

## Payment Initiation Sandbox API - Unit Testing Results

### Payment API Details:

**POST** : Protocol://HostName:port/payment/v1.0.0/initiate-payment

For eg., **POST** : <http://localhost:8080/payment/v1.0.0/initiate-payment>

### Common Headers:

Below headers are used in all the Payment API requests.

No	Header Name	Header Value
1	Content-Type	application/json
2	X-Request-Id	29318e25-cebd-498c-888a-f77672f66449
3	Signature-Certificate	-----BEGIN CERTIFICATE-----MIIDwjCCAQoCCQDxVbCjIKynQjANBgkqhki G9w0BAQsFADCB0jELMAkGA1UEBhMCTkwxEDAOBgNVBAgM B1V0cmVjaHQxEDAOBgNVBAMCB1V0cmVjaHQxETAPBgNVBA oMCFJhYm9iYW5rMRMwEQYDVQQLDAPBc3Nlc3NtZW50MSIw IAYDVQQDDBITYW5kYm94LVRQUDpleGNlbGxlbmQgVFBQMSM wIQYJKoZIhvcNAQkBFhRuby1yZXBseUByYWJvYmFuay5ubDA eFw0yMDAxMzAxMzIyNDlaFw0yMTAxMjIxMzIyNDlaMIGIMQs wCQYDVQQGEwJOTDEQMA4GA1UECAwHVXRyZWNoDEQMA 4GA1UEBwwHVXRyZWNoDERMA8GA1UECgwIUmfib2Jhbms xEzARBgNVBASMCkFzc2Vzc21lbmQxIjAgBgNVBAMMGVNoYmR ib3gtVFBQOmV4Y2VsbGVudCBUUFAXIzAhBgkqhkiG9w0BCQE WFG5vLXJlcGx5QHJhYm9iYW5rLm5sMIIBIjANBgkqhkiG9w0B AQEFAAOCAQ8AMIIBCgKCAQEArLyoutQr1dvMT4qvek0eZsh 8g0DQQLIOgBzZwx7iInxYEAqMNxCKXiZCbmWHBYqh6lpPh+B BmrnBQzB+qrSNIyd4bFhfUIQ+htK08yyL9g4nyLt0LeKuxoaV WpInrB5FRzoEY5PPpcEXSOBgr+pM71AvyJtQLxZbqTao4S7TR KecUm32Wwg+FWY/StSKlox3QmEaxEGU7aPkaQfQs4hrtuUeP wKrbkQ2hQdMpvI5oXRWzTqafvEQvND+IyLvZRqf0TSvIwsgtJ d2tch2kqPoUwng3AmUFleJbMjFNzrWM7TH9LkKPItYtSuMTzeS e9o0SmXZFgcEBh5DnETZqIVuQIDAQABMA0GCSqGSIb3DQE BCwUAA4IBAQASFOkJKQuL7fSErH6y5Uwj9WmmQLFnit85tjb o20jsqseTuZqLdpwBObiHxnBz7o3M73PJAXdoXkwiMVykZrIUS Ey7+FsNZ4iFppoFapHDbfBgM2WMV7VS6NK17e0zXcTgySSRz Xsxw0yEQGaOU8RJ3Rry0HWO9M/JmYFrdBPP/3sWAt/+O4th5 Jyk8RajN3fHFCaOUz4rXxhUZkf/9u3Q038rRBvqaA+6c0uW58X qF/QyUxuTD4er9veCniUhwIX4XBsDNxIW/rwBRAXOUK64V+X qrBb75ICyea1o/9HIaq1iIKI4Day0piMOgwPEg1wF383yd0x8hR W4zxyHcER-----END CERTIFICATE-----
4	Signature	AlFr/WbYiekHmbB6XdEO/7ghKd0n6q/bapENAYsL86KoYHqa4 eP34xfH9icpQRmTpH0qOkt1vfUPWnaqu+vHBWx/gJXiuVlhayx LZD2w41q8ITkoj4oRLn2U1q8cLbjUtjzFWX9TgiQw1iY0ezpFqy DLPU7+ZzO01JI+yspn2gtto0XUm5KuxUPK24+xHD6R1UZSC

