

Chrome Dev Tools

DevTools for Code Developers

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INSTRUCTOR:

LAURENCE SVEKIS



- Over 300 courses in technology and web applications.
- 20 years of JavaScript web programming experience
- 500,000+ students across multiple platforms
- Digital instructor since 2002

**READY TO HELP YOU LEARN and
ANSWER ANY questions you may
have.**

Course instructor : Laurence Svekis

Open DevTools

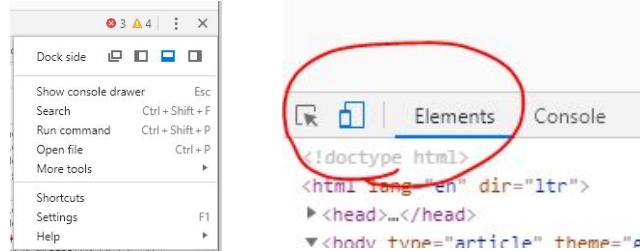
Chrome DevTools is a set of web developer tools built directly into the Google Chrome browser.

DevTools

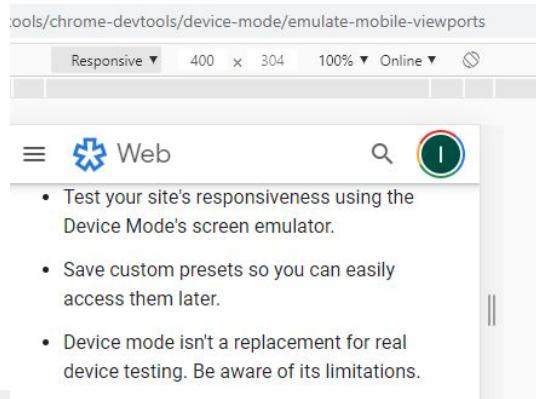
- Help you edit pages on-the-fly
- Diagnose problems quickly
- Test and try code
- Write code snippets
- Inspect Code
- Check responsiveness

DevTools ultimately helps you build better websites, faster. Most browsers have their own version of devtools.

Open DevTools - Command+Option+J (Mac) or Control+Shift+J (Windows, Linux, Chrome OS) to jump straight into the Console panel.



In the drop down you can click edit and save custom presets of Emulated Devices.



EXERCISE :

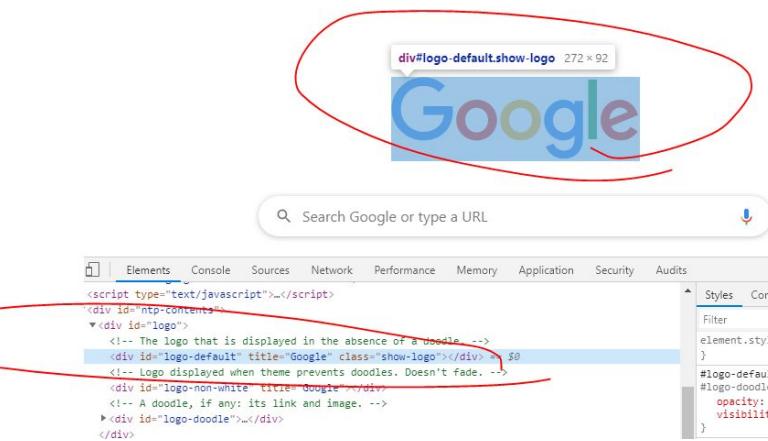
1. Open DevTools
2. Customize the dock options. Doc Side
3. Check responsiveness of a website
4. In Settings Preferences update theme
5. Select tab drag to reorder
6. Select Drawer where you can customize tabs displayed.
7. Run Command menu select command

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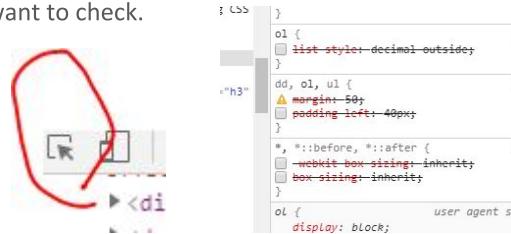
Elements panel

View and change the DOM and CSS - within the elements panel.

