NESTPAY

MERCHANT INTEGRATION
3D PAY MODEL

Version 1.1

14 December 2011

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3D Pay Model

3D PAY model is the basic internet integration model supporting 3D transactions.

Basic Properties:

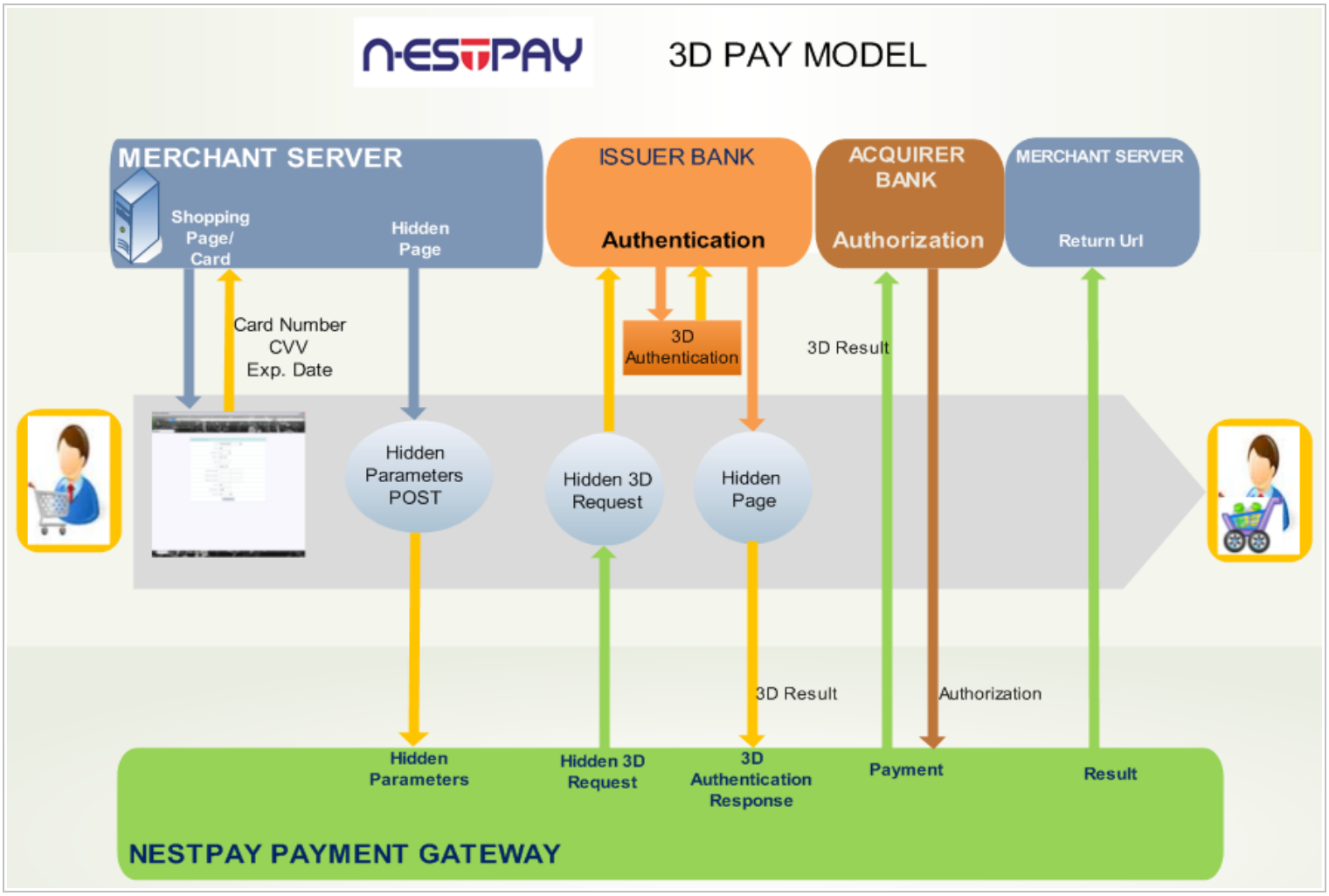
- Enables processing of 3D secure card transactions
- HTTP Post method for merchant integration
- Credit card page is hosted by the merchant.
- Payment is done automatically by Nestpay.

After obtaining all necessary shopping data from customer (like order amount, currency, customer name/surname etc.), merchant server generates a unique order ID. Necessary parameters are posted with HTTP Post method to Nestpay gateway.

For card payment methods (Visa, MasterCard etc.) merchant server needs to submit the card details like card number, CVV2, and expiry date information. After the order/card data is obtained from the user the 3D flow (enrollment and authentication queries) starts. In 3D flow, the 3D authentication information of the customer is queried by the issuer bank. The methods for 3D authentication can be different for different issuers. Examples of 3D authentication methods are usage of 3D secure password, one-time password, security questions.

1. The customer knows that his/her personal information is not saved by the merchant, because credit card information is queried by Nestpay, not the merchant.
2. Integration process is easy.
3. Bank's SSL certificate is used. Therefore the software cannot be updated.
4. In addition to the obligatory parameters, merchant can POST its own data, such as username, user email or user id. Those data is sent back to the merchant by the bank.

Nestpay 3D Pay Model



3D Pay Model Diagram

Quick Start Guide

Making successful sale VISA transaction with **3D Pay Model**.

Generate Hash for Client Authentication

Hash is the base64-encoded version of the hashed text which is generated with SHA1 algorithm. To generate the hashed for client authentication:

- Append the following values with the given order:

```
plaintext = clientid + oid + amount + okurl + failurl
            +transaction type + instalment + rnd+storekey ;
```

- Given parameters

```
clienid          : 990000000000001
oid              : 1291899411421
amount           : 91.96
okurl            : https://www.teststore.com/success.php
failurl          : https://www.teststore.com/fail.php
transaction type : Auth
instalment       : 2
rnd              : asdf
storekey         : 123456
```

- Hash

```
plaintext = 990000000000001129189941142191.96
https://www.teststore.com/success.phphttps://www.teststore.com/fail.p
hpAuth2asdf123456
Hash = Base64(SHA1(plaintext))
```

Posting Hidden Parameters

Posting the mandatory input parameters to Nestpay Payment Gateway located at **https://host/fim/est3dgate** as hidden parameters.

clientid : Merchant ID (given by Nestpay)
storetype : **"3d_pay"**
hash : Hash value for client authentication
islemtipi : "Auth"
amount : amount transaction amount
currency : ISO code of transaction currency (949 for TL)
oid : Unique identifier of the order
okUrl : The return URL to which **Nestpay Payment Gateway** redirects the browser of the customer if transaction is completed successfully.
failUrl : The return URL to which **Nestpay Payment Gateway** redirects the browser of the customer if transaction is completed unsuccessfully.
lang : Language of the payment pages hosted by Nestpay ("tr" for Turkish, "en" for English)
pan : Card number
Ecom_Payment_Card_ExpDate_Year : Expiry year
Ecom_Payment_Card_ExpDate_Month : Expiry month

