay"时必填 |

响应参数：

| 字段名 | 变量名 | 必填 | 类型 | 说明 |
| --- | --- | --- | --- | --- |
| 返回状态码 | code | 是 | String | SUCCESS/FAIL |
| 返回信息 | msg | 否 | String |  |
| 返回的数据 | data | 否 | Map<String,String> | 详见示例 |

支付渠道数据字典

| 值 | 说明 |
| --- | --- |
| wx | 微信支付 |
| zfb | 支付宝支付 |

支付方式数据字典

| 值 | 说明 |
| --- | --- |
| scancode1 | 微信:扫码支付模式一 |
| scancode2 | 微信:扫码支付模式二 |
| micropay | 微信:刷卡支付 |
| webpay | 微信:公众号支付 |
| h5pay | 微信:H5支付 |
| apppay | 微信:APP支付 |
| wappay | 支付宝:手机网站支付 |
| pcpay | 支付宝:电脑网站支付 |
| tradepay | 支付宝:刷卡支付-条码支付 |
| tradeprepay | 支付宝:刷卡支付-扫码支付 |
| apppay | 支付宝:APP支付 |

示例：

微信：扫码支付模式一

请求：

{"appid":"wxb6b0b52529d32c62","key":"5ds4iv2xgrskjbzibs04ezrr0batqcsf","mch\_id":"1320261701","payChannel":"WX","payMode":"scancode1","product\_id":"1"}

响应：得到返回的qrCodeUrl后，再通过图形码工具生成二维码

{"code":"SUCCESS","data":{"qrCodeUrl":"weixin://wxpay/bizpayurl?pr=VKdZAGY"}}

/\*\*

\* Zxing图形码生成工具

\*

\* @param contents

\* 内容

\* @param barcodeFormat

\* BarcodeFormat对象

\* @param format

\* 图片格式，可选[png,jpg,bmp]

\* @param width

\* 宽

\* @param height

\* 高

\* @param margin

\* 边框间距px

\* @param saveImgFilePath

\* 存储图片的完整位置，包含文件名

\* @return {boolean}

\*/

public static boolean encode(String contents, BarcodeFormat barcodeFormat, Integer margin,

ErrorCorrectionLevel errorLevel, String format, int width, int height, String saveImgFilePath) {

Boolean bool = false;

BufferedImage bufImg;

Map<EncodeHintType, Object> hints = new HashMap<EncodeHintType, Object>();

// 指定纠错等级

hints.put(EncodeHintType.ERROR\_CORRECTION, errorLevel);

hints.put(EncodeHintType.MARGIN, margin);

hints.put(EncodeHintType.CHARACTER\_SET, "UTF-8");

try {

// contents = new String(contents.getBytes("UTF-8"), "ISO-8859-1");

BitMatrix bitMatrix = new MultiFormatWriter().encode(contents, barcodeFormat, width, height, hints);

MatrixToImageConfig config = new MatrixToImageConfig(0xFF000001, 0xFFFFFFFF);

bufImg = MatrixToImageWriter.toBufferedImage(bitMatrix, config);

bool = writeToFile(bufImg, format, saveImgFilePath);

} catch (Exception e) {

e.printStackTrace();

}

return bool;

}

public static void main(String[] args){

String requestJson = "{\"appid\":\"wxb6b0b52529d32c62\",\"key\":\"5ds4iv2xgrskjbzibs04ezrr0batqcsf\",\"mch\_id\":\"1320261701\",\"payChannel\":\"WX\",\"payMode\":\"scancode1\",\"product\_id\":\"1\"}";

PayResponse response = PayApi.pay(requestJson);

if(response.getCode().equalsIgnoreCase("SUCCESS")){

Map<String,String> result = response.getData();

String qrCodeUrl = result.get("code\_url");

String name = "code.png";

String codeUrl = "项目路径"++File.separator+name;

Boolean encode = encode(qrCodeUrl, BarcodeFormat.QR\_CODE, 3, ErrorCorrectionLevel.H, "png", 200, 200,codeUrl);

if (encode) {

//生成成功，在页面上展示codeUrl

}else{

//生成二维码图片失败

}

}else{

//错误处理

}

}

微信：扫码支付模式二

请求：

{"appid":"wxb6b0b52529d32c62","attach":"支付测试Attach","body":"支付测试Body","key":"5ds4iv2xgrskjbzibs04ezrr0batqcsf","mch\_id":"1320261701","notify\_url":"api.mch.weixin.qq.com/wxpay/pay\_notify","out\_trade\_no":"1506496240311","payChannel":"WX","payMode":"scancode2","spbill\_create\_ip":"127.0.0.1","total\_fee":"1"}

