

IT1100 – Internet and Web Technologies

Lecture 10

Search Engines and Social Media

Intended Learning Outcomes

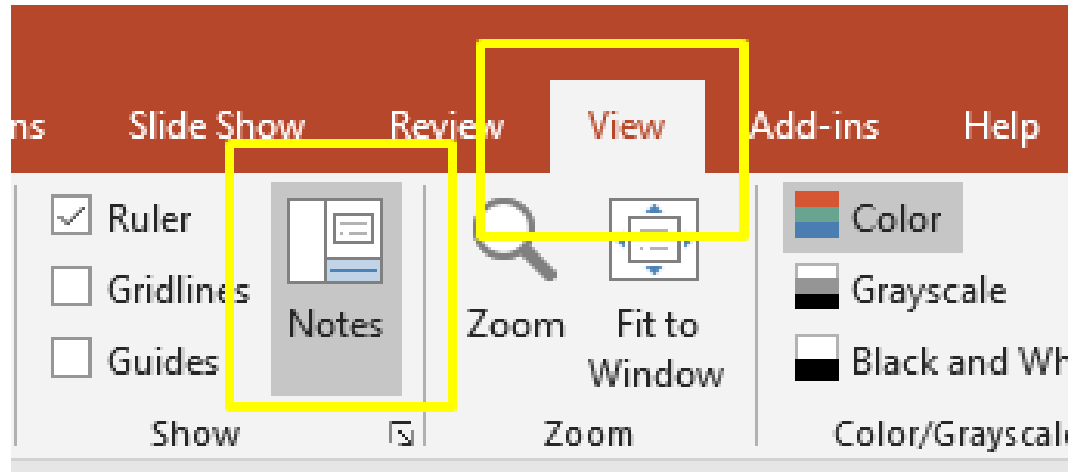
Following this lecture, you will be able to:

- ▶ Explain Search Engines, how they work and applications of Search Engines in WWW.
- ▶ Explain Social Media and categorize them.
- ▶ Explain the use of PHP to extract data from Social Media.

Lesson Overview

- ▶ Search Engines
- ▶ Social Media
- ▶ Accessing Social Media Data using PHP

Additional Notes



6. Make the web
7. Include structur

unnatural). If you have pages without much content, prevent Google from indexing them by us

2. Write unique title tags and meta descriptions for every page.

[Title tags](#) serve as the headlines of your pages in search engine results pages (SERPs), while [meta descriptions](#) they also dictate how your pages appear in search results.

In this way, they serve a dual purpose: They rank your pages higher and increase click-through [Frog](#) to get an accurate assessment of each page on your site, including title tags and meta des

3. Weed out 404 errors.

404 errors are annoying for users and may interfere with the number of pages Google can inde 404 error where there shouldn't be one.

Search Engines

What is a Search Engine?

A **Search Engine** is a computer programme that search documents for **specific keywords** and return a list of the documents where the keywords were found.

~ Webopedia ~

Common Search Engines and Tools

- ▶ Desktop Search Tool
- ▶ Metasearch Engine
- ▶ Blog Search Engine
- ▶ Enterprise Search Tools

Web Search Engine

A **Web Search Engine** is a tool that enables users to locate information on the World Wide Web.

Search Engines

- ▶ Search engines help to search for content / information / resources in WWW
 - ▶ Web pages, text, files, images, audio, video, etc.
- ▶ The user input the search text (query – in key words or phrase) and get the search engine results pages (SERPs) as the output

Search Engines

- ▶ Search engines maintain the details of the WWW, in order to produce the results faster.
- ▶ Web sites/applications maintain the details to be identified by the search engines.
 - ▶ Meta data (using meta elements).

Seven Simple Changes: making Websites more visible to Search Engines

1. Optimize every page of the website with rich content.
2. Write unique title tags and meta descriptions for every page.
3. Weed out 404 errors.
4. Make the page/site content easily shareable.
5. Optimize images.
6. Make the Website load faster.
7. Include structured markup.

<https://www.entrepreneur.com/article/273801>



Search Engines

- ▶ A search engine maintains the following processes in near real time.
 - ▶ Web Crawling
 - ▶ Indexing
 - ▶ Searching

Search Engines

Web Crawling

- ▶ Search engines use an application called web crawler (*also called spider or bot*) to systematically crawl/browse through the content in the WWW.
- ▶ The web sites are optimized for the crawler to access, identify, and understand the content easily.
- ▶ Web site/application owners can submit their domain details to search engines to ensure the indexing.

