MPGS Hosted Session Integration

STEP 1 – Create Payment Session

URL:
https://cbcmpgs.gateway.mastercard.com/api/rest/version/61/merchant/*<MERCHANT ID>*/session

HTTP Method: POST

API Authorization: Basic Auth (Specify merchant username and password provided via email)

Request Body:
```
{
  "session":{
    "authenticationLimit":25
  }
}
```

Expected Response:
```
{
  "merchant": "TESTMERCHANT",
  "result": "SUCCESS",
  "session": {
    "aes256Key": "dAsyMyyOcBAyZHCs332AazQBprEZfTghshc/5U=",
    "authenticationLimit": 25,
    "id": "SESSION12345678900000",
    "updateStatus": "NO_UPDATE",
    "version": "e0a4662401"
  }
}
```

Sample CURL Request

```
curl -X POST \
https://cbcmpgs.gateway.mastercard.com/api/rest/version/61/merchant/TESTMERCHANT/session \
  -H 'authorization: Basic
bWVyY2hhbnQuVEVTVENPTVRFU0lQR0xLUsacjTffrfRfRFYmMzYjJhODEyNjYzM2ZjOTNhM2FlZjk2Yg==' \
  -H 'cache-control: no-cache' \
  -H 'content-type: application/json' \
  -H 'postman-token: ab5f8083-8e17-960e-e0ad-0ba726993f52' \
  -d ' {
  "session":{
     "authenticationLimit":25
  }
}'
```

STEP 2 – Update Payment Session with Card Information

Sample HTML Page to collect card information from payer.

Add **<MERCHANT ID>** in script and specify the **<SESSION ID>** that was used in Step 1 and 2.

```
<html>
<head>
<!-- INCLUDE SESSION.JS JAVASCRIPT LIBRARY -->
<script
src="https://cbcmpgs.gateway.mastercard.com/form/version/61/merchant/<MERCHANTID>/session.
js"></script>
<!-- APPLY CLICK-JACKING STYLING AND HIDE CONTENTS OF THE PAGE -->
<style id="antiClickjack">body{display:none !important;}</style>
</head>
<body>

<!-- CREATE THE HTML FOR THE PAYMENT PAGE -->

<div>Please enter your payment details:</div>
<h3>Credit Card</h3>
<div>Card Number: <input type="text" id="card-number" class="input-field" title="card number" aria-
label="enter your card number" value="" tabindex="1" readonly></div>
<div>Expiry Month:<input type="text" id="expiry-month" class="input-field" title="expiry month" aria-
label="two digit expiry month" value="" tabindex="2" readonly></div>
<div>Expiry Year:<input type="text" id="expiry-year" class="input-field" title="expiry year" aria-
label="two digit expiry year" value="" tabindex="3" readonly></div>
<div>Security Code:<input type="text" id="security-code" class="input-field" title="security code" aria-
label="three digit CCV security code" value="" tabindex="4" readonly></div>
<div>Cardholder Name:<input type="text" id="cardholder-name" class="input-field" title="cardholder
name" aria-label="enter name on card" value="" tabindex="5" readonly></div>
<div><button id="payButton" onclick="pay('card');">Pay Now</button></div>

<!-- JAVASCRIPT FRAME-BREAKER CODE TO PROVIDE PROTECTION AGAINST IFRAME CLICK-JACKING -->
<script type="text/javascript">
if (self === top) {
    var antiClickjack = document.getElementById("antiClickjack");
    antiClickjack.parentNode.removeChild(antiClickjack);
} else {
    top.location = self.location;
}

PaymentSession.configure({
    session: "<your_session_ID>",
    fields: {
        // ATTACH HOSTED FIELDS TO YOUR PAYMENT PAGE FOR A CREDIT CARD
        card: {
            number: "#card-number",
            securityCode: "#security-code",
```

```javascript
        expiryMonth: "#expiry-month",
        expiryYear: "#expiry-year",
        nameOnCard: "#cardholder-name"
    }
},
//SPECIFY YOUR MITIGATION OPTION HERE
frameEmbeddingMitigation: ["javascript"],
callbacks: {
    initialized: function(response) {
        // HANDLE INITIALIZATION RESPONSE
    },
    formSessionUpdate: function(response) {
        // HANDLE RESPONSE FOR UPDATE SESSION
        if (response.status) {
            if ("ok" == response.status) {
                console.log("Session updated with data: " + response.session.id);

                //check if the security code was provided by the user
                if (response.sourceOfFunds.provided.card.securityCode) {
                    console.log("Security code was provided.");
                }

                //check if the user entered a Mastercard credit card
                if (response.sourceOfFunds.provided.card.scheme == 'MASTERCARD') {
                    console.log("The user entered a Mastercard credit card.")
                }
            } else if ("fields_in_error" == response.status)  {

                console.log("Session update failed with field errors.");
                if (response.errors.cardNumber) {
                    console.log("Card number invalid or missing.");
                }
                if (response.errors.expiryYear) {
                    console.log("Expiry year invalid or missing.");
                }
                if (response.errors.expiryMonth) {
                    console.log("Expiry month invalid or missing.");
                }
                if (response.errors.securityCode) {
                    console.log("Security code invalid.");
                }
            } else if ("request_timeout" == response.status)  {
                console.log("Session update failed with request timeout: " + response.errors.message);
            } else if ("system_error" == response.status)  {
                console.log("Session update failed with system error: " + response.errors.message);
            }
        } else {
            console.log("Session update failed: " + response);
```

```
        }
      }
    },
    interaction: {
      displayControl: {
        formatCard: "EMBOSSED",
        invalidFieldCharacters: "REJECT"
      }
    }
  });

function pay() {
  // UPDATE THE SESSION WITH THE INPUT FROM HOSTED FIELDS
  PaymentSession.updateSessionFromForm('card');
}
</script>
</body>
</html>
```

