



# **UBL COLLECTION – API INTEGRATION MANUAL**

**VERSION: 1.6**

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**UNITED BANK LIMITED**

## CONTENTS

<b>1. INTRODUCTION .....</b>	<b>3</b>
1.1 OVERVIEW .....	3
1.2 OBJECTIVE .....	3
1.3 DEFINITION OF TERMS .....	3
1.4 WEB SERVICE DESCRIPTION .....	4
<b>2. SECURITY.....</b>	<b>5</b>
MORE THAN JUST ENABLING COMMUNICATION BETWEEN UBL AND NON UBL SYSTEM, SECURITY IS ALSO A PRIMARY CONCERN FOR THE WEB SERVICE. ....	
THE FOLLOWING SECURITY MEASURES CAN BE MADE IN-EFFECT: .....	
<b>3. SERVICES .....</b>	<b>6</b>
3.1 BILL / FEE CHALLAN INQUIRY .....	6
3.1.1 Service URL.....	6
3.1.2 billInquiryRequest.....	6
3.1.2.1 Service Header.....	6
3.1.2.2 TransactionInfo.....	6
3.1.2.3 billInquiryRequest .....	7
3.1.3 Sample Request.....	7
3.1.4 billInquiryResponse .....	8
3.1.4.1 Service Header.....	8
3.1.4.2 TransactionInfo.....	8
3.1.4.3 billInquiryResponse.....	9
3.1.5 Sample Response .....	10
3.2 BILL / FEE CHALLAN PAYMENT .....	12
3.2.1 billMarkingRequest.....	12
3.2.1.1 Service Header.....	12
3.2.1.2 TransactionInfo.....	12
3.2.1.3 billMarkingRequest .....	13
3.2.2 Sample Request.....	13
3.2.3 billMarkingResponse .....	14
3.2.3.1 Service Header.....	14
3.2.3.2 TransactionInfo.....	14
3.2.3.3 billMarkingResponse.....	15
3.2.4 Sample Response .....	15
3.3 BILL / FEE CHALLAN STATUS.....	16
3.3.1 <a href="https://10.224.110.205:7857/billpayment/v1/status">https://10.224.110.205:7857/billpayment/v1/status</a> .....	16
3.3.2 StatusRequest.....	16
3.3.2.1 Service Header.....	16
3.3.2.2 TransactionInfo.....	16
3.3.2.3 transactionDetail.....	17
3.3.3 Sample Request.....	17
3.3.4 StatusResponse .....	17
3.3.4.1 Service Header.....	17
3.3.4.2 TransactionInfo.....	18
3.3.5 Sample Response .....	18
3.4 ANNEXURE.....	20

## 1. INTRODUCTION

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### 1.1 Overview

UBL have Cash Management collection arrangement with various educational institutions for collection of their fee bills from student/parents through UBL branch network and Digital Banking.

Currently, these Customers are providing periodic student fee/billing data either via SFTP integration or via emails, based on provided data, fee is accepted on UBL branch counter after validation with provided data, and the user of Digital Banking are allowed to pay the fee based on the provided information received from Customer.

UBL Collection API is an interface (XML Web Services) developed for UBL Corporate Clients to integrate them to fetch the PV detail from client end and pay via Branch teller or Digital Banking in a real time.

This document describes the technical details to integrate UBL Web Services with PV detail and payment acknowledgement in systems running at client end.

### 1.2 Objective

UBL Collection API to be consumed by Client to integrate the collections mechanism by which data will directly be called from customer's ERP system on real-time basis whenever depositor approaches the UBL branch counter for payment or login Digital App where user wishes to pay the already added fee challan upon receipt of physical challan from Customer.

Upon successfully processing of payment through respective channels, UBL system will update the payment status of respective student in Customer's ERP on real-time basis

### 1.3 Definition of Terms

#### UBLWS

This is the acronym for UNITED BANK LIMITED Web Service.

#### Interface

This refers to a programmatic online interface. In this case, the UBL interface is a Web Service for Corporate Clients who want to process/send transactions in an online and real time manner.