Sample HTTP form with mandatory parameter set

```
<form method="post" action="https://host/fim/est3dgate">
      <input type="hidden" name="clientid" value="990000000000001"/>
      <input type="hidden" name="storetype" value="3d_pay" />
      <input type="hidden" name="hash" value="iej6cPOjDd4IKqXWQEznXWqLzLI=" />
      <input type="hidden" name="islemtipi" value="Auth" />
      <input type="hidden" name="amount" value="91.96" />
      <input type="hidden" name="currency" value="949" />
      <input type="hidden" name="oid" value="1291899411421" />
      <input type="hidden" name="okUrl" value="https://www.teststore.com/success.php"/>
      <input type="hidden" name="failUrl" value="https://www.teststore.com/fail.php" />
      <input type="hidden" name="lang" value="en" />
      <input type="hidden" name="rnd" value="asdf" />
      <input type="hidden" input name="pan" value="4242424242424242">
      <input type="hidden" input name="Ecom_Payment_Card_ExpDate_Year" value="28" >
      <input type="hidden" input name="Ecom_Payment_Card_ExpDate_Month" value="10">
</form>
```

VISA Payment Page

Consumer will enter his/her card details to complete the transaction and clicks the Pay button. This page is generated by the merchant.

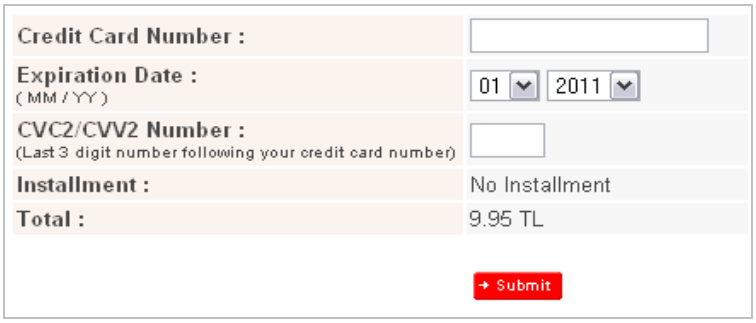


Fig-2

3D Authentication

In 3D flow, the 3D authentication information of the customer is queried by the issuer bank. The methods for 3D authentication can be different for different issuers. Examples of 3D authentication methods are usage of 3D secure password, one-time password, security questions.

Transaction Result

The transaction result will be displayed to customer. If the transaction is successful the authorization code will be displayed. The customer will be redirected to okUrl if refreshtime is over.

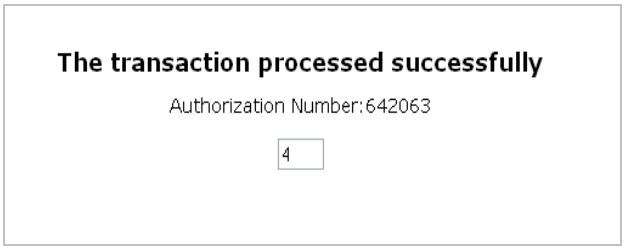


Fig-3

Merchant Success Page

If the transaction is successful the customer will be redirected to *okUrl*, which is submitted on step 2 to Nestpay Payment Gateway. All parameters posted by merchant returns back the merchant. In addition to merchant parameters, gateway returns the transaction response parameters and MPI response parameters (related to 3D secure transaction flow) which can be found in Appendix A.

Basic transaction response parameters for full authenticated successful 3D transaction:

Response	: "**Approved**"
AuthCode	: Authorization code of the transaction
HostRefNum	: Host reference number
ProcReturnCode	: "00"
TransId	: Unique transaction ID
mdStatus	: "1"

For the example transaction above the transaction response parameters would be:

Response	: **"**Approved**"**
AuthCode	: 544889
HostRefNum	: 034910000320
ProcReturnCode	: **"**00"
TransId	: 103491153310910033
mdStatus	: "1"

Integration Basics

HTTP Post Integration

After receiving a valid order parameters are post to Nestpay payment gateway as hidden parameters with HTTP form. In addition to mandatory parameters merchant can post order billing/shipping and order item details to payment gateway which can be viewed later on Merchant Administration Panel. For optional parameters explanations please refer to Appendix – A.

The 28 byte-long base-64 encoded xid parameter is the unique Internet transaction ID which is required for 3D secure transactions. If it is not sent by the merchant, it will be created automatically by the system.

Sample HTTP form with mandatory and optional parameters

```
<form method="post" action="https://host/fim/Nestpaygate">

      <input type="hidden" name="clientid" value="990000000000001"/>
      <input type="hidden" name="storetype" value="3d_pay" />
      <input type="hidden" name="hash" value="iej6cPOjDd4IKqXWQEznXWqLzLI=" />
      <input type="hidden" name="islemtipi" value="Auth" />
      <input type="hidden" name="amount" value="91.96" />
      <input type="hidden" name="currency" value="949" />
      <input type="hidden" name="oid" value="1291899411421" />
      <input type="hidden" name="okUrl" value="https://www.teststore.com/success.php" />
      <input type="hidden" name="failUrl" value="https://www.teststore.com/fail.php" />
      <input type="hidden" name="lang" value="tr" />
      <input type="hidden" name="rnd" value="asdf" />
      <input type="hidden" input name="pan" value="4242424242424242">
      <input type="hidden" input name="Ecom_Payment_Card_ExpDate_Year" value="28" >
      <input type="hidden" input name="Ecom_Payment_Card_ExpDate_Month" value="10">
      <input type="hidden" name="xid" value="egsF658v9uNpdqmksFZ5j9xHV/U=" />

</form>
```

<!-- Billing Parameters [All Optional]-->

```
<input type="hidden" name="tel" value="012345678">
<input type="hidden" name="Email" value="test@test.com">
<input type="hidden" name="firmaadi" value="Billing Company">
<input type="hidden" name="Faturafirma" value="John Smith">
<input type="hidden" name="Fadres" value="Address line 1">
<input type="hidden" name="Fadres2" value="Address line 2">
<input type="hidden" name="Filce" value="Warsaw">
<input type="hidden" name="Fil" value="mystate">
<input type="hidden" name="Fpostakodu" value="12345">
<input type="hidden" name="Fulkekodu" value="400">
```

<!-- Shipping Parameters [All Optional]-->

```
<input type="hidden" name="NakliyeFirma" value="Shipping Company">
<input type="hidden" name="tismi" value="John Smith">
<input type="hidden" name="tadres" value="Address line 1">
<input type="hidden" name="tadres2" value="Address line 2">
<input type="hidden" name="tilce" value="Warsaw">
<input type="hidden" name="til" value="mystate">
<input type="hidden" name="tpostakodu" value="12345">
<input type="hidden" name="tulkekod" value="400">
```

<!-- Order Item Parameters [All Optional]-->

```
<input type="hidden" name="ItemNumber1" value="a5">
<input type="hidden" name="ProductCode1" value="a5">
<input type="hidden" name="Qty1" value="3">
<input type="hidden" name="Desc1" value="a5 desc">
<input type="hidden" name="Id1" value="a5">
<input type="hidden" name="Price1" value="6.25">
<input type="hidden" name="Total1" value="7.50">
```

Card Transactions

Submitting the form with card data will start the 3D authentication flow with the customer. After the 3D authentication process is completed the MPI response parameters and all parameters sent by merchant will be post back to merchant to make the payment. The payment will be done according to ***mdStatus*** field which is shows the status code of the 3D secure transaction.