After entering the Card Details and clicking on the "Pay" button, the payment session is updated with the payer card information as shown in the screenshot below:

Please enter your payment details:

Credit Card

Card Number:
Expiry Month: 05
Expiry Year: 2031
Security Code:
Cardholder Name:
Pay Now

Elements   Console   Sources   Network   Performanc

top ▼   ◉   Filter

Session updated with data: SESSION0000   67
Security code was provided.
The user entered a Mastercard credit card.

STEP 3 – Initiate Authentication

URL:
https://cbcmpgs.gateway.mastercard.com/api/rest/version/<version>/merchant/<your_merchant_ID>/order/<your_order_ID>/transaction/<your_transaction_ID>

HTTP Method: PUT

API Operation: Initiate Authentication

API Authorization: Basic Auth (Specify merchant username and password provided via email)

Request Body:
```
{
    "authentication":{
      "acceptVersions":"3DS1,3DS2",
      "channel":"PAYER_BROWSER",
      "purpose":"PAYMENT_TRANSACTION"
    },
    "correlationId":"test",
    "order":{
      "currency":"LKR"
    },
     "session":{
      "id":"SESSION0002380801834H0496488E15"
    },
    "apiOperation":"INITIATE_AUTHENTICATION"
}
```

Expected Response:

```json
{
    "authentication": {
        "3ds2": {
            "directoryServerId": "A999999999",
            "methodCompleted": false,
            "methodSupported": "SUPPORTED",
            "protocolVersion": "2.1.0",
            "requestorId": "MAS00001_INT_MPGS_MTTESTPAYKOKONOLK",
            "requestorName": "DINNOVATION (PVT) LTD"
        },
        "acceptVersions": "3DS1,3DS2",
        "channel": "PAYER_BROWSER",
        "purpose": "PAYMENT_TRANSACTION",
        "redirect": {
            "customized": {
                "3DS": {
                    "methodPostData":
"eyJ0aHJlZURTTWV0aG9kTm90aWZpY2F0aW9uVVJMIjoiaHR0cHM6Ly9tdGYuZ2F0ZXdheS5tYXN0ZXJjYXJ
kLmNvbS9jYWxsYmFja0ludGVyZmFjZS9nYXRld2F5YwYzg3ZDUzOWMzNmIwMTE4ZDg0Zjc5NzFjOGJlMj
VmOTkwNmE0MjJkMzI3MWM2MTEzYTJlN2Y5MWQxYWFmOTciLCJ0aHJlZURTU2VydmVyVHJhbnNJRCI6I
jliZDUzOWMwLTcxYWYtNGJjZC1iZmJhLTk5ZDY4YWM0YzNhMSJ9",
                    "methodUrl": "https://mtf.gateway.mastercard.com/acs/mastercard/v2/method"
                }
            }
        },
        "redirectHtml": "<div id=\"initiate3dsSimpleRedirect\" xmlns=\"http://www.w3.org/1999/html\">
<iframe id=\"methodFrame\" name=\"methodFrame\" height=\"100\" width=\"200\" > </iframe>
<form id =\"initiate3dsSimpleRedirectForm\" method=\"POST\"
action=\"https://mtf.gateway.mastercard.com/acs/mastercard/v2/method\" target=\"methodFrame\">
<input type=\"hidden\" name=\"threeDSMethodData\"
value=\"eyJ0aHJlZURTTWV0aG9kTm90aWZpY2F0aW9uVVJMIjoiaHR0cHM6Ly9tdGYuZ2F0ZXdheS5tYXN0ZXN0
ZXJjYXJkLmNvbS9jYWxsYmFja0ludGVyZmFjZS9nYXRld2F5YwYzg3ZDUzOWMzNmIwMTE4ZDg0Zjc5NzFj
OGJlMjVmOTkwNmE0MjJkMzI3MWM2MTEzYTJlN2Y5MWQxYWFmOTciLCJ0aHJlZURTU2VydmVyVHJhbn
NJRCI6IjliZDUzOWMwLTcxYWYtNGJjZC1iZmJhLTk5ZDY4YWM0YzNhMSJ9\" /> </form> <script
id=\"initiate-authentication-script\"> var
e=document.getElementById(\"initiate3dsSimpleRedirectForm\"); if (e) { e.submit(); if (e.parentNode
!== null) { e.parentNode.removeChild(e); } } </script> </div>",
        "version": "3DS2"
    },
    "correlationId": "test",
    "merchant": "TESTPAYKOKONOLKR",
    "order": {
        "authenticationStatus": "AUTHENTICATION_AVAILABLE",
        "creationTime": "2022-09-22T11:14:12.308Z",
        "currency": "LKR",
        "id": "1234",
```

```
      "lastUpdatedTime": "2022-09-22T11:14:12.292Z",
      "merchantCategoryCode": "6012",
      "status": "AUTHENTICATION_INITIATED",
      "totalAuthorizedAmount": 0,
      "totalCapturedAmount": 0,
      "totalRefundedAmount": 0
    },
    "response": {
      "gatewayCode": "AUTHENTICATION_IN_PROGRESS",
      "gatewayRecommendation": "PROCEED"
    },
    "result": "SUCCESS",
    "sourceOfFunds": {
      "provided": {
        "card": {
          "brand": "MASTERCARD",
          "fundingMethod": "CREDIT",
          "number": "512345xxxxxx0008",
          "scheme": "MASTERCARD"
        }
      },
      "type": "CARD"
    },
    "timeOfLastUpdate": "2022-09-22T11:14:12.292Z",
    "timeOfRecord": "2022-09-22T11:14:12.308Z",
    "transaction": {
      "amount": 0,
      "authenticationStatus": "AUTHENTICATION_AVAILABLE",
      "currency": "LKR",
      "id": "6789",
      "type": "AUTHENTICATION"
    },
    "version": "61"
}
```

Where the Initiate Authentication response has indicated authentication to be available (**transaction.authenticationStatus**=**AUTHENTICATION_AVAILABLE**), and once all payer and payment data has been gathered, you can submit the [Authenticate](#) Payer request.