Right click and select inspect element on the page, that will open the elements tab of the devTools. The element is highlighted in the code as well as in the display area on the page.



Select the arrow in the top right hand corner. Now any element you hover over will automatically highlight in the inspector. Double click the element you want to check. If nested parent is selected make sure you go to the level you want to check.

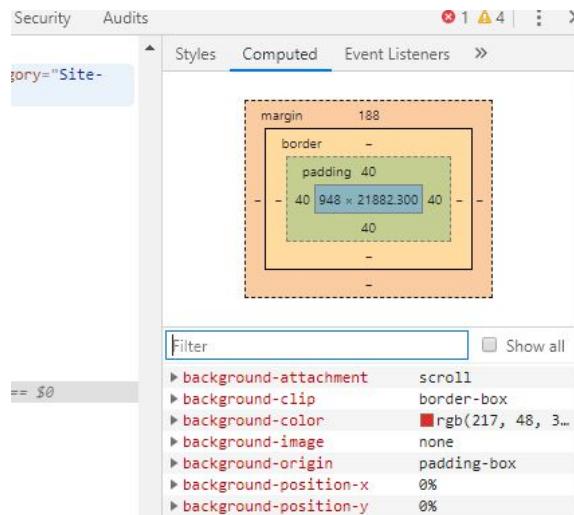


EXERCISE :

1. Select an element. In the elements tab html click the element. Update some content. Select edit as text edit as html
2. Copy element then paste in another part of the source
3. In Styles uncheck some of the style properties, update some style properties. Press cls in styles menu add new class to element
4. Control+F or Command+F to open search - try search for page text
5. Add attribute to selected element class or id
6. Try force state of element with element in navbar of hover
7. Hide and delete a node on the page
8. Drag element to another part of the code
9. Select color - scroll mouse (arrows) to update value, click colorbox to open color picker. Try eyedropper tool.

Get Details

Get computed values of the element style. Notice every element has box properties. Inherited properties are opaque. Check the Show All checkbox to see all inherited values.



Box Model

The full CSS box model applies to block boxes, inline boxes only use some of the behavior defined in the box model. The model defines how the different parts of a box — margin, border, padding, and content — work together to create a box that you can see on the page

https://developer.mozilla.org/en-US/docs/Learn/CSS/Building_blocks/The_box_model

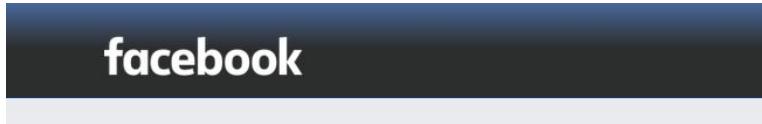
EXERCISE :

1. Select element view computed value
2. Narrow the window check responsiveness
3. Double click to add value or update
4. Use Filter to select property
5. Use styles pseudo-class in navbar to update state of element

Web Scavenger (Ravager) Hunt

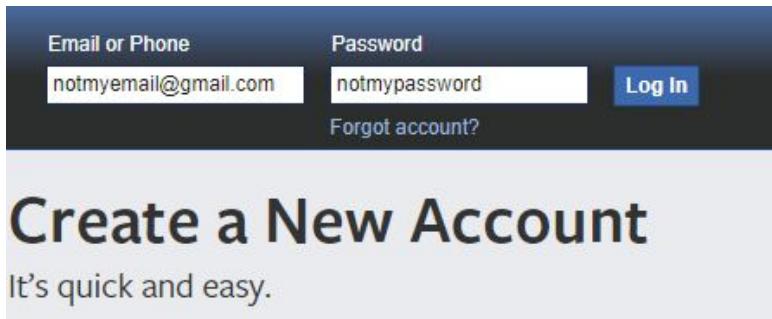
Get background color of Facebook page. Class _53jh

Turn the header black!



