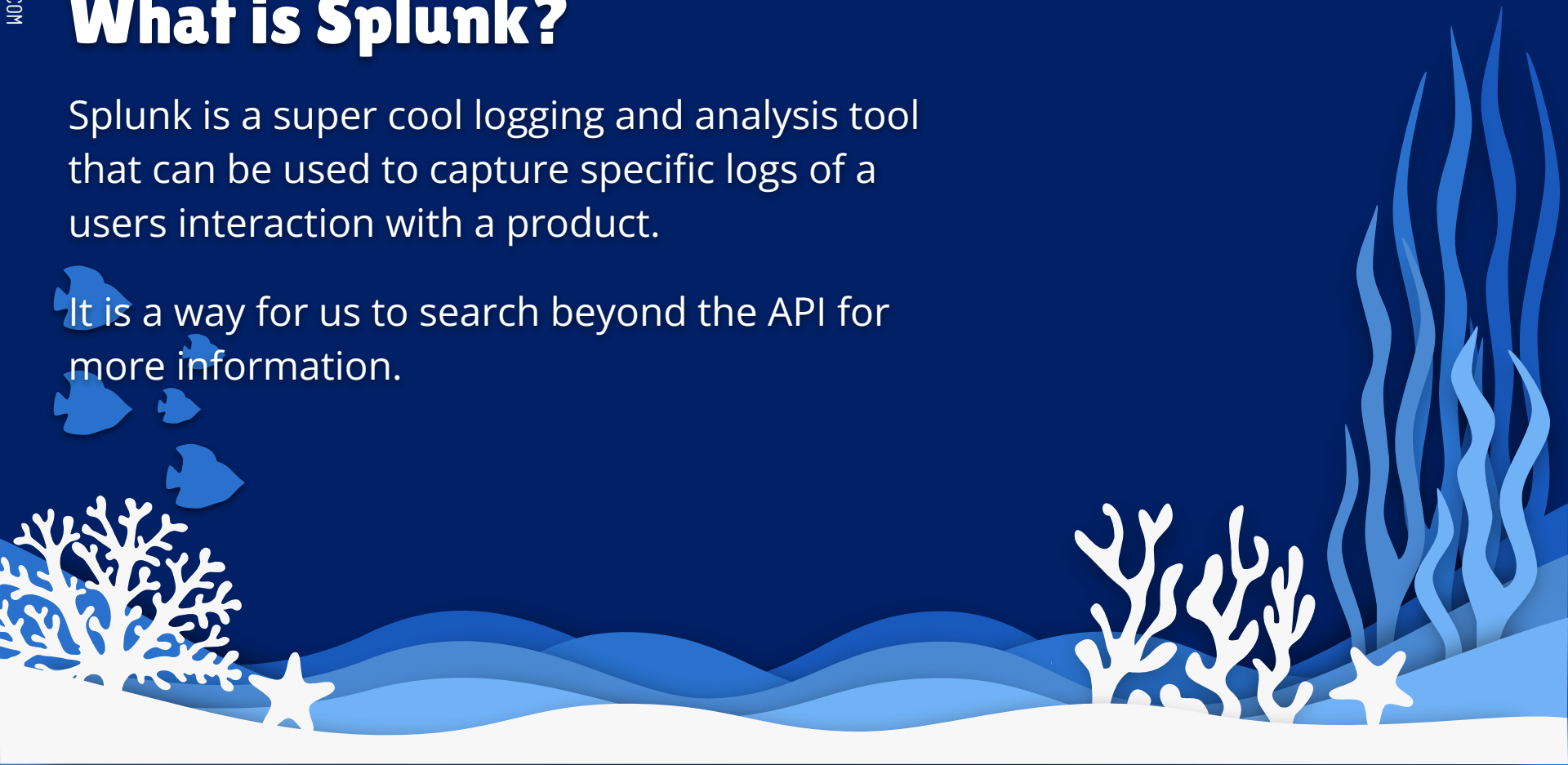
Splunk

The How to Guide

What is Splunk?

