AES报文加密

# AES对称加密

# RAS非对称加密

接口请求的数据采用AES方式加密

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| AES加密模式 | CBC |
| 填充模式 | zeropadding |
| 密钥KEY长度说明 | 16字节（128bit） |
| 偏移量 | 和密钥KET内容相同 |
| 输出 | hex（16进制串） |
| 字符集 | Utf-8 |

注意:Java没有zeropadding填充模式，需要自行实现，或者采用外联平台提供的Java SDK进行实现，.net和php本身就支持该模式填充。

比如对body的值进行加密后传给后台，后台再解密

这是一种post请求传json字符串的方式

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| **JSON示例（解密前）** | **节点说明** |
| { |  |
| "head":{ | 报文头对象 |
| "version":"3.9.5", | 报文头-接口版本 |
| "businessCode":"pay\_01", | 报文头-业务代码 |
| "sourceCode":"110", | 报文头-业务来源（接入渠道） |
| "enterpriseId":"335" | 报文头-服务企业（院区代码） |
| "token":"**5B3864A9C5DF7**" | 授权令牌（Token） |
| }, | 报文头结束 |
| "body": "**5B3864A9C5DF7EFC63434A3F**" | 报文体-**AES加密密串** |
| } | 请求报文结束 |

获取body值后进行解密，得到如下信息

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| **JSON示例（节点）** | **节点说明** |
| { |  |
| "head":{ | 报文头对象 |
| "version":"3.9.5", | 报文头-接口版本 |
| "businessCode":"pay\_01", | 报文头-业务代码 |
| "sourceCode":"110", | 报文头-业务来源（接入渠道） |
| "enterpriseId":"335" | 报文头-服务企业（院区代码） |
| }, | 报文头结束 |
| "body":{ | 报文体对象开始 |
| "field1":"001", | 字段示例1 |
| "field2":"002", | 字段示例2 |
| ........ | 第N个字段 |
| } | 报文体结束 |
| } | 请求报文结束 |

对参数加密如下：

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| */\*\*  \* 异步支付下单  \*  \** ***@param dto*** *\** ***@param request*** *\** ***@return*** *\*/* @Override **public** String createAsynBusPay(AsynBusPayDTO dto, HttpServletRequest request) {  String token = request.getHeader(**"token"**);  Map map3 = **new** HashMap();  map3.put(**"version"**, **"1.0.1"**);  map3.put(**"businessCode"**, **"asynBusPay"**);  map3.put(**"sourceCode"**, **"130"**);  map3.put(**"enterpriseId"**, **"445"**);  map3.put(**"token"**, token);   Map map2 = **new** HashMap();  map2.put(**"body"**, Utils.*encrypt*(JSON.*toJSONString*(dto)));  map2.put(**"head"**, JSON.*toJSON*(map3));  String jsonString = JSON.*toJSONString*(map2);  ***log***.info(**"异步支付下单,请求参数####{}"**, jsonString);  String post = Utils.*sendPostByJsonString*(***PAYHTTPURL***, jsonString);  **return** Utils.*desEncrypt*(post); } |

