### Network\_week3\_tutorial3-20240919

说话人1 00:01  
Funding, as they say, that http particle and rigorous, it is steadily, that means, is it up? You have contact. There are no state, or we call them there and take a time you need a put out there, but they use most of the commercial as well. As we say, you are in our proxy, you call the cookies, ask you whether you agree or not. Once you put the cookies in your side, client side, and you keep on record the particular upid to access that website. Certainly, your information will be stored in their back in and database. So there are positive side. You broken down and recovery, just retrieved things. But the bad thing is your information you are rather cases in the internet, but that we decide that they are always recalling that can make use that information, analyze your hobbies and talk to you about your money and your policy.

And as you here, we use typical copy, remember, so this particular crime regional is called ebay going to dot d this is now the first time this guy, what we said the agency requested to afterwards when service, right?

So the afternoon server first, come back. The server server in the tickets are back. Like I have another city with all these are from previously. Certainly they didn't find them this guy recall. So then the creator of human id for this guy, ok this is who you are, your ip address, your user id so you only have couple of export checking, and you open your bank on your company. You have all of them saying to verification.

After that, the second time, the third time you only logging in, maybe use the verification simple application. Actually they also use cocaine in the back at the end of database once. Then in terms of server response, the request. So then send it back. But here they are already sad, is a guy of unique id then in terms of the brother of user side, five side, this id already put in there, brothers history story there. So where is the time that's the request? Actually, all communication, the unit id and you do not have other. So you can do that. So once, for example, one we get after, maybe half a year after, still want to access that. Because of the I took out really already started in your problems. Iii miss you clear on your history, everything from where we are getting. But otherwise you are always there. They are always having cheers to cheers their database and find you.

So that's it. So we said because everything the internet, you giving a string is right. And why is that consider you? That should be the other? You got to say it. So was the digital in terms of decent december? That's number. You don't know. So you need to use the dns how massive is a the solution to solve this problem. So there are two ways to do that. One is just go to the road directly, and then the next they are. Ecd there have got a man, for example, the dot eu dots there about the same country and the company organization, epu et cetera. That's how to do that. You are enjoying. So I originally or use a recursive way, two ways that are being produced, but sometimes it's very expensive. Instead, we use so called proxy to do these things.

The proxy one thing is, for example, this guy who passed the video of the car newspaper, the third time is a request, but you are local of a proxy server and the evil ok you first look at the work of change whether they have backed up on replicate this one, if not this your proxy on your behalf to request the original server ok in the news newspaper, then send it back to you, but all of your communications through the local policy, the prophecy put on a copy locally, then the second customer send a similar request.

First of doing local proxy, probably find ok it is here. So instead sent to you rather than go to, do you okay? Several time to come up on the newspaper? So that one is not just the same. Your response delay will not very quickly also reduce the I didn't have as a catholic, you may have to get a lot of benefits. Right? Sometimes this package, maybe your originals are have completely decided or not.

So in that case, you can send it. You guys without the document is updated or not through the prophecy. That's you can achieve that. This simple case. We already talked about the dna is very important, is a hierarchy structure. For example, the role that dna is silver is gonna call for the party, for the eu than the countries, et cetera. And further for each category, the third they are, for example, company or company one. No. This not, as I said, even the road not you just the fingers over the road globally. There are 13 replicates. Maybe our new issue is stability. If everybody go to the vr the system broken down or the system broken down, nobody can. And a little bit of access. So a multiple one like 30, you can go to one of the 31. So the all the a failure of probability is very small.

I don't know, for example, in this particular case, one guy want to look at ip address. How little are their present is a full time exhibition, so you should go to dnas from here, you will find what's the second call trg dot m is actually a company, right?

From this company. You can sort of find a universe company to get online that dns and so I guess so then after you got this, then you send them this one term for ipfs you can access it. We are on the server, okay? We have to give the resolution why is so called operate them. Part. So that means you start, for example, you request the new york university engineering website, you go to local proxy, you are local to check it later. Do you ok have start here, if not, you, this local go to the a road, there is a road, right? The road that tell you the recording these are ready. Each time you going here, you send invest the request response to you, ok the second and ltdl website, ok then you send it to tdl inside.

So this is we tell you what's the new york edu where about, okay?