MPI Response Parameters

mdStatus	**:** Status code for the 3D transaction
txstatus	**:** 3D status for archival
eci	**:** Electronic Commerce Indicator
cavv	**:** Cardholder Authentication Verification Value, determined by ACS.
md	**:** Hash replacing card number
mdErrorMsg	**:** Error Message from MPI

Possible *mdStatus* Values

- 1 = Authenticated transaction (Full 3D)
- 2, 3, 4 = Card not participating or attempt (Half 3D)
- 5, 6, 7, 8 = Authentication not available or system error
- 0 = Authentication failed

Successful Transaction

The authorization code will be displayed. The customer will be redirected to *okUrl* of merchant server if *refreshtime* is over. All input parameters along with transaction response parameters will be post to *okUrl*. the *Response* parameter will be "**Approved**"

Failed Transaction

The failure message will be displayed. The customer will be redirected to *failUrl* of merchant server if *refreshtime* is over. All input parameters along with transaction response parameters will be post to *failUrl*, the *Response* parameter will be "**Declined**" or "**Error**".

Transaction Response Parameters

Response	: "Approved", "Declined" or "Error"
AuthCode	: Authorization code of the transaction
HostRefNum	: Host reference number
ProcReturnCode	: Transaction status code
TransId	: Unique transaction ID
ErrMsg	: Error text (if Response "Declined" or "Error")
ClientIp	: IP address of the customer
ReturnOid	: Returned order ID, must be same as input oid
MaskedPan	: Masked credit card number
PaymentMethod	: Payment method of the transaction
rnd	: Random string, will be used for hash comparison
HASHPARAMS	: Contains the field names used for hash calculation. Field names are appended with ":" character
HASHPARAMSVAL	: Contains the appended hash field values for hash calculation. Field values appended with the same order in HASHPARAMS field
HASH	: Hash value of HASHPARAMSVAL and merchant password field

MPI Response Parameters

mdStatus	: Status code for the 3D transaction
txstatus	: 3D status for archival
eci	: Electronic Commerce Indicator
cavv	: Cardholder Authentication Verification Value, determined by ACS.
mdErrorMsg	: Error Message from MPI (if any)
xid	: Unique Internet transaction ID

Possible Transaction Results

- **Response:** *"Approved"*

  ProcReturnCode will be "00". This shows that the transaction has been authorized.

- **Response:** *"Declined"*

  ProcReturnCode will be a 2 digit number other then "00" and "99" which corresponds to acquirer error code. This shows that the transaction has NOT been authorized by the acquirer. *ErrMsg* parameter will give the detailed description of the error. For detail description of acquirer error codes for *ProcReturnCode* refer to Appendix B.

- **Response:** *"Error"*

  ProcReturnCode will be "99". This shows that the transaction has NOT reached to acquirer authorization step. *ErrMsg* parameter will give the detailed description of the error.

Hash Checking

After merchant receives the parameters, a hash check needs to be done at merchant's server for validating the parameters. Hash checking ensures that the message is sent by Nestpay only.

Generating the plain text for hash

The parameters used for hash calculation are the following: *clientid, oid, AuthCode, ProcReturnCode, Response, rnd, md, eci, cavv, mdStatus.* Depending on the type of transaction a subset of these parameters will be included in the hash generation:

- Non 3D-secure card transactions

  clientid, oid, AuthCode, ProcReturnCode, Response, rnd

- 3D secure card transactions

  clientid, oid, AuthCode, ProcReturnCode, Response, mdStatusi eci, cavv ,md, rnd

All the values corresponding to these parameters are appended with the same order. The resulting string will be the same as *HASHPARAMSVAL* parameter values. The merchant password is appended as the final value to the end of this string. The resulting hash is the base64-encoded version of the hashed text which is generated with SHA1 algorithm. Under normal conditions generated hash text must be the same as *HASH* parameter value posted by Nestpay payment gateway. If not, merchant should contact to Nestpay support team.

Example: Non 3D card transaction

Assuming that the transaction response parameters

```
clientid, oid, AuthCode, ProcReturnCode, Response, rnd
HASHPARAMSVAL     : 990000000000001129189941142132165400Approvedasdf
HASHPARAMS        : clientid:oid:ProcReturnCode:Response:rnd:
HASH              : CVJssbkrhIzqZXVTwGobciDZI+A=
```

The merchant hash text will be generated with clientid, oid, ProcReturnCode, Response, rnd (and store key of the merchant as secret hash element). Assuming store key is 123456,

```
plain = 990000000000001129189941142132165400Approvedasdf123456
```

And the merchant hash is based64-encoded(SHA1(plain)). The result hash must be the same as the returning parameter *HASH.*

Code Samples

The following procedure for 3D PAY Model areas. Values test purposes had been inserted. 3D PAY Model on edited code examples. Merchants, taking into account variables must define values for them. These codes reference purpose formed.