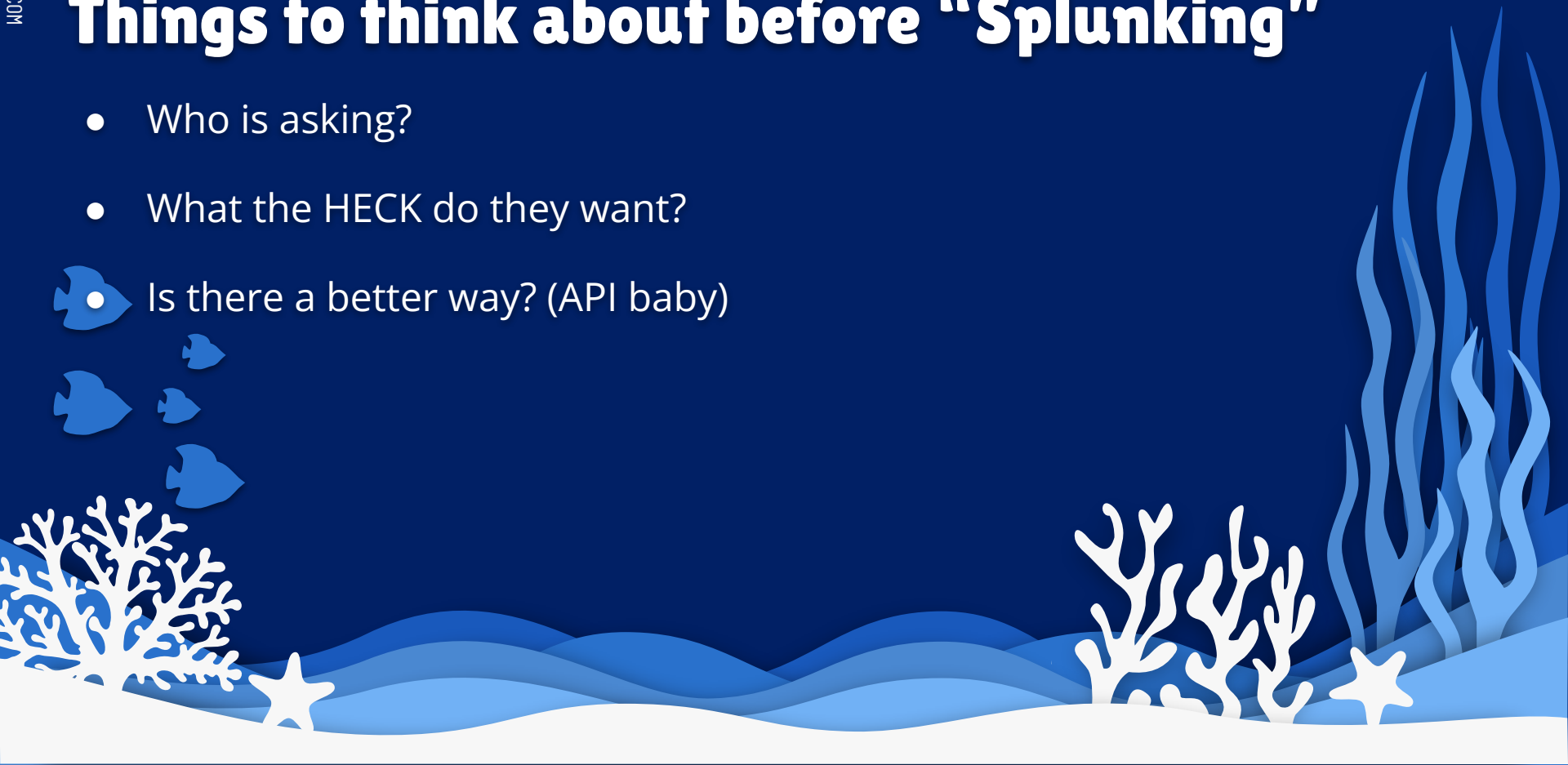
Splunk is a super cool logging and analysis tool that can be used to capture specific logs of a users interaction with a product.

It is a way for us to search beyond the API for more information.



Things to think about before "Splunking"

- Who is asking?
- What the HECK do they want?
- Is there a better way? (API baby)



Who is asking?

If an instructor is asking, tell them that we cannot give this information to them directly. The request must come from the Canvas Administrator at their institution. They should contact their school/university.

