



Unified Payment Interface (UPI)

Functional Specifications Document – Merchant Integration

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HSBC
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Introduction

Purpose

The purpose of this document is to detail out the technical integration approach for web based integration between UPI platform and merchants. This document describes the process flow and Client API functionalities which provide quick integration for merchants. This document is complimented with the toolkit for merchant integration in the UPI platform.

Assumptions and Prerequisites

The merchant should have the following pre-requisites in place before integrating with UPI.

1. Merchant has the capability to host and consume APIs
2. Merchant is setup on the HSBC system and Merchant ID is generated by HSBC
3. Merchant Encryption Key is generated by HSBC and shared with the merchant
4. Merchant to connect with HSBC over HTTPS (SSL)

API List

UPI platform provides the following API to the merchant

Sr. No	API Name	Description
1	Pre-Credit / Dynamic VPA Validation API	API to validate the dynamic part of the Merchant VPA with the merchant system Format: JSON
2	Post Credit / Final Response-Notification API	FINAL Response API helps merchant to receive the transaction status from the bank UPI server. In response, the merchant system provides a confirmation id which is linked to the transaction within the bank system Format: JSON
3	Collect Transaction Request	Merchant can collect payment from its customers via merchant website. Format: JSON
4	VPA Status Validation API	Validates the Status of the VPA and provides the name of the default account linked to the VPA if the VPA exists Format: JSON
5	Transaction Status Enquiry	Customers can check their transactions status for the transactions. Format: JSON
6	Refund API	This API supports refund payments. Format: JSON

API Integration

Dynamic VPA Validation API

This API is to validate the dynamic part of the Merchant VPA with the merchant system. This will be applicable only for Push transactions (P2M)

Request Parameters

Sr. No.	Fields	Description	Data Type	Mandatory / Optional
1	subscriberId	Validation field 1	Character	Mandatory
2	Rmn	Validation field 2	Character	Optional
3	Source	Source	Character	Mandatory

Sample Request

Success Request Body

```
{"subscriberId":"vznadt012310002","source":"SCB"}
```

Failure Request Body

```
{"subscriberId":"vznadt012310003","source":"SCB"}
```

Response Parameters

Sr. No.	Fields	Description	Data Type	Mandatory / Optional
1	transStatus	Status of the request (Success/Failure)	Character	Mandatory
2	transMessage	Description of the response.	Character	Optional
3	accountDetails:subscriberId	Validation field 1	Character	Optional
4	accountDetails:accountStatus	Account status	Character	Optional

Sample Response

a) Success Response

```
{
  "transStatus": "Success",
  "transMessage": "",
  "accountDetails": [
    {
      "subscriberId": "VZNADT012310002",
      "accountStatus": "Success",
      "subscriberName": "PARASURAM KUMAR A"
    }
  ]
}
```

b) Failure Response

```
{
  "transStatus": "Failure",
  "transMessage": "Record not available for this Loan/Proposal No : vznadt012310003",
  "accountDetails": []
}
```

Pre-Credit VPA Validation API

This API validates the dynamic part of the Merchant VPA with the merchant system. This will be applicable only for Push transactions (P2M) and is invoked post authorization of the payment in the PSP app.

Request Parameters

SN	Field Name	Field Description	Mandatory / Optional/ Conditional	Alpha (A) Alphanumeric (AN) Numeric (N)	Field Length (min-max)
----	------------	-------------------	---	--	---------------------------

1	refNo	HSBC generated serial number (for duplicity checks)	Mandatory	Number	6-16
2	payerId	Dynamic part of dynamic VPA. Useful for identification of payer	Mandatory	Alpha-Numeric	6-250
3	transRemarks	Transaction Remarks	Mandatory	Alpha-Numeric	1-50
4	transAmount	Transaction Amount (in two decimals) e.g. 10.0	Conditional	Decimal	1-16
5	transID	Transaction ID (Unique 35 digit NPCI Trxn ID)	Mandatory	Alpha-Numeric	35
6	transRRN	Transaction RRN (12 digit customer ref no as provided by NPCI)	Mandatory	Number	12
7	transRefID	Transaction ref ID (applicable only in case of QR push payments)	Optional	Alpha-Numeric	35
8	payerName	Payer Name (depends on payer bank)	Optional	Alpha-Numeric	5-100
9	payeeVPA	Merchant VPA	Mandatory	Alpha-Numeric	255
10	source	HSBC	Mandatory	Alpha-Numeric	5-50
11	payerAccNo	Account no of payer (for specific merchants only)	Optional	Number	12-30
12	payerBankIFSC	Payer Bank IFSC (for specific	Optional	Number	11

		merchants only)			
13	pgMerchantID	Merchant ID (as provided by HSBC post setup)	Optional	Alpha-Numeric	16
14	addInfo1 to 10	10 additional fields for future use	Optional	Alpha-Numeric	0-50

Sample Request

```
{
  "refNo":"12837",
  "payerId":"9820982020",
  "pgMerchantId":"HSB000000000001",
  "transRemarks":"Payment remarks",
  "transAmount":"100.00",
  "transID":"HSB527498730B1B1BC3E053142433823107",
  "transRRN":"717215233641",
  "transRefID":"442755",
  "payerName": "",
  "payerAccNo": "",
  "payerBankIFSC": "",
  "payeeVPA":"mymerchant",
  "addInfo1": "",
  "addInfo2": "",
  "addInfo3": "",
  "addInfo4": "",
  "addInfo5": "",
  "addInfo6": "",
}
```



```

"addInfo7":"","
"addInfo8":"","
"addInfo9":"","
"addInfo10":"","
"source":"HSBC"
}

```

Response Parameters

SN	Field Name	Field Description	Alpha (A) Alphanumeric (AN) Numeric (N)	Mandatory / Optional/ Conditional	Field Length (min-max)
1	transStatus	Status code of the request (S=Accepted, F=Rejected)	Alpha-Numeric	Mandatory	1
2	transMessage	Description of transStatus	Alpha-Numeric	Mandatory	2-100
3	refNo	HSBC generated serial number given in request – for duplicity checks	Number	Optional	6-16
4	transRRN	Transaction RRN (12 digit customer ref no provided by NPCI)	Number	Mandatory	12

5.	addInfo1 to 10	Future Use	Alpha-Numeric	Optional	0-50
6	pgMerchantID	Merchant ID (as provided by HSBC post setup)	Optional	Alpha-Numeric	16

Sample Response

Success Response

```
{
"refNo":"12837",
"transStatus":"S",
"transMessage":"Success",
"transRRN":"717215233641",
"pgMerchantId":"HSB000000000001",
"addInfo1":"","
"addInfo2":"","
"addInfo3":"","
"addInfo4":"","
"addInfo5":"","
"addInfo6":"","
"addInfo7":"","
"addInfo8":"","
"addInfo9":"","
"addInfo10":""
}
```

Failure Response

```
{  
  "refNo":"12837",  
  "transStatus":"F",  
  "transMessage":"Invalid VPA",  
  "transRRN": "",  
  "pgMerchantId":"HSB000000000001",  
  "addInfo1": "",  
  "addInfo2": "",  
  "addInfo3": "",  
  "addInfo4": "",  
  "addInfo5": "",  
  "addInfo6": "",  
  "addInfo7": "",  
  "addInfo8": "",  
  "addInfo9": "",  
  "addInfo10": ""  
}
```

Post Credit / Final Response-Notification API (with confirmation ID)

This API is to be hosted by the Merchant. HSBC will consume this API after credit posting has been attempted. Additionally, the merchant provides a confirmation ID to HSBC in API response against every posting.