ASP Code Sample

Post Code Sample

```
<html>
<head>
<title>3D PAY</title>
  <meta http-equiv="Content-Language" content="tr">
  <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-9">
  <meta http-equiv="Pragma" content="no-cache">
  <meta http-equiv="Expires" content="now">
</head>

<body>
    <center>
        <form method="post" action="https://<host_address>/<3dgate_path>">
            <table>
                <tr>
                    <td>Credit Card Number</td>
                    <td><input type="text" name="pan" size="20"/>
                </tr>

                <tr>
                    <td>CVV</td>
                    <td><input type="text" name="cv2" size="4" value=""/></td>
                </tr>

                <tr>
                    <td>Expiration Date Year</td>
                    <td><input type="text" name="Ecom_Payment_Card_ExpDate_Year"value=""/>
                    </td>
                </tr>

                <tr>
                    <td>Expiration Date Month</td>
                    <td><input type="text" name="Ecom_Payment_Card_ExpDate_Month"value=""/>
                    </td>
                </tr>
```

```
        <tr>
            <td>Choosing Visa Master Card</td>
            <td><select name="cardType">
            <option value="1">Visa</option>
            <option value="2">MasterCard</option>
            </select>
        </tr>

        <tr>
            <td align="center" colspan="2">
                <input type="submit" value="Complete Payment"/>
            </td>
        </tr>

    </table>
        <input type="hidden" name="clientid" value="<%=clientId %>">
        <input type="hidden" name="amount" value="<%=amount%>">
        <input type="hidden" name="oid" value="<%=oid%>">
        <input type="hidden" name="okUrl" value="<%=okUrl%>">
        <input type="hidden" name="failUrl" value="<%=failUrl%>">
        <input type="hidden" name="rnd" value="<%=rnd%>" >
        <input type="hidden" name="islemtipi" value="<%=islemtipi%>" >
        <input type="hidden" name="taksit" value="<%=taksit%>" >
        <input type="hidden" name="hash" value="<%=hash%>" >
        <input type="hidden" name="storetype" value="3d_pay" >
        <input type="hidden" name="lang" value="tr">
        <input type="hidden" name="currency" value="949">
        <input type="hidden" name="firmaadi" value="My Company Name">
        <input type="hidden" name="Fismi" value="is">
        <input type="hidden" name="faturaFirma" value="faturaFirma">
        <input type="hidden" name="Fadres" value="XXX">
        <input type="hidden" name="Fadres2" value="XXX">
        <input type="hidden" name="Fil" value="XXX">
        <input type="hidden" name="Filce" value="XXX">
        <input type="hidden" name="Fpostakodu" value="postakod93013">
        <input type="hidden" name="tel" value="XXX">
        <input type="hidden" name="fulkekod" value="tr">
        <input type="hidden" name="nakliyeFirma" value="na fi">
        <input type="hidden" name="tismi" value="XXX">
        <input type="hidden" name="tadres" value="XXX">
        <input type="hidden" name="tadres2" value="XXX">
        <input type="hidden" name="til" value="XXX">
        <input type="hidden" name="tilce" value="XXX">
        <input type="hidden" name="tpostakodu" value="ttt postakod93013">
        <input type="hidden" name="tulkekod" value="usa">
        <input type="hidden" name="itemnumber1" value="a1">
```

```
                <input type="hidden" name="productcode1" value="a2">
                <input type="hidden" name="qty1" value="3">
                <input type="hidden" name="desc1" value="a4 desc">
                <input type="hidden" name="id1" value="a5">
                <input type="hidden" name="price1" value="6.25">
                <input type="hidden" name="total1" value="7.50">

        </form>
    </center>
  </body>
</html>
```

Response Code Sample

```
<html>
<head>
<title>3D Pay Payment Page</title>
  <meta http-equiv="Content-Language" content="tr">
  <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-9">
  <meta http-equiv="Pragma" content="no-cache">
  <meta http-equiv="Expires" content="now">

</head>

<body>
<!-- #include file = "hex_sha1_js.asp" -->
 <h1>Ödeme Sayfasi</h1>


    <h3> Payment Response</h3>
    <table border="1">
        <tr>
            <td><b>Parameter Name</b></td>
            <td><b>Parameter Value</b></td>
        </tr>

  dim
        obj,ok,mdstatus,hashparams,hashparamsval,hash,index1,index2,storekey,hashparam,val
        ,hashval,paramsval
  dim odemeparametreleri(5)
  ok = 1
```

```
  'hash checking parameters

storekey = "xxxxxx"
index1 = 1
index2 = 1
hashparams = request.form("HASHPARAMS")
hashparamsval = request.form("HASHPARAMSVAL")
hashparam = request.form("HASH")
paramsval = ""
odemeparametreleri(0) = "AuthCode"
odemeparametreleri(1) = "Response"
odemeparametreleri(2) = "HostRefNum"
odemeparametreleri(3) = "ProcReturnCode"
odemeparametreleri(4) = "TransId"
odemeparametreleri(5) = "ErrMsg"

for each obj in request.form
       ok = 1
       for each item in odemeparametreleri
              if(item = obj) Then
                     ok = 0
                     exit for
              end if
       next
       if ok = 1 then
       response.write("<tr><td>"&obj & "</td><td>" & request.form(obj) & "</td></tr>")
       end if
next

</table>
<br>
<br>

 'hash cheking

while index1 < Len(hashparams)
       index2 = InStr(index1,hashparams,":")
       xvalx = Mid(hashparams,index1,index2 - index1)
       val = request.form(xvalx)
       if val = null then
       val = ""
       end if
       paramsval = paramsval & val
       index1 = index2 + 1

Wend
```

```
hashval = paramsval & storekey
hash = b64_sha1(hashval)
'response.write("hash=" & hash & "<br/>hashparam=" & hashparam &"<br>paramsval=" &
       paramsval &"<br>hashparamsval=" & hashparamsval )

if hash <> hashparam or paramsval <> hashparamsval then
       response.write("<h4>Security Alert. The digital signature is not valid.</h4>")
end if

mdstatus = Request.Form("mdStatus")
if mdstatus = 1 or mdstatus = 2  or mdstatus = 3 or mdstatus = 4 Then

<h5>3D Transaction is Success</h5><br/>
               <h3> Payment Host</h3>
               <table border="1">
                   <tr>
                       <td><b>Parameter Name</b></td>
                       <td><b>Parameter Value</b></td>
                   </tr>

for each item in odemeparametreleri
       response.Write("<tr><td>" & item &"</td><td>" & request.form(item) & "</td></tr>")
next

</table>

if "Approved" = request.form("Response") Then
       Response.write("<h6>Transaction is Success</h6>")
Else
       Response.write("<h6>Transaction is not Success</h6>")
end if

else
       Response.Write("<h6>3D not Approved </h6>")

end if


</body>
</html>
```