If any user (Admin or Instructor) is asking just for the sake of it, don't waste your time. Let them know that unfortunately, the requested data is not available.

Why the HECK do they want it?

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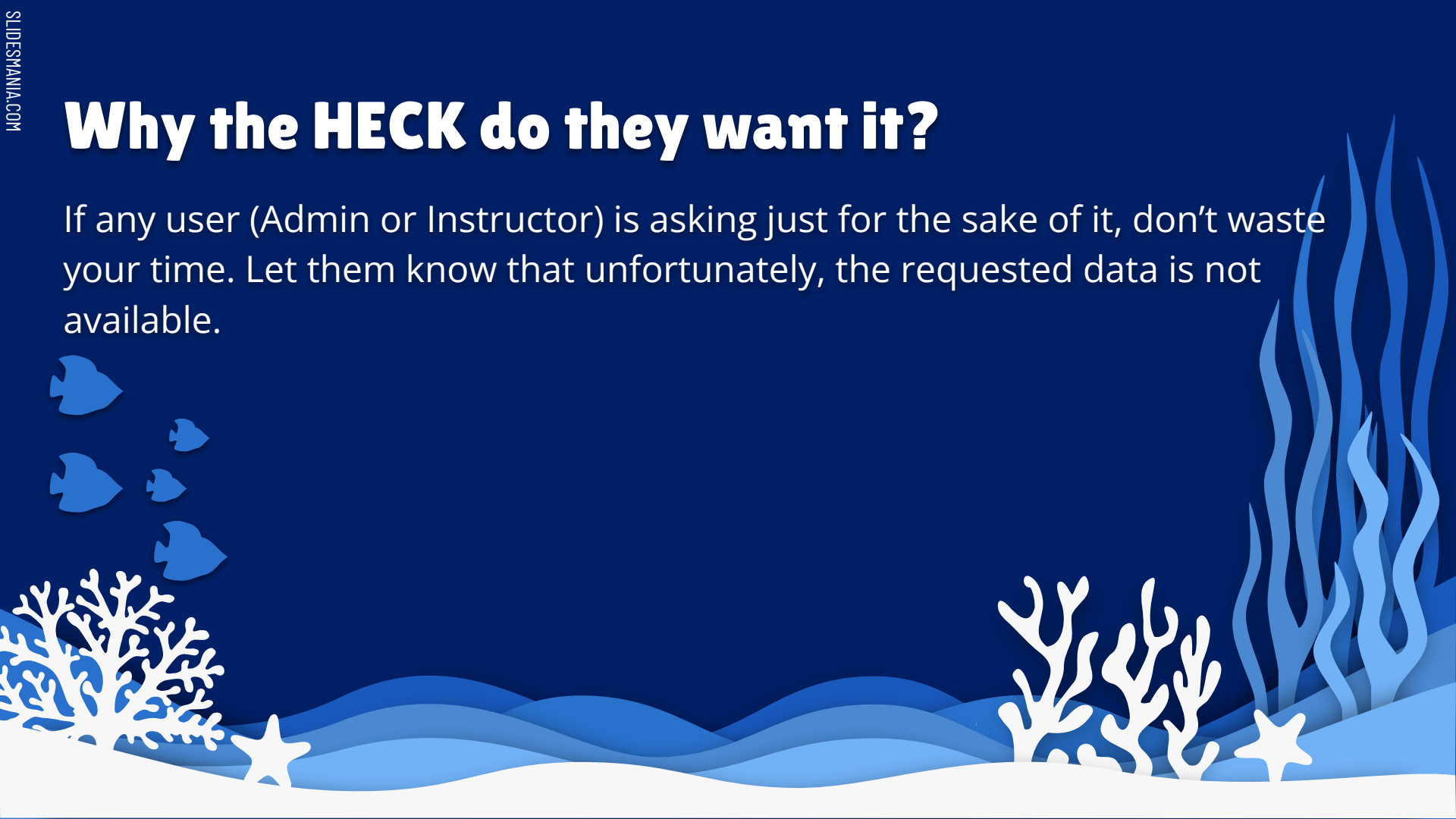


Is there a better way? (API baby)

When you get a Splunk request you must think to yourself, “Is there a better way to do this?”