		SJKXY1QsKQfJ+gjzEjrtGvmASx1SUrpmyzVmf4qLwFB1ViRZmDZFtHIuuUVBBb835dCs2W+d7a+icGOCTGQbFcHvW0FODibnY5qq8v5w/P9i9PSarDaGgYb+1pMSnF3p8FsHAjk3Wccg2a1GQ==
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## **Validations**

### **1. White listed certificates validation**

**Case 1 :** When the request with valid Signature certificate

#### **Request :**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount":"1.00"}
```

#### **Response :**

**Headers :** X-Request-Id, Signature-Certificate, Signature

```
{"paymentId":"a384a0bc-01f6-4dd6-81d3-ec22a020a8ab","status":"ACCEPTED"}
```

**Case 2 :** When the request with invalid Non-TPP Signature certificate

Modify only the signature certificate header as below,

Signature-Certificate	<pre>-----BEGIN CERTIFICATE-----MIICwzCCAaugAwIBAgIESD5VVjANBgkqhkiG9w0 BAQsFADASMRawDgYDVQQDEwdOb24tVFBQMB4XDTIwMDgyNzE2 MDg1MVoxDTIxMDgyNzE2MDg1MVowEjEQMA4GA1UEAxMHTm9uL VRQUdCCASiWdQYJKoZIhvcNAQEBBQADggEPADCCAQoCggEBAPoV IT8ncK71yoduIyiHitcsQrsG/g4YK72wD/aNscQvR0bfhmI8tdmri3v4Y FwpmQwajgSbNI2ZZkMedbMRgPBN1QxTrjbGQDpLgE5oaiKsjNDIjP1 KvBe9XJCWeIiMJJTUzGpydyIvcTUV3dOpCud2MiKA3AokUrc5rmCbrs z+nOsrGNQfQBqcI9o2rC1eUqgpL9reRG+nzOUfKZdktWPc4eZxXe9t sMXK5SVM4hv9La8nkX+mvoQrnTbPkOGP3+VUACiNaW+HYLnaf4gj 5MCNHUccIWtIsQoeP3ZVaafRfv3rFFANDACfL3gHYdsWyl54VAwfHgM biw/xlZcOqPcCAwEAAAMhMB8wHQYDVR0OBBYEFom+ahDJQXa1Bh U/miiNdnY2kPggMA0GCSqGSIb3DQEBCwUAA4IBAQCCKN2NAH2AHG bi615leoa9rST/SEMxSSXb+dMq57yzY79Q8O1ZOZx7UgbXlyzascA/i 6M1XdTlfmqRfAGAch0f3AnriML+xgC2VFvOIyrmTB/+uU4tBttmXd48 OVVF1tr/tHEGJv/e7YldrC9lcNU2xy31LnP6zq3rySaQirHJ9r14wyW5K VRG0SgHHAnz+XEo5QfQWxwMzpalcWqicTOCs56HRJ19/IzRH99dUK wn8X6rktMgW5J9vVIZq1BjWqb1D4ERg9ifuda+Qmv1MZeHaMFAZvz 0OcDnvDwzXOSVOTU1XX10jMIVWG/1WrZJynF/WAvzd+jYbXz9Muc DQ35Ez-----END CERTIFICATE-----</pre>
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**Request:**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount": "1.00"}
```

**Response:**

**Headers :** X-Request-Id, Signature-Certificate, Signature

```
{"status":"REJECTED","reason":"UNKNOWN  
CERTIFICATE","reasonCode":"UNKNOWN_CERTIFICATE"}
```

## **2. Signature validation**

**Case 1 :** When the request with valid Signature

**Request :**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount": "1.00"}
```

**Response :**

**Headers :** X-Request-Id, Signature-Certificate, Signature

