

How do banks remember "your computer"?

Asked 16 years, 3 months ago Modified 9 years ago Viewed 13k times



24



As many of you probably know, online banks nowadays have a security system whereby you are asked some personal questions before you even enter your password. Once you have answered them, you can choose for the bank to "remember this computer" so that in the future you can login by only entering your password.

How does the "remember this computer" part work? I know it cannot be cookies, because the feature still works despite the fact that I clear all of my cookies. I thought it might be by IP address, but my friend with a dynamic IP claims it works for him, too (but maybe he's wrong). He thought it was MAC address or something, but I strongly doubt that! So, is there a concept of https-only cookies that I don't clear?

Finally, the programming part of the question: how can I do something similar myself in, say, PHP?

https

onlinebanking

sessiontracking

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asked Aug 28, 2008 at 18:37



A. Rex

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32k ● 21 ● 94 ● 97

10 Answers

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In fact they most probably use cookies. An alternative for them would be to use "[flash cookies](#)" (officially called "[Local Shared Objects](#)"). They are similar to cookies in that they are tied to a website and have an upper size limit, but they are maintained by the flash player, so they are invisible to any browser tools.

To clear them (and test this theory), you can use [the instructions provided by Adobe](#). An other nifty (or maybe worrying, depending on your viewpoint) feature is that the LSO storage is shared by all browsers, so using LSO you can identify users *even if they switched browser* (as long as they are logged in as the same user).

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answered Aug 28, 2008 at 18:45

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Grey Panther

13.1k ● 7 ● 49 ● 67



7



The particular bank I was interested in is Bank of America.

I have confirmed that if I only clear my cookies or my LSOs, the site does not require me to re-enter info. If, however, I clear both, I had to go through additional authentication. Thus, that appears to be the answer in my particular case!



But thank you all for the heads-up regarding other banks, and possibilities such as including the User-Agent string.

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answered Aug 28, 2008 at 20:31

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Anonymous Rex



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This kind of session tracking is very likely to be done using a combination of a cookie with a unique id identifying your current session, and the website pairing that id with the last IP address you used to connect to their server. That way, if the IP changes, but you still have the cookie, you're identified and logged in, and if the cookie is absent but you have the same IP address as the one save on the server, then they set your cookie to the id paired with that IP.

Really, it's that second possibility that is tricky to get right. If the cookie is missing, and you only have your IP address to show for identification, it's quite unsafe to log someone in just based of that. So servers probably store additional info about you, LSO seem like a good choice, geo IP too, but User Agent, not so much because they don't really say anything about you, every body using the same version of the same browser as you has the same.

As an aside, it has been mentioned above that it could work with MAC addresses. **I strongly disagree!** Your MAC address never reaches your bank's server, as they are only used to identify sides of an Ethernet connection, and

to connect to your bank you make a bunch of Ethernet connections: from your computer to your home router, or your ISP, then from there to the first internet router you go through, then to the second, etc... and each time a new connection is made, each machine on each side provide their very own MAC addresses. So your MAC address can only be known to the machines directly connected to you through a switch or hub, because anything else that routes your packets will replace your MAC with their own. Only the IP address stays the same all the way. If MAC addresses did go all the way, it would be a privacy nightmare, as all MAC addresses are unique to a single device, hence to a single person.

This is a slightly simplified explanation because it's not the point of the question, but it seemed useful to clear what looked like a misunderstanding.

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answered Aug 28, 2008 at 22:44

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[Florian](#)

1,745 ● 3 ● 14 ● 13



1

It is possible for flash files to store a small amount of data on your computer. It's also possible that the bank uses that approach to "remember" your computer, but it's risky to rely on users having (and not having disabled) flash.



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answered Aug 28, 2008 at 18:41

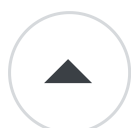


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[Kyle Cronin](#)

79k ● 45 ● 151 ● 167



1

My bank's site makes me re-authenticate every time a new version of Firefox is out, so there's definitely a user-agent string component in some.

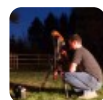


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answered Aug 28, 2008 at 18:43



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[ceejayoz](#)

180k ● 41 ● 308 ● 380



1

It could be a combination of cookies, and ip address logging.



Edit: I have just checked my bank and cleared the cookies. Now I have to re-enter all of my info.



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edited Dec 15, 2013 at 20:37



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[peterh](#)

12.6k ● 20 ● 89 ● 113

answered Aug 28, 2008 at 18:38



JimmyJ

4,441 ● 3 ● 28 ● 25



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I think it depends on the bank. My bank does use a cookie since I lose it when I wipe cookies.

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edited Dec 3, 2015 at 19:46



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Siyual

16.9k ● 8 ● 46 ● 59



answered Aug 28, 2008 at 18:41



EBGreen

37.6k ● 12 ● 68 ● 86



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Are you using a laptop? Does it remember you, after you delete your cookies, if you access from a different WiFi network? If so, IP/physical location mapping is highly unlikely.

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answered Aug 28, 2008 at 18:41



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Brian Warshaw

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Based on all these posts, the conclusions that I'm reaching are (1) it depends on the bank and (2) there's probably more than one piece of data that's involved, but see (1).



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answered Aug 28, 2008 at 18:45



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Thomas Owens

116k ● 99 ● 317 ● 436



MAC address is possible.

-1



IP to physical location mapping is also a possibility.

User agents and other HTTP headers are quite unique to each of the machines too.



I'm thinking about those websites that prevent you from using an accelerating download manager. There must be a way.

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answered Aug 28, 2008 at 18:39

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chakrit

61.5k ● 25 ● 136 ● 163

2 wrong, mac address is on layer 2 they only have access to layer 3 or upper layers – Nils Mar 11, 2009 at 20:49