Request Parameters

SN	Field Name	Field Description	Mandatory / Optional/ Conditional	Alpha (A) Alphanumeric (AN) Numeric (N)	Field Length (min-max)
1	refNo	HSBC generated serial number – for duplicity checks	Mandatory	Number	6-16
2	transID	Transaction ID (Unique 35 digit NPCI Trnx ID)	Mandatory	Alpha-Numeric	35
3	transRRN	Transaction RRN (12 digit ref no as provided by NPCI)	Mandatory	Number	12
4	transAmount	Transaction Amount (in two decimals) e.g. 10.00	Mandatory	Decimal	1-16
5	transAuthDateT ime	Transaction Approval Date & Time (dd/mm/yyyy hh:mm:ss)	Mandatory	Number	20
6	respCode	Response/Error Code for	Mandatory	Alpha-Numeric	2-5

		Transaction as per NPCI			
7	transApprNo	Transaction Approval No (as per payer bank)	Optional (if not received from NPCI)	Alpha-Numeric	4-12
8	transStatus	Transaction Status	Mandatory	Alpha-Numeric	1
9	transMessage	Description of the transStatus (Success/ Fail)	Mandatory	Alpha-Numeric	2-100
10	transRefId	Transaction Ref ID (applicable only in case of QR Push Payments)	Optional	Alpha-Numeric	35
11	transRemarks	Transaction Remarks (will be sent if received from payer bank)	Optional	Alpha-Numeric	1-50
12	transType	Transaction Type (Push or Pull)	Mandatory	Alpha-Numeric	3-10
13	addInfo 4	Payer Account Type as "CREDIT" (In case of Credit Card Transaction)	Conditional	Alpha-Numeric	6-10
14	addInfo 1 to 3 addInfo 5 to 10	Additional fields for future use	Optional	Alpha-Numeric	0-50
15	payerVPA	VPA of Payer	Mandatory	Alpha-Numeric	5-250

16	payerId	Dynamic Part of Dynamic VPA. Blank for Static VPA	Conditional	Alpha-Numeric	5-100
17	payeeVPA	Merchant VPA	Mandatory	Alpha-Numeric	5-250
18	payerAccNo	Payer Account No (for specific merchants)	Conditional	Number	12-30
19	payerBankIFSC	Payer Bank IFSC of (for specific merchants only)	Conditional	Number	11
20	pgMerchantID	Merchant ID – as provided by HSBC post setup	Mandatory	Alpha-Numeric	16
21	orderId	Unique customer generated ref no for each txn	Optional	Number	6-50

Sample Request

```
{
  "apiResp":{
    "refNo":"2394829",
    "transID ":"HSB4521EDFDF113434131442134D34D34FF",
    "transRRN":"701245124574",
    "transAmount":"10.00",
    "transAuthDateTime":"",
    "respCode":"00",
```

```

"transApprNo":"","
"transStatus":"S",
"transMessage":"Success",
"transRefId":"1495085619883943",
"transRemarks ":"Payment Remarks",
"transType":"PAY",
"addInfo":{
"addInfo1":"","
"addInfo2":"","
"addInfo3":"","
"addInfo4":"","
"addInfo5":"","
"addInfo6":"","
"addInfo7":"","
"addInfo8":"","
"addInfo9":"","
"addInfo10":""
},
"payerVPA":"amitk@icici",
"payerId":"9820982012",
"payeeVPA":"mymerchant",
"payerAccNo":"","
" payerBankIFSC ":",
"pgMerchantId":"HSBB000000000001",
"orderID":""
}
}

```

Sample Request for Credit Card Transaction

```
{
  "apiResp":{
    "refNo":"2394829",
    "transID ":"HSB4561EPGPG113434131442134E34D34FF",
    "transRRN":"301245124574",
    "transAmount":"10.00",
    "transAuthDateTime":"",
    "respCode":"00",
    "transApprNo":"",
    "transStatus":"S",
    "transMessage":"Success",
    "transRefId":"1495067519322342",
    "transRemarks ":"Payment Remarks",
    "transType":"PAY",
    "addInfo":{
      "addInfo1":"",
      "addInfo2":"",
      "addInfo3":"",
      "addInfo4":"CREDIT",
      "addInfo5":"",
      "addInfo6":"",
      "addInfo7":"",
      "addInfo8":"",
      "addInfo9":"",
      "addInfo10":""
    },
    "payerVPA":"fab@hsbc",

```



```

"payerId":"9820982012",
"payeeVPA":"sezzle@hsbc",
"payerAccNo":" 071107734006",
" payerBankIFSC ":" HSBC0560002",
"pgMerchantId":" HSBC000000002854",
"orderID":" 1677564200754478"
}
}

```

Response Parameters

S N.	Field Name	Field Description	Mandatory / Optional/ Conditional	Alpha (A) Alphanumeric (AN) Numeric (N)	Field Length (min-max)
1	refNo	HSBC generated serial number – for duplicity checks	Optional	Number	6-16
2	transRRN	Transaction RRN (12 digit ref no provided by NPCI)	Mandatory	Number	12
3	confStatus	Status of the request (S: Success, F: Failure)	Mandatory	Alpha-Numeric	1
4	confMessage	Description of the response	Mandatory	Alpha-Numeric	100
5	confId	Payment Confirmation Id (Reporting Purpose)	Optional	Alpha-Numeric	50-

6	pgMerchantID	Merchant ID (as provided by HSBC post setup)	Optional	Alpha-Numeric	16
7	addInfo 1 to 10	Additional Fields for Future Reference	Optional	Alpha-Numeric	0-50

Sample Response

```
{
  "refNo":"2394829",
  "transRRN":"HSB4521EDDFD113434131442134D34D34FF",
  "confStatus":"SUCCESS",
  "confMessage":"SUCCESS",
  "confId":"1290381293989",
  "pgMerchantId":"HSBB000000000001",
  "addInfo":{
    "addInfo1":"","
    "addInfo2":"","
    "addInfo3":"","
    "addInfo4":"","
    "addInfo5":"","
    "addInfo6":"","
    "addInfo7":"","
    "addInfo8":"","
    "addInfo9":"","
    "addInfo10":""
  }
}
```

VPA Status Validation API

This API is hosted by HSBC and is used to check the validity of the Virtual Payment Address (VPA) prior to the actual collect request.

Request Parameters

SN	Field Name	Field Description	Alpha (A) Alphanumeric (AN) Numeric (N)	Field Length (min-max)	Mandatory / Optional/ Conditional
1	pgMerchantID	Merchant ID – as provided by HSBC post setup	Alpha-Numeric	16	Mandatory
2	meRefNo	Unique reference / serial no sent by Merchant for each VPA validation	Alpha-Numeric	6-30	Mandatory
3	payerVPA	VPA of Payer	Alpha-Numeric	255	Mandatory

```
{
  "pgMerchantId":"HSBB000000000001",
  "meRefNo":"450824145",
  "payerVPA":"aditya@hsbc"
}
```

Response Parameters

SN	Field Name	Field Description	Alpha (A) Alphanumeric (AN) Numeric (N)	Field Length (min-max)	Mandatory / Optional / Conditional
1	meRefNo	Unique reference no sent by Merchant for each VPA validation	Alpha-Numeric	6-30	Mandatory
2	payerVPA	VPA of Payer	Alpha-	255	Mandatory
3	payerName	Payer Name	Alpha-	100	Conditional
4	valStatusCode	Status of the VPA if it exists or not. (VE=Available, VN=Not Available, V=Request Validation Error, E=Exception at UPI)	Alpha-Numeric	2	Mandatory
5	valStatusDesc	Description of the status of the VPA	Alpha-Numeric	100	Mandatory
6	pgMerchantID	Merchant ID (as provided by HSBC post setup)	Alpha-Numeric	16	Mandatory

Check VPA Response:

```
{
  "pgMerchantId":"HSBB000000000001",
  "meRefNo":"450824145",
  "payervpa":"aditya@hsbc",
  "payerName":"ADITYA BERA",
  "valStatusCode":"VE",
  "valStatusDesc":"VPA is valid"
}
```

Collect Request API

This API supports Collect Request from Merchants. This API is hosted by HSBC.

