

WoT Scripting API

W3C WoT TPAC, November 2025

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Publication

Last publication: <https://www.w3.org/TR/wot-scripting-api/>

Web of Things (WoT) Scripting API

W3C Group Note 03 October 2023

Draft at <https://w3c.github.io/wot-scripting-api/> with the following updates/changes:

- Fetch TD vs Request a TD (Clarifications)
- ActionInteractionOutput interface (see next slide)
- Algorithm clarifications/improvements
- ExposedThing does **not extend** ConsumedThing

ActionInteractionOutput

This interface exposes functions which will allow cancelling asynchronous actions and query the status of a long running action.

WebIDL

```
/*
 * Note: retrieving the result of an action via the implicit InteractionOutput interface
 * will only work after the action has been completed
 */
[SecureContext, Exposed=(Window,Worker)]
interface ActionInteractionOutput : InteractionOutput {
    Promise<InteractionOutput> query(
        optional InteractionInput params = {},
        optional InteractionOptions options = {});
    Promise<undefined> cancel(
        optional InteractionInput params = {},
        optional InteractionOptions options = {});
};
```

Support for Profiles 1.0 and Future versions

The task force reviewed the Profile 1.0 document. [These](#) are the action points/comments:

- Missing operations queryallactions, subscribeallevents, unsubscribeallevents, observeallproperties, unobserveallproperties.
- For async actions the new ActionInteractionOutput should be sufficient
- We plan to **not** deploy any custom mechanism to handle a specific profile. A 3rd party library should and can always use the raw Scripting APIs to implement stricter requirements from a profile.

Errors and additional responses

Before publication, we plan to solve these last two major issues:

- Cover AdditionalExpectedResponses as success responses
- Cover AdditionalExpectedResponses as error responses

Once done, we are “almost” feature complete in comparison with Thing Description 1.1 :

- The major missing part is still how to deal with *All* or *Multiple* operations, which lack information about input/output schemas. A possible solution is similar to what we resolved for Async actions -> do not assume any payload type and let the application use a particular format.

Next Charter Topics

Issues with

- “for next iteration”
- “wait -for-td”
- “Spec-improvement”
- “enhancement”
- “API-improvement”
- “Use case”
- ...

Goals: Keep the APIs aligned with future Thing Description revisions and keep the same abstraction level of Thing Description interaction model.

Bi-weekly calls are enough and allow us to keep focus on TD topics

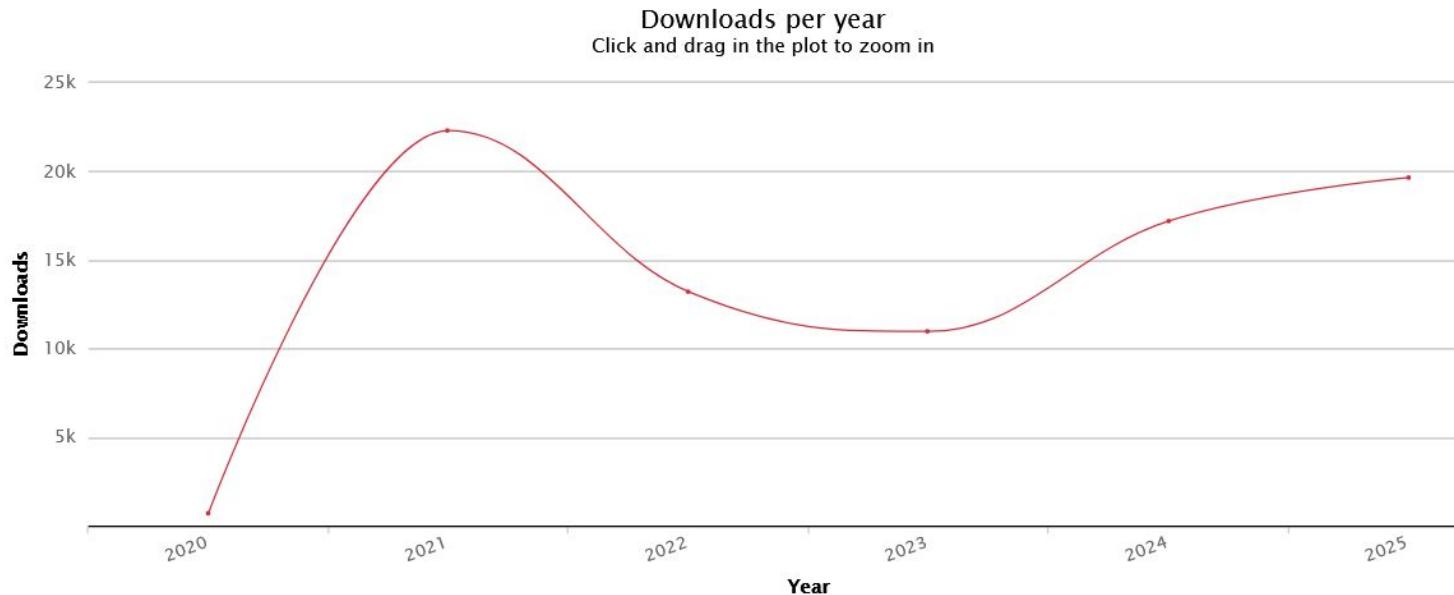
API implementations

We are collecting more implementations of Scripting API under the “[thingweb](#)” umbrella

- node-wot (TypeScript)
- dart_wot (Dart)
- kotlin-wot (Kotlin)
- wotpy (python) → to be published soon
- Many tools around W3C WoT specifications
 - playground
 - td-tools
 - node-red
 - ui-wot
 - Domus-tdd-api
- Others
 - .NET developed by TU Munich: <https://github.com/tum-esi/WoT.Net>
 - ...

node-wot statistics

<https://npm-stat.com/charts.html?package=@node-wot/core>



We are almost back to the same rates of 2021