.Net Code Sample

Post Code Sample

```
<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">
    <title>3D Pay</title>
</head>
<body>
        String clientId = "XXXXXXXXX";
        String amount = "9.95";
        String oid = "";
        String okUrl = "http://<host_address>/odemesayfasi3dpay.aspx";
        String failUrl = "http://<host_address>/odemesayfasi3dpay.aspx";
        String rnd = DateTime.Now.ToString();

        String taksit = "";
        String islemtipi = "Auth";
        String storekey="xxxxxx";
        String hashstr = clientId + oid + amount + okUrl + failUrl + islemtipi +
        taksit + rnd + storekey;
        System.Security.Cryptography.SHA1 sha = new
        System.Security.Cryptography.SHA1CryptoServiceProvider();
        byte[] hashbytes = System.Text.Encoding.GetEncoding("ISO-8859-
        9").GetBytes(hashstr);
        byte[] inputbytes = sha.ComputeHash(hashbytes);

        String hash = Convert.ToBase64String(inputbytes);

    <center>
        <form method="post" action="https://<host_address>/<3dgate_path>">
            <table>
                <tr>
                    <td>Credit Card Number</td>
                    <td><input type="text" name="pan" size="20"/>
                </tr>

                <tr>
                    <td>CVV</td>
                    <td><input type="text" name="cv2" size="4" value=""/></td>
                </tr>

                <tr>
                    <td>Expiration Date Year</td>
                    <td><input type="text" name="Ecom_Payment_Card_ExpDate_Year"
        value=""/></td>
```

```
            </tr>
            <tr>
                <td>Expiration Date Month</td>
                <td><input type="text" name="Ecom_Payment_Card_ExpDate_Month"
    value=""/></td>
            </tr>
            <tr>
                <td>Choosing Visa Master Card</td>
                <td><select name="cardType">
                <option value="1">Visa</option>
                <option value="2">MasterCard</option>
                </select>
            </tr>

            <tr>
                <td align="center" colspan="2">
                    <input type="submit" value="Complete Payment"/>
                </td>
            </tr>

        </table>
            <input type="hidden" name="clientid" value="<%=clientId%>">
            <input type="hidden" name="amount" value="<%=amount%>">
            <input type="hidden" name="oid" value="<%=oid%>">
            <input type="hidden" name="okUrl" value="<%=okUrl%>">
            <input type="hidden" name="failUrl" value="<%=failUrl%>">
            <input type="hidden" name="rnd" value="<%=rnd%>" >
            <input type="hidden" name="hash" value="<%=hash%>" >
            <input type="hidden" name="islemtipi" value="<%=islemtipi %>" />
            <input type="hidden" name="taksit" value="<%=taksit %>" />
            <input type="hidden" name="storetype" value="3d_pay" >
            <input type="hidden" name="lang" value="tr">
            <input type="hidden" name="currency" value="949">
            <input type="hidden" name="firmaadi" value="My Company Name">
            <input type="hidden" name="Fismi" value="is">
            <input type="hidden" name="faturaFirma" value="faturaFirma">
            <input type="hidden" name="Fadres" value="XXX">
            <input type="hidden" name="Fadres2" value="XXX">
            <input type="hidden" name="Fil" value="XXX">
            <input type="hidden" name="Filce" value="XXX">
            <input type="hidden" name="Fpostakodu" value="postakod93013">
            <input type="hidden" name="tel" value="XXX">
            <input type="hidden" name="fulkekod" value="tr">
            <input type="hidden" name="nakliyeFirma" value="na fi">
            <input type="hidden" name="tismi" value="XXX">
            <input type="hidden" name="tadres" value="XXX">
```

```
                <input type="hidden" name="tadres2" value="XXX">
                <input type="hidden" name="til" value="XXX">
                <input type="hidden" name="tilce" value="XXX">
                <input type="hidden" name="tpostakodu" value="ttt postakod93013">
                <input type="hidden" name="tulkekod" value="usa">
                <input type="hidden" name="itemnumber1" value="a1">
                <input type="hidden" name="productcode1" value="a2">
                <input type="hidden" name="qty1" value="3">
                <input type="hidden" name="desc1" value="a4 desc">
                <input type="hidden" name="id1" value="a5">
                <input type="hidden" name="price1" value="6.25">
                <input type="hidden" name="total1" value="7.50">
        </form>
    </center>
  </body>
 </html>
```

Response Code Sample

```
Code samples write on here....
<html xmlns="http://www.w3.org/1999/xhtml" >
<head runat="server">
    <title>3d Pay Payment Page</title>
</head>
<body>
<h1>3D Payment Page</h1>
    <h3> Payment Response</h3>
    <table border="1">
        <tr>
            <td><b>Parameter Name</b></td>
            <td><b>Parameter Value</b></td>
        </tr>
        <%
            String[] odemeparametreleri = new String[] { "AuthCode", "Response",
        "HostRefNum", "ProcReturnCode", "TransId", "ErrMsg" };
            IEnumerator e = Request.Form.GetEnumerator();
            while (e.MoveNext())
            {
                String xkey = (String)e.Current;
                String xval = Request.Form.Get(xkey);
                bool ok = true;
                for (int i = 0; i < odemeparametreleri.Length; i++)
                {
                    if (xkey.Equals(odemeparametreleri[i]))
                    {
                        ok = false;
```

```
                break;
            }
        }
        if(ok)
            Response.Write("<tr><td>" +xkey +"</td><td>"+ xval+"</td></tr>");
    }

</table>

String hashparams = Request.Form.Get("HASHPARAMS");
String hashparamsval = Request.Form.Get("HASHPARAMSVAL");
String storekey = "xxxxxx";
String paramsval = "";
int index1 = 0, index2 = 0;

do
{
    index2 = hashparams.IndexOf(":", index1);
    String val = Request.Form.Get(hashparams.Substring(index1, index2-index1)) ==
       null ? "" : Request.Form.Get(hashparams.Substring(index1, index2-index1));
    paramsval += val;
    index1 = index2 + 1;
}
while (index1 < hashparams.Length);

//out.println("hashparams="+hashparams+"<br/>");
//out.println("hashparamsval="+hashparamsval+"<br/>");
//out.println("paramsval="+paramsval+"<br/>");
String hashval = paramsval + storekey;
String hashparam = Request.Form.Get("HASH");

System.Security.Cryptography.SHA1 sha = new
System.Security.Cryptography.SHA1CryptoServiceProvider();
byte[] hashbytes = System.Text.Encoding.GetEncoding("ISO-8859-
9").GetBytes(hashval);
byte[] inputbytes = sha.ComputeHash(hashbytes);

String hash = Convert.ToBase64String(inputbytes);

if (!paramsval.Equals(hashparamsval) || !hash.Equals(hashparam))
{
    Response.Write("<h4>Security Alert. The digital signature is not valid.</h4>");
}

String mdStatus = Request.Form.Get("mdStatus");
if(mdStatus.Equals("1") || mdStatus.Equals("2") || mdStatus.Equals("3") ||
```

```
        mdStatus.Equals("4"))
        {
         <h5>3D Transaction is Success</h5><br/>
          <h3> Payment Response</h3>
           <table border="1">
                <tr>
                    <td><b>Parameter Name</b></td>
                    <td><b>Parameter Value</b></td>
                </tr>

         for(int i=0;i<odemeparametreleri.Length;i++)
         {
               String paramname = odemeparametreleri[i];
               String paramval = Request.Form.Get(paramname);
               Response.Write("<tr><td>"+paramname+"</td><td>"+paramval+"</td></tr>");
         }
     </table>
            if("Approved".Equals(Request.Form.Get("Response")))
            {
                <h6>Transaction is Success</h6>

            }else
            {
                    <h6>Transaction is not Success</h6>
            }
        }else{

             <h5>3D Transaction is not Success</h5>

            }
</body>
</html>
```