STEP 4 – Payer Authentication

You should invoke this when the payer clicks the "Pay Now" button on the checkout page. The response from the API call will indicate if the user has to go through **frictionless or challenge work flow.**

URL:
https://cbcmpgs.gateway.mastercard.com/api/rest/version/<version>/merchant/<your_merchant_ID>/order/<your_order_ID>/transaction/<your_transaction_ID>

HTTP Method: PUT

API Operation: Payer Authentication

API Authorization: Basic Auth (Specify merchant username and password provided via email)

Request Body:

```
{
 "authentication":{
  "redirectResponseUrl":"<host>/merchantSimulator/jsp/simple/output.jsp"
 },
 "correlationId":"test",
 "device": {
  "browser": "MOZILLA",
  "browserDetails": {
   "3DSecureChallengeWindowSize": "FULL_SCREEN",
   "acceptHeaders": "application/json",
   "colorDepth": 24,
   "javaEnabled": true,
   "language": "en-US",
   "screenHeight": 640,
   "screenWidth": 480,
   "timeZone": 273
  },
  "ipAddress": "127.0.0.1"
 },
 "order":{
   "amount":"100",
   "currency":"LKR"
 },
   "session":{
   "id":"SESSION0002380801834H0496488E15"
 },
 "apiOperation": "AUTHENTICATE_PAYER"
```