Request Parameter

SN	Field Name	Field Description	Alpha (A) Alphanumeric (AN)	Field Length (min- max)	Mandatory / Optional/ Conditional
1	pgMerchantID	Merchant ID (as provided by HSBC post setup)	Alpha-Numeric	16	Mandatory
2	meOrderNo	Unique Transaction No. sent by merchant (Order Number)	Alpha-Numeric	6-30	Mandatory
3	payerVPA	VPA of Payer	Alpha-Numeric	255	Mandatory
4	payerName	Payer Name received in Validate VPA	Alpha-Numeric	100	Optional
5	transAmount	Transaction Amount (in two decimals e.g. 10.00)	Decimal	1-16	Mandatory
6	transRemarks	Transaction Remarks	Alpha-	1-50	Mandatory
7	expiry value	Collect Expiry value in minutes (Max. 64800)	Number	5	Mandatory
8	addInfo1 to 10	For future use	Alpha-	0-50	Optional

Sample Collect Request:

```
{
  "requestInfo":{
    "pgMerchantId":"HSB00000000000001",
    "meOrderNo":"234982349234"
  },
  "payerName": "",
  "transAmount":"50.00",
  "expiryValue":1110,
```

```

"transRemarks": "Collect from aditya",
"payerType": {
  "payerVPA": "aditya@icici"
},
"addInfo": {
  "addInfo1": "",
  "addInfo2": "",
  "addInfo3": "",
  "addInfo4": "",
  "addInfo5": "",
  "addInfo6": "",
  "addInfo7": "",
  "addInfo8": "",
  "addInfo9": "",
  "addInfo10": ""
}
}

```

Response Parameters (Collect Initiation):

SN	Field Name	Field Description	Alpha (A) Alphanumeric	Field Length	Mandatory / Optional/
1	meOrderNo	Unique transaction no. sent by merchant	Alpha-Numeric	6-30	Mandatory
2	transID	Transaction ID (Unique 35 digit NPCI Trnx ID)	Alpha-Numeric	35	Mandatory
3	transRRN	Transaction RRN (12 digit customer ref no as provided by NPCI)	Number	12	Mandatory
4	transAmount	Transaction Amount (in two decimals)	Decimal	1-16	Mandatory

5	transAuthDateTime	Transaction Approval Date & Time (dd/mm/yyyy hh:mm:ss)	Number	20	Mandatory
6	collStatus	Transaction status (I-Initiated , F-Failed, E -Exception at UPI)	Alpha-Numeric	1	Mandatory
7	collStatusDesc	Transaction status Description	Alpha-Numeric	100	Mandatory
8	payerVPA	VPA of Payer	Alpha-Numeric	255	Mandatory
9	payeeVPA	Merchant VPA	Alpha-Numeric	255	Mandatory
10	pgMerchantID	Merchant ID (as provided by	Alpha-Numeric	16	Mandatory
11	addInfo1 to 10	For future use	Alpha-Numeric	0-50	Optional

Sample Collect Response:

```
{
  "apiResp":{
    "meOrderNo": "",
    "transRefNo": 441452,
    "pgMerchantId": "HSB00000000000001",
    "transId": "HSB9DA3B8AC7A7454290D9D956D2C3D17E",
    "transRRN": "707520002012",
    "transAmount": "500.00",
    "transAuthDateTime": "2017-03-16 08:10:55 PM",
    "collStatus": "I",
    "collStatusDesc": "Transaction Initiated",
    "payerVPA": "aditya@hsbc",
    "payeeVPA": "merchantvpa"
  }
}
```

Transaction Status Enquiry API

Transaction Status Enquiry API helps merchant to fetch the transaction status from HSBC UPI system.

Request Parameters

SN	Field Name	Field Description	Alpha (A) Alphanumeric	Field Length (min-	Mandatory / Optional/
1	pgMerchantID	Merchant ID as provided by HSBC	Alpha-Numeric	16	Mandatory
2	meRefNo	Unique reference / serial no. sent by Merchant for each request	Alpha-Numeric	6-30	Mandatory
3	transRRN	Unique 12 digit ref no as provided by NPCI for each Transaction	Number	12	Conditional
4.	meOrderNo	Unique Transaction reference no sent by merchant per txn	Alpha-Numeric	6-30	Conditional

Transaction Status Request:

```
{
  "requestInfo":{
    "pgMerchantId":"HSB0000000000001",
    "meRefNo":"41542145156"
  },
  "transRRN":"70152456521",
  "meOrderNo":"2348923424"
}
```


Response Parameters

SN	Field Name	Field Description	Alpha (A)	Field Length	Mandatory /
1	meOrderNo	Original Order Number sent by Merchant(Order Number)	Alpha-Numeric	6-30	Mandatory
2	transAmount	Transaction Amount (in two decimals)	Decimal	1-16	Mandatory
3	transAuthDateTime	Transaction Approval Date & Time (dd/mm/yyyy hh:mm:ss)	Number	20	Conditional
4	transStatus	Transaction status (S-Success, P-Pending for Approval, F-Failed, R-Rejected, X-Expired, E-Exception at UPI)	Alpha-Numeric	1	Mandatory
5	transMessage	Description of the transStatus	Alpha-Numeric	100	Mandatory
6	respCode	Transaction response code	Alpha-Numeric	5	Conditional
7	transApprNo	Transaction Approval No (as per payer bank)	Alpha-Numeric	4-12	Optional (if not received from NPCI)
8	payerVPA	VPA of Payer	Alpha-Numeric	255	Mandatory
9	payeeVPA	Merchant VPA	Alpha-Numeric	255	Mandatory
10	transRRN	Transaction RRN (12 digit customer ref no as	Number	12	Mandatory
11	transID	Transaction ID (Unique 35 digit NPCI Trnx ID)	Alpha-Numeric	35	Optional
12	meRefNo	Unique reference / serial no. sent by Merchant for each	Alpha-Numeric	6-30	Mandatory
13	pgMerchantID	Merchant ID as provided by HSBC post setup	Alpha-Numeric	16	Mandatory

14	payerAccNo	Account no of payer (for specific merchants only)	Conditional	Number	12-30
15	payerBankIFSC	Payer Bank IFSC (for specific merchants only)	Conditional	Number	11
16	addInfo1 to 10	10 additional fields for future use	Alpha-Numeric	0-50	Optional

Transaction Status Response:

```

{
  "apiResp":{
    "pgMerchantId ":" HSB00000000000001",
    "meRefNo":"2348923424",
    "meOrderNo":"2348923424",
    "transId":"HSB89DA3B8AC7A7454290D9D956D2C3D17E",
    "transRRN":"707520002012",
    "transAmount":"500.00",
    "transAuthDateTime":"2017-03-16 08:10:55 PM",
    "respCode":"00",
    "transApprNo":"451254",
    "transStatus":"S",
    "transMessage":"Payment Successful",
    "addInfo":{
      "addInfo1":"","
      "addInfo2":"","
      "addInfo3":"","
      "addInfo4":"","
      "addInfo5":"","
      "addInfo6":"","
      "addInfo7":"","
      "addInfo8":"","
      "addInfo9":"","
      "addInfo10":""
    }
  }
}

```

```

    },
    "payerVPA":"aditya@hsbc",
    "payeeVPA":"mymerchant"
    "payerAccNo":"",
    "payerBankIFSC":"",
  }
}

```

Refund API

This API supports Refund Payments against an original Collection through the UPI platform.

