



**Plantwise  
National Data Center Dashboard**

**Deployment and Search Engine Optimization of  
PWNDC Dashboard  
Report**

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# Introduction

Plantwise National Data Center (PWND) is a dashboard platform for a national data center of crops created by the Center for Agriculture and Bioscience International (CABI) and the Department of Plant Protection (DPP) in Karachi. CABI and DPP handle all the Pest, Weed, and disease data of crops collected through different plant clinics. This data is stored and managed at the Plantwise Online Management System (POMS). PWND is linked to POMS to measure the progress of different plant clinics established in different provinces including Punjab, Khyber Pakhtunkhwa, Gilgit, Sindh, and Balochistan.

## Deployment of the dashboard on Server

### Hosting and Domain

For the deployment of dashboard site hosting and domain services from the hostinger server are used.

### Create A GitHub Account

There are many different ways to deploy a website to the public Internet. For the deployment of PWND, we have used GitHub Pages.

GitHub Pages is a service offered by GitHub. Specifically, GitHub Pages are public web pages that are hosted and published through GitHub.

Why GitHub Pages? The website to be deployed is dynamic and generated by using HTML, CSS, JavaScript, and PHP. GitHub Pages offers extensive integration and support for dynamic sites. By using both, you'll benefit from:

- Easy setup
- Troubleshooting your site
- Updating and maintaining your site

### Create Your Repo

In order to publish PWND site using GitHub Pages, we created a repository (repo) on GitHub.

A GitHub repository is an online, central storage place where you can store files and all the versions of those files. We'll use the repo you create to store the contents of your website.

The repo's name must also follow GitHub Pages' naming convention, otherwise site will not publish at all.

Specifically, the repo's name must be in the following format:

## Initialize Your Repo

Now the repo has created a repo with the proper naming convention, Now next step is to upload the site to GitHub.

We have used Git to push (upload) the contents of the site's directory to new repo.

To do so, we'll first initialize a Git repository in the site's directory.

### Instructions

1.

In the terminal to the right, open a new tab.

Then, use the `cd` command to navigate to your site's directory.

2.

Now that we're inside of site's directory, initialize a Git repository with the following command:

```
git init
```

## Add the Remote

Next, Git needs to know what repo will store your site's content.

In this case, the repo will be the one you created on GitHub earlier.

To specify the repo using Git, we'll have to add the remote and label it as the origin.

1. The remote is the URL of the repo that will store your site's contents.
2. The origin is an alias for the remote. You can think of an alias as an abbreviation or a substitute name. This means that instead of having to always type the lengthy remote URL over and over again, you can simply refer to it as origin later on.

In the terminal, you can add the remote with the following command:

```
git remote add origin https://github.com/your-user-name/your-user-name.github.io.git
```

## Commit Your Changes

We're almost there! Git also needs to know exactly which files should be pushed to your repo.

In this case, we want to push *all* of your site's content to the repo. This means we will do the following two things (in order):

1. Add all of your site's content to the Git staging area
2. Commit (save) your changes

## Deploy Your Site

It's time to deploy your site!

Once again, we'll use Git to help deploy your site. This time, we'll use Git's `push` command and push the contents of your site up to your repo using the following command:

```
git push -u origin master
```

# Search Engine Optimization of PWNDC Dashboard

## What is SEO?

SEO stands for "search engine optimization." In simple terms, it means the process of improving your site to increase its visibility when people search for products or services related to your business on Google, Bing, and other search engines. The better visibility your pages have in search results, the more likely you are to garner attention and attract prospective and existing customers to your business.

## How does SEO work?

Search engines like Google and Bing use crawlers, sometimes also called bots or spiders, to gather information about all the content they can find on the internet. The crawler starts from a known web page and follows internal links to pages within that site as well as external links to pages on other sites. The content on those pages, plus the context of the links it followed, help the crawler understand what each page is about and how it's semantically connected to all of the other pages within the search engine's massive database, called an index.

When a user types or speaks a query into the search box, the search engine uses complex algorithms to pull out what it believes to be the most accurate and useful list of results for that query. These organic results can include web pages full of text, news articles, images, videos, local business listings, and other more niche types of content.