JSP Code Sample

Post Code Sample

```
<html>
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-9">
    <title>3D Pay</title>
</head>
<body>

    String clientId = "XXXXXXXX";
    String amount = "9.95";
    String oid = "";
    String okUrl = "http://<store_host_address>/3dpay/odemesayfasi.jsp";
    String failUrl = "http://<store_host_address>/3dpay/odemesayfasi.jsp";
    String rnd = new java.util.Date().toString();
    String taksit = "";
    String islemtipi = "Auth";
    String storekey="xxxxxx";
    String hashstr = clientId + oid + amount + okUrl + failUrl +islemtipi +taksit +
                                                                        rnd + storekey;
    java.security.MessageDigest sha1 =java.security.MessageDigest.getInstance("SHA-1");
    String hash = (newsun.misc.BASE64Encoder()).encode(sha1.digest(hashstr.getBytes()));
    String description = "";
    String xid = "";
    String email="";
    String userid="";
    <center>
      <form method="post" action="https://<host_address>/<3dgate_path>">
          <table>
            <tr>
                <td>Credit Card Number</td>
                <td><input type="text" name="pan" size="20"/>
            </tr>

            <tr>
                <td>CVV</td>
                <td><input type="text" name="cv2" size="4" value=""/></td>
            </tr>
            <tr>
                <td>Expiration Date Year</td>
                <td><input type="text" name="Ecom_Payment_Card_ExpDate_Year"value=""/></td>
            </tr>
            <tr>
                <td>Expiration Date Month</td>
```

```
            <td><input type="text" name="Ecom_Payment_Card_ExpDate_Month"value=""/></td>
        </tr>
        <tr>
            <td>Choosing Visa Master Card</td>
            <td><select name="cardType">
                  <option value="1">Visa</option>
                  <option value="2">MasterCard</option>
                </select>
        </tr>
        <tr>
            <td align="center" colspan="2">
                <input type="submit" value="Complete Payment"/>
            </td>
        </tr>

    </table>
    <input type="hidden" name="clientid" value="<%=clientId%>">
    <input type="hidden" name="amount" value="<%=amount%>">
    <input type="hidden" name="oid" value="<%=oid%>">
    <input type="hidden" name="okUrl" value="<%=okUrl%>">
    <input type="hidden" name="failUrl" value="<%=failUrl%>">
    <input type="hidden" name="rnd" value="<%=rnd%>" >
    <input type="hidden" name="hash" value="<%=hash%>" >
    <input type="hidden" name="islemtipi" value="<%=islemtipi%>" >
    <input type="hidden" name="taksit" value="<%=taksit%>">
    <input type="hidden" name="storetype" value="3d_pay" >
    <input type="hidden" name="lang" value="tr">
    <input type="hidden" name="currency" value="949">
    <input type="hidden" name="firmaadi" value="My Company Name">
    <input type="hidden" name="Fismi" value="is">
    <input type="hidden" name="faturaFirma" value="faturaFirma">
    <input type="hidden" name="Fadres" value="XXX">
    <input type="hidden" name="Fadres2" value="XXX">
    <input type="hidden" name="Fil" value="XXX">
    <input type="hidden" name="Filce" value="XXX">
    <input type="hidden" name="Fpostakodu" value="postakod93013">
    <input type="hidden" name="tel" value="XXX">
    <input type="hidden" name="fulkekod" value="tr">
    <input type="hidden" name="nakliyeFirma" value="na fi">
    <input type="hidden" name="tismi" value="XXX">
    <input type="hidden" name="tadres" value="XXX">
    <input type="hidden" name="tadres2" value="XXX">
    <input type="hidden" name="til" value="XXX">
    <input type="hidden" name="tilce" value="XXX">
    <input type="hidden" name="tpostakodu" value="ttt postakod93013">
    <input type="hidden" name="tulkekod" value="usa">
```

```
        <input type="hidden" name="itemnumber1" value="a1">
        <input type="hidden" name="productcode1" value="a2">
        <input type="hidden" name="qty1" value="3">
        <input type="hidden" name="desc1" value="a4 desc">
        <input type="hidden" name="id1" value="a5">
        <input type="hidden" name="price1" value="6.25">
        <input type="hidden" name="total1" value="7.50">

      </form>
    </center>
  </body>
</html>
```

Response Code Sample

```
<html>
<head>
      <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-9">
      <title>3d Pay Payment Page</title>
</head>
<body>
      <h1>Payment Page</h1>
      <h3> Payment Response</h3>
   <table border="1">
       <tr>
         <td><b>Parameter Name</b></td>
         <td><b>Parameter Value</b></td>
       </tr>

   <%
  String [] odemeparametreleri = new String[
                  {"AuthCode","Response","HostRefNum","ProcReturnCode","TransId","ErrMsg"};
   java.util.Enumeration enu = request.getParameterNames();
   while(enu.hasMoreElements())
     {
       String param = (String)enu.nextElement();
       String val = (String)request.getParameter(param);
        boolean ok = true;
        for(int i=0;i<odemeparametreleri.length;i++)
          {
            if(param.equalsIgnoreCase(odemeparametreleri[i]))
             {
               ok = false;
               break;
             }
```

```
          }
           if(ok)
            out.println("<tr><td>"+param+"</td>"+"<td>"+val+"</td></tr>");
     }
  </table>
  <br>

String hashparams = request.getParameter("HASHPARAMS");
String hashparamsval = request.getParameter("HASHPARAMSVAL");
String storekey="xxxxxx";
String paramsval="";
  int index1=0,index2=0;
 {
   index2 = hashparams.indexOf(":",index1);
     String val = request.getParameter(hashparams.substring(index1,index2)) == null ? "" :
                  request.getParameter(hashparams.substring(index1,index2));
   paramsval += val;
   index1 = index2 + 1;
 }
while(index1<hashparams.length());

//out.println("hashparams="+hashparams+"<br/>");
//out.println("hashparamsval="+hashparamsval+"<br/>");
//out.println("paramsval="+paramsval+"<br/>")  ;
String hashval = paramsval + storekey;
String hashparam = request.getParameter("HASH");
  java.security.MessageDigest sha1 = java.security.MessageDigest.getInstance("SHA-1");
String hash = (new sun.misc.BASE64Encoder()).encode(sha1.digest(hashval.getBytes()));
//out.println("gelen hash="+hashparam+"<br/>");
//out.println("oluşturulan hash="+hash+"<br/>");

String mdStatus = request.getParameter("mdStatus");
  if(mdStatus!=null && (mdStatus.equals("1") || mdStatus.equals("2")
           mdStatus.equals("3")|| mdStatus.equals("4")))
   {
      <h5>3D Transaction is Success</h5><br/>
      <h3>Payment Response</h3>
      <table border="1">
         <tr>
           <td><b>Parameter Name</b></td>
           <td><b>Parameter Value</b></td>
         </tr>
            for(int i=0;i<odemeparametreleri.length;i++)
              {
                String paramname = odemeparametreleri[i];
                String paramval = request.getParameter(paramname);
```

```
                out.println("<tr><td>"+paramname+"</td><td>"+paramval+"</td></tr>");
            }
            </table>
    if("Approved".equalsIgnoreCase(request.getParameter("Response")))
      {
       <h6>Transaction is Success</h6><%
      }
           else
           {
       <h6>Transaction is not Success</h6>
      }
    }
       else
        {
      <h5>3D Transaction is not Success</h5>
     }
      if(!paramsval.equals(hashparamsval)|| !hash.equals(hashparam))
       {
         out.println("<h4>Security Alert. The digital signature is not valid.</h4>");
       }
     </body>
</html>
```