[Request Parameters](#)

SN	Field Name	Field Description	Alphanumeric (AN) Numeric (N)	Field Length (min-max)	Mandatory / Optional / Conditional
1	pgMerchantID	Merchant ID (as provided by HSBC post setup)	Alpha-Numeric	16	Mandatory
2	newMeOrderNo	New Unique Transaction no. sent by merchant per txn (Order Number)	Alpha-Numeric	6-30	Mandatory
3	orgTransId	Original Transaction ID (Unique 35 digit NPCI Trnx ID)	Alpha-Numeric	35	Conditional
4	orgTransRRN	Original Transaction RRN (12 digit customer ref no as provided by NPCI)	Number	12	Conditional
5	transRemarks	Refund summary description (Remarks)	Alpha-Numeric	1-50	Optional
6	refundAmount (in 2 decimals)	Amount to be Refunded in rupees e.g. 10.00	Decimal	1-16	Mandatory [Validation]
7	orgMeOrderNo	Unique Transaction no of Original Transaction for which Refund is initiated	Alpha-Numeric	6-30	Conditional
8	addInfo1 to 10	Additional Field 1 to 10	Alpha-Numeric	0-50	Optional

Request Parameter

{

```

"pgMerchantId":"HSBB000000000747",
"newMeOrderNo":"2309482",
"orgMeOrderNo ":"1298371",
"orgTransId":"","
"orgTransRRN":"345345698922",
"transRemarks":"refund for payment",
"refundAmount":"100.00",
"addInfo1":"","
"addInfo2":"","
"addInfo3":"","
"addInfo4":"","
"addInfo5":"","
"addInfo6":"","
"addInfo7":"","
"addInfo8":"","
"addInfo9":"","
"addInfo10":""
}

```

Response Parameters

SN	Field Name	Field Description	Alpha (A) Alphanumeric (AN) Numeric (N)	Field Length (min-max)	Mandatory / Optional/ Conditional
----	------------	-------------------	---	---------------------------	---

1	pgMerchantID	Merchant ID (as provided by HSBC post setup)	Alpha-Numeric	18	Optional
2	orgTransID	Original Transaction ID (Unique 35 digit NPCI Trnx ID)	Alpha-Numeric	35	Conditional
3	orgTransRRN	Original Transaction RRN (12 digit customer ref no as provided by NPCI)	Number	12	Conditional
4	newMeOrderNo	Unique Transaction no sent by merchant per txn (Order Number)	Alpha-Numeric	6-30	Mandatory
5	newTransID	New Transaction ID (Unique 35 digit NPCI Trnx ID)	Alpha-Numeric	35	Conditional
6	newTransRRN	New Transaction RRN (12 digit customer ref no as provided by NPCI)	Alpha-Numeric	12	Conditional
7	refundAmount	Transaction Amount (in 2 decimals)	Decimal	1-16	Mandatory
8	transAuthDateTime	Transaction Approval Date & Time (dd/mm/yyyy hh:mm:ss)	Number	20	Mandatory
9	respCode	Transaction response code as per NPCI	Alpha-Numeric	5	Mandatory
10	transApprNo	Transaction Approval No (as per payer bank)	Alpha-Numeric	4-12	Optional (if not received from NPCI)

11	payerVPA	VPA of Payer	Alpha-Numeric	255	Optional
12	refundStatus	Transaction status (S=Success, F=Failure, E: Exception at UPI)	Alpha-Numeric	15	Mandatory
13	refundMessage	Refund Status description	Alpha-Numeric	100	Mandatory
14	orgMeOrderNo	Unique Transaction reference no sent by merchant per txn (Order Number)	Alpha-Numeric	6-30	Conditional
15	addInfo1 to 10	10 additional fields for future use	Alpha-Numeric	0-50	Optional

Response Parameter

```
{
  "newMeOrderNo":"349899",
  "orgMeOrderNo":"56756",
  "pgMerchantId":"HSBB00000000747",
  "orgTransId": "",
  "orgTransRRN":"7457845441767",
  "newTransId": "",
  "newTransRRN":"745837634056",
  "refundAmount":"100.00",
```

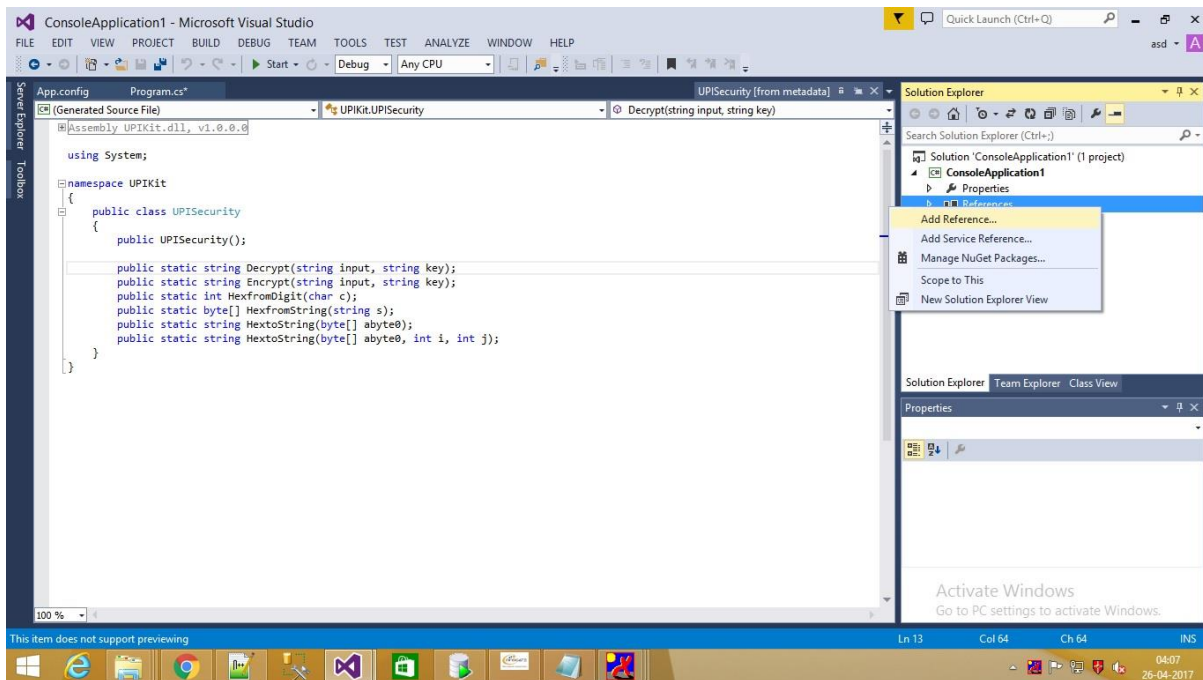
```

"transAuthDateTime":"15/06/2017 15:30:00",
"respCode":"00",
"transApprNo": "",
"payerVPA": "aditya@icici",
"refundStatus": "S",
"refundMessage": "Success",
"addInfo1": "",
"addInfo2": "",
"addInfo3": "",
"addInfo4": "",
"addInfo5": "",
"addInfo6": "",
"addInfo7": "",
"addInfo8": "",
"addInfo9": "",
"addInfo10": ""
}

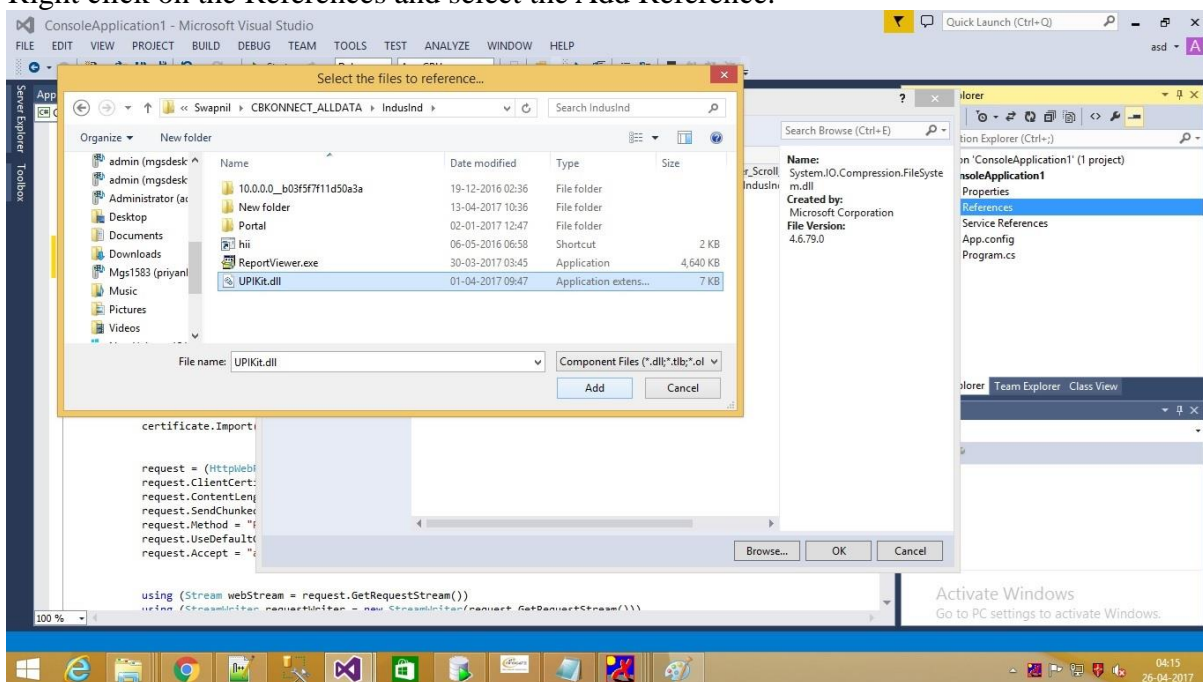
```

