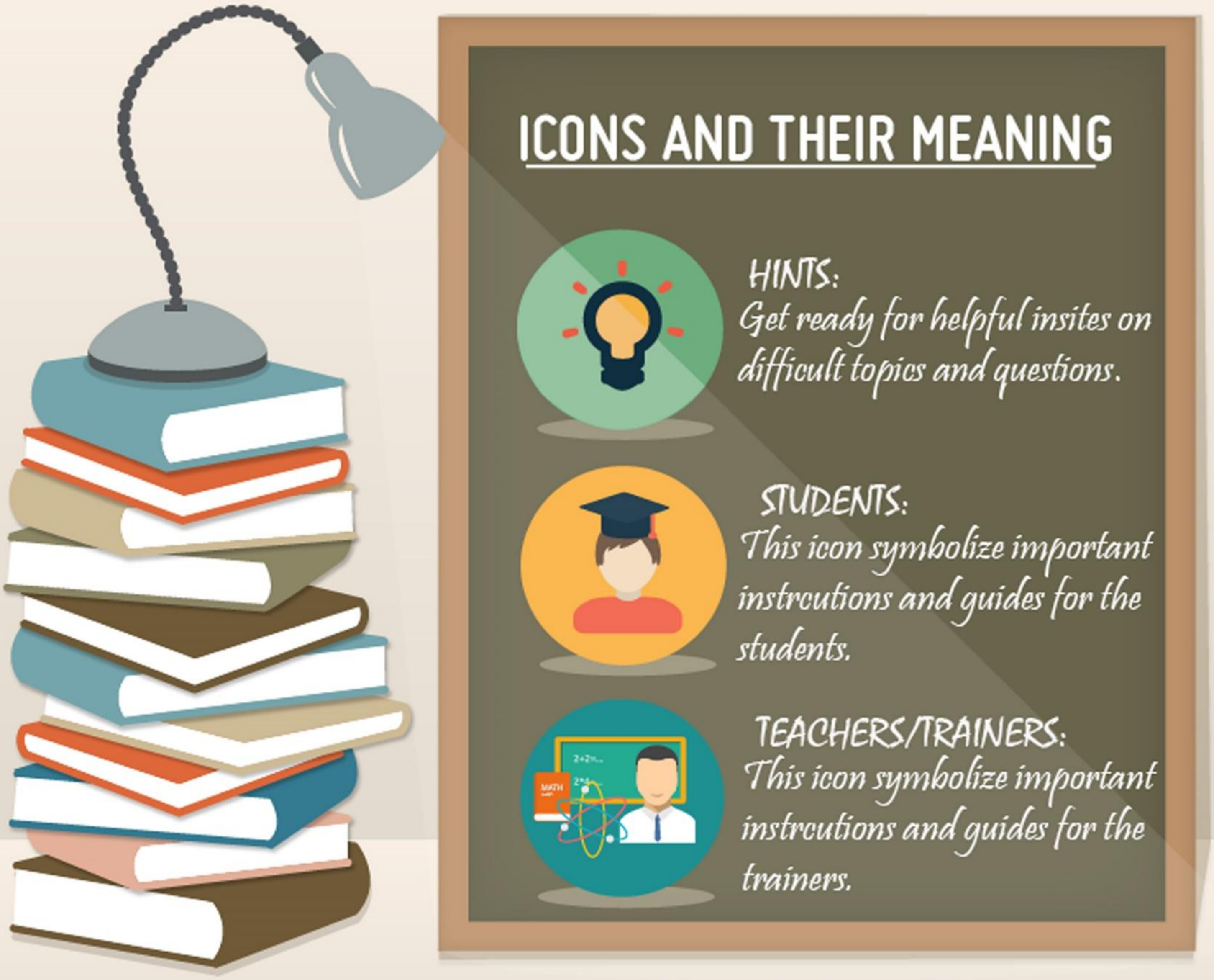
Full Stack Module-X

Manual V8.3

ANUDIP FOUNDATION



ICONS AND THEIR MEANING

HINTS:
Get ready for helpful insites on difficult topics and questions.

STUDENTS:
This icon symbolize important instrcutions and guides for the students.

TEACHERS/TRAINERS:
This icon symbolize important instrcutions and guides for the trainers.

Lesson No	Lesson Name	Practical Duration (Minutes)	Theory Duration (Minutes)	Page No
1	Dealing with Chrome Development	120	nil	03

Total Duration: __ Hours

Lesson 01: Dealing with Chrome Development (120 minutes)

Objective: After completing this lesson you will be able to learn about : • Developer tools • DOM inspection • Editing	**Materials Required:** • Computer With Windows XP and above • Stable Internet connection
Self- Learning Duration: 120 minutes	**Practical Duration:** nil
Total Duration: 120 minutes	

Google Chrome is probably the most popular and feature rich web browser available today. Chrome's top notch stability is due to the sheer hard work of the developers. The Developer Tools, bundled and available in Chrome and Safari, allows web developers and programmers deep access into the internals of the browser and their web application. These tools are part of the open source Webkit project.