Search Engines

Web Crawling

- ▶ Web crawler uses policies to have optimal results, yet not damaging the web site
 - ▶ Selection Policy
 - ▶ Re-visit Policy
 - ▶ Politeness Policy
 - ▶ Parallelization Policy

Search Engines

Indexing

- ▶ The details/data gathered by crawling are stored, for fast and accurate retrieval.
- ▶ The result can be seen as an index of web resources.

Search Engines

Indexing

- ▶ Special index data structures are used to improve the processing productivity.

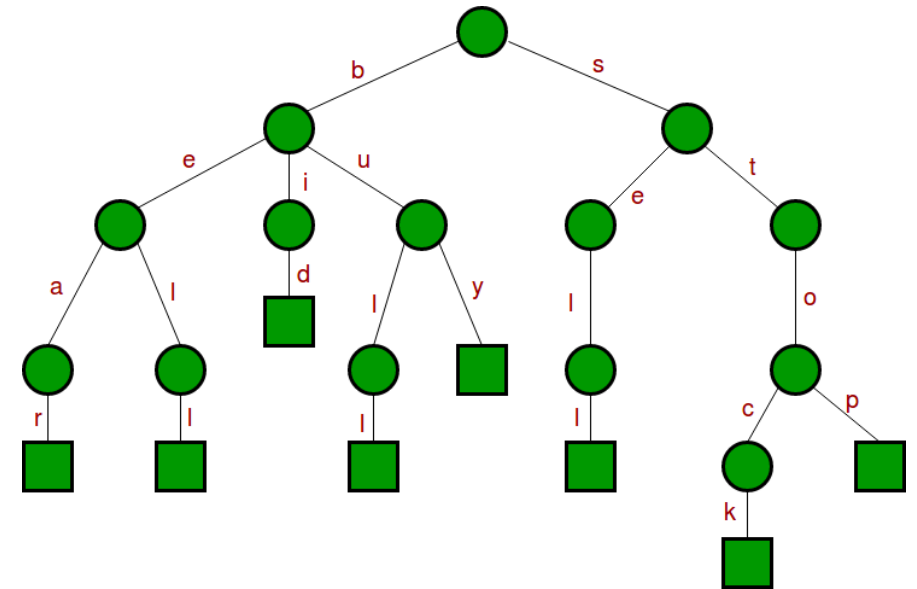
- ▶ Suffix trees

- ▶ Inverted index

- ▶ Document-term matrix

	I	like	hate	databases
D1	1	1	0	1
D2	1	0	1	1

{bear, bell, bid, bull, buy, sell, stock, stop}



Search Engines

Searching

- ▶ User can specify keywords/phrases and search for content/resources.
- ▶ User's input is called a **web search query**.
- ▶ Search engines use query languages to process the query and retrieve matching content from the indexes.
- ▶ Then the matching content are shown to the user with hyperlinks to reach the original sources

Social Media

What is **Media**?

- ▶ Media is the plural of medium.
- ▶ Any form of communicating.
 - ▶ Newspapers
 - ▶ Magazines
 - ▶ Radio
 - ▶ Television
 - ▶ Internet (*considered as a group*)

What is **Multimedia**?

Multimedia means using a combination of moving and still pictures, sound, music, and words, especially in computers or entertainment.

[Cambridge dictionary]

What is **Social Media**?

websites and computer programs that allow people to communicate and share information on the internet using a computer or mobile phone.

[Cambridge dictionary]

What is **Social Media**?

- ▶ Web sites/applications that allow people to communicate and **share information, ideas, career interests, and other forms of expressions** on the internet using a computer or mobile phone.
- ▶ Usually the information is shared within social groups.

Uses of **Social Media**

- ▶ Communication.
- ▶ Collaboration.
- ▶ Opinions & Reviews.
- ▶ Brand Monitoring.
- ▶ Entertainment.
- ▶ Media Sharing.
- ▶ Paid Advertising.

Different types of **Social Media**



Types of Social Media

Social Networking

- ▶ Find friends with similar interest, group activities, share resources and events.



- ▶ Chat – Communication between individuals or groups, publishing announcements, resource sharing.



Types of Social Media

Blogging

- ▶ Content writing (*articles, tutorials, technical reviews, stories, etc.*) and publishing, commenting, and reviewing.



Types of Social Media

Micro-blogging

- ▶ Status updates within groups, friends



Types of Social Media

Photo Sharing

- ▶ Share/publish photos/images: personals, professional, hobbies, etc.