响应：得到返回的data中的code\_url，然后同扫码支付模式一同样方式生成二维码处理

{"code":"SUCCESS","data":{"nonce\_str":"gmOM15GsIWjMLS5E","code\_url":"weixin://wxpay/bizpayurl?pr=uKvwTlh","appid":"wxb6b0b52529d32c62","sign":"DB740EFB255A7D1D058098E9492BF062","trade\_type":"NATIVE","return\_msg":"OK","result\_code":"SUCCESS","mch\_id":"1320261701","return\_code":"SUCCESS","prepay\_id":"wx2017092715093254458f24780562552806"}}

微信：刷卡支付

请求：

{"appid":"wxb6b0b52529d32c62","attach":"支付测试Attach","auth\_code":"134716569327017541","body":"支付测试Body","key":"5ds4iv2xgrskjbzibs04ezrr0batqcsf","mch\_id":"1320261701","notify\_url":"api.mch.weixin.qq.com/wxpay/pay\_notify","out\_trade\_no":"1506496974098","payChannel":"WX","payMode":"micropay","spbill\_create\_ip":"127.0.0.1","total\_fee":"1"}

响应：

{"code":"SUCCESS","data":{"transaction\_id":"4200000017201709274569828637","nonce\_str":"l0LtzhTa15ChvSeQ","trade\_state":"SUCCESS","bank\_type":"CFT","openid":"omz4buJo0RzxxoJke6bc\_Pgo\_6dU","sign":"60994BE7C78D4E2CCCA85440F06B5581","return\_msg":"OK","fee\_type":"CNY","mch\_id":"1320261701","cash\_fee":"1","out\_trade\_no":"1506501238054","appid":"wxb6b0b52529d32c62","total\_fee":"1","trade\_type":"MICROPAY","result\_code":"SUCCESS","attach":"支付测试Attach","time\_end":"20170927163409","is\_subscribe":"Y","return\_code":"SUCCESS"},"msg":"微信支付成功"}

微信：公众号支付

请求：

{"appid":"wxb6b0b52529d32c62","attach":"支付测试Attach","body":"支付测试Body","key":"5ds4iv2xgrskjbzibs04ezrr0batqcsf","mch\_id":"1320261701","notify\_url":"api.mch.weixin.qq.com/wxpay/pay\_notify","openid":"omz4buJo0RzxxoJke6bc\_Pgo\_6dU","out\_trade\_no":"1506501551192","payChannel":"WX","payMode":"webpay","spbill\_create\_ip":"127.0.0.1","total\_fee":"1"}

响应：生成JSAPI页面调用的支付参数，由页面调起微信公众号支付

{"msg":null,"code":"SUCCESS","data":{"nonce\_str":"ZtQ8ySJwUFcMI5lW","appid":"wxb6b0b52529d32c62","sign":"8D97E5857CCC3CFE24406D67873CEC38","trade\_type":"JSAPI","return\_msg":"OK","result\_code":"SUCCESS","mch\_id":"1320261701","return\_code":"SUCCESS","prepay\_id":"wx201709271638502372205aef0709139838"}}

微信：H5支付(待测试)

请求：

{"appid":"wxb6b0b52529d32c62","attach":"支付测试Attach","body":"支付测试Body","key":"5ds4iv2xgrskjbzibs04ezrr0batqcsf","mch\_id":"1320261701","notify\_url":"api.mch.weixin.qq.com/wxpay/pay\_notify","out\_trade\_no":"1506502607708","payChannel":"WX","payMode":"h5pay","scene\_info":"com.anssy.pay.weixin.entity.H5ScencInfo$H5@a06f20","spbill\_create\_ip":"127.0.0.1","total\_fee":"1"}

响应：响应参数中会返回mweb\_url，直接在浏览器中访问该地址进行支付操作。

微信：APP支付(待测试)

请求：

{"appid":"wxb6b0b52529d32c62","attach":"支付测试Attach","body":"支付测试Body","key":"5ds4iv2xgrskjbzibs04ezrr0batqcsf","mch\_id":"1320261701","notify\_url":"api.mch.weixin.qq.com/wxpay/pay\_notify","out\_trade\_no":"1506502783874","payChannel":"WX","payMode":"apppay","spbill\_create\_ip":"127.0.0.1","total\_fee":"1"}