The Developer Tools

The Google Chrome Developer Tools can be segregated into eight major groups. With every new release of Chrome version, new tools are being introduced. Let's focus at the most popular categories of Google Developer Tools available presently:

- Elements
- Resources
- Scripts
- Timeline
- Profile
- Storage
- Audit
- Console

The Elements tool allows you to see the web page as the browser sees it. That is, using the Elements tool, you can see the raw HTML, raw CSS styles, the Document Object Model, and manipulate either in real time.

The Resources tool allows you to learn what components your web page or application is requesting from web servers, how long these requests take, and how much bandwidth is required. You can also view the HTTP request and response headers for each of your resources. The Resources tool is perfect for helping you speed up page load times.

The Scripts tool allows you to peer inside the JavaScript for a page, you will use. Here you can find a list of scripts required by the page plus a full featured script debugger. You can even change the JavaScript on the fly!

The Timeline tool allows you in-depth visibility into the various Chrome behind-the-scenes activities for advanced timing and speed analysis. You can learn how long the browser takes to handle DOM events, rendering page layouts, and paint the window.

The Profiles tool allows you capture and analyze the performance of JavaScript scripts. For example, you can learn which functions take the most time to execute and zero in on exactly where to optimize.

The Storage tool allows you to track, query, and debug local browser storage in context to modern web applications. This tool can display and query data stored in local databases, local storage, session storage, and cookies.

The Audit tool allows you to analyze a page as it loads and provide suggestions and optimizations for decreasing page load time and increase perceived (and real) responsiveness.

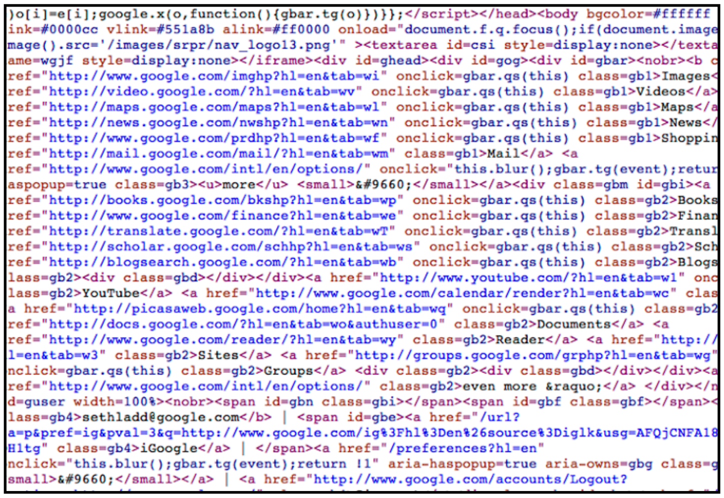
The Developer Tools allows you to have a full featured Console. From the Console, you can enter arbitrary JavaScript and programmatically interact with your page.

DOM Inspection

You will often visit the Elements tabs when you need to identify the HTML snippet for some aspect of the page. For example, you may be curious if an image has an HTML id attribute, and what that attribute's value is.

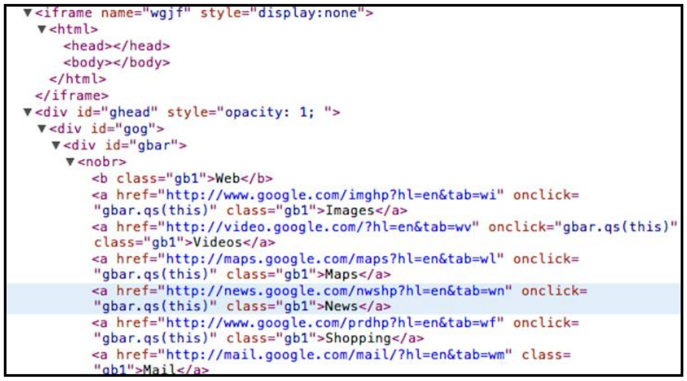
The Elements tab is sometimes a better way to "view source" for a page. Inside the Elements tab, the page's DOM will be nicely formatted, easily showing you HTML elements, their ancestry and their descendants. Too often, pages you visit will have minified or simply ugly HTML which makes it hard to see how the page is structured. The Elements tab is your solution for viewing the real underlying structure of the page.