Types of Social Media

Video Sharing

- ▶ Share/publish videos: Movies, songs, documentaries, technical, etc.



Types of Social Media **Forums**

- ▶ Ask questions, share experience/knowledge, learn.

Quora



Types of Social Media

Wikis

- Content is built by the community as a group.



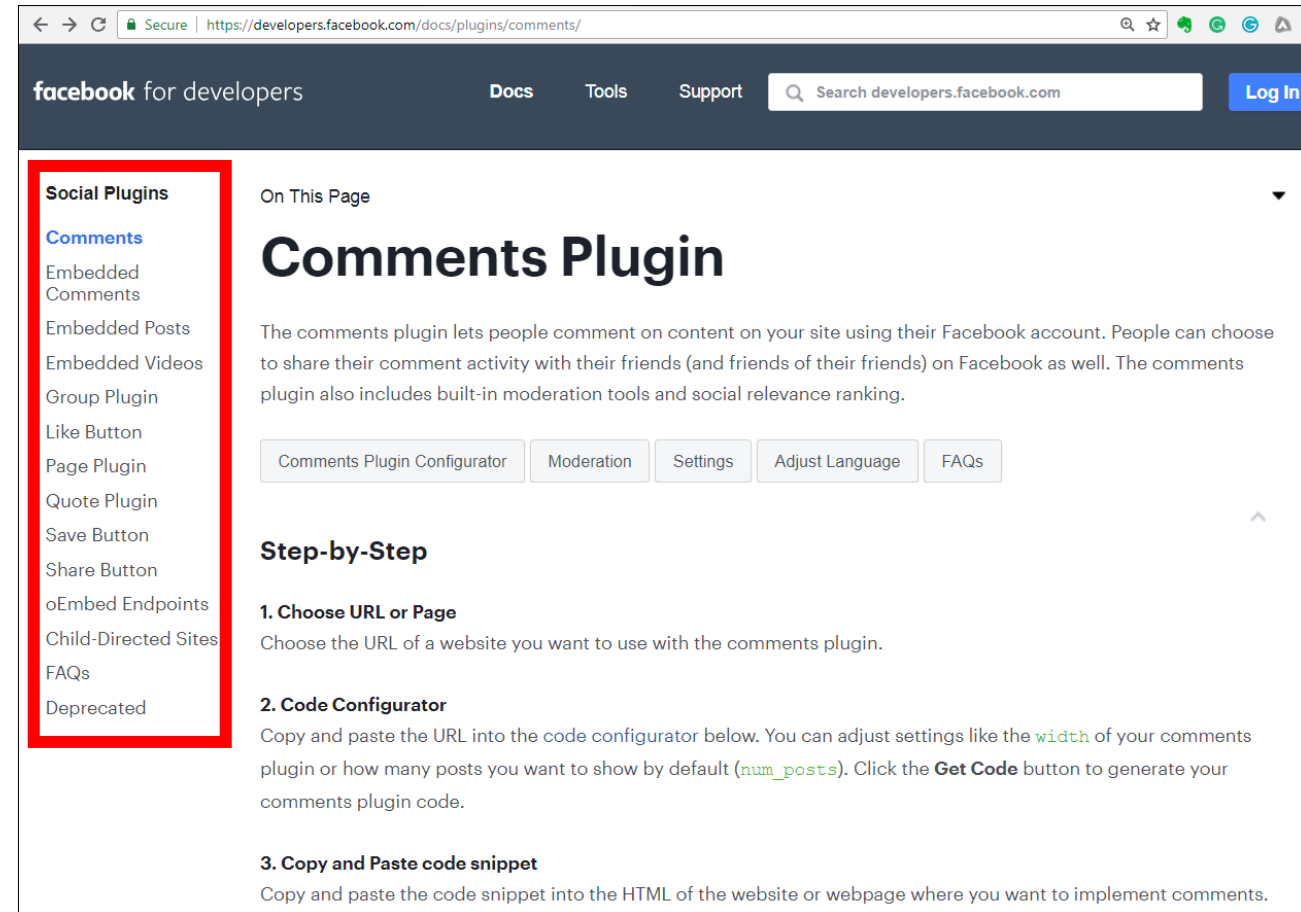
Social Media Integration

- ▶ Popular social media sites/applications provides various widgets, which can be integrated into other systems.
 - ▶ *Google logging, Facebook comments, YouTube video*
- ▶ Usually the social media site/application provides the integration details.

