

Preparing A Website For Web 3.0 Publication

The First Step Toward Becoming Virtually Unstoppable

4 March 2021 – Much simplified since earlier versions

“Everything should be as simple as it can be, but not simpler.” - Albert Einstein

Preface

Websites not conforming to the crown’s narrative may have their domain names disabled any day. Do you want yours to survive the coming purge? If so, this article is urgent and important for you.

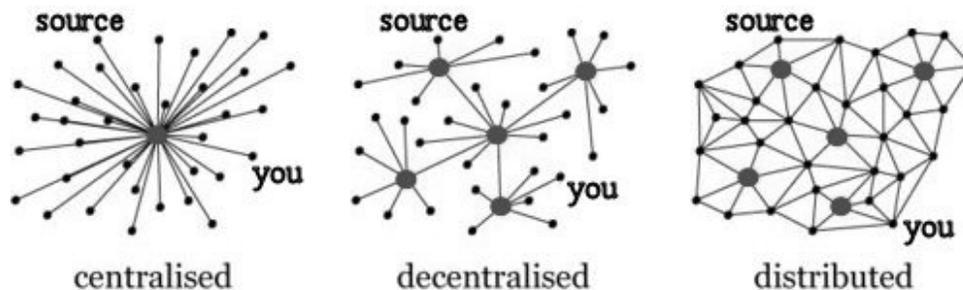
This is written to be understood by as many as possible without getting off into the technical details any more than necessary.

Regardless of the website type, these are the necessary first steps for any website migrating to the virtually unstoppable Web 3.0 (aka Web3), the fully distributed web.

Constructive and positive feedback is welcome. We need solutions, not negativity.

Why Distributed Is The Most Robust Network

IPFS (Inter-Planetary File System) is currently the only fully functional means of publishing a complete website, with changing content, at an unchanging address, on a widely distributed network. Distributed networks are far more robust against attack than merely decentralized or federated networks. Consider how many nodes would need to be disabled in the following illustration to prevent communication between an information source and you.



With more nodes in a network and higher numbers of nodes connected to each, a distributed network becomes more robust against attack. Distributed and decentralized/federated networks are distinguished from each other in Web3 Only Podcast number 4, on the only fully decentralized media platform today, LBRY, at <https://open.lbry.com/@Web3Only:d/Why-Distributed-Networks-Are-Important:b>

This document addresses preparation for publishing a website on IPFS because today it’s by far the most robust distributed network with this capability.

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The Simplest Solution

When a website is published on IPFS, the simplest manifestation is with everything in the same folder. An unchanging IPNS (Inter-Planetary Name System) hash address is established for that folder, replacing the domain name. The IPNS address is a mirror of the original website, but not automatically updated. If there were no other considerations, that would be the simplest solution and this paper could be a lot shorter.

Faster and More Assured Website Access

To provide quicker, more assured access to content on IPFS, it needs to be stored in more places, aka nodes, operated by others. This can happen naturally from people simply accessing it, although the first few may find this to be very slow. As more access the files, bits of them are left along the various paths the data followed through the distributed network from the source (aka seeding), making access quicker and quicker as more do the same. More people accessing a file makes downloading it faster.

To speed up initial access, especially for older and less accessed content, a publisher may cooperate with supporters who mirror their IPFS content at other locations. Copying and permanently storing this content on IPFS is a process known as “pinning”. This assures access to the entire website on IPFS, even if the original IPFS source is gone.

As Simple As It Can Be

Fortunately, it’s easy to replicate a website on IPFS in many places. This is theoretically possible when the amount published isn’t larger about 2Tb and maybe a good bit more. However, very large websites can be intolerably slow to update on the remote locations. Addressing excessive website size is a very important step in this preparation.

For now, it’s best to find someone local with computer networking skill to help set up those parts of this process which you may not understand. Later, additional simplification will be provided. But considering the urgency and importance of preserving and assuring access, it’s recommended you don’t wait for that simplification.

Preparing To Publish

Everything In The Same Folder

Everything you want to include in your website's IPFS mirror should be completely within the folder containing your website where you publish it from. External files and programs, like code for a search function, may otherwise not function or be accessible. Avoid external files and programs as much as possible to retain maximum website functionality. If you isolate the website's folder from the server and the internet, this simulates what your website will behave like on IPFS, after the liberty domain name purge.

Internal Links

All links from pages in the website to other content within the website need to not use the website's domain name, (aka absolute links). Those links will not be converted to links staying entirely within the IPFS mirror site. Converting all such links to relative links (not using the domain name) is a very important step. There are programs which do this in a mass edit, but be sure to back up the site first.

External Content

Links to external content are an important consideration. Your links to items at other websites may become inaccessible. For example, if you use Bitchute to provide and embed videos, you cannot be assured that Bitchute will always be there. If it disappears, your media content will disappear from your IPFS mirror site also. So, all of that media needs to reside within the folder which contains your website. It can be as simple as a folder full of the media with links on the web pages referencing them which each state "Download mp4 Video". Audio, articles, images and all other external content need similar treatment to be assured they won't be disappeared.