So then according to this, you contact the new york university silver, okay? Then you have the silver of this part of your request and send you back. In this case, the dominate and the most busy part is your local proxy. Because the local bureaucracy you commented, for example, cdu uk on the small side has number thousand in the hong kong side, maybe a little more than 20,000 people over there is right, so easy to handle. So this actually is a practice. We talked, these are rich way to do that. The second one is a recursive one. I guess you guys have, maybe in the first program already single down there. So initially, you request the local proxy, whether it's there or not, they probably going to a road ok the road then request the next one. They are pip same with our company is which one the charity is sale of quality, they find amazon server address. I'm going to do so well then for the reply to recursive, go back to who requested to him, oktf is over.

The charity is over, then send back who request the vision is rolled into the world. Ok wrote the server down after send it back into the local proxy and local proxy here. This strategy typical doesn't work. For example, the road server, as I mentioned, globally only 13. So if you ten, 1 billion people, the chinese china is 1 point 4 million, right? 1 million people go to this server. At the same time. The server are definitely crash. So the most of the workload is here, then this year. So this doesn't work, then it doesn't work by your knowledge, but for bigger organization like amazon global, microsoft, they are enough in the local side in the amazon. They may be single market is markers of the overall road then for the category.

Now again, this is researching division is cr division is the financial occasion, and you can set up. So you cannot talk to. There is a replaceable parts, and this is to give you one.

Now we try to work with the question. This one, actually, last time we already mentioned, we have to from a seven to b one is the following reason. Why is the capital is? Suppose the air has a higher assigned 150. Is that to be? So how much in second possible will be received at the first of the fire and to be received the entire fire? So this 42 is right. I give you guys 10 minutes. I will be back at 52.

We try to figure out the these questions very quickly. I don't know if you didn't do that, I trading in another airport initial, but all of them there are five questions. You can start it out. But everyone finish this is an apartment. The world for the problem is you need to read carefully. That's it. There from a to b you have one kid with a fire to be sent to from a to b but from an 80 motor is 40 ° per second. From the rotor to b is having a second, probably ok be careful how much time in seconds will possible from time will be received that the first bit of the fire until these. So that means be already giving the course of the people five, even without this assumption, then you may be the count on the first.

Second, how many people they reached the first rotor with the rotor of the car? Because they already assume the first leader of already be. So you have 40 and 10 in this ruling power and the model it is here. So you fire demand more than that. It makes equals how much time required the total, because you can see in the basic unit is negative, one gigabyte equals 1,000 -. So that be the good part of all. That is time limited. So 1 50 equals one thousand, right? Divided by ten, the 100 seconds. The second is five. This is very simple.

Now, the second question, suppose you have a little ground. You want to look at with my address, the ip address for such as you are giving the cash that you are local, one not yet. So you need to das to look up. That means you go to the the road and charity, et cetera. So that means the entire procedure is taking you about. Follow me a second, you get the ip address. The weather paid associated with look up doesn't reference any object. So that means you passed the server to do that. The rtp from your side r to the http is run a trip, which is 1 safety million or seconds. Assume the transmission time, the htma file object is zero. How much time he lives from within the cloud click on the link until the cloud receive the htma and file? Do anybody have calculated how much time required? If you want to be shot the first thing? They say that you have this url but you don't know on the address.

So you need to go to the dns to find that the total cost 5 minutes seconds. Then your things, the idea in the digital address, then you access these two. So the first time we have a shaky, right? The second time you use http that means rtt zero plus to rrtdhttp denied. This Is 35, so that basically, the first time you don't know this, you are about, you need to go to dns that's taken 5 million seconds to find that one. Then use this uil in 2015. The second investor. The page is information. You have two rtd rtda http 75 in a seconds.

And so you have everyone. This one of the complicated we have to look at the question. This is we actually in the classroom talk about the use the local promises, what's the benefit? You want specific example that you got can make it. Who know that are you? In addition? All right. Consider available to show in the right hand side. On this side, there are two use of machines and the one and 22 machines.

In the network dot a this a come, m one, m two, right? Suppose the user in m one and dot a com, talk to this guy at the ui ww b dot com, a big fire html. This is in here. This is internet side is user side. This is the local http cash. This is the local dns server, dns is that a traditional one? So the local the transition region is 100 per second. Okay? Suppose the use of m one. This guy is here. Request our document from here is with one g b okay? Is here we have the following assumptions.