}

Request Response:

```json
{
  "authentication": {
    "3ds": {
      "transactionId": "a4d6ce7a-52ed-46c4-b1b8-0a64ffa3fdd8"
    },
    "3ds2": {
      "3dsServerTransactionId": "cf976f0d-cb19-454f-a5b3-3cf09ae07e38",
      "acsTransactionId": "c8027c6a-94da-480d-9270-85098bc680d5",
      "directoryServerId": "A999999999",
      "dsTransactionId": "a4d6ce7a-52ed-46c4-b1b8-0a64ffa3fdd8",
      "methodSupported": "NOT_SUPPORTED",
      "protocolVersion": "2.1.0",
      "requestorId": "test40Field@S^2sfds2ID",
      "requestorName": "test40Field@S^2sfds2Name",
      "sdk": {
        "timeout": 400,
        "uiType": "TEXT"
      },
      "transactionStatus": "C"
    },
    "amount": 100.00,
    "method": "OUT_OF_BAND",
    "payerInteraction": "REQUIRED",
    "redirect": {
      "customizedHtml": {
        "3ds2": {
          "acsUrl": "<acs_url>",
          "cReq": "eyJ0aHJlZURTU2VydmVyVHJhbnNJRCI6ImNmOTc2ZjBkLWNiMTktNDU0Zi1hNWIzLTNjZjA5YWUwN2UzOCJ9"
        }
      },
      "domainName": "<acs_domain>",
      "html": "<div id=\"threedsChallengeRedirect\" xmlns=\"http://www.w3.org/1999/html\"style =\" height: 100vh\"> <form id =\"threedsChallengeRedirectForm\" method=\"POST\" action=\"<acs_url>" target=\"challengeFrame\"> <input type=\"hidden\" name=\"creq\" value=\"eyJ0aHJlZURTU2V ydmVyVHJhbnNJRCI6ImNmOTc2ZjBkLWNiMTktNDU0Zi1hNWIzLTNjZjA5YWUwN2UzOCJ9\" /> </form > <iframe id=\"challengeFrame\" name=\"challengeFrame\" width=\"100%\" height=\"100%\" ></ifr ame> <script id=\"authenticate-payer-
script\"> var e=document.getElementById(\"threedsChallengeRedirectForm\"); if (e) { e.submit(); if (e.parentNode !== null) { e.parentNode.removeChild(e); } } </script> </div>"
    },
```
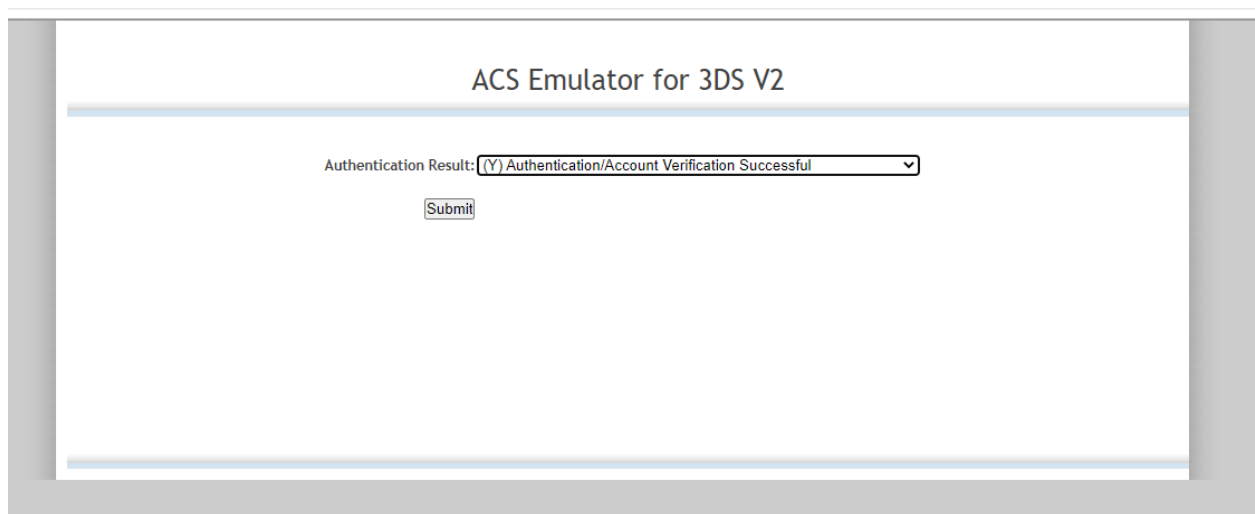
```json
    "time": "2022-06-24T07:04:34.836Z",
    "version": "3DS2"
},
"correlationId": "test",
"device": {
    "browser": "mozilla",
    "ipAddress": "127.0.0.1"
},
"merchant": "TEST3DS12AUTH",
"order": {
    "amount": 100.00,
    "authenticationStatus": "AUTHENTICATION_PENDING",
    "creationTime": "2022-06-24T07:03:43.780Z",