Update the password field to a text field in Facebook. Shows your password.

Password field now shows hidden passwords!

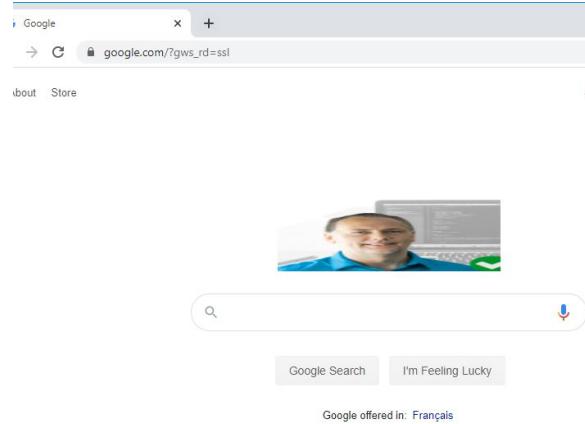


Get height and width of Google Logo

Update with picture of yourself or me

https://pbs.twimg.com/profile_images/1098618483900903429/iFfEL9qD_400x400.png

Remove the logo!



1. #3b5998
2. Update input password to text
3. 272 x 92

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Console

Console runs JavaScript

Write some JavaScript here it runs it. alert('hello') prompt('what');

Place semicolon at the end of the statement

Clear console with clear()

Expand sidebar for more details.

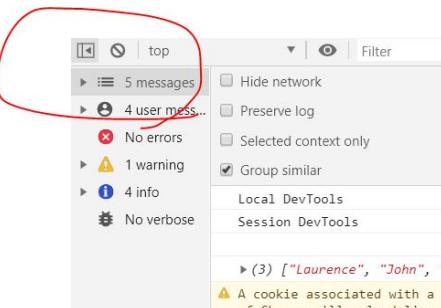
This is also where you see console.log output from your JavaScript.

\$_ returns the value of the most recently evaluated expression

You can use the \$0 after selecting an element to see it. (The \$0, \$1, \$2, \$3 and \$4 commands work as a historical reference)

You can also use jQuery type selector with element manipulation without jQuery library. \$(selector) returns the reference to the first DOM element

```
> $0
<  <b>Figure 2</b>
> 5 + 5
< 10
> var a = 5;a
< 5
> $0
< devsite-content
```



```
<html>
<head>
  <title>Tester</title>
</head>
<body>
  <h1>DevTools Course</h1>
  <div>Welcome to the Page</div>
  <input value="Laurence">
  <script>
    var a = 100;
    var el = document.querySelector('h1');
    var friends = ['Laurence','John','Susan'];
    console.log('hello');
  </script>
</body>
</html>
```

EXERCISE :

1. In console tab 5 +5; 10 < 5;
2. Write some JavaScript var a = 5;a
3. Type el when running above html code
el.textContent = "Hello World"
4. Select element try with \$
5. \$('h1').style.color = 'red';
6. console.log(sdsd) - errors for debugging. console.error('hello');
7. console.dir(document);
8. console.table(friends, ["name", "age"]);
9. console.warn('Warning');

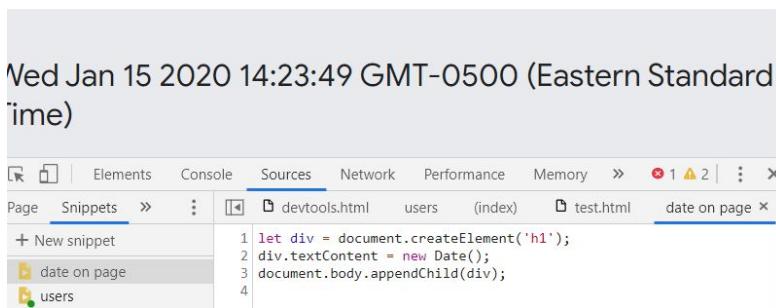
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Sources Snippets

Sources can link to files and create code snippets that can be run on any page.