Social Media Integration Available Social Plugins

► Facebook comments plugin

► <https://developers.facebook.com/docs/plugins/comments/>



The screenshot shows the Facebook Developers website for the Comments Plugin. The left sidebar, titled 'Social Plugins', is highlighted with a red box and lists various plugins, with 'Comments' selected. The main content area is titled 'Comments Plugin' and includes a description, a 'Comments Plugin Configurator' button, and a 'Step-by-Step' guide with three steps: 1. Choose URL or Page, 2. Code Configurator, and 3. Copy and Paste code snippet.

facebook for developers Docs Tools Support Search developers.facebook.com Log In

Social Plugins

- Comments
- Embedded Comments
- Embedded Posts
- Embedded Videos
- Group Plugin
- Like Button
- Page Plugin
- Quote Plugin
- Save Button
- Share Button
- oEmbed Endpoints
- Child-Directed Sites
- FAQs
- Deprecated

Comments Plugin

On This Page

The comments plugin lets people comment on content on your site using their Facebook account. People can choose to share their comment activity with their friends (and friends of their friends) on Facebook as well. The comments plugin also includes built-in moderation tools and social relevance ranking.

Comments Plugin Configurator Moderation Settings Adjust Language FAQs

Step-by-Step

- 1. Choose URL or Page**
Choose the URL of a website you want to use with the comments plugin.
- 2. Code Configurator**
Copy and paste the URL into the code configurator below. You can adjust settings like the `width` of your comments plugin or how many posts you want to show by default (`num_posts`). Click the **Get Code** button to generate your comments plugin code.
- 3. Copy and Paste code snippet**
Copy and paste the code snippet into the HTML of the website or webpage where you want to implement comments.

Social Media Integration Google Sign-In

► Google Sign-In

- <https://developers.google.com/identity/sign-in/web/sign-in>

Integrating Google Sign-In into your web app



Google Sign-In manages the OAuth 2.0 flow and token lifecycle, simplifying your integration with Google APIs. A user always has the option to [revoke access](#) to an application at any time.

This document describes how to complete a basic Google Sign-In integration.



Before you begin

Before you can integrate Google Sign-In into your website, you must create a client ID, which you need to call the sign-in API.

To create a Google API Console project and client ID, click the following button:

[CONFIGURE A PROJECT](#)

When you configure the project, select the **Web browser** client type and specify the origin URI of your app.

After configuration is complete, take note of the client ID that was created. You will need the client ID to complete the next steps. (A client secret is also created, but you need it only for server-side operations.)



Accessing Social Media Data Using PHP



Accessing Social Media Data Using PHP

► Facebook SDK v5 for PHP

- Enable PHP developers to easily integrate Facebook login and make requests to the Graph API.
- Makes it easy to upload photos and videos and send batch requests to the Graph API among other things.
- Whether you're developing a website with Facebook login, creating a Facebook Canvas app or Page tab, the Facebook SDK for PHP does all the heavy lifting for you making it as easy as possible to deeply integrate into the Facebook platform.

References

<https://developers.facebook.com/docs/reference/php/>

The screenshot shows a web browser window displaying the Facebook SDK v5 for PHP documentation. The browser's address bar shows the URL <https://developers.facebook.com/docs/reference/php/>. The page has a dark blue header with the Facebook logo and the text "facebook for developers". On the left, there is a sidebar with "Web SDKs" and links for "JavaScript SDK", "PHP SDK" (highlighted), "Getting Started", and "Reference". The main content area is titled "Facebook SDK v5 for PHP" and contains an introduction paragraph, a paragraph about integration, and a section for "Examples". The "Examples" section lists tasks like "Authentication & Signed Requests", "User profile", and "File Uploads". On the right, there is a "On This Page" sidebar with links to "Examples", "API Reference", and "PHP SDK on Github". The browser's taskbar at the bottom shows various application icons and the system clock indicating 9:51 AM on 9/16/2018.

facebook for developers

Docs Tools Support Search developers.facebook.com Log In

Web SDKs

- JavaScript SDK
- PHP SDK**
- Getting Started
- Reference

Facebook SDK v5 for PHP

The Facebook SDK for PHP is a library with powerful features that enable PHP developers to easily integrate Facebook login and make requests to the Graph API. It also plays well with the Facebook SDK for JavaScript to give the front-end user the best possible user experience. But it doesn't end there, the Facebook SDK for PHP makes it easy to upload photos and videos and send batch requests to the Graph API among other things. And SDK for PHP has many extensibility points giving PHP developers full control of how the SDK for PHP interacts with their specific hosting environment and web framework.