响应：响应参数中会返回签名后的数据sign，APP端拿到该参数调起微信支付。

支付宝：手机网站支付

请求：

{"appid":"2015120800939352","attach":"backparams","body":"支付测试Subject","notify\_url":"xxx/alipay/notify\_url","out\_trade\_no":"092717204815065","payChannel":"ZFB","payMode":"wappay","privateKey":"","publicKey":"MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuusJP7gI1dL6cS2NoU8U4xU/tB7sKn+H2XPGoRuGcknjXUG+MSH7zFIe/GrPRWNR6jBfFIJr2hXeZr/7CENHA9IOzODhR0ayTC9Ea5hLvwP1tkGd2YTes04YaeKA9fAXlQ39XVMor+W6g3JG57SHw1h+yAiYgrwFHCwcMmNMUOZ41Kf8ob9bRWxDeiGsK/jB1CXGk+kvhXBm1y3A/KL8d47r6skUMH+5+cUW3V+Q48xRLTXfFeti6ULHL/lTee88RNg5p/i28NxVXiVu9MxLLZ+z8kTb8XQj61CtjJeC5Tii1mJdt6h2w9Z7A8pw96n+NY+wPUGUrs8V0TfXxGZZBwIDAQAB","return\_url":"xxx/alipay/return\_url","total\_fee":"0.01"}

响应：请求成功后，会返回支付页面，将完整的表单html输出到页面

{"msg":null,"code":"SUCCESS","data":{"form":"<form name=\"punchout\_form\" method=\"post\" action=\"https://openapi.alipay.com/gateway.do?charset=UTF-8&method=alipay.trade.wap.pay&sign=W25B1zhxR2k4N%2B2fpFdKy0rOGlAc90235FoXju7crr5URJOPjJ6EzFvfoSGyLNPt5lVkRuYATCW4vzDeiTvWoINJP4yxP%2BfEvY7i7GhjeRJ3zPfrI%2B57E8zmIwbMt44JD46Srt%2F8S8py7BXZ620cjSzO7k%2Baet0FWUWdSw%2BFsFC6glwk5pPDoYqnNn3apa6ztCrnTKUqmSF4MIrgPB0ik7sGtSpHQJhY0ItXfeYbpWwaPpSoZoLClAHVbGZ2DHA2wt3BcyavgHEm6smXy11bydptMVCMSPenOgtECPr5SXvHL5KlSHml8NBF%2F02t6bbS54tpDnJd58aYzTyqrH3dwA%3D%3D&return\_url=xxx%2Falipay%2Freturn\_url&notify\_url=xxx%2Falipay%2Fnotify\_url&version=1.0&app\_id=2015120800939352&sign\_type=RSA2&timestamp=2017-09-27+17%3A20%3A48&alipay\_sdk=alipay-sdk-java-dynamicVersionNo&format=json\">\n<input type=\"hidden\" name=\"biz\_content\" value=\"{ &quot;out\_trade\_no&quot;:&quot;092717204815065&quot;, &quot;total\_amount&quot;:&quot;0.01&quot;, &quot;subject&quot;:&quot;支付测试Subject&quot;, &quot;passback\_params&quot;:&quot;backparams&quot;, &quot;product\_code&quot;:&quot;QUICK\_WAP\_PAY&quot; }\">\n<input type=\"submit\" value=\"立即支付\" style=\"display:none\" >\n</form>\n<script>document.forms[0].submit();</script>"}}

将返回的支付页面输出

//调用支付接口

String requestJson = JSONObject.toJSONString(request);

PayResponse response = PayApi.pay(requestJson);

log.info("responseJson>"+JsonKit.toJson(response));

if(response.getCode().equalsIgnoreCase("SUCCESS")){

Map<String,String> data = response.getData();

HttpServletResponse res = getResponse();

res.setContentType("text/html;charset=UTF-8");

res.getWriter().write(data.get("form"));// 直接将完整的表单html输出到页面

res.getWriter().flush();