How to use Toolkit .dll for dot net and .jar for java?

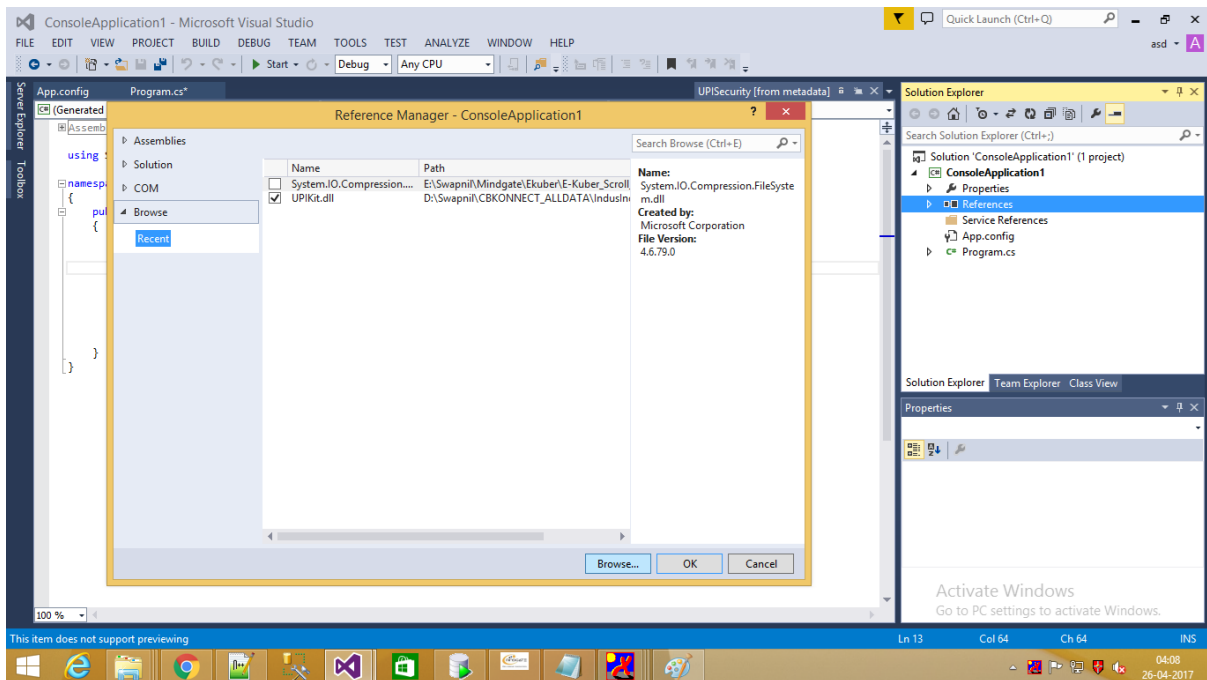
How to add reference in upikit.dll.net



Right click on the References and select the Add Reference.



Browse the UPIKit.dll through file explorer and click on the add button. It will added in the references.



Select UPIKit.dll and click on Ok button. Once user click on the OK button dll will be added in the references.