## 1.4 Web Service Description

The Web Service descriptor for Test can be accessed at

**URL:**

<https://10.224.110.205:7857/billpayment/v1/inquiry>  
<https://10.224.110.205:7857/billpayment/v1/marking>  
<https://10.224.110.205:7857/billpayment/v1/markingBulk>  
<https://10.224.110.205:7857/billpayment/v1/status>

## 2. SECURITY

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More than just enabling communication between UBL and Non UBL System, Security is also a primary concern for the Web Service.

The following security measures can be made in-effect:

### **SSL**

Secure Socket Layer Connection is a requirement. Invocation of the web service fails if transmission is done outside SSL.

### **Username/ Password / Authentication Code**

Each tie-up will be assigned a username and a password to make calls to the UBLWS. Each call to the functions offered by the web service requires the username, password and Authentication code as parameters. This will ensure that although the web service is public, only the authenticated users can invoke it.

### 3. SERVICES

#### 3.1 Bill / Fee Challan Inquiry

This service will integrate with Client ERP to fetch the Fee Challan details against the given PV number / Customer number.

##### 3.1.1 Service URL

<https://10.224.110.205:7857/billpayment/v1/inquiry>

##### 3.1.2 billInquiryRequest

Attribute	Type	Cardinality	Description
serviceHeader	Complex: ServiceHeader	1	
transactionInfo	Complex: Transaction	1	
billInquiryRequest	Complex	1	

##### 3.1.2.1 Service Header

Attribute	Type	Cardinality	Description
Channel	string	1	
processingType	string	1	
authInfo	Complex: AuthenticationInfo	1	
authenticationtype	string	1	
username	string	1	
password	string	1	
authkey	string	0 - 1	

##### 3.1.2.2 TransactionInfo

Attribute	Type	Cardinality	Description
transactionType	string	1	
transactionSubType	string	1	
referenceId	string	1	
transactionDate	datetime	1	

transactionTime	datetime	1	
stan	string	1	
transmissionDateTime	TimeStamp	1	

### 3.1.2.3 billInquiryRequest

Attribute	Type	Cardinality	Description
billDetails	Complex	1	
consumerNumber	string	1	
companyCode	string	1	
expiryDays	integer	1	

### 3.1.3 Sample Request

```
{
  "serviceHeader": {
    "channel": "SOA",
    "processingType": "SYNCHRONOUS",
    "authInfo": {
      "username": "SOA",
      "password": "SOA123",
      "authenticationType": "type1",
      "authKey": "1234"
    }
  },
  "transactionInfo": {
    "transactionType": "BILL_PAYMENT",
    "transactionSubType": "INQUIRY",
    "referenceId": "${=java.util.UUID.randomUUID()}",
    "transactionDate": "2018-03-05",
    "transactionTime": "00:00:00",
    "stan": "123456",
    "transmissionDateTime": "2018-03-05T11:10:10"
  },
  "billInquiryRequest": {
```

```

    "billDetails":{
      "consumerNumber": "0402101060021",
      "companyCode": "KE",
      "expiryDays": 1
    }
  }
}

```

### 3.1.4 billInquiryResponse

Attribute	Type	Cardinality	Descriptionz
serviceHeader	Complex: ServiceHeader	1	
transactionInfo	Complex: Transaction	1	
responseHeader	Complex: ResponseHeader	1	
responseCode	string	1	
responseDetails	string	1	
billInquiryResponse	Complex	1	

#### 3.1.4.1 Service Header

Attribute	Type	Cardinality	Description
Channel	string	1	
processingType	string	1	
authInfo	Complex: AuthenticationInfo	1	
authenticationtype	string	1	
username	string	1	
password	string	1	
authkey	string	0 - 1	

#### 3.1.4.2 TransactionInfo

Attribute	Type	Cardinality	Description
transactionType	string	1	



transactionSubType	string	1	
referenceId	string	1	
transactionDate	datetime	1	
transactionTime	datetime	1	
stan	string	1	
transmissionDateTime	TimeStamp	1	