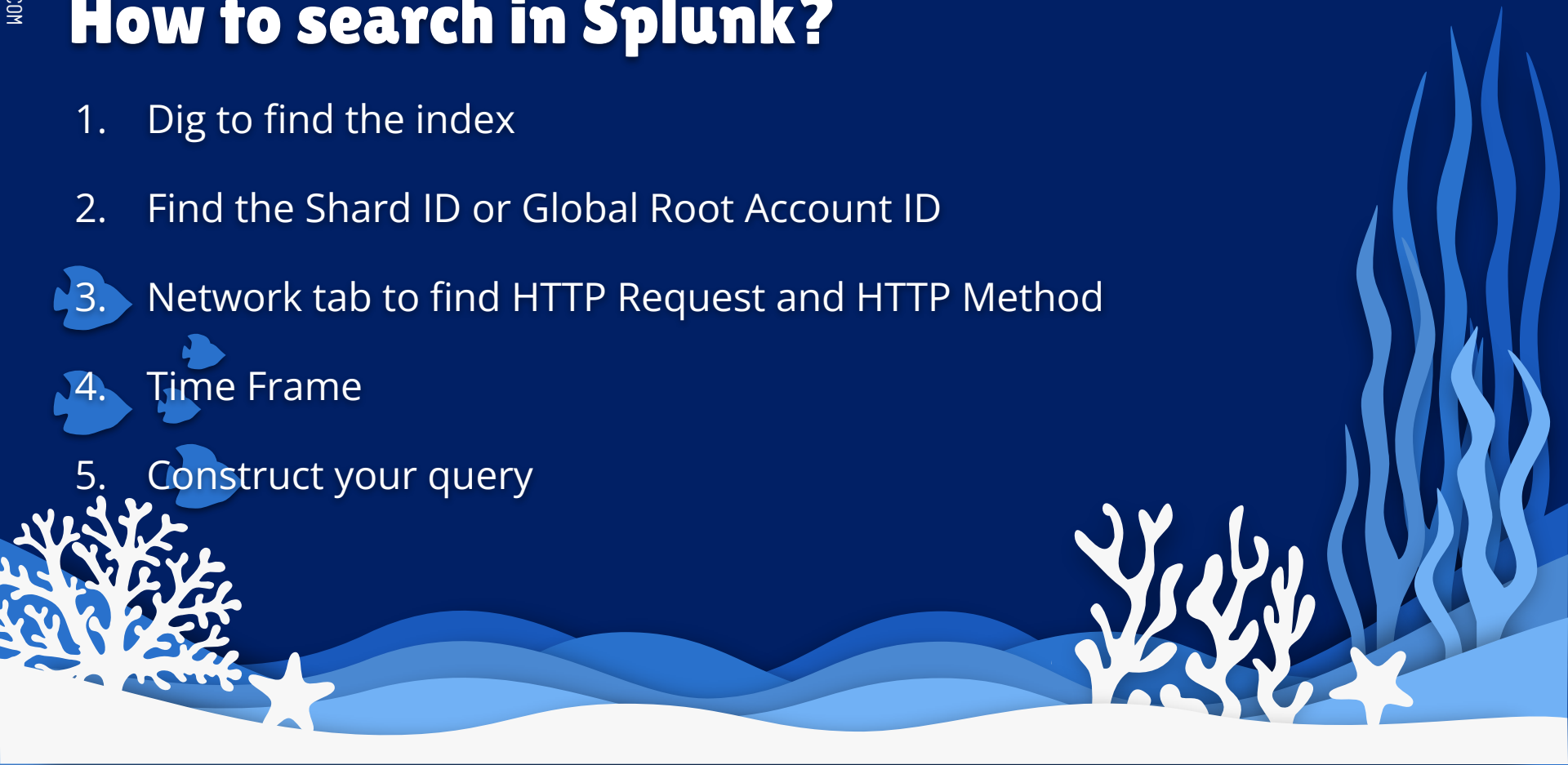
Answer: There probably is!

Many of the things we are looking for can be found using the API, making the need to use Splunk not so necessary in certain situations. You can check out our API documentation to see what types of requests you can make.

