

Get the location of the ISS using DNS #dns #internet #trivia · 7 comments · 550 words · Viewed ~19,437 times.

distributed around the world instantly(ish).

And receive back the latest position of the ISS:

"satname": "SPACE STATION",

"sataltitude": 420.09,

"timestamp": 1751366048,

"azimuth": 292.92, "elevation": -70.95, "ra": 202.69300845, "dec": -32.16097472,

"eclipsed": true

"transactionscount": 7

"satid": 25544,

;; ANSWER SECTION:

back the latest position:

}

Bash

quick proof-of-concept.

⇒ BIMI - SVG in DNS TXT WTF?!

JSON

"the cloud" as being some intangible morass of ethereal Turing-machines floating in probability space, the more prosaic reality is that they're just boxen in data centres. They have a physical location.

Got a tricky machine which is playing silly-buggers? Wouldn't it be nice to know exactly where it is? That way you can visit and give it some percussive maintenance. Enter the DNS LOC record! The snappily titled <u>RFC 1876</u> is an *experimental* standard. It allows you to create a DNS

record which specifies the latitude and longitude of your server. Of course, some data-centres are very tall and some are underground. So it also contains an altitude parameter.

The standard allows for a minimum altitude of -100,000 metres - deep enough for any bunker! The maximum altitude is 42,849,672 metres which is high enough to allow it to be

used on <u>satellites in geostationary orbit</u>. So, as a bit of fun, I decided to create where-is-the-iss.dedyn.io It isn't a website. You can't ping it. There's no way to interact with it *except* by using DNS. Yup!

Linux and Mac users can run:

You can use a DNS query to get the (approximate) location of the International Space Station! dig where-is-the-iss.dedyn.io LOC

where-is-the-iss.dedyn.io. 1066 IN LOC 47 24 53.500 N 66 12 12.070 W 430520m 100 The DNS records are updated every 15 minutes on a best-effort basis.

```
The lovely people at N2YO have a website which allows you to track loads of objects in orbit.
They also have an <u>easy to use API</u> with a generous free tier.
```

Calling https://api.n2yo.com/rest/v1/satellite/positions/25544/0/0/0/1/&apiKey=\_\_\_\_ gets

```
"info": {
```

How

"positions": [ { "satlatitude": -21.25409321, "satlongitude": 140.3335763,

```
]
  }
Note that the altitude is in Km, whereas the LOC format requires m.
The latitude and longitude are in decimal format - they need to be converted to Degrees,
Minutes, and Seconds.
There were only a few free domain name providers who offer an API for updating LOC
records. I went for <u>deSEC</u> a charity from Berlin. They have <u>comprehensive API documentation</u>.
Adding the initial LOC record is done with:
       Bash
  curl https://desec.io/api/v1/domains/where-is-the-iss.dedyn.io/rrsets/ \
      --header "Authorization: Token _____" \
      --header "Content-Type: application/json" --data @- <<< \
      '{"type": "LOC", "records": ["40 16 25.712 S 29 32 36.243 W 427550m 0.00m 10(
However, updating the record is a little trickier. it needs to be sent as an HTTP PATCH to a
subtly different URI. The PATCH only needs to send the data which have changed.
```

--header "Authorization: Token \_\_\_\_\_" \ --header "Content-Type: application/json" --data @- <<< \ '{"records": ["40 16 25.712 S 29 32 36.243 W 427550m 0.00m 10000m 10m"]}'

For more DNS weirdness, please see my other posts:

most unlikely of records<sup>3</sup>. Say, I wonder how you'd represent the co-ordinates of the Mars Rover...? **Further Reading** 

curl -X PATCH https://desec.io/api/v1/domains/where-is-the-iss.dedyn.io/rrsets/@/

```
the Command Prompt. 🗠
01. Look, I'm not NASA, OK? If you're using this to help you dock then I cannot be held
   responsible. 

02. I suppose you could build an API with unlimited request limits by distributing data via
   DNS TXT records. Would best suit static or infrequently updating data. Push it once to
   DNS and let everyone query it semi-locally. ←
```

🐾 Footnotes 🐾

00. I don't think there's a way for Windows users to look up LOC records using PowerShell or

```
7 thoughts on "Get the location of the ISS using DNS"
             Major Hayden 😇 said on tootloop.com:
                                                               2025-07-06 12:47
           <u>©Edent</u> That's cool! You can also try talking to the folks on the ISS with your
           amateur radio. 😉
Reply | Reply to original comment on tootloop.com
```

Markus Eisele said on mastodon.online:

**Inl** says:

<u>@blog</u>

@Edent

I appreciate that.

nor

work.

else can. (-:

*not* be published.

Write something interesting here...

▶ See allowed HTML elements:

Your Name (required):

Dr. Winston O'Boogie

Your Website (optional):

https://example.com

URL/Permalink of your article

Comment:

<u>@blog</u> took fn1 as a challenge:

Reply to original comment on screaminginsi.de

**Atomic Fox** says:

This is utterly unhinged.

Reply to original comment on is.nota.live

> nslookup -type=loc where-is-the-iss.dedyn.io

#PowerShell #DNS #MicrosoftWindows #nslookup

Reply to original comment on transfem.boywife.top

dnsmicrosoftwindowsnslookuppowershell

Reply | Reply to original comment on mastodon.online

<u>@Edent</u> love this 🕰 exactly my jam these days! Thank you 🤗

```
It is a shame that neither
> Resolve-DnsName -Name where-is-the-iss.dedyn.io -Type LOC
```

**JdeBP** said on mastodonapp.uk:

More comments on Mastodon.

What are your reckons?

All comments are moderated and may not be published immediately. Your email address will

abbie unit #507131 (she/they/it) :blobcatgooglytrash: says:

<u>@blog</u> i swear to god there's a DNS record for everything LMFAO

```
Your Email (required):
  me@example.com
```

Ping me!

Search

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Domain names, like www.example.com usually resolve to servers. As much as we think of

I love DNS esoterica. Weird little things that you can shove in the global directory to be

I set the <u>Time To Live</u> at 900 seconds. Every 15 minutes my code runs to update the record≤. That keeps me well within the API limits for both services. I could add TXT records showing when it was last updated, or other sorts of unstructured data, but I think this is enough for a There you have it! A complex and silly way to demonstrate how DNS can be used to hold the

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03. See if you can find the other interesting record I've added to DNS! ←

**Interactive Relationship Graph** 



2025-07-06 12:50

2025-07-06 14:29

2025-07-06 17:17

2025-07-06 18:02

2025-07-06 19:20

2025-07-06 21:31

Not even <u>@rmbolger</u> 's Resolve-Dns supports the LOC resource record type. Although I suspect that might be the Windows tool that gains support the most quickly, just for the bragging rights of being able to show an ISS LOC record in Windows when no-one Reply | Reply to original comment on mastodonapp.uk



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**MMXXV** 

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