Now we're close the assumption the package companion, any deal is to come out and igdp comma. This is just say the control part, okay? Are very small coming on aa bigger fire assigned. What could it be? That's very small. So that control time by the can be ignored by the propagation time, we need to calculate. Propagation delay within them are small in the local propagation delay. I need a lot, small carry a a lot. The propagation from r one to r two is small. From here to here is also more involved. The propagation unit from a company here to any other side to the internet. Any other side is exactly come this one, because you need that is 500 million seconds. It doesn't mean it's 1/2 seconds. This is a bunch of assumptions.

So these the 70s of dna and the ngtdp message send and received from by a one column as any other message receiving view from the dead markets are not directly with this. The first thing. And then you want to figure out how to calculate this. Okay? Then, okay, until the final reserved indicate a source of destination is investing, you can assume every agency request by anyone. How is the first director a local one? Then all cash are initial empty. That is a lot of do not have one. All request the user operated area ok so indicated to kind of carry your life back at the time anyone received the fire.

So in this case, we may be got a suffer, for example, and maybe go up and back with. Ii I put up 1 minute, I you. Yes, the content more. So now, suppose you buy from here. What are you really trying to figure out? How do you do that? This will not matter the entire procedure to getting the file from the ww dot the dot com, the very first. What do you do? Where was the step where you have come here? Another, go to the that what do you do? Mostly you check your local, this one, right? Okay. I have that because the initial or some assumption local is empty is right. So the energy, what do you do? The next step? She back from the internet. Thanks. So where are you going to go to the internet? Why you should be going to the dns road is right, is on the side. And this why you you probably go after this uil which many of right?

Once that you got it, what do you do? This one, basically, they see it. And once you should talk to, because this one, f is right, then and this won't tell you following the tld it's right. Is it clear? On page three? Here is what I tell you, what the next one. This is tell you what's the dot com about, right? So is that you got about the problem? Hong kong, 4th and 4th. The dot com basically tell you this b dot com, do I have what? This is an independent here. Now you are able to from here, you are able to go to here to because this already covered this address, how this is. Dna is for this one. The local ok you have a feedback. How do you use the operating one? Each time you send out, you need to get this.

Once you got here, so you have to access this stuff, this and server, very much is this procedure. It's it's do anyone disagree with me regarding this is correct or not? Okay. Once you've got amazing stuff, you can easily to answer the very first question. We can step by step, the first step, request, first step, if you request local opinions is right. So because the local dns so that means you do not have to do the time because they are seeing a lot of small things. You do not have any time kind of a lot.

Okay, then and local dns, local against uk president, and then they're sending you back is right. So this empty those things there, how much time to be part? So 500 millisecond is right, ok so the local response, maybe ii guess there is here and is ok then you go to the second step to dns dns and dns then dnas go to pdpdple purely to come this three, right? Each of these 2 + 3 + 4.

This is how much we buy. You have to send a request and come back. How much assumption is a 500 seconds. It's like, after you got, you got here. So once you you got here, already getting this stuff already, right? Then from here, you could step five to the low quality verification is right. The local verification that's taking the problem can ignore, because once you're doing this, then you immediately doing this. Right? So now is the major issue is for on this one, how much time do you find? So? That is not because you have 1,000. That's basically said and this is 1,000 °, right? Mister raiders, you say 1 year and 21, 1,000 seconds, then you can see be careful. Then we have from being to cash, and then 1 second is seven to.

Okay, so from here, this seems something wrong, but you got the six, right? Six, actually, not 7 to 0 6, it should be sent to here, right? Goes into the cash, is right, the local cash. Then the local cash is sent back into to you. So this is seven, because the local is that, so from local is wanting to be, okay. So five, this is it was 56 to six to here. The 11 five of them do not have anything. And this is the six. All right? Since we are from, they are seven to the m one, they don't come. This is local is one g local rate is one, g one, g one, g equal one, the total on the time. That's 1234, and across the top four elements, 2 seconds, right? The 1,000 seconds, and 1 seconds, because of 1,003 seconds, is clear for everyone. So everyone is not really that the best procedure you should clear.

First of all, you need to look at your local dns whether this ipms let's say it's empty, then you go to. Dns is right on the road that can tell you what's the key guarantee. Is that charity is come, then go to the camp categories, right? So the company teller is to tell you this become whereabouts. So then you search b because this is a large organization. There have a lot of this correspondent. Dna is that then you back to access data. So the buyer of ones you come for always go through local with the cash is not with a proxy. The proxy is about this one. Then forward to you, that means step seven become local is the boundary that you got it. So the total procedure you can see the dns contact is found 500 milliseconds, 12, and 3. So that's easy for the going to be here, then here, and here, each of these. The assumption is 500 milliseconds is right.