加密解密类：

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| **package** com.bkgx.utils;  **import** com.alibaba.fastjson.JSON; **import** com.alibaba.fastjson.JSONObject; **import** lombok.extern.slf4j.Slf4j; **import** org.apache.http.client.methods.CloseableHttpResponse; **import** org.apache.http.client.methods.HttpPost; **import** org.apache.http.entity.ContentType; **import** org.apache.http.entity.StringEntity; **import** org.apache.http.impl.client.CloseableHttpClient; **import** org.apache.http.impl.client.HttpClients; **import** org.apache.http.util.EntityUtils;  **import** javax.crypto.Cipher; **import** javax.crypto.spec.IvParameterSpec; **import** javax.crypto.spec.SecretKeySpec; **import** java.security.MessageDigest; **import** java.security.NoSuchAlgorithmException;  **import static** com.bkgx.utils.Constants.***OFFSET***; **import static** com.bkgx.utils.Constants.***SECRETKEY***;  */\*\*  \** ***@author*** *iszengziqiang@163.com  \** ***@date*** *2021/1/22 09:58  \** ***@Version:*** *1.0  \** ***@desc*** *//****todo 工具类*** *\*/* @Slf4j **public class** Utils {    */\*\*  \* 字符串转md5[小写16位]  \*  \** ***@param str*** *\** ***@return*** *\*/* **public static** String string2md5(String str) {  ***log***.info(**"md5加密开始####{}"**, str);  *//结果字符串* String result = **""**;  **try** {  MessageDigest md = MessageDigest.*getInstance*(**"MD5"**);  md.update(str.getBytes());  **byte** b[] = md.digest();  **int** i;  StringBuffer buf = **new** StringBuffer(**""**);  **for** (**int** offset = 0; offset < b.**length**; offset++) {  i = b[offset];  **if** (i < 0) {  i += 256;  }  **if** (i < 16) {  buf.append(**"0"**);  }  buf.append(Integer.*toHexString*(i));  }  result = buf.toString();  ***log***.info(**"MD5("** + str + **",32小写) = "** + result);  ***log***.info(**"MD5("** + str + **",32大写) = "** + result.toUpperCase());  ***log***.info(**"++++++++++++++++++++++++##########+++++++++++++++++++++++"**);  ***log***.info(**"MD5("** + str + **",16小写) = "** + buf.toString().substring(8, 24));  ***log***.info(**"MD5("** + str + **",16大写) = "** + buf.toString().substring(8, 24).toUpperCase());  } **catch** (NoSuchAlgorithmException e) {  e.printStackTrace();  }  ***log***.info(**"md5加密结束####{}"**, result);  **return** result.toUpperCase();  }   */\*\*  \* 发送post请求，采用json格式  \*  \** ***@param url*** *\** ***@param jsonString*** *\** ***@return*** *\*/* **public static** String sendPostByJsonString(String url, String jsonString) {  ***log***.info(**"网络请求开始####url:{}####jsonString:{}"**, url, jsonString);  String response = **null**;  **try** {  CloseableHttpClient httpclient = **null**;  CloseableHttpResponse httpresponse = **null**;  **try** {  httpclient = HttpClients.*createDefault*();  HttpPost httppost = **new** HttpPost(url);  StringEntity stringentity = **new** StringEntity(jsonString,  ContentType.*create*(**"text/json"**, **"UTF-8"**));  httppost.setEntity(stringentity);  httpresponse = httpclient.execute(httppost);  response = EntityUtils  .*toString*(httpresponse.getEntity());  } **finally** {  **if** (httpclient != **null**) {  httpclient.close();  }  **if** (httpresponse != **null**) {  httpresponse.close();  }  }  } **catch** (Exception e) {  e.printStackTrace();  }  ***log***.info(**"网络请求结束####url:{}####jsonString:{}response:{}"**, url, jsonString, response);  **return** response;  }    */\*\*  \* 加密  \* https://blog.csdn.net/orangejack/article/details/82913804  \*  \** ***@param data*** *\** ***@return*** *\*/* **public static** String encrypt(String data) {  ***log***.info(**"加密前####{}"**, data);  String ivString = ***OFFSET***;  String key = ***SECRETKEY***;  *//偏移量* **byte**[] iv = ivString.getBytes();  **try** {  Cipher cipher = Cipher.*getInstance*(**"AES/CBC/NoPadding"**);  **int** blockSize = cipher.getBlockSize();  **byte**[] dataBytes = data.getBytes();  **int** length = dataBytes.**length**;  *//计算需填充长度* **if** (length % blockSize != 0) {  length = length + (blockSize - (length % blockSize));  }  **byte**[] plaintext = **new byte**[length];  *//填充* System.*arraycopy*(dataBytes, 0, plaintext, 0, dataBytes.**length**);  SecretKeySpec keySpec = **new** SecretKeySpec(key.getBytes(), **"AES"**);  *//设置偏移量参数* IvParameterSpec ivSpec = **new** IvParameterSpec(iv);  cipher.init(Cipher.***ENCRYPT\_MODE***, keySpec, ivSpec);  **byte**[] encryped = cipher.doFinal(plaintext);  **return** *parseByte2HexStr*(encryped);   } **catch** (Exception e) {  *//* ***TODO Auto-generated catch block*** e.printStackTrace();  }  **return ""**;  }   **public static** String parseByte2HexStr(**byte**[] buf) {  StringBuffer sb = **new** StringBuffer();   **for** (**int** i = 0; i < buf.**length**; ++i) {  String hex = Integer.*toHexString*(buf[i] & 255);  **if** (hex.length() == 1) {  hex = **'0'** + hex;  }  sb.append(hex.toUpperCase());  }  ***log***.info(**"加密后####{}"**, sb.toString());  **return** sb.toString();  }   **public static** String desEncrypt(String data) {   ***log***.info(**"解密前####{}"**, data);  String ivString = ***OFFSET***;  String key = ***SECRETKEY***;  **byte**[] iv = ivString.getBytes();   **try** {  **byte**[] encryp = *parseHexStr2Byte*(data);  Cipher cipher = Cipher.*getInstance*(**"AES/CBC/NoPadding"**);  SecretKeySpec keySpec = **new** SecretKeySpec(key.getBytes(), **"AES"**);  IvParameterSpec ivSpec = **new** IvParameterSpec(iv);  cipher.init(Cipher.***DECRYPT\_MODE***, keySpec, ivSpec);  **byte**[] original = cipher.doFinal(encryp);  String s = **new** String(original,**"UTF-8"**);  JSONObject object = JSON.*parseObject*(s);  String string = object.toJSONString();  ***log***.info(**"解密后####{}"**, string);  **return** string;  } **catch** (Exception e) {  *//* ***TODO: handle exception*** e.printStackTrace();  }  **return ""**;  }   */\*\*  \* 解密  \*  \** ***@param hexStr*** *\** ***@return*** *\*/* **public static byte**[] parseHexStr2Byte(String hexStr) {  **if** (hexStr.length() < 1) {  **return null**;  } **else** {  **byte**[] result = **new byte**[hexStr.length() / 2];   **for** (**int** i = 0; i < hexStr.length() / 2; ++i) {  **int** high = Integer.*parseInt*(hexStr.substring(i \* 2, i \* 2 + 1), 16);  **int** low = Integer.*parseInt*(hexStr.substring(i \* 2 + 1, i \* 2 + 2), 16);  result[i] = (**byte**) (high \* 16 + low);  }  **return** result;  }  }   } |