```
{"paymentId":"a384a0bc-01f6-4dd6-81d3-ec22a020a8ab","status":"ACCEPTED"}
```

**Case 2 :** When the request with invalid Signature

Modify only the signature header as below,

Signature	alFr/WbYiekHmbB6XdEO/7ghKd0n6q/bapENAYsL86KoYHqa4eP34xfH9icpQR mTpH0qOkt1vfUPWnaqu+vHBWx/gJXiuVlhayxLZD2w41q8ITkoj4oRLn2U1q8 cLbjUtjzFWX9TgiQw1iY0ezpFqyDLPU7+ZzO01JI+yspn2gtto0XUm5KuxUPK2 4+xHD6R1UZSCSJkXY1QsKQfJ+gjzEjrtGvmASx1SURpmyzVmf4qLwFB1ViRZ mDZFtHIuuUVBBb835dCs2W+d7a+icGOctGQbFcHvW0FODibnY5qq8v5w/P9i 9PSarDaGgYb+1pMSnF3p8FsHAjk3Wccg2a1GQ==
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**Request:**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount": "1.00"}
```

**Response:**

**Headers :** X-Request-Id, Signature-Certificate, Signature

```
{"status":"REJECTED","reason":"INVALID  
SIGNATURE","reasonCode":"INVALID_SIGNATURE"}
```

## **3. Request validations**

**Case 1 :** Request with xRequestId header is empty / without passing xRequestId header

**Request:**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount":"1.00"}
```

**Response:**

Status : 400 Bad Request

```
{"status":"REJECTED","reason":"INVALID REQUEST","reasonCode":"INVALID_REQUEST"}
```

**Case 2 :** Request with Signature-Certificate header is empty / without passing Signature-Certificate header

**Request:**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount":"1.00"}
```

**Response:**

Status : 400 Bad Request

```
{"status":"REJECTED","reason":"INVALID REQUEST","reasonCode":"INVALID_REQUEST"}
```

**Case 3 :** Request with Signature header is empty / without passing Signature header  
Request:

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount":"1.00"}
```

**Response:**

Status : 400 Bad Request

```
{"status":"REJECTED","reason":"INVALID REQUEST","reasonCode":"INVALID_REQUEST"}
```

All the other request validations are handled through the Junit integration test.

**File Name :** PaymentInitiationControllerTest.java

Some of the sample request/response details are below,

**Case 1:** When the request with invalid Debtor IBAN

**Request:**

```
{"debtorIBAN":"","creditorIBAN":"NL94ABNA1008270121","amount":"1.0","endToEndId":"1"}
```

**Response:**

```
{"timeStamp":"2020-09-06 07:05:04.618","status":400,"error":"INVALID REQUEST","message":"","details":["Debtor IBAN must be a valid number"]}
```

**Case 2:** When the request with invalid Creditor IBAN

**Request:**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"","amount":"1.0","endToEndId":"1"}
```

**Response:**

```
{"timeStamp":"2020-09-06 07:05:04.618","status":400,"error":"INVALID REQUEST","message":"","details":["Creditor IBAN must be a valid number"]}
```

**Case 3:** When the request with invalid amount

**Request:**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount":"","endToEndId":"1"}
```

**Response:**

```
{"timeStamp":"2020-09-06 07:05:04.618","status":400,"error":"INVALID REQUEST","message":"","details":["Amount is required", "The amount must be a valid number"]}
```

#### **4. Various response scenarios**

**201\_PaymentAccepted:****Request:**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount":"1.00"}
```

**Response:**

Headers : X-Request-Id, Signature-Certificate, Signature  
Status : 201 Created

```
{"paymentId":"2816b01d-179e-4932-9bdd-2065743f28a6","status":"ACCEPTED"}}
```

**400\_PaymentRejected:**

Request with xRequestId header is empty / without passing xRequestId header

**Request:**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount":"1.00"}
```

**Response:**

Headers : X-Request-Id, Signature-Certificate, Signature  
Status : 400 Bad Request

```
{"paymentId":"2816b01d-179e-4932-9bdd-2065743f28a6","status":"ACCEPTED"}}
```

**422\_PaymentRejected:**

As the given xRequestId, certificate & signature combinations only work for positive scenarios. Hence this case covered in Junit.

**File Name :** PaymentInitiationControllerTest.java

**Request:**