There are a lot of factors that go into the search engines' algorithms, and those factors are evolving all the time to keep up with changing user behavior and advances in machine learning.

## Results

The SEO of the Plantwise dashboard site (<https://www.pwndc.com>) is done so that anyone can search the website on the google search engine very easily. On-page SEO of the site is done by using meta tags and image alternative tags. Off-page seo is done by using different backlinks and keywords. SEO of the site will help the user to reach the dashboard by using simple relevant keywords few examples of results are given below.

Below figure shows results for dashboard by Plantwise and next figure shows result for Plantwise National data center.

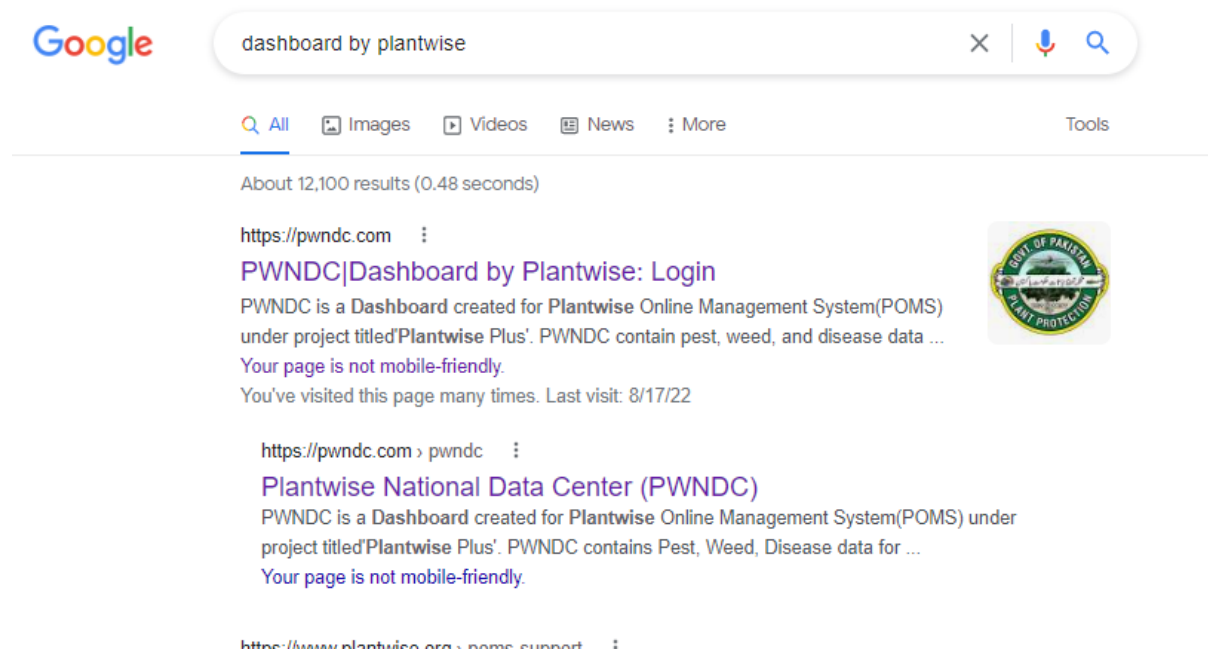


Figure 1. Shows the result from google surf page.