    "currency": "USD",
    "id": "TEST6",
    "lastUpdatedTime": "2022-06-24T07:04:34.795Z",
    "merchantCategoryCode": "1234",
    "status": "AUTHENTICATION_INITIATED",
    "totalAuthorizedAmount": 0,
    "totalCapturedAmount": 0,
    "totalRefundedAmount": 0,
    "valueTransfer": {
        "accountType": "NOT_A_TRANSFER"
    }
},
"response": {
    "gatewayCode": "PENDING",
    "gatewayRecommendation": "PROCEED"
},
"result": "PENDING",
"sourceOfFunds": {
    "provided": {
        "card": {
            "brand": "MASTERCARD",
            "expiry": {
                "month": "1",
                "year": "39"
            },
            "fundingMethod": "CREDIT",
            "number": "512345xxxxxx8212",
            "scheme": "MASTERCARD"
        }
    },
    "type": "CARD"
},
"timeOfLastUpdate": "2022-06-24T07:04:34.795Z",
"timeOfRecord": "2022-06-24T07:03:43.780Z",
"transaction": {
```

```
    "acquirer": {
        "merchantId": "123456"
    },
    "amount": 100.00,
    "authenticationStatus": "AUTHENTICATION_PENDING",
    "currency": "USD",
    "id": "1",
    "type": "AUTHENTICATION"
  },
  "version": "61"
}
```

If the response **transactionStatus": "Y" and payerInteraction": "NOT_REQUIRED"** (**Frictionless Flow**) then we **do not need to redirect the user to the OTP page**. Call the "PAY" API.

If the response **transactionStatus": "C" and payerInteraction": " REQUIRED"** (**Challenge Flow**) then we **need to redirect the user to the OTP page** (Show the html returned from the "Payer Authentication" API call response) and upon successful OTP validation, if the response is Success and gateway recommendation is "PROCEED" then call the "PAY" API to proceeds the payment.

OTP Page for Challenge Flow:

ACS Emulator for 3DS V2

Authentication Result: (Y) Authentication/Account Verification Successful ▾

Submit

STEP 5– Pay

When the result of the Authenticate Payer operation indicates that you can proceed with the payment (**response.gatewayRecommendation**=**PROCEED**), you may initiate Pay operation.