1. Who made a change to my course?
2. When was a user added to a course?
3. When was a course cross-listed?

How to search in Splunk?

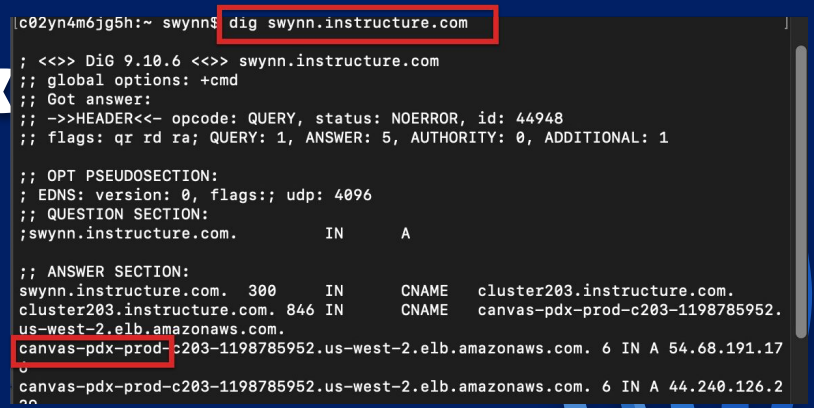
1. Dig to find the index
2. Find the Shard ID or Global Root Account ID
3. Network tab to find HTTP Request and HTTP Method
4. Time Frame
5. Construct your query



How to dig to find the index

1. Open up Terminal on your computer
2. Type dig followed by the schools Canvas Instance (you will not need to add https://)
3. Hit enter and look under the action section for canvas-*index*

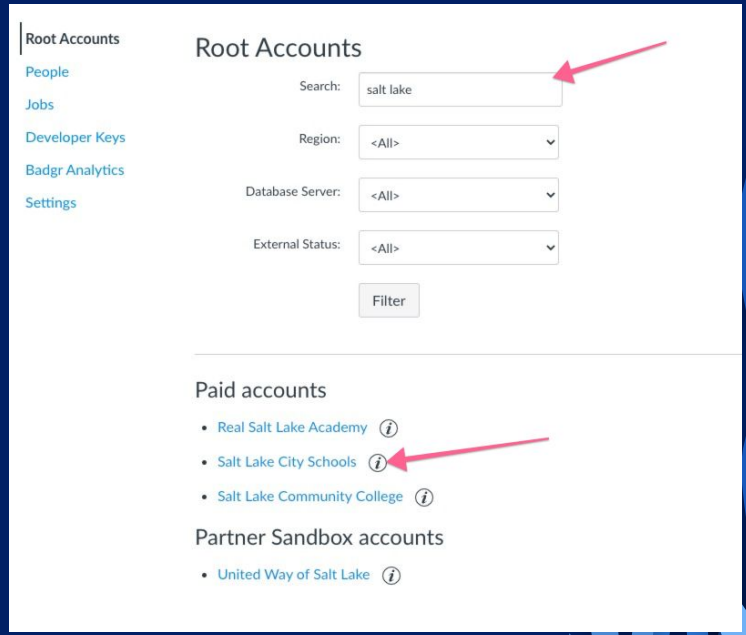
Knowing this will also allow us to know what version of Splunk to use incase this School is out of the Country



How to find a Shard ID?

There are a couple ways you can find the Shard ID for an instance. The first way is to use Siteadmin and search for the school name. You can then click on the info button to find the shard ID listed.

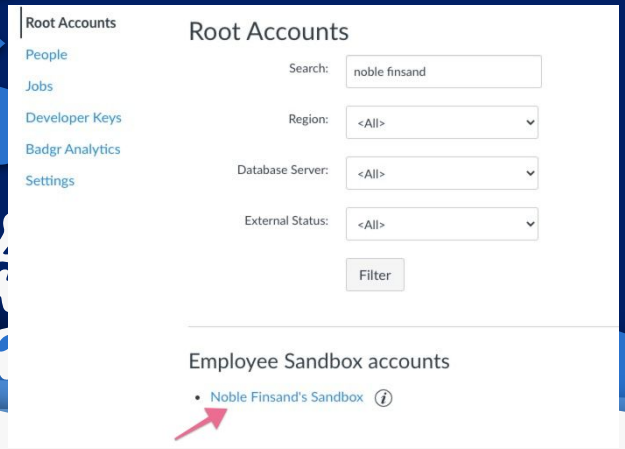
The second way is to save this really cool bookmarklet to your browser. By saving it to your browser, you can click on it anytime you are in an instance and it will automatically pop up on your screen with the shard ID. You will take the first numbers to the left of all the zeros.