偏移量和秘钥

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| **package** com.bkgx.utils;  */\*\*  \** ***@author*** *iszengziqiang@163.com  \** ***@date*** *2021/1/22 09:45  \** ***@Version:*** *1.0  \** ***@desc*** *//****todo 常量*** *\*/* **public interface** Constants {   */\*\*  \* 提供基于HTTP协议的POST服务接口，由客户端程序发起HTTP-POST请求，外联平台进行受理和应答，实现系统之间交互。  \* 注意：其中IP和端口在不同的医院可能有所不同。  \*/* String ***PAYHTTPURL*** = **"http://192.168.20.191:15779/PowerBusPay/gateway.do"**;   */\*\*\*  \* 指定的时间格式  \*/* String ***DATETIMEFORMAT*** = **"yyyy-MM-dd HH:mm:ss"**;   */\*\*  \* 原值  \*/* String ***ORIGINALVALUE*** = **"123456789ABCDEFG"**;   */\*\*  \* 密钥KEY长度说明 16字节（128bit）  \*/* String ***SECRETKEY*** = **"123456789ABCDEFG"**;   */\*\*  \* 偏移量  \*/* String ***OFFSET*** = **"123456789ABCDEFG"**; } |

测试如下：

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| **private static void** jiamijiemi() {  AsynBusPayDTO dto = **new** AsynBusPayDTO();  dto.setBusTime(**new** Date().toString());  dto.setBusType(**"1"**);  *//加密* String encrypt = Utils.*encrypt*(JSON.*toJSONString*(dto));  *//解密* String s = Utils.*desEncrypt*(encrypt);   } |