Whether you're developing a website with Facebook login, creating a Facebook Canvas app or Page tab, the Facebook SDK for PHP does all the heavy lifting for you making it as easy as possible to deeply integrate into the Facebook platform.

For installation & implementation instructions, look through the [Getting Started with the Facebook SDK for PHP](#) guide, and then check out some of the examples below.

Examples

The following examples demonstrate how you would accomplish common tasks with the Facebook SDK for PHP.

Authentication & Signed Requests

- Facebook Login (OAuth 2.0)
- Obtaining an access token from the SDK for JavaScript
- Obtaining an access token within a Facebook Canvas context
- Obtaining an access token within a Facebook Page tab context

User profile

- Retrieve a user's profile
- Post a link to a user's feed

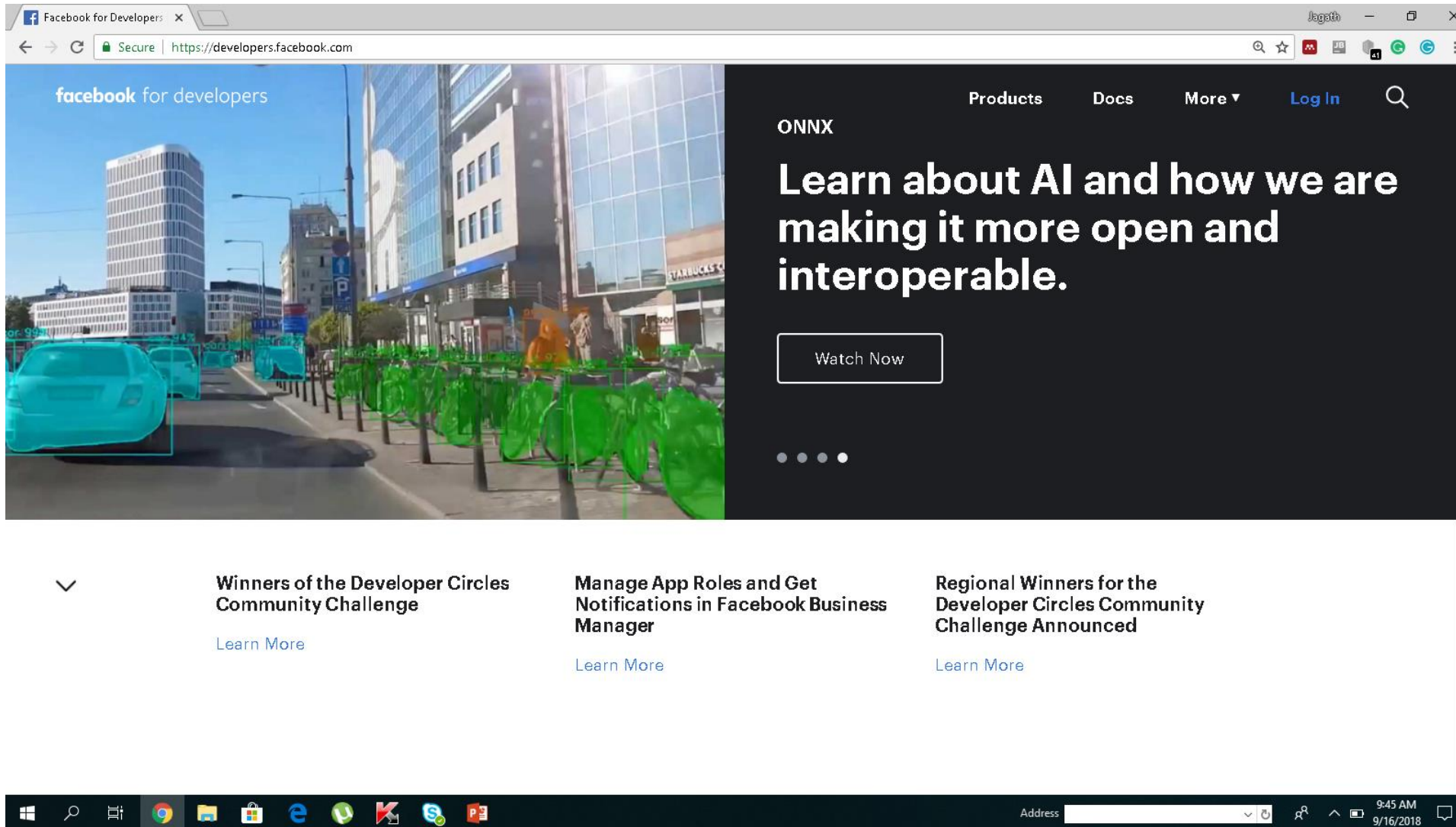
File Uploads

- Upload a photo to a user's profile



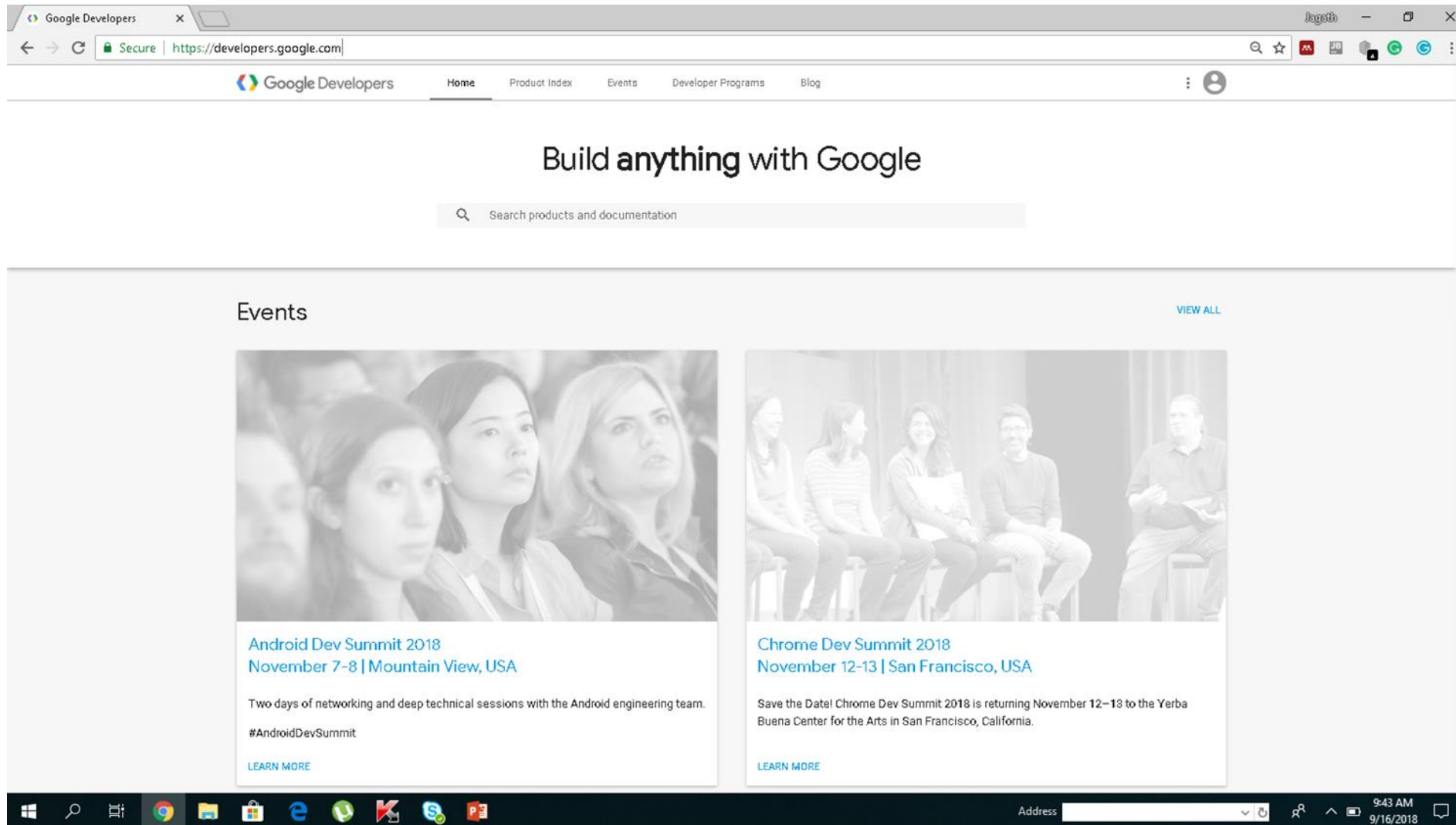
References

<https://developers.facebook.com/>



References

<https://developers.google.com/>



Summary

- ▶ Search Engines
- ▶ Social Media
- ▶ Accessing **Social Media Data** using PHP

End of Session 01.

Thank You