For example, the following is the output from the "view source" of the Google homepage.



```
)o[i]=e[i];google.x(o,function(){gbar.tg(o)})}};</script></head><body bgcolor=#ffffff
ink=#0000cc vlink=#551a8b alink=#ff0000 onload="document.f.q.focus();if(document.image
mage().src='/images/srpr/nav_logo13.png'" ><textarea id=csi style=display:none></texta
ame=wgjf style=display:none></iframe><div id=ghead><div id=gog><div id=gbar><nobr><b c
ref="http://www.google.com/imghp?hl=en&tab=wi" onclick=gbar.qs(this) class=gb1>Images<
ref="http://video.google.com/?hl=en&tab=wv" onclick=gbar.qs(this) class=gb1>Videos</a>
ref="http://maps.google.com/maps?hl=en&tab=wl" onclick=gbar.qs(this) class=gb1>Maps</a
ref="http://news.google.com/nwshp?hl=en&tab=wn" onclick=gbar.qs(this) class=gb1>News</
ref="http://www.google.com/prdhp?hl=en&tab=wf" onclick=gbar.qs(this) class=gb1>Shoppin
ref="http://mail.google.com/mail/?hl=en&tab=wm" class=gb1>Mail</a> <a
ref="http://www.google.com/intl/en/options/" onclick="this.blur();gbar.tg(event);retur
aspopup=true class=gb3><u>more</u> <small>&#9660;</small></a><div class=gbm id=gbi><a
ref="http://books.google.com/bkshp?hl=en&tab=wp" onclick=gbar.qs(this) class=gb2>Books
ref="http://www.google.com/finance?hl=en&tab=we" onclick=gbar.qs(this) class=gb2>Finan
ref="http://translate.google.com/?hl=en&tab=wT" onclick=gbar.qs(this) class=gb2>Transl
ref="http://scholar.google.com/schhp?hl=en&tab=ws" onclick=gbar.qs(this) class=gb2>Sch
ref="http://blogsearch.google.com/?hl=en&tab=wb" onclick=gbar.qs(this) class=gb2>Blogs
lass=gb2><div class=gbd></div></div><a href="http://www.youtube.com/?hl=en&tab=w1" onc
lass=gb2>YouTube</a> <a href="http://www.google.com/calendar/render?hl=en&tab=wc" clas
a href="http://picasaweb.google.com/home?hl=en&tab=wq" onclick=gbar.qs(this) class=gb2
ref="http://docs.google.com/?hl=en&tab=wo&authuser=0" class=gb2>Documents</a> <a
ref="http://www.google.com/reader/?hl=en&tab=wy" class=gb2>Reader</a> <a href="http://
l=en&tab=w3" class=gb2>Sites</a> <a href="http://groups.google.com/grphp?hl=en&tab=wg"
nclick=gbar.qs(this) class=gb2>Groups</a> <div class=gb2><div class=gbd></div></div><a
ref="http://www.google.com/intl/en/options/" class=gb2>even more &raquo;</a> </div></n
d=guser width=100%><nobr><span id=gbn class=gbi></span><span id=gbf class=gbf></span><
lass=gb4>sethladd@google.com</b> | <span id=gbe><a href="/url?
a=p&pref=ig&pval=3&q=http://www.google.com/ig%3Fhl%3Den%26source%3Diglk&usg=AFQjCNFA18
H1tg" class=gb4>iGoogle</a> | </span><a href="/preferences?hl=en"
nclick="this.blur();gbar.tg(event);return !1" aria-haspopup=true aria-owns=gbg class=g
small>&#9660;</small></a> | <a href="http://www.google.com/accounts/Logout?
```

Now, this minified source presented above is difficult to read for the developers. To make things easier, use the Elements Tab to view a pretty-printed, syntax highlighted element hierarchy. Have a look below:



```
▼<iframe name="wgjf" style="display:none">
  ▼<html>
     <head></head>
     <body></body>
   </html>
 </iframe>
▼<div id="ghead" style="opacity: 1; ">
  ▼<div id="gog">
    ▼<div id="gbar">
      ▼<nobr>
         <b class="gb1">Web</b>
         <a href="http://www.google.com/imghp?hl=en&tab=wi" onclick=
         "gbar.qs(this)" class="gb1">Images</a>
         <a href="http://video.google.com/?hl=en&tab=wv" onclick="gbar.qs(this)"
         class="gb1">Videos</a>
         <a href="http://maps.google.com/maps?hl=en&tab=wl" onclick=
         "gbar.qs(this)" class="gb1">Maps</a>
         <a href="http://news.google.com/nwshp?hl=en&tab=wn" onclick=
         "gbar.qs(this)" class="gb1">News</a>
         <a href="http://www.google.com/prdhp?hl=en&tab=wf" onclick=
         "gbar.qs(this)" class="gb1">Shopping</a>
         <a href="http://mail.google.com/mail/?hl=en&tab=wm" class=
         "gb1">Mail</a>
```

The Elements tab also allows you to browse, interact, and sometimes even change the Styles, Metrics, Properties, and Event Listeners for any element on the page.

Reviewing the chapter

In this chapter, we learnt about the basics of developer tools used for chrome development while also focusing on the benefits and DOM inspection process.

Testing your skills

1. Google Chrome Developer Tools can be segregated into ______major groups

a) 5, b) 8, c) 12, d) 15

2. ______ tool allows you to see the web page as the browser sees it

a) Elements, b) Resources, c) Scripts, d) Profile

3. _____ tool is perfect for helping you speed up page load times

a) Audit, b) Developer, c) Timeline, d) Resources

4. _______ tool allows you capture and analyze the performance of JavaScript scripts

a) Profiles, b) Timeline, c) Scripts, d) Audit

5. _______ tool allows you to have a full featured Console

a) Audit, b) Developer, c) Scripts, d) Audit