Page - lists out current file that is open

Snippets - create a code snippet to run on the page.



```
let people;
fetch('https://randomuser.me/api/?results=10').then((resp) =>
  resp.json()).then(function (data) {
  console.log(data.results);
  people = data.results;
  console.log(people);
})
```

```
let div = document.createElement('h1');
div.textContent = new Date();
document.body.appendChild(div);
```

EXERCISE :

1. Create snippet and refresh page. Run snippet again
2. Go to another website run the snippet.
3. Try the source code for both snippets

Sources FileSystem

You can use chrome as your editor

Click Add Folder To **Workspace**.

Click Allow to give DevTools permission to read and write to the directory.

In the Filesystem tab, there is now a **green dot** next to index.html, script.js, and styles.css. These green dots mean that DevTools has established a mapping between the network resources of the page

Click update the code - click see changes

The screenshot shows the 'Changes' tab in the DevTools Sources panel. It displays the following code:

```
4 4      <title>Tester</title>
5 5 </head>
6 6
7 7 <body>
8 8     <h1>DevTools Course</h1>
8 8     <h1>DevTools Course2</h1>
9 9     <div>Welcome to the Page</div>
```

The lines from 8 to 8 are highlighted in pink, indicating they have been modified. Lines 8 and 8 are also highlighted in green, indicating they have been added.

EXERCISE :

1. Add a folder to workspace
2. Make changes in the HTML within page tab, Command+S (Mac) or Control+S to save
3. Add a new file to your workspace
4. Make some changes to your page code and save
5. Open file individually.

The screenshot shows the 'Filesystem' tab in the DevTools Sources panel. It lists several files under the 'Siter' folder, including card.html, contact.html, game.html, index.html, index2.html, index3.html, temp.html, and test.html. The file 'devtools.html' is selected and its content is previewed on the right side:

```
1 <html>
2
3 <head>
4     <title>Tester 2</title>
5 </head>
6
7 <body>
8     <h1>DevTools Course2</h1>
9     <div>Welcome to the Page<
10    <input value="Laurence">
11    <script>
12    let people;
13    fetch('https://randomuser.me/ap
14    console.log(data.results);
15    people = data.results;
16    console.log(people);
```

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Web Scavenger (Ravager) Hunt

Create a code snippet that clears the body of any webpage and writes Hello World instead.



In the console of your favorite webpage using the devtools selector get all the images and output into the console.log

```
https://developers.google.com/web/tools/chrome-devtools/console/images/recently-evaluated-expression-1.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/recently-evaluated-expression-2.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/element-0.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/element-1.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/selector-img.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/selector-img-src.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/selector-img-div-src.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/all-selector.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/all-selector-div.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/xpath-p-example.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/xpath-p-a-example.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/xpath-p-node-example.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/debug.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/dir.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/inspect.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/get-event-listeners.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/scrolling-list.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/scrolling-list-expanded.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/keys-values.png YMS3:3
https://developers.google.com/web/tools/chrome-devtools/console/images/monitor.png YMS3:3
```

Get the font file address from a website download the file woff file. Please note not all pages will have links to the font, you can also download the CSS file

The screenshot shows the Chrome DevTools Sources tab with the URL "L0xkDF4xlVMF-Bf...4iGqxf78.woff2". The right panel displays the text "Hello World" in various font styles: ABCDEFGHIJKLMNOPQRSTUVWXYZ, abcdefghijklm, nopqrstuvwxyz, and a decorative footer pattern.

```
<link href="https://fonts.googleapis.com/css?family=Gayathri&display=swap" rel="stylesheet">
<style>
h1 {
    font-family: 'Gayathri', sans-serif;
}
</style>

document.querySelector('body').textContent = "Hello World"

var images = $$('img');
for (each in images) {
  console.log(images[each].src);
}
```