### 3.1.4.3 billInquiryResponse

Attribute	Type	Cardinality	Description
billInfo	Complex	1	
companyCode	string	0 - 1	
companyName	string	0 - 1	
companyCategory	string	0 - 1	
companySubcategory	string	0 - 1	
partialPaymentAllowed	boolean	1	
serviceProvider	integer	0 - 1	
companyCollectionAccount	string	0 - 1	
billId	integer	1	
consumerNo	string	0 - 1	
consumerName	string	0 - 1	
dueDate	string	1	
actualAmount	decimal	1	
payableAmount	decimal	1	
lateSurcharge	decimal	1	
billingMonth	string	1	
issueDate	string	1	
arrears	decimal	1	
previousUnits	decimal	1	
currentUnits	decimal	1	
receivedDate	string	1	
billStatus	string	1	
providerId	integer	1	

inquiryId	integer	1	
collectionBranchCode	string	0 - 1	
collectionAccountType	string	0 - 1	
omniAccountId	integer	1	
nativeErrorCode	string	0 - 1	
collectionAccountCurrency	string	0 - 1	
sequenceNumber	integer	1	
remainingAmount	decimal	1	
mobileNumber	string	0 - 1	
cnic	string	0 - 1	
spouseName	string	0 - 1	
fatherName	string	0 - 1	
branchName	string	0 - 1	

### 3.1.5 Sample Response

```
{
  "serviceHeader": {
    "channel": "SOA",
    "processingType": "SYNCHRONOUS",
    "authInfo": {
      "username": "SOA",
      "password": "SOA123",
      "authenticationType": "type1",
      "authKey": "1234"
    }
  },
  "transactionInfo": {
    "transactionType": "BILL_PAYMENT",
    "transactionSubType": "INQUIRY",
    "referenceId": "8fd5b684-8785-4aec-9e76-887f0ffea886",
    "transactionDate": "2018-03-05",
    "transactionTime": "00:00:00",
    "stan": "123456",
    "transmissionDateTime": "2018-03-05T11:10:10"
  }
}
```

```

},
"responseHeader": {
  "responseCode": "00",
  "responseDetails": ["SUCCESS"]
},
"billInquiryResponse": {"billInfo": {
  "companyCode": "KESC",
  "companyName": "KE",
  "companyCategory": "BillBased",
  "companySubcategory": "Utility",
  "partialPaymentAllowed": false,
  "serviceProvider": 1,
  "companyCollectionAccount": "12345",
  "billId": 1086805014,
  "consumerNo": "0402101060021",
  "consumerName": "MSTT ASGHARI BEGUM",
  "dueDate": "2019-06-21 00:00:00",
  "actualAmount": 600,
  "payableAmount": 600,
  "lateSurcharge": 10,
  "billingMonth": "2019-05-07 00:00:00",
  "issueDate": "0001-01-01 00:00:00",
  "arrear": 0,
  "previousUnits": 0,
  "currentUnits": 0,
  "receivedDate": "2018-09-05 20:52:59",
  "billStatus": "Unpaid",
  "providerId": 1,
  "inquiryId": 24942479,
  "collectionBranchCode": "0000",
  "collectionAccountType": "20",
  "omniAccountId": 282994,
  "sequenceNumber": 0,
  "remainingAmount": 0
}}
}

```

## 3.2 Bill / Fee Challan Payment

### Service URL

[https://soa.ubl.com.pk:7845/UBL\\_HRC\\_API/BalanceInquiry/BalanceInquiry.asmx?wsdl](https://soa.ubl.com.pk:7845/UBL_HRC_API/BalanceInquiry/BalanceInquiry.asmx?wsdl)

### 3.2.1 billMarkingRequest

Attribute	Type	Cardinality	Description
serviceHeader	Complex: ServiceHeader	1	
transactionInfo	Complex: Transaction	1	
billMarkingRequest	Complex	1	

#### 3.2.1.1 Service Header

Attribute	Type	Cardinality	Description
Channel	string	1	
processingType	string	1	
authInfo	Complex: AuthenticationInfo	1	
authenticationtype	string	1	
username	string	1	
password	string	1	
authkey	string	0 - 1	