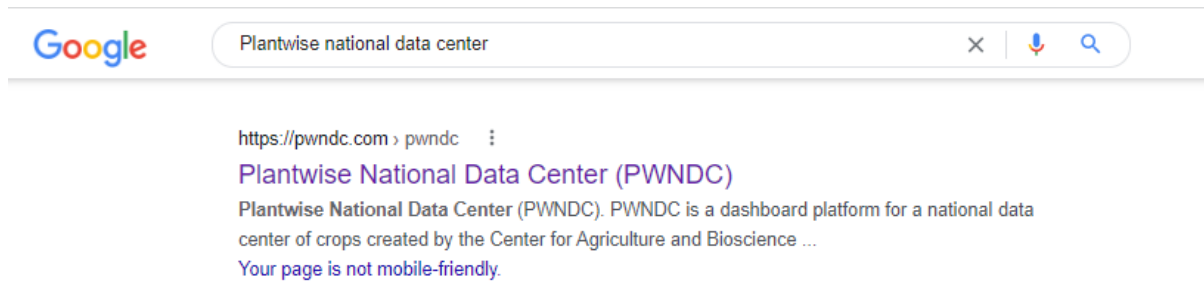


Figure 2. Shows the result for Plantwise National Data center

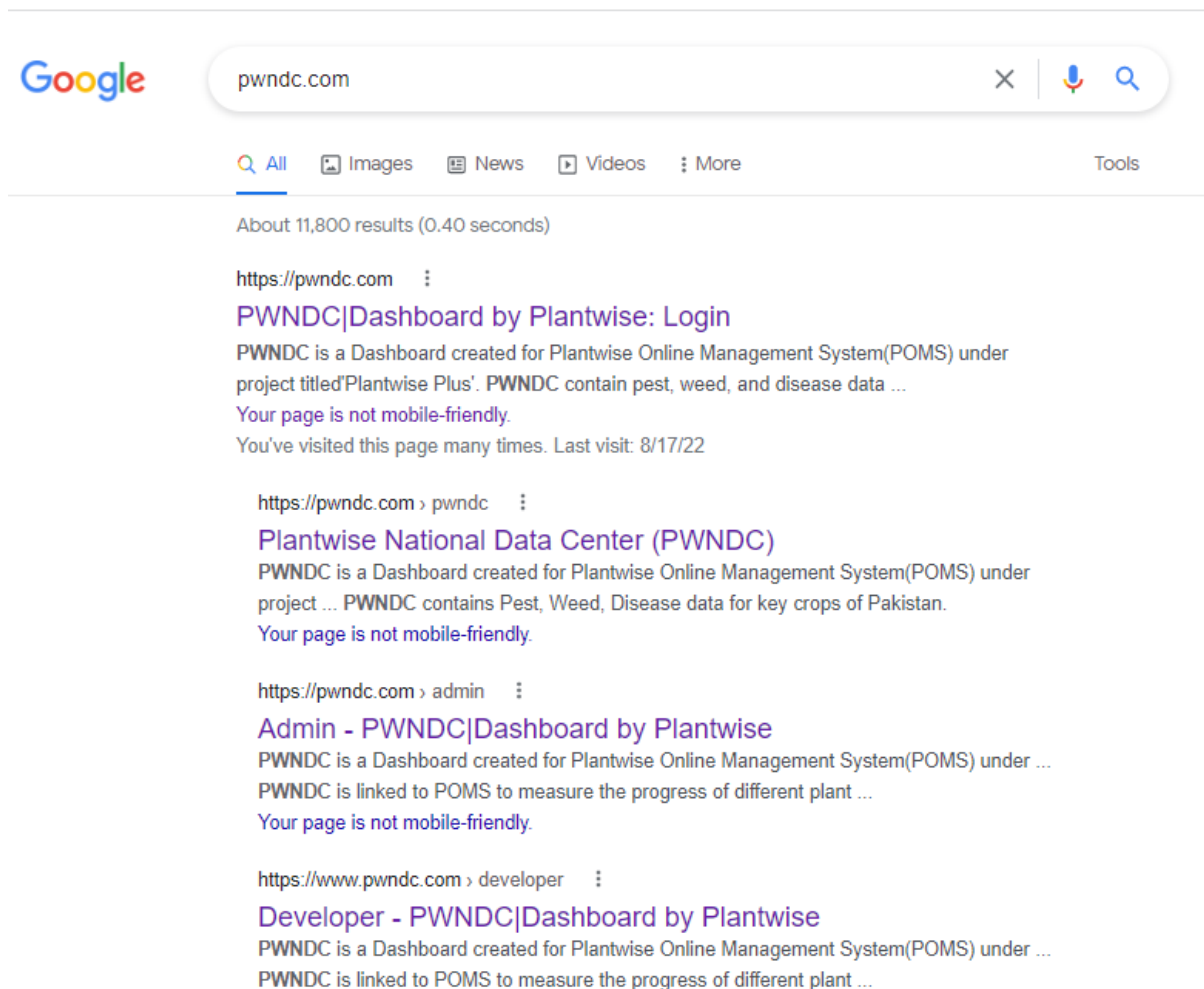


Figure 3. Shows the result for domain search.