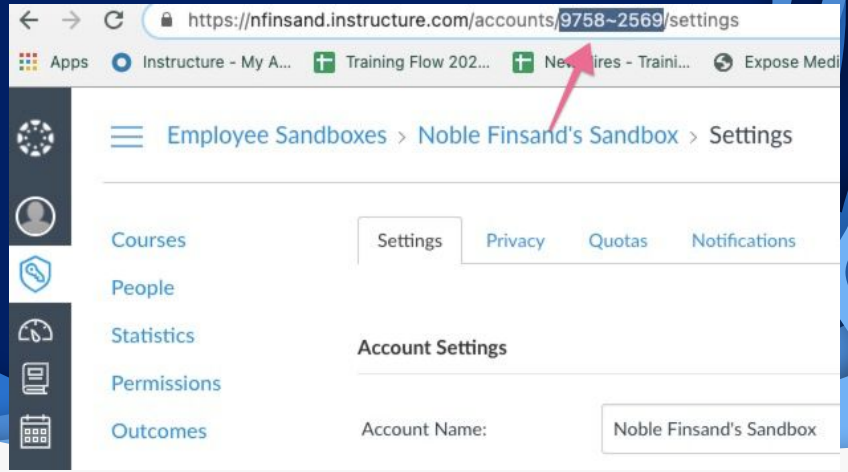



```
javascript:(alert(ENV.DOMAIN_ROOT_ACCOUNT_ID))
```

Find the Global Root Account ID

1. Search Siteadmin for the Instance you are needing the Global Root Account ID.
2. Click on the title of the Instance from the list
3. Copy the numbers in the URL bar that have the ~ between them (this is the Global Root Account)



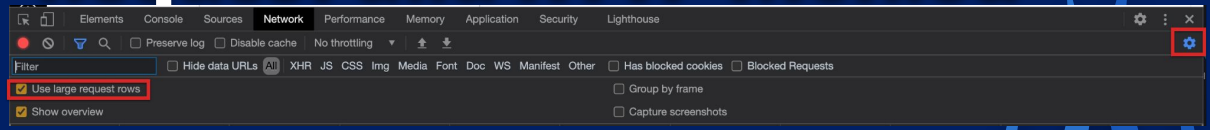


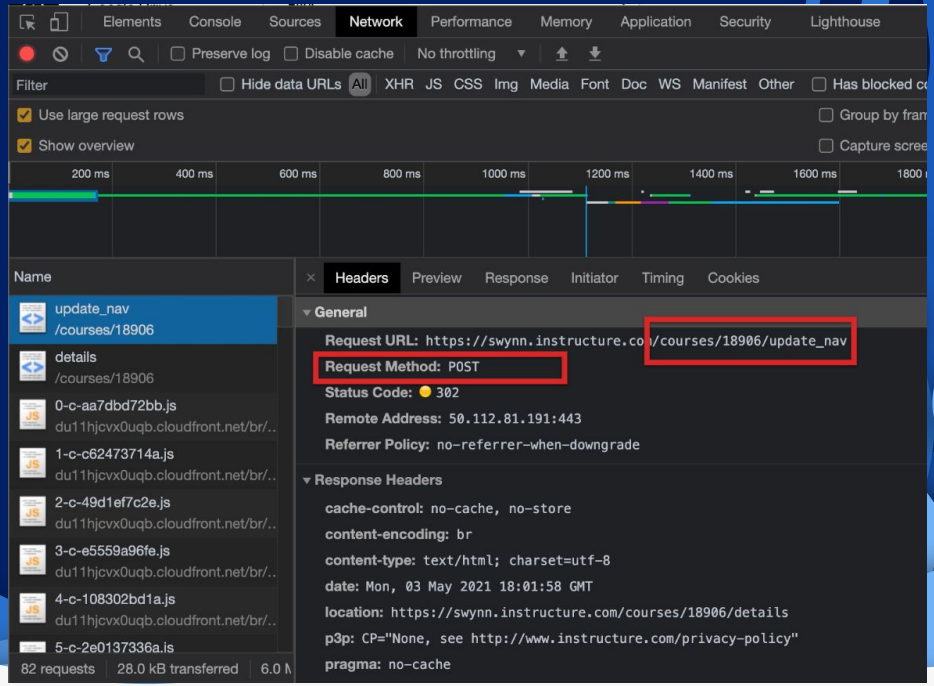
How to find HTTP Request and HTTP Method