URL:

https://cbcmpgs.gateway.mastercard.com/api/rest/version/<version>/merchant/<your_merchant_ID> /order/<your_order_ID>/transaction/<your_transaction_ID>

HTTP Method: PUT

API Operation: Payer Authentication

API Authorization: Basic Auth (Specify merchant username and password provided via email)

Request Body:

```
{
  "apiOperation":"PAY",
  "authentication":{
    "transactionId":"<your_transaction_ID>"
  },
  "order":{
    "amount":"100",
    "currency":"LKR",
    "reference":"<your_order_ID>"
  },
    "session":{
    "id":"SESSION0002380801834H0496488E15"
  },
"sourceOfFunds":{
    "type":"CARD"
  },
  "transaction":{
    "reference":"<your_order_ID>"
  }
}
```

Request Response:

```
{
  "authentication":{
    "3ds":{
      "acsEci":"02",
      "authenticationToken":"kHyn+7YFi1EUAREAAAAvNUe6Hv8=",
      "transactionId":"39c25b96-7bc3-4586-bee8-056479fed3af"
    },
```

```
    "3ds2":{
      "dsTransactionId":"39c25b96-7bc3-4586-bee8-056479fed3af",
      "protocolVersion":"2.1.0",
      "transactionStatus":"Y"
    },
    "transactionId":"249213216",
    "version":"3DS2"
  },
  "authorizationResponse":{
    "posData":"1605S0100130",
    "transactionIdentifier":"TidTest"
  },
  "device":{
    "browser":"MOZILLA",
    "ipAddress":"127.0.0.1"
  },
  "gatewayEntryPoint":"WEB_SERVICES_API",
  "merchant":"TEST_3DS2-1",
  "order":{
    "amount":100.00,
    "authenticationStatus":"AUTHENTICATION_SUCCESSFUL",
    "chargeback":{
      "amount":0,
      "currency":"AUD"
    },
    "creationTime":"2021-04-13T02:11:06.102Z",
    "currency":"AUD",
    "id":"807a01b6-e6c8-4aa7-b8da-799bfff89496",
    "lastUpdatedTime":"2021-04-13T02:11:57.049Z",
    "merchantAmount":100.00,
    "merchantCategoryCode":"1234",
    "merchantCurrency":"AUD",
    "reference":"807a01b6-e6c8-4aa7-b8da-799bfff89496",
    "status":"CAPTURED",
    "totalAuthorizedAmount":100.00,
    "totalCapturedAmount":100.00,
    "totalRefundedAmount":0.00
  },
  "response":{
    "acquirerCode":"00",
    "gatewayCode":"APPROVED"
  },
  "result":"SUCCESS",
  "sourceOfFunds":{
    "provided":{
      "card":{
        "brand":"MASTERCARD",
        "expiry":{
```

```
          "month":"1",
          "year":"39"
        },
        "fundingMethod":"CREDIT",
        "issuer":"<issuer>",
        "number":"512345xxxxxx0008",
        "scheme":"Mastercard",
        "storedOnFile":"NOT_STORED"
      }
    },
    "type":"CARD"
  },
  "timeOfLastUpdate":"2021-04-13T02:11:57.049Z",
  "timeOfRecord":"2021-04-13T02:11:56.973Z",
  "transaction":{
    "acquirer":{
      "batch":1,
      "id":"<acquirer_id>",
      "merchantId":"99554411"
    },
    "amount":100.00,
    "authenticationStatus":"AUTHENTICATION_SUCCESSFUL",
    "authorizationCode":"028941",
    "currency":"AUD",
    "id":"1",
    "receipt":"1908266016",
    "reference":"807a01b6-e6c8-4aa7-b8da-799bfff89496",
    "source":"INTERNET",
    "stan":"496",
    "terminal":"1234",
    "type":"PAYMENT"
  },
  "version":"61"
}
```

Reference:

https://test-gateway.mastercard.com/api/documentation/integrationGuidelines/supportedFeatures/pickAdditionalFunctionality/authentication/3DS/integrationModelAPI.html?locale=en_US