}else{

//输出错误信息

}

支付宝：电脑网站支付

请求：

{"appid":"2015120800939352","attach":"backparams","body":"支付测试Subject","notify\_url":"xxx/alipay/notify\_url","out\_trade\_no":"092717265915065","payChannel":"ZFB","payMode":"pcpay","privateKey":"","publicKey":"MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuusJP7gI1dL6cS2NoU8U4xU/tB7sKn+H2XPGoRuGcknjXUG+MSH7zFIe/GrPRWNR6jBfFIJr2hXeZr/7CENHA9IOzODhR0ayTC9Ea5hLvwP1tkGd2YTes04YaeKA9fAXlQ39XVMor+W6g3JG57SHw1h+yAiYgrwFHCwcMmNMUOZ41Kf8ob9bRWxDeiGsK/jB1CXGk+kvhXBm1y3A/KL8d47r6skUMH+5+cUW3V+Q48xRLTXfFeti6ULHL/lTee88RNg5p/i28NxVXiVu9MxLLZ+z8kTb8XQj61CtjJeC5Tii1mJdt6h2w9Z7A8pw96n+NY+wPUGUrs8V0TfXxGZZBwIDAQAB","return\_url":"xxx/alipay/return\_url","total\_fee":"0.01"}

响应：同手机网站支付一样处理

{"msg":null,"code":"SUCCESS","data":{"form":"<form name=\"punchout\_form\" method=\"post\" action=\"https://openapi.alipay.com/gateway.do?charset=UTF-8&method=alipay.trade.page.pay&sign=F2OzNpRR717PD8s6H9I8Td%2BMsZXjmSug8pYt2kOpztD7EU4JHTAM2YzqsU%2FXB6tCUX2hpKuBs3DqCFmqHU%2BsaKupWBAGuX3jf6ie5%2B1EUmz5i2Y%2BqgBe04fPhDBylXFvYVIkeFPsDfzLS6xndjxM8GcnfuFQDscwrBR6ZapJc%2BOnBgXRBaDJ46uCti9dsUIRRe1WpeDuvQMaw869v%2FScbcYpxH3PaiBFAMmqYoE%2BdptY7jYFkA2wcQeeJ%2Fsf9VOcU9H%2BeE4UcjxvnMG8Wr2mSvuQCg1Are3SGwsPmqcVwJnTugZEGU%2BOYsx86%2FPydZFNxZItnRXYlzQbOCBvlZ1JQg%3D%3D&return\_url=xxx%2Falipay%2Freturn\_url&notify\_url=xxx%2Falipay%2Fnotify\_url&version=1.0&app\_id=2015120800939352&sign\_type=RSA2&timestamp=2017-09-27+17%3A26%3A59&alipay\_sdk=alipay-sdk-java-dynamicVersionNo&format=json\">\n<input type=\"hidden\" name=\"biz\_content\" value=\"{ &quot;out\_trade\_no&quot;:&quot;092717265915065&quot;, &quot;total\_amount&quot;:&quot;0.01&quot;, &quot;subject&quot;:&quot;支付测试Subject&quot;, &quot;passback\_params&quot;:&quot;backparams&quot;, &quot;product\_code&quot;:&quot;FAST\_INSTANT\_TRADE\_PAY&quot; }\">\n<input type=\"submit\" value=\"立即支付\" style=\"display:none\" >\n</form>\n<script>document.forms[0].submit();</script>"}}

支付宝：刷卡支付-条码支付

请求：

{"appid":"2015120800939352","body":"支付测试Subject","notify\_url":"xxx/alipay/notify\_url","out\_trade\_no":"092719320515065","payChannel":"ZFB","payMode":"tradepay","privateKey":"","publicKey":"MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuusJP7gI1dL6cS2NoU8U4xU/tB7sKn+H2XPGoRuGcknjXUG+MSH7zFIe/GrPRWNR6jBfFIJr2hXeZr/7CENHA9IOzODhR0ayTC9Ea5hLvwP1tkGd2YTes04YaeKA9fAXlQ39XVMor+W6g3JG57SHw1h+yAiYgrwFHCwcMmNMUOZ41Kf8ob9bRWxDeiGsK/jB1CXGk+kvhXBm1y3A/KL8d47r6skUMH+5+cUW3V+Q48xRLTXfFeti6ULHL/lTee88RNg5p/i28NxVXiVu9MxLLZ+z8kTb8XQj61CtjJeC5Tii1mJdt6h2w9Z7A8pw96n+NY+wPUGUrs8V0TfXxGZZBwIDAQAB","return\_url":"xxx/alipay/return\_url","total\_fee":"0.01"}