显示结果：

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| /Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/bin/java "-javaagent:/Applications/IntelliJ IDEA.app/Contents/lib/idea\_rt.jar=63650:/Applications/IntelliJ IDEA.app/Contents/bin" -Dfile.encoding=UTF-8 -classpath /Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/charsets.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/deploy.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/cldrdata.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/dnsns.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/jaccess.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/jfxrt.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/localedata.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/nashorn.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/sunec.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/sunjce\_provider.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/sunpkcs11.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/ext/zipfs.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/javaws.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/jce.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/jfr.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/jfxswt.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/jsse.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/management-agent.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/plugin.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/resources.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/jre/lib/rt.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/lib/ant-javafx.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/lib/dt.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/lib/javafx-mx.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/lib/jconsole.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/lib/packager.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/lib/sa-jdi.jar:/Library/Java/JavaVirtualMachines/jdk1.8.0\_171.jdk/Contents/Home/lib/tools.jar:/Users/zengziqiang/projects/sourcetree/appt-api/target/test-classes:/Users/zengziqiang/projects/sourcetree/appt-api/target/classes:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-starter-web/2.3.6.RELEASE/spring-boot-starter-web-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-starter/2.3.6.RELEASE/spring-boot-starter-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-starter-logging/2.3.6.RELEASE/spring-boot-starter-logging-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/ch/qos/logback/logback-classic/1.2.3/logback-classic-1.2.3.jar:/Users/zengziqiang/.m2/repository/ch/qos/logback/logback-core/1.2.3/logback-core-1.2.3.jar:/Users/zengziqiang/.m2/repository/org/apache/logging/log4j/log4j-to-slf4j/2.13.3/log4j-to-slf4j-2.13.3.jar:/Users/zengziqiang/.m2/repository/org/apache/logging/log4j/log4j-api/2.13.3/log4j-api-2.13.3.jar:/Users/zengziqiang/.m2/repository/org/slf4j/jul-to-slf4j/1.7.30/jul-to-slf4j-1.7.30.jar:/Users/zengziqiang/.m2/repository/jakarta/annotation/jakarta.annotation-api/1.3.5/jakarta.annotation-api-1.3.5.jar:/Users/zengziqiang/.m2/repository/org/yaml/snakeyaml/1.26/snakeyaml-1.26.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-starter-json/2.3.6.RELEASE/spring-boot-starter-json-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/com/fasterxml/jackson/core/jackson-databind/2.11.3/jackson-databind-2.11.3.jar:/Users/zengziqiang/.m2/repository/com/fasterxml/jackson/core/jackson-annotations/2.11.3/jackson-annotations-2.11.3.jar:/Users/zengziqiang/.m2/repository/com/fasterxml/jackson/core/jackson-core/2.11.3/jackson-core-2.11.3.jar:/Users/zengziqiang/.m2/repository/com/fasterxml/jackson/datatype/jackson-datatype-jdk8/2.11.3/jackson-datatype-jdk8-2.11.3.jar:/Users/zengziqiang/.m2/repository/com/fasterxml/jackson/datatype/jackson-datatype-jsr310/2.11.3/jackson-datatype-jsr310-2.11.3.jar:/Users/zengziqiang/.m2/repository/com/fasterxml/jackson/module/jackson-module-parameter-names/2.11.3/jackson-module-parameter-names-2.11.3.