1. To find the HTTP Request and Method you will need to be under Inspect > Network

2. Make sure you have the gear icon and “use large request rows” on

3. In your sandbox make the same change they did while under the network tab to find the request and method





Time Frame

The time frame is the most important. If you can be as specific as you can with the time frame the better your results. Searching Splunk also costs the company money and searching longer timeframes will results in a higher fee. We want to try to search ideally within a 3 hour window if possible to limit these costs.

The time frame will need to be converted to UTC which is +6 or +7 hours to MST depending on if Daylight savings. Aka spring time +7 Fall time +6

If you are using the “Presets” filter, no need to worry about time conversion

Construct your query

Now that we have gone through each of the steps on how to get the different parts of the call we can make it.

index=canvas_xxx global_root_account=xxx~xx | spath http_request | search http_request=/.... | spath http_method | search http_method=....

We will be using | = pipeline or bar to create this and spaces are super important as well.

Note: We also have a super cool bookmarklet that will automatically open Splunk and input a basic query with the schools index, and global_root_account. You must be within the school's instance in order for it to work.

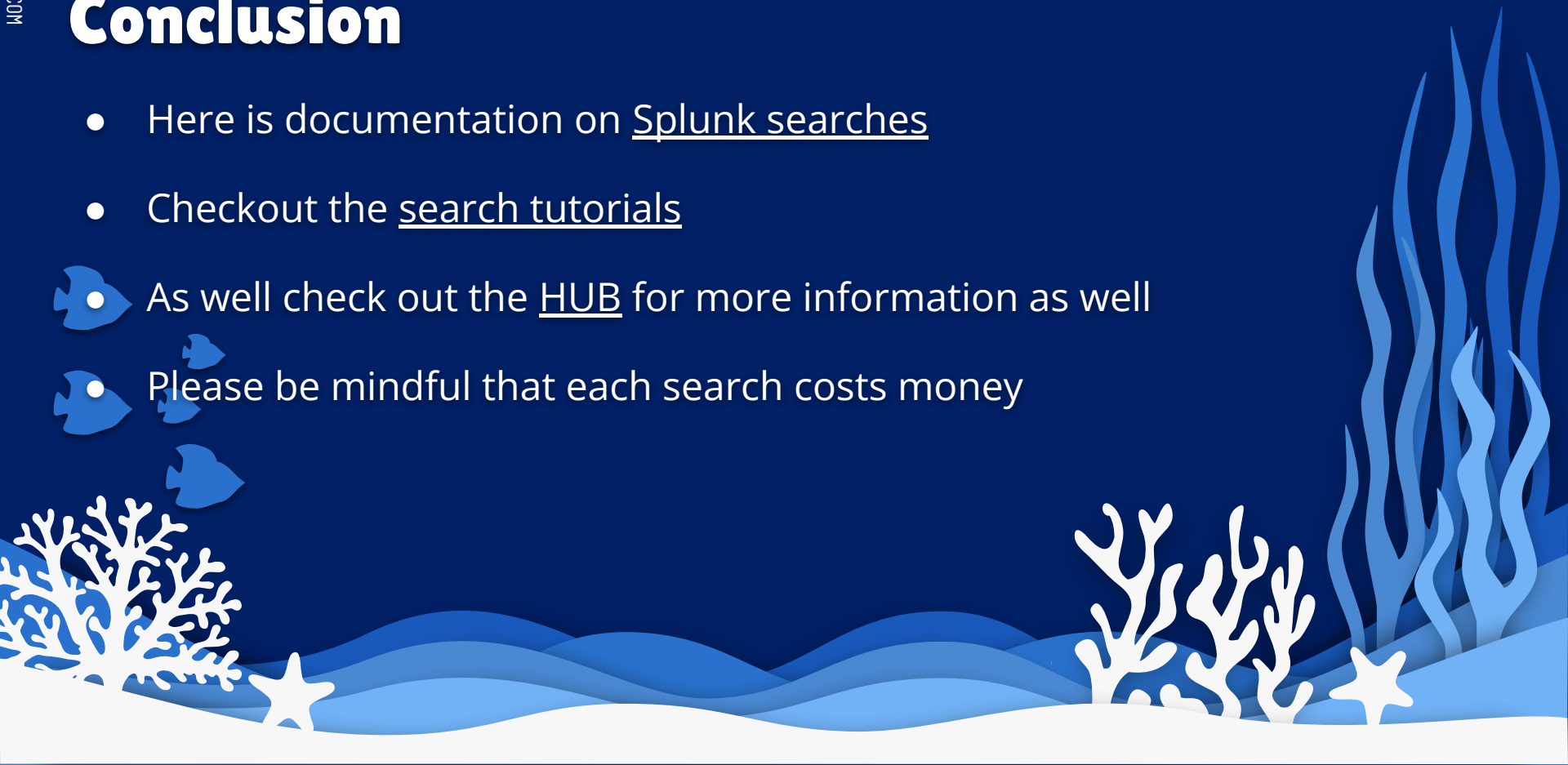
```
javascript:(function(){var locationInfo=document.location.pathname;var
shardID;var globRootID;var masquerading;var currentUser;var
garbageRemoval=' AND action!=ping AND controller!=page_views AND
action!=unread_count';getPageInfo('https://'+document.domain);function
splunk(regionInfo)
{var query='search index=canvas_'+regionInfo.index+'
global_root_account='+globRootID+'
http_request='+locationInfo+getMasqueradingQuery()+garbageRemoval;targe