Code to consume the dll

Code For .Net

C# Code For Encrypt/Decrypt Using UPIKit.dll

```

string strParam="Data To Encrypt"; // Data To Encrypt
string EncKey="gdfjhdhf"; //Encryption Key
string EncData= UPISecurity.Encrypt(strParam, EncKey); // UPISecurity.Encrypt()
method call to Encrypt Data

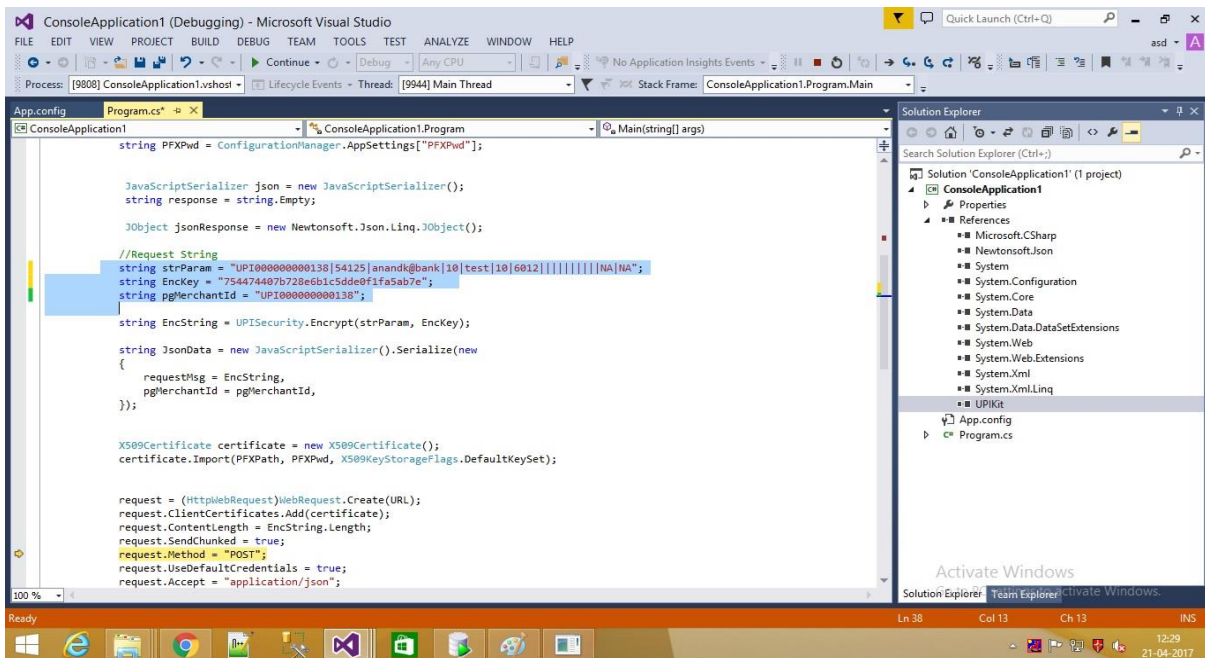
string EncrypData="gdhsgchusfhsfc"; //Encrypted Data

string DecData = UPISecurity.Decrypt(EncrypData, EncKey); //
UPISecurity.Decrypt() method call to Encrypt Data

//Request String
string strParam =
{"pgMerchantID":"HSBC000000000695","newMeOrderNo":"1506058531143958","o
rgTransID":"","orgTransRRN":"726513237727","transRemarks":"22septrefund1","
refundAmount":"1.35","orgMeOrderNo":"450207","addInfo1":"","addInfo2":"","a
ddInfo3":"","addInfo4":"","addInfo5":"","addInfo6":"","addInfo7":"","addInfo8"
:"","addInfo9":"","addInfo10":""};

string EncKey = "754474407b728e6b1c5dde0f1fa5ab7e";

string pgMerchantId = " HSBC000000000695";
    
```



Code to consume the jar

Code for Java

Code For JAVA

//To create object:

UPISecurity security = new UPISecurity();

//To encrypt data

UPISecurity security = new UPISecurity();

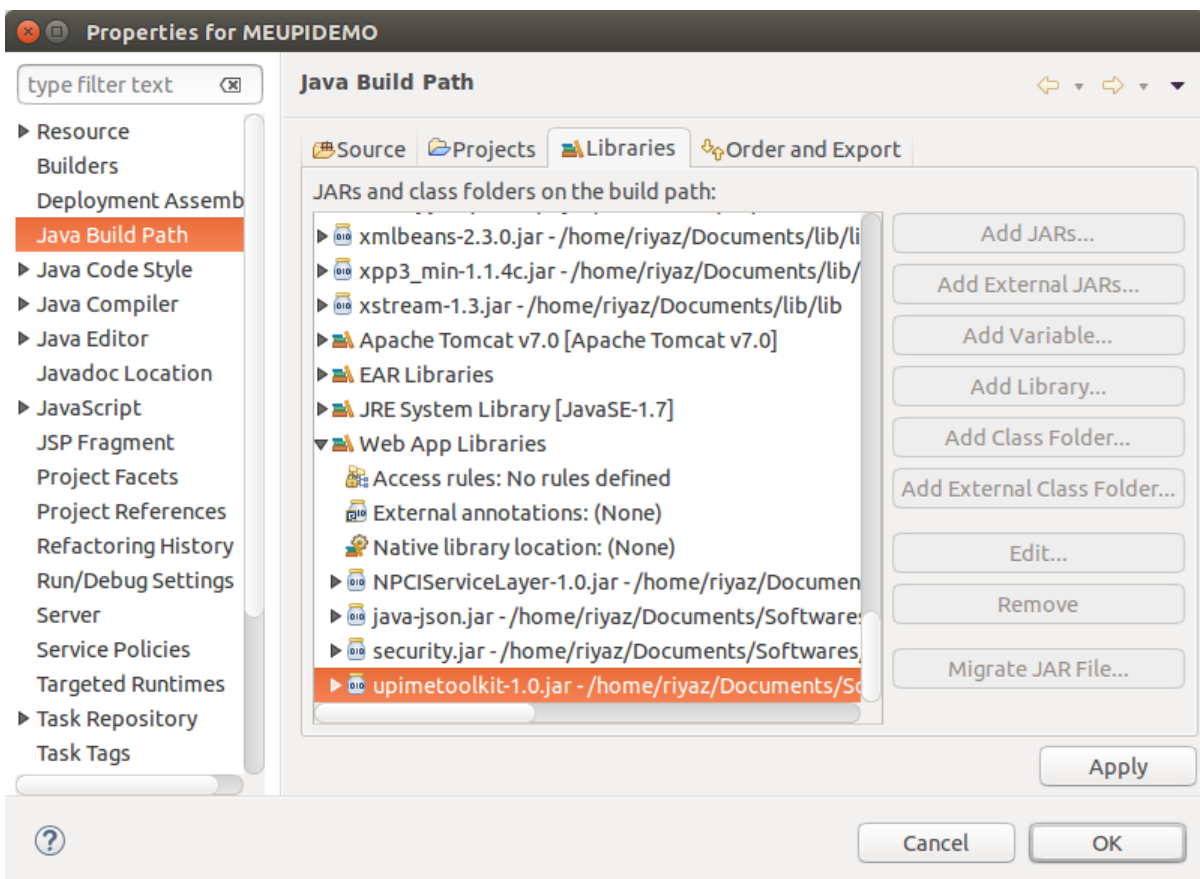
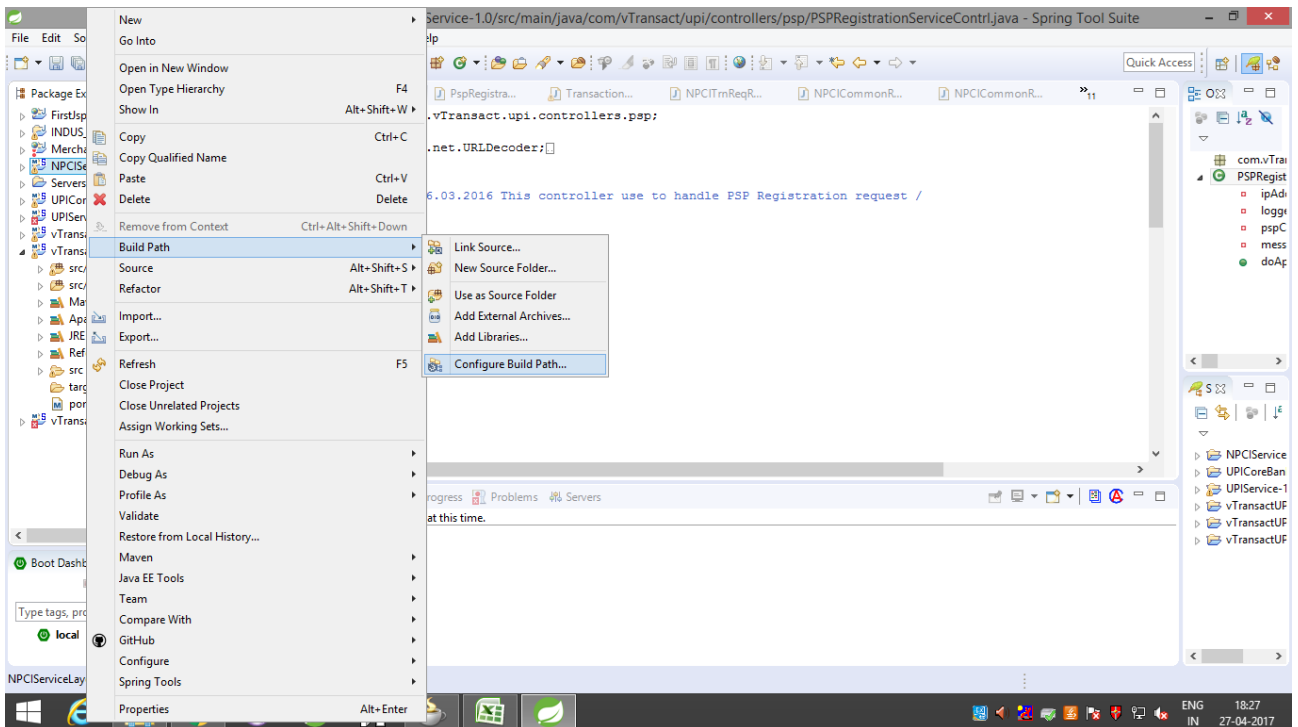
**String encryptedData = UPISecurity.encrypt("message which needs to be encrypted",
"encryption key")**