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-starter-tomcat/2.3.6.RELEASE/spring-boot-starter-tomcat-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/apache/tomcat/embed/tomcat-embed-core/9.0.39/tomcat-embed-core-9.0.39.jar:/Users/zengziqiang/.m2/repository/org/apache/tomcat/embed/tomcat-embed-websocket/9.0.39/tomcat-embed-websocket-9.0.39.jar:/Users/zengziqiang/.m2/repository/org/springframework/spring-web/5.2.11.RELEASE/spring-web-5.2.11.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/spring-beans/5.2.11.RELEASE/spring-beans-5.2.11.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/spring-webmvc/5.2.11.RELEASE/spring-webmvc-5.2.11.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/spring-aop/5.2.11.RELEASE/spring-aop-5.2.11.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/spring-context/5.2.11.RELEASE/spring-context-5.2.11.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/spring-expression/5.2.11.RELEASE/spring-expression-5.2.11.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-core/3.2.1/cxf-core-3.2.1.jar:/Users/zengziqiang/.m2/repository/com/fasterxml/woodstox/woodstox-core/5.0.3/woodstox-core-5.0.3.jar:/Users/zengziqiang/.m2/repository/org/codehaus/woodstox/stax2-api/3.1.4/stax2-api-3.1.4.jar:/Users/zengziqiang/.m2/repository/org/apache/ws/xmlschema/xmlschema-core/2.2.2/xmlschema-core-2.2.2.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-frontend-jaxws/3.2.1/cxf-rt-frontend-jaxws-3.2.1.jar:/Users/zengziqiang/.m2/repository/xml-resolver/xml-resolver/1.2/xml-resolver-1.2.jar:/Users/zengziqiang/.m2/repository/org/ow2/asm/asm/5.2/asm-5.2.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-bindings-soap/3.2.1/cxf-rt-bindings-soap-3.2.1.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-wsdl/3.2.1/cxf-rt-wsdl-3.2.1.jar:/Users/zengziqiang/.m2/repository/wsdl4j/wsdl4j/1.6.3/wsdl4j-1.6.3.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-databinding-jaxb/3.2.1/cxf-rt-databinding-jaxb-3.2.1.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-bindings-xml/3.2.1/cxf-rt-bindings-xml-3.2.1.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-frontend-simple/3.2.1/cxf-rt-frontend-simple-3.2.1.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-ws-addr/3.2.1/cxf-rt-ws-addr-3.2.1.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-ws-policy/3.2.1/cxf-rt-ws-policy-3.2.1.jar:/Users/zengziqiang/.m2/repository/org/apache/neethi/neethi/3.1.0/neethi-3.1.0.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-transports-http/3.2.1/cxf-rt-transports-http-3.2.1.jar:/Users/zengziqiang/.m2/repository/org/apache/cxf/cxf-rt-transports-http-jetty/3.2.1/cxf-rt-transports-http-jetty-3.2.1.jar:/Users/zengziqiang/.m2/repository/org/eclipse/jetty/jetty-server/9.4.34.v20201102/jetty-server-9.4.34.v20201102.jar:/Users/zengziqiang/.m2/repository/javax/servlet/javax.servlet-api/4.0.1/javax.servlet-api-4.0.1.jar:/Users/zengziqiang/.m2/repository/org/eclipse/jetty/jetty-util/9.4.34.v20201102/jetty-util-9.4.34.v20201102.jar:/Users/zengziqiang/.m2/repository/org/eclipse/jetty/jetty-io/9.4.34.v20201102/jetty-io-9.4.34.v20201102.jar:/Users/zengziqiang/.m2/repository/org/eclipse/jetty/jetty-security/9.4.34.v20201102/jetty-security-9.4.34.v20201102.jar:/Users/zengziqiang/.m2/repository/org/eclipse/jetty/jetty-continuation/9.4.34.v20201102/jetty-continuation-9.4.34.v20201102.jar:/Users/zengziqiang/.m2/repository