
Subject: HttpRequest : Add custom authentication capability

Posted by [omari](#) on Fri, 01 Apr 2016 16:26:30 GMT

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Hi,

i am trying to use NTLM authentication with HttpRequest,

for NTLM, i note the following particularity:

- Use 3 "GET" request.
- Keep connection alive between at least the last two request.
- Use DES encryption.

After analysis of the used authentication mechanism in HttpRequest, I propose the following patch:

- 1 - remove the member variable "force_digest" et "digest"
- 2 - add a new member variable String "authenticate_header"
- 3 - in the void HttpRequest::StartRequest(), replace :

```
if(!IsNull(digest))
    data << "Authorization: Digest " << digest << "\r\n";
else
    if(!force_digest && (!IsNull(username) || !IsNull(password)))
        data << "Authorization: Basic " << Base64Encode(username + ":" + password) << "\r\n";
```

by

```
data << authenticate_header;
```

- 4 - change 401 error management, in void HttpRequest::Finish(), replace :

```
if(status_code == 401 && !IsNull(username)) {
    String authenticate = header["www-authenticate"];
    if(authenticate.GetCount() && redirect_count++ < max_redirects) {
        LLOG("HTTP auth digest");
        Digest(CalculateDigest(authenticate));
        Start();
        return;
    }
}
```

by

```

if(status_code == 401) {

String authenticate = header["www-authenticate"];
if(authenticate.GetCount() && redirect_count++ < max_redirects) {
if(!IsNull(username) || !IsNull(password)) {

    if(authenticate.StartsWith("Basic"))
    {
        authentic_header = "Authorization: Basic " + Base64Encode(username + ":" + password)+
"\r\n";
    }
    else
    if(authenticate.StartsWith("Digest"))
    {
        LLOG("HTTP auth digest");
        authentic_header = "Authorization: Digest " + CalculateDigest(authenticate) + "\r\n";
    }
    else
    {
        WhenAuthentication(*this);
    }
}
else {
    WhenAuthentication(*this);
}

if(keep_alive)
    StartRequest();
else
    Start();

return;
}
}

```

5 - WhenAuthentication is declared as:

```

Callback1<HttpRequest> WhenAuthentication;

```

6 - Add a method void ForceBasic(String user, String pw)

```

void ForceBasic(String user, String pw) {authentic_header << "Authorization: Basic " <<
Base64Encode(user + ":" + pw) << "\r\n";}

```

with this patch, a custom Authentication function can be added :

```
void Authenticate(HttpRequest& http)
{
    String www_authenticate = http.GetHeader("www-authenticate");
    if(!www_authenticate.StartsWith("NTLM"))
    {
        return;
    }
    //...
}
...
HttpRequest r;
r.WhenAuthentication = callback(Autenticate);
```

Subject: Re: HttpRequest : Add custom authentication capability

Posted by [mirek](#) on Thu, 07 Apr 2016 21:03:42 GMT

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Sounds like a good idea. I do not have energy to check this now, but I promise to incorporate this ASAP.

Subject: Re: HttpRequest : Add custom authentication capability

Posted by [mirek](#) on Tue, 19 Apr 2016 11:05:39 GMT

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Something along these lines is now implemented.

I really did not like "ForceBasic" - that is changing current behavior.

Digest authentication is now implemented through new interface just as "default callback", so I hope what I have done will be good for NTLM as well.

That said, if you succeed, I would like to have NTLM AT LEAST in bazaar, but maybe directly in HttpRequest...

(Check docs for details).

Mirek

Subject: Re: HttpRequest : Add custom authentication capability

Posted by [omari](#) on Thu, 21 Apr 2016 15:32:47 GMT

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I would be happy to contribute to U++.

mirek wrote on Tue, 19 April 2016 12:05

I really did not like "ForceBasic" - that is changing current behavior.

in the current behavior, Basic Authentication is used without explicit action from user.

for security purpose, i think that the default shall be "No Basic Authentication", and need an explicit action from user, at least if there is no SSL.

Subject: Re: HttpRequest : Add custom authentication capability

Posted by [mirek](#) on Fri, 22 Apr 2016 07:39:09 GMT

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Well, that is not entirely true - to get basic authentication, you need to define user/password. At that point, it is similar to setting "ForceBasic".
