



**SJS SOLUTIONS**  
IMPROVING CUSTOMER CARE

# **Optymyse**

## **Generating Request Headers and API Signature**

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# 1 Request Headers

When sending any requests to the Optymyse API, you have to ensure that certain headers are added.

Name	Description
X-Timestamp	The UTC Unix timestamp of the request
X-API-Key	System API key - found in <b>Configuration</b> area
X-API-Signature	<i>A generated signature derived from the data being sent</i>

Assuming our API key is `apikey` and our secret key is `secretkey`: The signature is generated the following logic:

```
SHA256(SHA1(secretkey) + '#' + request_data + '#' + timestamp)
```

The `request_data` parameter is different depending on the type of request that is being made.

Request	request_data
GET	String containing all request parameters, lowercased, sorted alphabetically and joined using '=' and '&'.
POST	A serialized string representation of the object that is being transferred.
PUT	A serialized string representation of the object that is being transferred.
DELETE	String containing all request parameters, lowercased, sorted alphabetically and joined using '=' and '&'.

## 2 API Signature Code Examples

Here is an example of how to generate the signature for a simple GET request in VB.Net

```
Imports System.Security.Cryptography
Imports System.Text

Namespace OptymyseIntegration
    Class Program
        Public Shared Function SHA1(data As String) As String
            Dim sha1Obj As New SHA1CryptoServiceProvider
            Dim bytesToHash() As Byte = System.Text.Encoding.UTF8.
GetBytes(data)
            bytesToHash = sha1Obj.ComputeHash(bytesToHash)
            Dim strResult As String = ""
            For Each b As Byte In bytesToHash
                strResult += b.ToString("x2")
            Next
            Return strResult
        End Function
        Public Shared Function SHA256(data As String) As String
            Dim sha256Obj As New SHA256CryptoServiceProvider
            Dim bytesToHash() As Byte = System.Text.Encoding.UTF8.
GetBytes(data)
            bytesToHash = sha256Obj.ComputeHash(bytesToHash)
            Dim strResult As String = ""
            For Each b As Byte In bytesToHash
                strResult += b.ToString("x2")
            Next
            Return strResult
        End Function
        Private Shared Sub Main()
            Dim utcTimestamp As TimeSpan = DateTime.UtcNow - New
DateTime(1970, 1, 1, 0, 0, 0, 0, DateTimeKind.Utc)
            Dim iTimestamp As Integer = Int(utcTimestamp.
TotalSeconds)
            Dim secretKey = "secretkey"
            dim signature = SHA256(SHA1(secretKey) & "#" & "a=1&b=
2&c=3" & "#" & iTimestamp)
            Console.WriteLine("Voila! A signature: " & signature)

            Console.ReadKey()
        End Sub
    End Class
End Namespace
```