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Network

Get information about data that is returned

Request details and headers

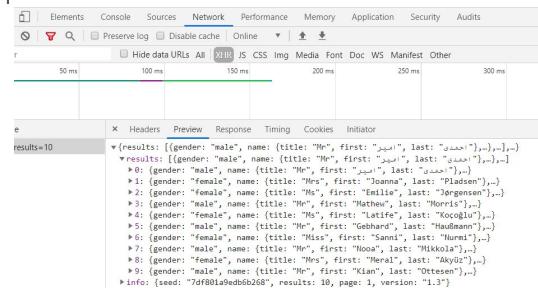
Any AJAX request that is made is added to the list

Load time changes

Status codes

<https://developer.mozilla.org/en-US/docs/Web/HTTP/Status>

- Status. The HTTP response code.
- Type. The resource type.
- Initiator. What caused a resource to be requested. Clicking a link in the Initiator column takes you to the source code that caused the request.
- Time. How long the request took.
- Waterfall. A graphical representation of the different stages of the request.



Can check images that might be large and how long libraries take to long.

```
let people;
fetch('https://randomuser.me/api/?results=10').then((resp) =>
  resp.json()).then(function (data) {
  console.log(data.results);
  people = data.results;
  console.log(people);
})

let div = document.createElement('h1');
div.textContent = new Date();
document.body.appendChild(div);
```

EXERCISE :

1. Check Network xHR
2. Preview and see data, run code snippet that makes request
3. Check several sites online, review the load times and how much time is spent on requests. See if you find any issues.

<https://developers.google.com/web/tools/chrome-devtools/network/issues>

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Application Tab

Local storage data in `localStorage` doesn't expire

<https://developer.mozilla.org/en-US/docs/Web/API/Window/localStorage>

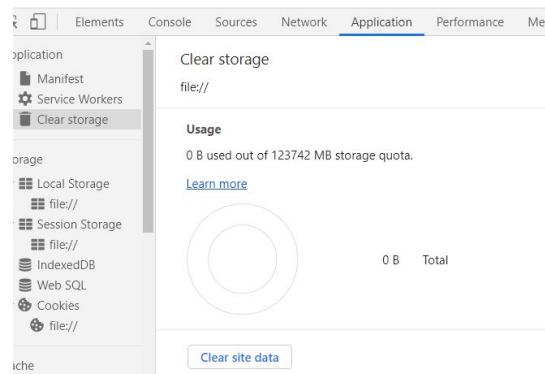
Session Storage cleared when the page session ends.

<https://developer.mozilla.org/en-US/docs/Web/API/Window/sessionStorage>

Cookies Can set expiry date - valid for domain

<https://developer.mozilla.org/en-US/docs/Web/HTTP/Cookies>

They all contain a name and value associated with it. The value is in string format, to save more complex data like arrays and objects use `JSON.stringify` and `JSON.parse`



Cookies need to have localhost domain running to set!

```
localStorage.setItem('course', 'Local DevTools');
let val1 = localStorage.getItem('course');
console.log(val1);
//localStorage.removeItem('course');
sessionStorage.setItem('course', 'Session DevTools');
let val2 = sessionStorage.getItem('course');
console.log(val2);
//sessionStorage.removeItem('course');
//sessionStorage.clear();
document.cookie = "course=Cookie DevTools";
console.log(document.cookie);

const friends = ['Laurence', 'John', 'Susan'];
localStorage.setItem('friends', JSON.stringify(friends));
console.log(JSON.parse(localStorage.getItem('friends')));
```

EXERCISE :

1. View local storage
2. Remove items
3. Save an array to `localStorage`, update array value in the devtools
4. Get array output to console
5. Clear site data