#### 3.2.1.2 TransactionInfo

Attribute	Type	Cardinality	Description
transactionType	string	1	
transactionSubType	string	1	
referenceId	string	1	
transactionDate	datetime	1	
transactionTime	datetime	1	
Stan	string	1	
transmissionDateTime	TimeStamp	1	

### 3.2.1.3 billMarkingRequest

Attribute	Type	Cardinality	Description
inquiryId	integer	1	
billAmount	decimal	1	
fromAcctBrCode	string	1	
fromAcctNo	string	1	

### 3.2.2 Sample Request

```
{
  "serviceHeader": {
    "channel": "SOA",
    "processingType": "SYNCHRONOUS",
    "authInfo": {
      "username": "SOA",
      "password": "SOA123",
      "authenticationType": "type1",
      "authKey": "1234"
    }
  },
  "transactionInfo": {
    "transactionType": "BILL_PAYMENT",
    "transactionSubType": "MARKING",
    "referenceId": "9d05a1b9-66bd-4662-8f2a-4ec9ce1c42c4",
    "transactionDate": "2018-03-05",
    "transactionTime": "00:00:00",
    "stan": "123456",
    "transmissionDateTime": "2018-03-05T11:10:10"
  },
  "billMarkingRequest": {
    "inquiryId": 24942845,
    "billAmount": 600,
    "fromAcctBrCode": "0605",
    "fromAcctNo": "224738392"
  }
}
```

}

### 3.2.3 billMarkingResponse

Attribute	Type	Cardinality	Description
serviceHeader	Complex: ServiceHeader	1	
transactionInfo	Complex: Transaction	1	
responseHeader	Complex: ResponseHeader	1	
responseCode	string	1	
responseDetails	string	1	
billMarkingResponse	Complex	1	

#### 3.2.3.1 Service Header

Attribute	Type	Cardinality	Description
Channel	string	1	
processingType	string	1	
authInfo	Complex: AuthenticationInfo	1	
authenticationtype	string	1	
username	string	1	
password	string	1	
authkey	string	0 - 1	

#### 3.2.3.2 TransactionInfo

Attribute	Type	Cardinality	Description
transactionType	string	1	
transactionSubType	string	1	
referenceId	string	1	
transactionDate	datetime	1	
transactionTime	datetime	1	
Stan	string	1	
transmissionDateTime	TimeStamp	1	

### 3.2.3.3 billMarkingResponse

Attribute	Type	Cardinality	Description
remainingBalance	decimal	1	

### 3.2.4 Sample Response

```
{
  "serviceHeader": {
    "channel": "SOA",
    "processingType": "SYNCHRONOUS",
    "authInfo": {
      "username": "SOA",
      "password": "SOA123",
      "authenticationType": "type1",
      "authKey": "1234"
    }
  },
  "transactionInfo": {
    "transactionType": "BILL_PAYMENT",
    "transactionSubType": "MARKING",
    "referenceId": "9d05a1b9-66bd-4662-8f2a-4ec9ce1c42c4",
    "transactionDate": "2018-03-05",
    "transactionTime": "00:00:00",
    "stan": "123456",
    "transmissionDateTime": "2018-03-05T11:10:10"
  },
  "responseHeader": {
    "responseCode": "00",
    "responseDetails": ["SUCCESS"]
  },
  "billMarkingResponse": { "remainingBalance": 0 }
}
```

**In case of timeout, UBL service will be invoked and it will on recurring updating till system gets update by UBL API. System will try after every 15 minutes for 4 days, then it should be stopped updating, and these transactions will be settled down manually.**

### 3.3 Bill / Fee Challan Status

This service will get the current status of Fee Challan

Service URL

3.3.1 <https://10.224.110.205:7857/billpayment/v1/status>

#### 3.3.2 StatusRequest

Attribute	Type	Cardinality	Description
serviceHeader	Complex: ServiceHeader	1	
transactionInfo	Complex: Transaction	1	
transactionDetail	Complex	1	