```
{"debtorIBAN":"NL02RABO0022222222","creditorIBAN":"NL94ABNA1008270121","amount": "1.0","endToEndId":"1"}
```

**Response:**

Headers : X-Request-Id, Signature-Certificate, Signature  
Status : 422 Unprocessable Entity

```
{"status":"REJECTED","reason":"LIMIT EXCEEDED", "reasonCode":"LIMIT_EXCEEDED"}
```

**500\_GeneralError:**

Add some unwanted text in the valid certificate & getting an exception while reading this.  
Use the below chunk in the certificate header.

Signature-Certificate	-----BEGIN CERTIFICATE-----aaaaMIIDWjCCAQoCCQDxVbCjIKynQjANBgkqhkiG9w0BAQsFAD CBojELMAkGA1UEBhMCTkwxEDAOBgNVBAgMB1V0cmVjaHQxEDAOBgNVBAcM B1V0cmVjaHQxETAPBgNVBAoMCFJhYm9iYW5rMRMwEQYDVQQLEApBc3Nlc3Nt ZW50MSIwIAYDVQQDDBITYW5kYm94LVRQUdpleGNlbGxibnQgVFBQMSMwIQYJ KoZlhvcNAQkBFhRuby1yZXBseUByYWJvYmFuay5ubDAeFw0yMDAxMzAxMzIyNDI aFw0yMTAxMjkxMzIyNDIaMIGiMQswCQYDVQQGEwJOTDEQMA4GA1UECAwHVX RyZWNoDEQMA4GA1UEBwwHVXRyZWNoDERMA8GA1UECgwUUmFib2Jhbmsx EzARBgNVBAAsMCKFzc2Vzc2IbnQxIjAgBgNVBAMMGVhbmRib3gtVFBQOmV4Y2 VsbGVudCBUUFAXIzAhBgkqhkiG9w0BCQEWFG5vLXJlcGx5QHJhYm9iYW5rLm5s MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAryLyouTQr1dvMT4qvek0 eZsh8g0DQQLIOgBzZwx7ilnxYEAqMNxCKXiZCbmWHBYqh6lpPh+BBmrnBQzB+qr SNlyd4bFhfUIQ+htK08yyL9g4nyLt0LeKuxoaVWplnrB5FRzoEY5PPpcEXSOBgr+pM7 1AvyJtQLxZbqTao4S7TRKecUm32Wwg+FWY/StSKlox3QmEaxEGU7aPkaQfQs4hrt uUePwKrbkQ2hQdMpvI5oXRWzTqafvEQvND+lyLvZRqf0TSvlwsgtJd2tch2kqPoUwn g3AmUFleJbMjFNzrWM7TH9LkKPItYtSuMTzeSe9o0SmXZFgcEBh5DnETZqIVuQID AQABMA0GCSqGSIb3DQEBChUAA4IBAQASFOkjiKQuL7fSErH6y5Uwj9WmmQLF nit85tjbo20jsqseTuZqLdpwBOBiHxnBz7o3M73PJAXdoXkwiMVykZrIUSEy7+FsNZ4iF ppoFapHDbfBgM2WMV7VS6NK17e0zXcTGySSRzXsxw0yEQGaOU8RJ3Rry0HWo9 M/JmYFrdBPP/3sWAt/+O4th5Jyk8RajN3fHFCaOUz4rXxhUZkf/9u3Q038rRBvqaA+6c 0uW58XqF/QyUxuTD4er9veCniUhwIX4XBsDNxIW/rwBRAXOUK4V+XqrBb75lCyea 1o/9Hlaq1ilKI4Day0piMOgwPEg1wF383yd0x8hRW4zxyHcER-----END CERTIFICATE-----
-----------------------	--

**Request:**

```
{"debtorIBAN":"NL02RABO7134384551","creditorIBAN":"NL94ABNA1008270121","amount": "1.00"}
```

**Response:**

Headers : X-Request-Id, Signature-Certificate, Signature  
Status : 500 Internal Server Error

```
{"status":"REJECTED","reason":"GENERAL ERROR","reasonCode":"GENERAL_ERROR"}
```