响应：

支付宝：刷卡支付-扫码支付

请求：

{"appid":"2015120800939352","body":"支付测试Subject","notify\_url":"xxx/alipay/notify\_url","out\_trade\_no":"092719342515065","payChannel":"ZFB","payMode":"tradeprepay","privateKey":"","publicKey":"MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuusJP7gI1dL6cS2NoU8U4xU/tB7sKn+H2XPGoRuGcknjXUG+MSH7zFIe/GrPRWNR6jBfFIJr2hXeZr/7CENHA9IOzODhR0ayTC9Ea5hLvwP1tkGd2YTes04YaeKA9fAXlQ39XVMor+W6g3JG57SHw1h+yAiYgrwFHCwcMmNMUOZ41Kf8ob9bRWxDeiGsK/jB1CXGk+kvhXBm1y3A/KL8d47r6skUMH+5+cUW3V+Q48xRLTXfFeti6ULHL/lTee88RNg5p/i28NxVXiVu9MxLLZ+z8kTb8XQj61CtjJeC5Tii1mJdt6h2w9Z7A8pw96n+NY+wPUGUrs8V0TfXxGZZBwIDAQAB","return\_url":"xxx/alipay/return\_url","total\_fee":"0.01"}

响应：

支付宝：APP支付

请求：

{"appid":"2015120800939352","body":"支付测试Subject","notify\_url":"xxx/alipay/notify\_url","out\_trade\_no":"092719420415065","payChannel":"ZFB","payMode":"apppay","privateKey":"","publicKey":"MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAuusJP7gI1dL6cS2NoU8U4xU/tB7sKn+H2XPGoRuGcknjXUG+MSH7zFIe/GrPRWNR6jBfFIJr2hXeZr/7CENHA9IOzODhR0ayTC9Ea5hLvwP1tkGd2YTes04YaeKA9fAXlQ39XVMor+W6g3JG57SHw1h+yAiYgrwFHCwcMmNMUOZ41Kf8ob9bRWxDeiGsK/jB1CXGk+kvhXBm1y3A/KL8d47r6skUMH+5+cUW3V+Q48xRLTXfFeti6ULHL/lTee88RNg5p/i28NxVXiVu9MxLLZ+z8kTb8XQj61CtjJeC5Tii1mJdt6h2w9Z7A8pw96n+NY+wPUGUrs8V0TfXxGZZBwIDAQAB","return\_url":"xxx/alipay/return\_url","total\_fee":"1"}

响应：获取返回数据中的body，由APP唤起支付宝支付

{"msg":null,"code":"SUCCESS","data":{"body":"alipay\_sdk=alipay-sdk-java-dynamicVersionNo&app\_id=2015120800939352&biz\_content=%7B%22out\_trade\_no%22%3A%22%22%2Brequest.getOut\_trade\_no%28%29%2B%22%22%2C%22total\_amount%22%3A%221%22%2C%22subject%22%3A%22%E6%94%AF%E4%BB%98%E6%B5%8B%E8%AF%95Subject%22%2C%22passback\_params%22%3A%22null%22%2C%22product\_code%22%3A%22QUICK\_MSECURITY\_PAY%22%7D&charset=UTF-8&format=json&method=alipay.trade.app.pay&notify\_url=xxx%2Falipay%2Fnotify\_url&return\_url=xxx%2Falipay%2Freturn\_url&sign=caPWDBzKAmdgH7Pb8pxWFnsn6%2FoV0vZROD%2BP2Db6yhzCYyIZblr4OjQizYgfnR3jD69Qm6GYPciaXSrKmuHw4n%2BCIjtCXWfIHJM5nuaIt%2Bn6ZhRGv3GLNNfhvQwJ0Mb11C7M62dwtbp%2FnQYLsnSU%2BAjn0%2FmDvDj11cIdb8SCIZiHIVS7ZIm5dosUyyyFBJ57a7NuSpR4Jv2nrMFw0lEINWGe%2BDIA0%2FQoGK1YvEIf9d0YgIuG6VL41b3Mi3ddCwD1IIewAjL%2Bqwy9YlTwm0n5Yb4u3DsLHJcSX0%2Bo%2BPlmQWQM9Liu4q91LFXIoSyEfMMvw2A9kkF4GJ5Lam5RJ1P5rQ%3D%3D&sign\_type=RSA2&timestamp=2017-09-27+19%3A42%3A04&version=1.0"}}