##### 3.3.2.1 Service Header

Attribute	Type	Cardinality	Description
Channel	string	1	
processingType	string	1	
authInfo	Complex: AuthenticationInfo	1	
authenticationtype	string	1	
username	string	1	
password	string	1	
authkey	string	1	

##### 3.3.2.2 TransactionInfo

Attribute	Type	Cardinality	Description
transactionType	String	1	
transactionSubType	String	1	
referenceId	String	1	
transactionDate	Datetime	1	
transactionTime	Datetime	1	
stan	String	1	
transmissionDateTime	TimeStamp	1	



### 3.3.2.3 transactionDetail

Attribute	Type	Cardinality	Description
isGroup	Boolean	1	Possible values true   false
transactions	Array	1	<pre> "transactions": [{     "referenceId":     "tstrun107",     "referenceId":     "tstrun108"   } ]</pre>
referenceId	string	1	

### 3.3.3 Sample Request

```

{
  "serviceHeader": {
    "channel": "SOA",
    "processingType": "SYNCHRONOUS",
    "authInfo": {
      "username": "ali",
      "password": "ali123",
      "authenticationType": "type1",
      "authKey": "1234"
    }
  },
  "transactionInfo": {
    "transactionType": "BILL_PAYMENT",
    "referenceId": "FT-12aa9",
    "transactionDate": "2018-03-05",
    "transactionTime": "00:00:00",
    "stan": "123456",
    "transmissionDateTime": "2018-03-05T11:10:10"
  },
  "transactionDetail": {
    "isGroup": false,
    "transactions": [
      {
        "referenceId": "tstrun107"
      }
    ]
  }
}
```

### 3.3.4 StatusResponse

Attribute	Type	Cardinality	Description
serviceHeader	Complex: ServiceHeader	1	
transactionInfo	Complex: Transaction	1	
responseHeader	Complex: ResponseHeader	1	
responseCode	string	1	
responseDetails	string	1	

#### 3.3.4.1 Service Header

Attribute	Type	Cardinality	Description
Channel	string	1	
processingType	string	1	

authInfo	Complex: AuthenticationInfo	1	
authenticationtype	string	1	
username	string	1	
password	string	1	
authkey	string	0 - 1	

### 3.3.4.2 TransactionInfo

Attribute	Type	Cardinality	Description
transactionType	string	1	
transactionSubType	string	1	
referenceId	string	1	
transactionDate	datetime	1	
transactionTime	datetime	1	
stan	string	1	
transmissionDateTime	TimeStamp	1	

### 3.3.5 Sample Response

```
{
  "serviceHeader": {
    "channel": "SOA",
    "processingType": "SYNCHRONOUS",
    "authInfo": {
      "username": "ali",
      "password": "ali123",
      "authenticationType": "type1",
      "authKey": "1234"
    }
  },
  "transactionInfo": {
    "transactionType": "BILL_PAYMENT",
    "transactionSubType": "UTILITY",
    "referenceId": "ed83b310-64c4-417c-a752-ffd2b0ea6723",
  }
}
```

```
"transactionDate": "2018-03-05",  
"transactionTime": "00:00:00",  
"stan": "123456",  
"transmissionDateTime": "2018-03-05T11:10:10"  
},  
"responseHeader": {  
  "responseCode": "00",  
  "responseDetails": ["SUCCESS"]  
},  
"processingStatus": "SUCCESS"  
}
```

### 3.4 Annexure

Error Code	DESCRIPTION
0	SUCCESS
1	EXCEPTION
2	INVALID_AMOUNT
3	AMOUNT_OUT_OF_RANGE
4	BILL_ALREADY_PAID
5	INCORRECT_CONSUMER_NO
6	CONSUMER_NO_NOT_EXISTS
7	INVALID_COMPANY
13	INVALID_USERNAME_OR_PASSWORD
14	INVALID_CHANNEL_SYSTEM
15	AUTHORIZATION_FAILED
20	INQUIRY_ID_NOT_FOUND
21	INQUIRY_ID_ALREADY_USED
61	DUPLICATE_TRANSACTION
65	INVALID_DATE