/org/eclipse/jetty/jetty-http/9.4.34.v20201102/jetty-http-9.4.34.v20201102.jar:/Users/zengziqiang/.m2/repository/org/slf4j/slf4j-api/1.7.30/slf4j-api-1.7.30.jar:/Users/zengziqiang/.m2/repository/com/github/xiaoymin/knife4j-spring-boot-starter/2.0.7/knife4j-spring-boot-starter-2.0.7.jar:/Users/zengziqiang/.m2/repository/com/github/xiaoymin/knife4j-spring-boot-autoconfigure/2.0.7/knife4j-spring-boot-autoconfigure-2.0.7.jar:/Users/zengziqiang/.m2/repository/com/github/xiaoymin/knife4j-spring/2.0.7/knife4j-spring-2.0.7.jar:/Users/zengziqiang/.m2/repository/com/github/xiaoymin/knife4j-annotations/2.0.7/knife4j-annotations-2.0.7.jar:/Users/zengziqiang/.m2/repository/com/github/xiaoymin/knife4j-core/2.0.7/knife4j-core-2.0.7.jar:/Users/zengziqiang/.m2/repository/org/javassist/javassist/3.25.0-GA/javassist-3.25.0-GA.jar:/Users/zengziqiang/.m2/repository/io/swagger/swagger-models/1.5.22/swagger-models-1.5.22.jar:/Users/zengziqiang/.m2/repository/io/swagger/swagger-annotations/1.5.22/swagger-annotations-1.5.22.jar:/Users/zengziqiang/.m2/repository/io/springfox/springfox-swagger2/2.10.5/springfox-swagger2-2.10.5.jar:/Users/zengziqiang/.m2/repository/io/springfox/springfox-spi/2.10.5/springfox-spi-2.10.5.jar:/Users/zengziqiang/.m2/repository/io/springfox/springfox-core/2.10.5/springfox-core-2.10.5.jar:/Users/zengziqiang/.m2/repository/io/springfox/springfox-schema/2.10.5/springfox-schema-2.10.5.jar:/Users/zengziqiang/.m2/repository/io/springfox/springfox-swagger-common/2.10.5/springfox-swagger-common-2.10.5.jar:/Users/zengziqiang/.m2/repository/io/springfox/springfox-spring-web/2.10.5/springfox-spring-web-2.10.5.jar:/Users/zengziqiang/.m2/repository/io/github/classgraph/classgraph/4.1.7/classgraph-4.1.7.jar:/Users/zengziqiang/.m2/repository/org/springframework/plugin/spring-plugin-core/2.0.0.RELEASE/spring-plugin-core-2.0.0.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/plugin/spring-plugin-metadata/2.0.0.RELEASE/spring-plugin-metadata-2.0.0.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/mapstruct/mapstruct/1.3.1.Final/mapstruct-1.3.1.Final.jar:/Users/zengziqiang/.m2/repository/io/springfox/springfox-bean-validators/2.10.5/springfox-bean-validators-2.10.5.jar:/Users/zengziqiang/.m2/repository/io/springfox/springfox-spring-webmvc/2.10.5/springfox-spring-webmvc-2.10.5.jar:/Users/zengziqiang/.m2/repository/com/github/xiaoymin/knife4j-spring-ui/2.0.7/knife4j-spring-ui-2.0.7.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-starter-validation/2.3.6.RELEASE/spring-boot-starter-validation-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/glassfish/jakarta.el/3.0.3/jakarta.el-3.0.3.jar:/Users/zengziqiang/.m2/repository/org/hibernate/validator/hibernate-validator/6.1.6.Final/hibernate-validator-6.1.6.Final.jar:/Users/zengziqiang/.m2/repository/jakarta/validation/jakarta.validation-api/2.0.2/jakarta.validation-api-2.0.2.jar:/Users/zengziqiang/.m2/repository/org/jboss/logging/jboss-logging/3.4.1.Final/jboss-logging-3.4.1.Final.jar:/Users/zengziqiang/.m2/repository/com/fasterxml/classmate/1.5.1/classmate-1.5.1.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-configuration-processor/2.3.6.RELEASE/spring-boot-configuration-processor-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-autoconfigure/2.3.6.RELEASE/spring-boot-autoconfigure-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot/2.3.6.RELEASE/spring-boot-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/cn/hutool/hutool-core/5.3.8/hutool-core-5.3.8.jar:/Users/zengziqiang/.m2/repository/org/projectlombok/lombok/1.18.16/lombok-1.18.16.jar:/Users/zengziqiang/.m2/repository/org/dom4j/dom4j/2.1.3/dom4j-2.1.3.