Website Source Access

Fast and assured direct access to the folder where the entire website source is stored will save a lot of time preparing your website for publishing on IPFS. This needs to be in a manner which does not require the website's domain name, because we're preparing for the day when many domain names will be blocked or disabled. If your website's source files don't reside in a folder on your local PC, then you'll need the website host server to provide the location in terms of an IP address. Make sure this works now, to be certain you'll be able when it becomes necessary.

Website Local Source Is Best

To be more assured of your continued ability to update your website, move its source location to a local PC folder and upload to the website host server from there. This maintains two copies of the website's source files, in case one is somehow lost. At some point you may be very thankful, when access to the website hosting server is disabled and you can still publish to IPFS.

WordPress can be setup offline using instructions like

<https://monovm.com/blog/how-to-build-a-wordpress-site-offline/>

Then you can move an existing WP website to your PC with an instruction like

<https://www.wpbeginner.com/wp-tutorials/how-to-move-live-wordpress-site-to-local-server/>

The local WP version clone or a replica of the site on your PC can be used for editing your site offline in what's known as a "staging site". Then you can push changes in your staging site to the live site on a web hosting server with instructions like

<https://blogvault.net/wordpress-staging-to-live-site/>

Dedicated IPFS Publishing PC

The entire website will be copied or imported to a dedicated IPFS publishing PC (different than the one you edit your website on) with the following spec:

- Quad core processor, faster is better
- 8Gb minimum RAM
- Storage drive 4-times the size of the entire website to be published on IPFS, plus room for the operating system, if on the same drive. Newer websites may need more space for growth.
- Extra USB3 or better connection for copying to external storage devices.
- Fast internet connection behind a firewall without VPN
- Always on, aside from occasional outages of power and internet

A Raspberry Pi4 with 8Gb RAM can be used. However, sites with a LOT of videos may save days of time during video compression with a much faster processor.

Copy or Import Website to the Dedicated IPFS Publishing PC

Specialized user friendly software is being prepared by the Pirate Box Project to copy or import your website from its source folder, preferably on a local PC, to an IPFS publishing folder on the dedicated IPFS publishing PC. HTML (HyperText Meta Language) static or flat websites will be copied, disregarding existing unchanged files and video files which have already been compressed. Dynamic websites (like Wordpress, Joomla, Drupal and others) will be imported into HTML static format which is necessary for the site to function on IPFS.

Video Files Compression

Video files cause some websites to be very large and are generally the vast majority of the file storage size in the website's source folder. Large video files cause several issues:

- They're slower to download
- Updates of the website's mirrors at remote IPFS locations may be slowed from hours to days
- IPFS publishing instabilities may eventually arise on the IPFS publishing PC

The first time it's done, this process will take many days for some websites. Subsequent website video compression will ignore those already compressed. Specialized user friendly software is being prepared by the Pirate Box Project for video compression in a manner facilitating the IPFS publishing process.

Remote IPFS Locations Preparation

Publishers need to **find as many people as possible who will support the website on IPFS** by hosting mirrors on dedicated PCs used for nothing else. This is most important for assuring fast reliable access to older and otherwise less accessed content which won't have been seeded across the distributed network.

Small websites may be able to download and save (aka pin) the IPFS website content over the internet in a process which may take from hours to days. These may go ahead and acquire their hardware independent of the publisher, except for needing to know how big of a storage drive is needed. The hardware spec is:

- Quad core processor
- 8Gb minimum RAM, except for light Linux operating systems which can get by with 4Gb RAM
- Storage drive 2-times the size of the entire website to be published on IPFS, plus room for the operating system, if on the same drive. Newer websites may need more space for growth.
- USB3 or better connection for any external storage, if required.
- Fast internet connection behind a firewall without VPN
- Always on, aside from occasional outages of power and internet

A Raspberry Pi4 can be used with 4Gb RAM

Larger websites will need to receive the initial IPFS website data in a storage device sent from the publisher to the remote IPFS location's operator. It will be connected using an USB3 or faster connection to a PC of the same spec as in the next paragraph above. Additional instructions will be provided to install the software needed to access it.

Bottom Line

It's important and urgent that websites begin preparing for Web 3.0 publishing on IPFS.

- Some changes to the website may be needed and should begin ASAP.
- Some hardware must be acquired by the publisher and remote IPFS mirror locations.
- Software will soon be available to:
 - copy or import the website to the dedicated IPFS publishing PC and
 - initial compression of the videos.

Then the website can quickly be put on IPFS to assure preservation and access following instructions to be provided.

People will be able to access all of your hard work, even after the crown tries to block access by scrubbing your website's name from the DNS (domain name servers) internet phone book, or even takes down website hosting servers, which could happen very soon.

This document is to expedite publishers taking the first actions needed. Any updates will be published at <https://Agorist.Market/FreedomPosts> which is mirrored on IPFS at

ipfs.io/ipns/k2k4r8mlcz4sn7rvh45zq2uu1b883mrs6a9hmhn4dzl6mobpumbiruhv/FreedomPosts/

Another document "DIY Website Publication On IPFS - Summary" published at the same location provides more detail for you and your local helper with some computer networking skill. A very detailed instruction will be provided and posted there when ready. Contact info is below for those needing it.

For Freedom
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Updates

- 2 Mar 21 largely rewritten to reflect a much simplified process
- 4 Mar 21 in "Website Local Source Is Best" added last paragraph beginning with "WordPress can be setup offline..."