PHP Code Sample

Post Code Sample

```
<html>
<head>
<title>3D PAY</title>
  <meta http-equiv="Content-Language" content="tr">
  <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-9">
  <meta http-equiv="Pragma" content="no-cache">
  <meta http-equiv="Expires" content="now">
</head>
<body>
<?php
$clientId = "XXXXXXXX";
$amount = "9.95";
$oid = "";
$okUrl = "http://<host_address>/3DPayOdeme.php";
$failUrl = "http://<host_address>/3DPayOdeme.php";
$rnd = microtime();
$taksit = "";
$islemtipi="Auth";
$storekey = "xxxxxx";
$hashstr = $clientId . $oid . $amount . $okUrl . $failUrl .$islemtipi. $taksit  .$rnd .
        $storekey;
$hash = base64_encode(pack('H*',sha1($hashstr)));
?>

<center>
<form method="post" action="https://<host_address>/<3dgate_path>">
    <table>
        <tr>
            <td>Credit Card Number</td>
            <td><input type="text" name="pan" size="20"/>
        </tr>
        <tr>
            <td>CVV</td>
            <td><input type="text" name="cv2" size="4" value=""/></td>
        </tr>
        <tr>
            <td>Expiration Date Year</td>
            <td><input type="text" name="Ecom_Payment_Card_ExpDate_Year" value=""/></td>
        </tr>
        <tr>
            <td>Expiration Date Month</td>
```

```
            <td><input type="text" name="Ecom_Payment_Card_ExpDate_Month" value=""/></td>
        </tr>
        <tr>
            <td>Choosing Visa Master Card</td>
            <td><select name="cardType">
                   <option value="1">Visa</option>
                   <option value="2">MasterCard</option>
                </select>
        </tr>
        <tr>
            <td align="center" colspan="2">
                <input type="submit" value="Complete Payment"/>
            </td>
        </tr>
    </table>
        <input type="hidden" name="clientid" value="<?php  echo $clientId ?>">
        <input type="hidden" name="amount" value="<?php  echo $amount ?>">
        <input type="hidden" name="oid" value="<?php  echo $oid ?>">
        <input type="hidden" name="okUrl" value="<?php  echo $okUrl ?>">
        <input type="hidden" name="failUrl" value="<?php  echo $failUrl ?>">
        <input type="hidden" name="rnd" value="<?php  echo $rnd ?>" >
        <input type="hidden" name="hash" value="<?php  echo $hash ?>" >
        <input type="hidden" name="islemtipi" value="<?php echo $islemtipi ?>" >
        <input type="hidden" name="taksit" value="<?php echo $taksit ?>" >
        <input type="hidden" name="storetype" value="3d_pay" >
        <input type="hidden" name="lang" value="tr">
        <input type="hidden" name="currency" value="949">
        <input type="hidden" name="firmaadi" value="My Company Name">
        <input type="hidden" name="Fismi" value="is">
        <input type="hidden" name="faturaFirma" value="faturaFirma">
        <input type="hidden" name="Fadres" value="XXX">
        <input type="hidden" name="Fadres2" value="XXX">
        <input type="hidden" name="Fil" value="XXX">
        <input type="hidden" name="Filce" value="XXX">
        <input type="hidden" name="Fpostakodu" value="postakod93013">
        <input type="hidden" name="tel" value="XXX">
        <input type="hidden" name="fulkekod" value="tr">
        <input type="hidden" name="nakliyeFirma" value="na fi">
        <input type="hidden" name="tismi" value="XXX">
        <input type="hidden" name="tadres" value="XXX">
        <input type="hidden" name="tadres2" value="XXX">
        <input type="hidden" name="til" value="XXX">
        <input type="hidden" name="tilce" value="XXX">
        <input type="hidden" name="tpostakodu" value="ttt postakod93013">
        <input type="hidden" name="tulkekod" value="usa">
        <input type="hidden" name="itemnumber1" value="a1">
```

```
        <input type="hidden" name="productcode1" value="a2">
        <input type="hidden" name="qty1" value="3">
        <input type="hidden" name="desc1" value="a4 desc">
        <input type="hidden" name="id1" value="a5">
        <input type="hidden" name="price1" value="6.25">
        <input type="hidden" name="total1" value="7.50">
</form>
</center>
</body>
</html>
```

Response Code Sample

```
<html>
<head>
<title>3D</title>
  <meta http-equiv="Content-Language" content="tr">
  <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-9">
  <meta http-equiv="Pragma" content="no-cache">
  <meta http-equiv="Expires" content="now">
</head>
<body>
<h1>3D Payment Page</h1>
<h3>Payment Response</h3>
<table border="1">
    <tr>
        <td><b>Parameter Name</b></td>
        <td><b>Parameter Value</b></td>
    </tr>
<?php
 $odemeparametreleri =
        array("AuthCode","Response","HostRefNum","ProcReturnCode","TransId","ErrMsg");
 foreach($_POST as $key => $value)
 {
        $check=1;
        for($i=0;$i<6;$i++)
        {
               if($key == $odemeparametreleri[$i])
               {
                      $check=0;
                      break;
               }
        }
        if($check == 1)
```

```
        {
               echo "<tr><td>".$key."</td><td>".$value."</td></tr>";
        }
  }
?>
</table>
<br>
<br>
<?php
    $hashparams = $_POST["HASHPARAMS"];
    $hashparamsval = $_POST["HASHPARAMSVAL"];
    $hashparam = $_POST["HASH"];
    $storekey="xxxxxx";
    $paramsval="";
    $index1=0;
    $index2=0;

   while($index1 < strlen($hashparams))
   {
               $index2 = strpos($hashparams,":",$index1);
        $vl = $_POST[substr($hashparams,$index1,$index2- $index1)];
        if($vl == null)
          $vl = "";
          $paramsval = $paramsval . $vl;
          $index1 = $index2 + 1;
  }
  $storekey = "xxxxxx";
  $hashval = $paramsval.$storekey;
  $hash = base64_encode(pack('H*',sha1($hashval)));
  if($paramsval != $hashparamsval || $hashparam != $hash)
        echo "<h4>Security Alert. The digital signature is not valid.</h4>";
  $mdStatus = $_POST["mdStatus"];
  $ErrMsg = $_POST["ErrMsg"];
  if($mdStatus == 1 || $mdStatus == 2 || $mdStatus == 3 || $mdStatus == 4)
  {
        echo "<h5>3D Transaction is Success</h5><br/>";

?>
  <h3>Payment Response</h3>
        <table border="1">
            <tr>
               <td><b>Parameter Name</b></td>
               <td><b>Parameter Value</b></td>
            </tr>
<?php
```

```
  for($i=0;$i<6;$i++)
    {
         $param = $odememeparametreleri[$i];
         echo "<tr><td>".$param."</td><td>".$_POST[$param]."</td></tr>";

    }
?>
 </table>
<?php
         $response = $_POST["Response"];
         if($response == "Approved")
         {
           echo "Ödeme Islemi Basarili";
         }
         else
         {
           echo "Transaction is not Success. Error = ".$ErrMsg;
         }

 }
 else
 {
    echo "<h5>3D Transaction is not Success</h5>";
 }
?>
</body>
</html>
```