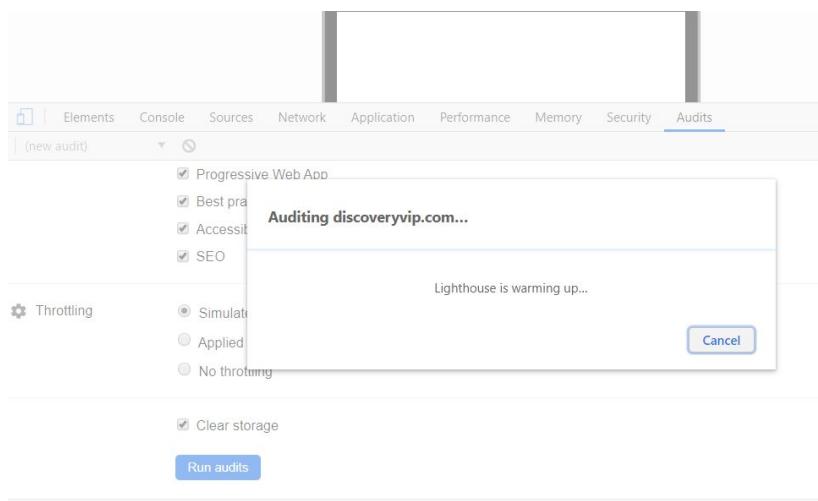
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Audit tab

Select items you want to check in the audit and run the audit. Needs to be on an http or https page

Lighthouse is an open-source, automated tool for improving the quality of web pages. You can run it against any web page, public or requiring authentication. It has audits for performance, accessibility, progressive web apps, SEO and more.

<https://developers.google.com/web/tools/lighthouse/>



Generates a report of the webpage

EXERCISE :

1. Upload a file online to a website or go to any website and select the audit
2. Once you receive the report review and list out changes for improvement
3. Make improvements if its your page and run audit again.

Shortcuts

Click shortcuts option to view shorts menu

Open DevTools Shortcuts different Panel views

Command+Option+C (Mac) or Control+Shift+C - Elements Panel

Command+Option+J (Mac) or Control+Shift+J - JavaScript Panel

Command+Option+I (Mac) or Control+Shift+I - Last Panel

The screenshot shows the DevTools Shortcuts interface with the 'Shortcuts' tab selected. On the left, there's a sidebar with links like Settings, Preferences, Workspace, Blackboxing, Devices, Throttling, Geolocations, and Shortcuts. The main area is divided into sections: Elements Panel, Text Editor, and Styles Pane. Each section lists keyboard shortcuts with their corresponding key combinations.

Section	Shortcuts	Description
Elements Panel	Ctrl + Shift + O	Go to member
	Ctrl + Space	Autocompletion
	Ctrl + G	Go to line
	Alt + Left	Jump to previous editing location
	Alt + Right	Jump to next editing location
	Ctrl + /	Toggle comment
	Alt + T	Increment CSS unit by 1
	Alt + I	Decrement CSS unit by 1
	Alt + PageUp	Increment CSS unit by 10
	Alt + PageDown	Decrement CSS unit by 10
Text Editor	Alt + PageUp	Increment CSS unit by 10
	Alt + PageDown	Decrement CSS unit by 10
	Shift + PageUp	Increment by 100
	Shift + PageDown	Decrement by 100
	Alt + Up	Increment by 0.1
	Alt + Down	Decrement by 0.1
	Ctrl + D	Select next occurrence
	Ctrl + U	Soft undo
	Ctrl + M	Go to matching bracket
	Alt + W	Close editor tab
Styles Pane	F8	Pause/ Continue
	Alt + O	Switch between files with the same name and different extensions.

Zoom in	Command+Shift++	Control+Shift++
Zoom out	Command+-	Control+-
Restore default zoom level	Command+0	Control+0
Undo change	Command+Z	Control+Z
Redo change	Command+Shift+Z	Control+Y

EXERCISE :

1. Try some of the shortcuts that you most often might use
2. Shortcuts to open devtools to different tabs.

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Congratulations on completing the course!

Thank you for your support



Course instructor : Laurence Svekis -
providing online training to over
500,000 students across hundreds of
courses and many platforms.