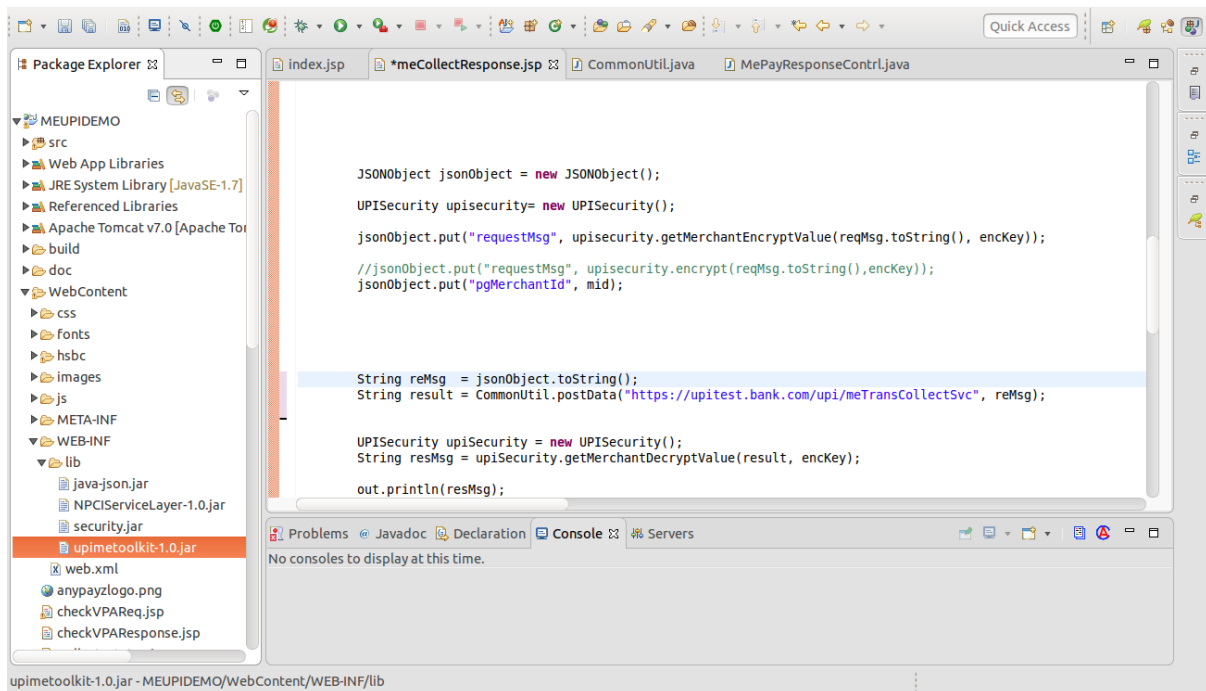
//To decrypt data

UPISecurity security = new UPISecurity();

**String decryptedData = UPISecurity.decrypt("message which needs to be decrypted",
"encryption key")**

How to consume the jar file?





Sample Encryption and Decryption Code

This merchant key will be shared by the bank and the merchant has to use the key to encrypt/decrypt the message.

Steps to generate request message:

1. Merchant builds the request message (in pipe separated) and encrypts it with merchant key.
2. Merchant passes the encrypted message in request message parameter in below Json format (requestMsg) and PG merchant Id

Json format:

```

{"requestMsg":"1AD4F41171F0EA0C24A91CA5FA5807CD8704BAF9BA2DBBBF
681F221240E92CF1A2DA364516E964C2221C54AF2E703BF06131916DB00CA03
2FD74B15F902995F07EF7B1FDDDD6DADBEA205846926D7DAFBB6996821DAA
F01122932F255CC70DB4B8FEBFCD188F7316B7997A4B3695BB45C041228D45
8BFE7AF6014168A93278BB3","pgMerchantId":"UPI000000000001"}

```

3. Merchant calls the URL i.e. <https://upitest.HSBCbank.com/upi/api/v2/meCollect>
[URL to be changed as per UAT Server]
4. Merchant gets the response in encrypted format.

```
UPISecurity security = new UPISecurity();

-----Encrypt-----

String json =
{"pgMerchantID":"HSBC000000000695","newMeOrderNo":"1506058531143958","o
rgTransID":"","orgTransRRN":"726513237727","transRemarks":"22septrefund1","
refundAmount":"1.35","orgMeOrderNo":"450207","addInfo1":"","addInfo2":"","
addInfo3":"","addInfo4":"","addInfo5":"","addInfo6":"","addInfo7":"","addInfo
8":"","addInfo9":"","addInfo10":""};

String encMsg = security.encrypt(json);

-----Decrypt-----

String resMsg =
security.decrypt('1AD4F41171F0EA0C24A91CA5FA5807CD8704BAF9BA2DBBBF68
1F221240E92CF1A2DA364516E964C2221C54AF2E703BF06131916DB00CA032FD74
B15F902995F07EF7B1FDDD6DADBEA205846926D7DAFBB6996821DAAF01122932F
255CC70DB4B8FEBFCD188F7316B7997A4B3695BB45C041228D458BFE7AF6014168
A93278BB3', "easd343dsdsdsdsde3243dffideerfff");
```

Sample Request Message in plain format :

```
{ "pgMerchantID":"HSBC000000000695", "newMeOrderNo":"1506058531143958", "
orgTransID":"","orgTransRRN":"726513237727", "transRemarks":"22septrefund1", "r
efundAmount":"1.35", "orgMeOrderNo":"450207", "addInfo1":"","addInfo2":"","addI
nfo3":"","addInfo4":"","addInfo5":"","addInfo6":"","addInfo7":"","addInfo8":"","add
Info9":"","addInfo10":"" }
```

Sample Request Message in encrypted format :

```
{ "requestMsg":"20373AF2A59E7298863BCC542B743BDCCEBBBCCB67D5D93B
07BA21D7DC9BE303AD9B7E8CF8626DD4EF5E8749FA4F4A89380B7915A4697
34D1B2B4274FB1304FAF565DB91B696C942B308EF19D7B8E9EB54FA38B6CD
AB7A708FEA25759B8B7D8B471C141BE6BB7B950B23AFCE1210DF071250D4
A898570EE85C", "pgMerchantId":"HSBC000000000695" }
```