APPENDIX A: Gateway Parameters

Mandatory Input Parameters

Parameter	Description	Format
clientid	Merchant ID	Maximum 15 characters
storetype	Merchant payment model	Possible values: "pay_hosting", "3d_pay", "3d", "3d_pay_hosting"
islemtipi	Transaction type	Set to "Auth" for authorization, "PreAuth" for preauthorization
amount	amount transaction amount	Use "." or "," as decimal separator, do not use grouping character
currency	ISO code of transaction currency	3 characters (example: 949 for TL)
oid	Unique identifier of the order	Maximum 64 characters
pan	Card number	Maximum 20 digits
Ecom_Payment_Card_ExpDate_Year	Card expiry year	4 digits
Ecom_Payment_Card_ExpDate_Month	Card expiry month	2 digits
okUrl	The return URL to which Nestpay redirects the customer if transaction is completed successfully.	Example: http://www.test.com/ok.php
failUrl	The return URL to which Nestpay redirects the customer if transaction is completed unsuccessfully.	Example: http://www.test.com/fail.php
lang	Language of the payment pages hosted by Nestpay	"tr" for Turkish, "en" for English
rnd	Random string, will be used for hash comparison	Fixed length, 20 characters
hash	Hash value for client authentication	

Optional Input Parameters

Parameter	Description	Format
refreshtime	Redirection counter value(to okUrl or failUrl) in seconds.	
encoding	Encoding of the posted data. Default value is “utf-8” if not sent	Maximum 32 characters
description	description	Maximum 255 characters
taksit	Instalment count	Number
xid	Unique internet transaction ID	28 characters, base64 encoded
Email	Customer's email address	Maximum 64 characters
firmaadi	BillTo company name	Maximum 255 characters
Faturafirma	BillTo name/surname	Maximum 255 characters
tel	BillTo company Phone	Maximum 32 characters
Fadres	BillTo address line 1	Maximum 255 characters
Fadres2	BillTo address line 2	Maximum 255 characters
Filce	BillTo city	Maximum 64 characters
Fil	BillTo state/province	Maximum 32 characters
Fpostakodu	BillTo postal code	Maximum 32 characters
Fulkekodu	BillTo country code	Maximum 3 characters
NakliyeFirma	ShipTo company	Maximum 255 characters
tismi	ShipTo name	Maximum 255 characters
tadres	ShipTo address line 1	Maximum 255 characters
tadres2	ShipTo address line 2	Maximum 255 characters
tilce	ShipTo city	Maximum 64 characters
til	ShipTo state/province	Maximum 32 characters
tpostakodu	ShipTo postal code	Maximum 32 characters
tulkekod	ShipTo country code	Maximum 3 characters
idl	Id of item #l, required for item #l	Maximum 128 characters
itemnumberl	Item number of item #l	Maximum 128 characters
productcodel	Product code of item #l	Maximum 64 characters
qtyl	Quantity of item #l	Maximum 32 characters
descl	Description of item #l	Maximum 128 characters
pricel	Price of item #l	Maximum 32 characters
amount	Subtotal of item #l	Maximum 32 characters

Transaction Response Parameters

Parameter	Description	Format
AuthCode	Transaction Verification/Approval/Authorization code	6 characters
Response	Payment status	Possible values: "Approved", "Error", "Declined"
HostRefNum	Host reference number	12 characters
ProcReturnCode	Transaction status code	2 digits, "00" for authorized transactions, "99" for Nestpay errors, others for ISO-8583 error codes
TransId	Nestpay Transaction Id	Maximum 64 characters
ErrMsg	Error message	Maximum 255 characters
ClientIp	IP address of the customer	Maximum 15 characters formatted as "###.###.###.###"
ReturnOid	Returned order ID, must be same as input orderId	Maximum 64 characters
MaskedPan	Masked credit card number	12 characters, XXXXXX***XXX
EXTRA.TRXDATE	Transaction Date	17 characters, formatted as "yyyyMMdd HH:mm:ss"
rnd	Random string, will be used for hash comparison	Fixed length, 20 characters
HASHPARAMS	Contains the field names used for hash calculation. Field names are appended with ":" character	Possible values "clientid:oid:AuthCode:ProcReturnCode:Response:rnd:" for non-3D transactions, "clientId:oid:AuthCode:ProcReturnCode:Response:mdStatus:cavv:eci:md:rnd:" for 3D transactions
HASHPARAMSVAL	Contains the appended field values for hash calculation. Field values appended with the same order in HASHPARAMS field	Fixed length, 28 characters
HASH	Hash value of HASHPARAMSVAL and merchant password field	Fixed length, 20 characters

MPI Response Parameters

Parameter	Description	Format
mdStatus	Status code for the 3D transaction	1=authenticated transaction 2, 3, 4 = Card not participating or attempt 5,6,7,8 = Authentication not available or system error 0 = Authentication failed
merchantID	MPI merchant ID	15 characters
txstatus	3D status for archival	Possible values "A", "N", "Y"
iReqCode	Code provided by ACS indicating data that is formatted correctly, but which invalidates the request. This element is included when business processing cannot be performed for some reason.	2 digits, numeric
iReqDetail	May identify the specific data elements that caused the Invalid Request Code (so never supplied if Invalid Request Code is omitted).	
vendorCode	Error message describing *iReqDetail* error.	
PAResSyntaxOK	If PARes validation is syntactically correct, the value is true. Otherwise value is false.	"Y" or "N"
ParesVerified	If signature validation of the return message is successful, the value is true. If PARes message is not received or signature validation fails, the value is false.	"Y" or "N"
eci	Electronic Commerce Indicator	2 digits, empty for non-3D transactions
cavv	Cardholder Authentication Verification Value, determined by ACS.	28 characters, contains a 20 byte value that has been Base64 encoded, giving a 28 byte result.
xid	Unique internet transaction ID	28 characters, base64 encoded
cavvAlgorthm	CAVV algorithm	Possible values "0", "1", "2", "3"
md	MPI data replacing card number	Alpha-numeric
Version	MPI version information	3 characters l(ike "2.0")
sID	Schema ID	"1" for Visa, "2" for Mastercard
MdErrorMsg	Error Message from MPI (if any)	Maximum 512 characters