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-starter-test/2.3.6.RELEASE/spring-boot-starter-test-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-test/2.3.6.RELEASE/spring-boot-test-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/boot/spring-boot-test-autoconfigure/2.3.6.RELEASE/spring-boot-test-autoconfigure-2.3.6.RELEASE.jar:/Users/zengziqiang/.m2/repository/com/jayway/jsonpath/json-path/2.4.0/json-path-2.4.0.jar:/Users/zengziqiang/.m2/repository/net/minidev/json-smart/2.3/json-smart-2.3.jar:/Users/zengziqiang/.m2/repository/net/minidev/accessors-smart/1.2/accessors-smart-1.2.jar:/Users/zengziqiang/.m2/repository/jakarta/xml/bind/jakarta.xml.bind-api/2.3.3/jakarta.xml.bind-api-2.3.3.jar:/Users/zengziqiang/.m2/repository/jakarta/activation/jakarta.activation-api/1.2.2/jakarta.activation-api-1.2.2.jar:/Users/zengziqiang/.m2/repository/org/assertj/assertj-core/3.16.1/assertj-core-3.16.1.jar:/Users/zengziqiang/.m2/repository/org/hamcrest/hamcrest/2.2/hamcrest-2.2.jar:/Users/zengziqiang/.m2/repository/org/junit/jupiter/junit-jupiter/5.6.3/junit-jupiter-5.6.3.jar:/Users/zengziqiang/.m2/repository/org/junit/jupiter/junit-jupiter-api/5.6.3/junit-jupiter-api-5.6.3.jar:/Users/zengziqiang/.m2/repository/org/apiguardian/apiguardian-api/1.1.0/apiguardian-api-1.1.0.jar:/Users/zengziqiang/.m2/repository/org/opentest4j/opentest4j/1.2.0/opentest4j-1.2.0.jar:/Users/zengziqiang/.m2/repository/org/junit/platform/junit-platform-commons/1.6.3/junit-platform-commons-1.6.3.jar:/Users/zengziqiang/.m2/repository/org/junit/jupiter/junit-jupiter-params/5.6.3/junit-jupiter-params-5.6.3.jar:/Users/zengziqiang/.m2/repository/org/junit/jupiter/junit-jupiter-engine/5.6.3/junit-jupiter-engine-5.6.3.jar:/Users/zengziqiang/.m2/repository/org/junit/platform/junit-platform-engine/1.6.3/junit-platform-engine-1.6.3.jar:/Users/zengziqiang/.m2/repository/org/mockito/mockito-core/3.3.3/mockito-core-3.3.3.jar:/Users/zengziqiang/.m2/repository/net/bytebuddy/byte-buddy/1.10.18/byte-buddy-1.10.18.jar:/Users/zengziqiang/.m2/repository/net/bytebuddy/byte-buddy-agent/1.10.18/byte-buddy-agent-1.10.18.jar:/Users/zengziqiang/.m2/repository/org/objenesis/objenesis/2.6/objenesis-2.6.jar:/Users/zengziqiang/.m2/repository/org/mockito/mockito-junit-jupiter/3.3.3/mockito-junit-jupiter-3.3.3.jar:/Users/zengziqiang/.m2/repository/org/skyscreamer/jsonassert/1.5.0/jsonassert-1.5.0.jar:/Users/zengziqiang/.m2/repository/com/vaadin/external/google/android-json/0.0.20131108.vaadin1/android-json-0.0.20131108.vaadin1.jar:/Users/zengziqiang/.m2/repository/org/springframework/spring-core/5.2.11.RELEASE/spring-core-5.2.11.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/spring-jcl/5.2.11.RELEASE/spring-jcl-5.2.11.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/springframework/spring-test/5.2.11.RELEASE/spring-test-5.2.11.RELEASE.jar:/Users/zengziqiang/.m2/repository/org/xmlunit/xmlunit-core/2.7.0/xmlunit-core-2.7.0.jar:/Users/zengziqiang/.m2/repository/org/apache/httpcomponents/httpcore/4.4.10/httpcore-4.4.10.jar:/Users/zengziqiang/.m2/repository/org/apache/httpcomponents/httpclient/4.5.6/htt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com.bkgx.MainTest  16:00:11.403 [main] INFO com.bkgx.utils.Utils - 加密前####{"busTime":"Fri Jan 22 16:00:10 CST 2021","busType":"1"}  16:00:12.180 [main] INFO com.bkgx.utils.Utils - 加密后####1030B1E24604030A904D722785B4D03A5E0E2652FC1096C6113A59995CFAF7C17233FF719CCACB3CC1F25EC29D899C8E931A06D73C995D3985BCAA59BF72C0F7  16:00:12.184 [main] INFO com.bkgx.utils.Utils - 解密前####1030B1E24604030A904D722785B4D03A5E0E2652FC1096C6113A59995CFAF7C17233FF719CCACB3CC1F25EC29D899C8E931A06D73C995D3985BCAA59BF72C0F7  16:00:12.220 [main] INFO com.bkgx.utils.Utils - 解密后####{"busTime":"Fri Jan 22 16:00:10 CST 2021","busType":"1"}  Process finished with exit code 0 |