Sample Response Message in plain format :

```
{ "pgMerchantID":"HSBC000000000695", "orgTransId":"HSB59C1346D0B6365F0E
053142433824CD3", "orgTransRRN":"726513237727", "newMeOrderNo":"15060585
31143958", "orgMeOrderNo":"450207", "newTransId":"HSB59C13ADDB1D869EDE
053142433820DDB", "newTransRRN":"726513237733", "refundAmount":"1.35", "tra
nsAuthDateTime":"22/09/2017
11:08:16", "respCode":"00", "transApprNo":"000363", "payerVPA":"dsnb111111111
@hsbc", "refundStatus":"S", "refundMessage":"Transaction
success", "addInfo1":"NA", "addInfo2":"NA", "addInfo3":"NA", "addInfo4":"NA", "add
```

Info5":"NA","addInfo6":"NA","addInfo7":"NA","addInfo8":"NA","addInfo9":"NA",
"addInfo10":"NA"}

Sample Request Message in encrypted format :

```
{ "response": "20373AF2A59E7298863BCC542B743BDCCEBBBCCB67D5D93B07
BA21D7DC9BE303AD9B7E8CF8626DD4EF5E8749FA4F4A89380B7915A469734
D1B2B4274FB1304FAF565DB91B696C942B308EF19D7B8E9EB54FA38B6CDA
B7A708FEA25759B8B7D8B471C141BE6BB7B950B23AFCE1210DF071250D4A8
98570EE85C", "pgMerchantId": "HSBC000000000695" }
```

Pre-Requisite for using WEB APIs

- Use Merchant Integration Kit for using Web APIs. Kit would help Merchant to Encrypt, Decrypt and Verify all the messages exchanged with HSBC.
- Merchants should procure below Digital Certificate:

Digital SSL Certificate (Format: Class3 System cert - RSA 2048). This is required to receive response from HSBC over HTTPS
- Certificate exchange for Authentication
 - Merchant to generate and share Client Signing Request (CSR) form with HSBC
 - HSBC Bank would share below Digital Certificate with Merchant (cer file)
 - Merchant to import the cer file in their key store (jks)
 - No Merchant certificate is required to be shared with HSBC

<<<Refer **Appendix A** for more details>>>

- Data encryption – A symmetric key based encryption/decryption will be implemented for data exchange. Key will be provided by HSBC to Merchant.

- Merchant should provide the Response API URL and static ip with HSBC to receive the Final Transaction status from Bank. HSBC to whitelist this URL/IP at its end.
- HSBC will provide request API URL to merchant to send transaction and query request to HSBC along with port details. Merchant to whitelist these at its end.

<<<Refer **Appendix B** for more details>>>

Encryption Toolkit - JAVA

Encryption Toolkit – Dot Net



UPI_Merchant_Tool
_Kit_DotNet.zip1

Rename .zip1 to .zip

Encryption Toolkit – PHP



UPI_Merchant_Tool
_Kit_PHP.zip1

Rename .zip1 to .zip

Sample Code for making HTTP request for Web API



CommonUtil.java

Appendix A

The process explained below is for a customer application running on Java and has a web or app server which would call our API. Similar approaches can be followed for different technologies and platforms and there are tools available by certificate authorities in internet to generate CSR's for different platforms and technologies. The file names of jks, csr and cer given below are examples and can be changed by the customer.

1. Generate Private Key

```
keytool -genkey -keyalg RSA -keysize 2048 -sigalg SHA256withRSA -
validity 365 -keystore 2_WAY_SSL_Cert.jks
```

This will create a .jks file (2_WAY_SSL_Cert.jks in the above example). This is the key store file. If there is an existing key store file with the customer, they can use that key store file to create a CSR. There is a password required to be entered to generate csr from the key store file. The following questions will be asked when the above command is run.

Information required for CSR generation

What is your first and last name?

[Unknown]: <domain name requesting eg : quickpay.com>

What is the name of your organizational unit?

[Unknown]: <Organisation unit name. eg: - QuickPay>

What is the name of your organization?

[Unknown]: <Organisation name. eg: -Quick Pay Pvt Ltd>

What is the name of your City or Locality?

[Unknown]: <City name eg:- Mumbai>

What is the name of your State or Province?

[Unknown]: <State Name eg:- Maharashtra>

What is the two-letter country code for this unit?

[Unknown]: <Country code eg:- IN>

Is CN=quickpay.com, OU=QuickPay, O=Quick Pay Pvt Ltd, L=Mumbai, ST=Maharashtra,

C=IN correct?

[no]: yes

2. Generate CSR for CA Authorized public certificate

```
keytool -keystore 2_WAY_SSL_Cert.jks -certreq -alias mykey -file
2_WAY_SSL_CSR.csr
```

The above command need to run to generate the .csr file. This will be generated in the location where the command is run. This csr file needs to be given to HSBC who would provide the .cer file.

3. Import certificate back into the Private Key, when CA Provides Signed / Authorized Public Certificate (for eg. CA_Public.cer).

```
Import ROOT CA cert
keytool -import -alias rooatca -trustcacerts -file ROOTCA_Public.cer -
keystore 2_WAY_SSL_Cert.jks

Import INTERMDIATE CA Cert
keytool -import -alias intermca -trustcacerts -file INTERCA_Public.cer -
keystore 2_WAY_SSL_Cert.jks

Import HSBC Issued Cert
keytool -import -alias mykey -trustcacerts -file HSBC_Public.cer -keystore
2_WAY_SSL_Cert.jks
```

The .cer file generated by HSBC would need to be imported onto the key store (.jks) file with the above command. This key store would be installed on the web or application servers location and configured with in the API calling webserver or application server. **Please be advised that the certificates and keys needs to be stored securely at your end. The access to the key and certificate needs to be restricted to authorised individuals only.**

Certificate consumption / import process through IIS

Steps (attached Doc):



Certificate-setup_for_Windows_platform

Appendix B

UAT links

API Name	Generic API URLs
Collect Request	https://upiapi-uat.hsbc.co.in/upi/api/v2/meCollect
Transaction Query	https://upiapi-uat.hsbc.co.in/upi/api/v2/meTransQuery
Refund Request	https://upiapi-uat.hsbc.co.in/upi/api/v2/meRefund
Validate VPA	https://upiapi-uat.hsbc.co.in/upi/api/v2/meValidateVPA

Port : 443

Public IP: 203.171.209.162 [for sending request to HSBC Web Server]

Public IP: 203.171.209.5/6/7 , 203.171.222.5/6/7 [for receiving final response from HSBC

Proxy Server] - Call back through India

Public IP : 203.112.89.143 [for receiving final response from HSBC Proxy servers] – Call back through HK

Production Links

API Name	Generic API URLs
Collect Request	https://upi-api.hsbc.co.in/upi/api/v2/meCollect
Transaction Query	https://upi-api.hsbc.co.in/upi/api/v2/meTransQuery
Refund Request	https://upi-api.hsbc.co.in/upi/api/v2/meRefund
Validate VPA	https://upi-api.hsbc.co.in/upi/api/v2/meValidateVPA

Port : 443

Public IP : 203.171.209.130 , 203.171.222.130 [for sending request to HSBC on PROD and DR Web servers respectively]

Public IP : 203.171.209.5/6/7 , 203.171.222.5/6/7 [for receiving final response from HSBC Proxy servers] - Call back through India

Public IP : 203.112.80.0/20 (i.e. 203.112.80.1 - 203.112.95.254) and 27.110.72.0/21 (i.e. 27.110.72.1 - 27.110.79.254) [for receiving final response from HSBC Proxy servers] – Call back through HK