So then from here to there is no there. 65, no, nothing from here to there is actually equal to here. Because this part is you can be normal, but you download to here. We take you one thousand seconds. Once you've got a local cache, you send it to this server. So the local is 1 gigabyte per second. So then you told a couple of 1,000 3 seconds. Okay, so you need it in your mind. Very clear, was a lot of procedure. This is maybe you got to. I probably way to do that. If you wanted to practice it, if you doing recursive way, how do you approach this? You can go home to sit up. Okay, this is the first time you suppose you have local cash, local cash doesn't provide you any kind of hair because it's empty.

Now, the second question to ask you, ok so you can go home to that. This is not ok that's you gotta the time is not this. You will have a solution. The second one, because everything that has the data already. So you don't need worry about that. So you don't need to you given these be come immediately got is ibs called from the the local ok so that's what about become local already started that one. So you can easily got it. All right. There are no time to do that. So also you send this command to them. This only just because of the data already started in local cash. You just from local cash move to for your server, just take 1 second to that the rest. You don't do anything because everything there compared.

The third question, the first question is you access on the dot com. Previously, this means you already have so called cookie id over there, the website, the item you brought before and from some of the competition to you, explain how this happens. Actually. We just said they have back and database your client id already over there. They use cooking to check you what about this cookies that in your side of the big brother permanently? When you brought the item, the cookie item id are saved in the back database on their website.

When you visit the They know what are you previously doing. So this is basically that you understand logic, the procedure of how it happened easy. So the last question a little bit, unless you review the previous we talk about the HTTP is and there are two versions. One is a low persistent motion. One is the persistent version. We're first one. Suppose this content have objects. The website referred very small for each. We have answer following two questions. How many entities do you request messages? But the brother is sent to retrieval all objects. How many articles are native until driving? What was basically? Or this is just a general case. We have actually four different situations.

The website contains ten objects, right? Very first one. You can open up to five parallel the the channel to do that. This, what about the terms are t how many do everybody understand? You have one, right? 12345, because you have ten objects is right. First of all, you need, in this case, the course of the art you must require is because you want the data Entity, and they are fired, right? Okay? Then this is kind of objects you find. That means each of these is located to, right? Two, because you can use no persistent one. So two with each of this kind of compiler, one of the five, right? This two, you need four rtp is it clear? Become the two objects that do that? All of this in parallel?

Just this four rtt plus the initial two rtt four rtt the two ret I am supposed about the ok 6 hour teaching to I about $6. Is it clear? Because of the political argument, you need a bit of education on fire, the ten objects above, because then this kind of death you can do in parallel doesn't consider two objects. Do you have a shaking and done of the first one close and putting second one and the second one?

So that's true. But each of the two rgd four rgd because this five group can do in the same time in parallel. That's why we just need the four rgd right? Is it clear? So that's for this one. The baby, if you have use the persistent, how many are you require? How many? So in terms of consistent are okay. Initially, to rtd you also needed because you want to get the 55. This part, you have 5 groups, each group where you have first article under shaking, the second article, you request this data is right. So that means two, no worst, okay? Sorry. First, the rtt is hundred 30 ok hundred 60. Then the second one is htmahtma the third one is you have five things, no matter. We just because you have ten objects, you can petition as a father, doesn't matter.

So then once the finish is closed, the total, no matter how many you got the three rt TS ok this is on this one. It doesn't means you three rt you can do this, no matter how many. I'm sorry, for c and the situation is single TCP that means the persistent one. You already know that 10 + a basic object and each opportunity, because each of you, the hand shaking, finished, and closed, that means is 22, right?

Next one, if is apply a consistent one, the first two, you down on the htma fire, then you would from this htma fire, you can find the ten object, uil is right. You send a request that get a reply, total three in terms of persistent, very much. No matter how you can, they need the three rt TS ok that's all for today. Sorry. If you have further passed, it may be just a 7 °. I may be. Now we need to send a family replies and we probably you are supposedly able to access the solution. By now, I suggested you go home to, if you're not really solved problem, you have the reading lectures, slides, and our textbook and hard work by yourself. Even in the end, you couldn't pick out, then you maybe take a different solution. Otherwise, you can just look at it. You wouldn't really understand the knowledge.