tURL='https://inst'+regionInfo.splunkBit+'.splunkcloud.com/en-US/app/ca
nvas/search?q='+encodeURIComponent(query);var
win=window.open(targetURL,'_blank')}
function getMasqueradingQuery()
{return(masquerading==!0)?' AND user_id=*'+currentUser:''}
function getPageInfo(url)
{var request=new
XMLHttpRequest;request.open("GET",url,!1);request.send(null);var
xmlDoc=request.responseText;masquerading=/users\/\d+\/masquerade/g.test
(xmlDoc);currentUser=xmlDoc.match(/"current_user_id":"([^"]+)/)[1];var
header=request.getResponseHeader("x-canvas-meta");var
region=header.match(/z=(\w+-\w+-\d)/)[1];var
s=header.match(/s=(\d+)/)[1];var
a=header.match(/a=(\d+)/)[1];globRootID=s+"~"+a;splunk(getRegionInfo(re
gion))}
function getRegionInfo(input)
{var output=[];switch(input)
{case 'us-east-1':output.index='iad';output.splunkBit='';break;case
'us-west-2':output.index='pdx';output.splunkBit='';break;case
'ap-southeast-1':output.index='sin';output.splunkBit='syd';break;case
'ap-southeast-2':output.index='syd';output.splunkBit='syd';break;case
'eu-west-1':output.index='dub';output.splunkBit='dub';break;case
'eu-central-1':output.index='fra';output.splunkBit='dub';break;case
'ca-central-1':output.index='yul';output.splunkBit='yul';break;default:
output.index=!1}
return output}})()
```

Additional information

- UTC is set to a 24 hour clock
- We can use the “Global Root Account ID” but it is preferred to use the “Shard ID”
- Grab the User ID and check to see who the mysterious user is
- The value for “real_user_id” should be null – otherwise, that means someone was masquerading as this user
- PLEASE post a note in the case with the “Last Updated” date/time from the undelete page when sending up the case

Conclusion

- Here is documentation on Splunk searches
- Checkout the search tutorials
- As well check out the HUB for more information as well
- Please be mindful that each search costs money



Questions?