



W3C Web of Things Community Meetup - Edge Computing

# Script and Deploy WoT Applications to the Serverless Edge

Arturo Romero (CEO)  
Miguel Romero (CTO)

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```
...land/x/sift@0.6.0/mod.ts";
...ts"
...es.tsx"
...deno-gfm
...//deno.land/x/gfm/mod.ts";
...json" assert { type: 'json' };

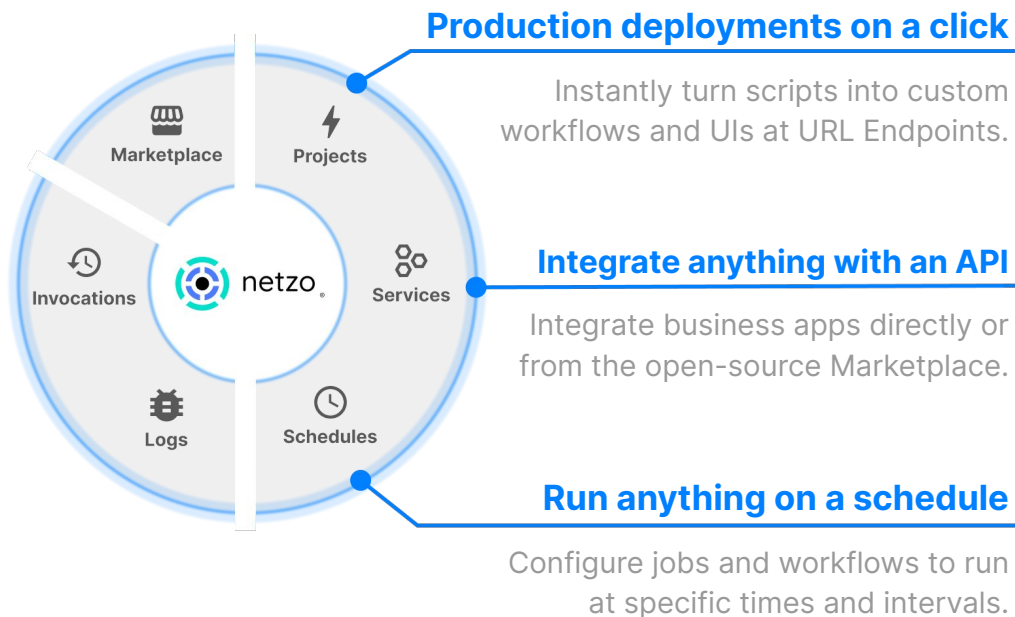
...v.get('DENO_DEPLOYMENT_ID')
...mentId.replace("dev-", "").split('-')
...ps://${deploymentId}.netzo.io`

...access-control-allow-origin': '*' }

...handler(req: Request, _connInfo, params): Promise<Response> {
...= new URL(req.url)
...templateId = url.pathname.split('/')[2] // templateId is always second
...ie.log(templateId)
...ch (req.method) {
case 'GET': {
  if (templateId) {
    return jsx(<HtmlTemplate page={templateId} />, { headers })
  }
}
else {
  const markdownResponse = await fetch(`https://api.netzo.io/projects/${id}/readme.md`)
  const readme = await markdownResponse.text()
  const body = render(readme, projectURL);
  const html = `
    <!DOCTYPE html>
    <html lang="en">
      <head>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
        <style>
          main {
            max-width: 800px;
            margin: 0 auto;
          }
          ${CSS}
        </style>
      </head>
      <body>
        <main data-color-mode="light" data-light-theme="light" data-dark-theme="dark" class="markdown-t
```

# Netzo: The scripting platform for developers

**Deploy JavaScript and TypeScript to URL endpoints instantly.** Connect essential APIs, automate processes and build tools faster, without managing infrastructure.



Webhook Handling	Request Proxying
Data Processing	Admin Panels
Form Handling	Server-side Rendering (with JSX)
KPI Dashboards	Request Scheduling (Cron Jobs)
Workflow Automation	and more...

# Instantly turn scripts into automations and UIs



**Integrate** anything with an API



**Deploy** instantly, skip the Devops



**Code** fast in the browser



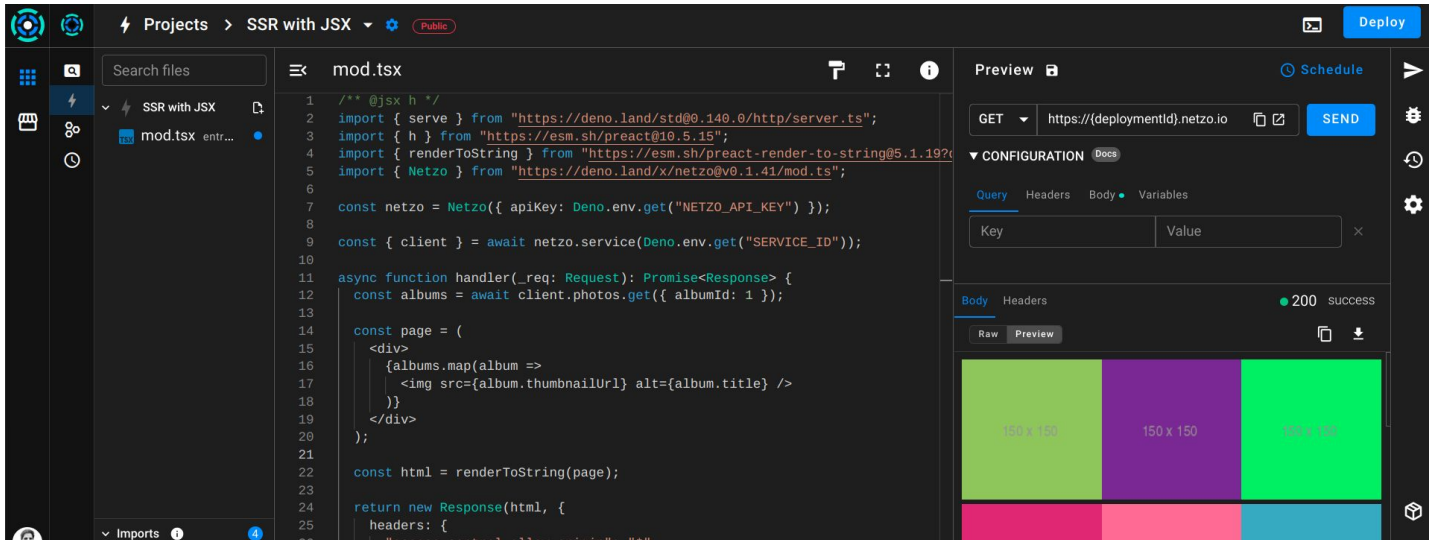
**Run** anything on a schedule



**Automate** work and get more done



**Empower** developers to innovate



# Boost productivity across organizations



## Sales and Marketing

Close more sales, faster by optimizing lead generation, prospect management and revenue generation



## Production

Capture production process and inventory data to improve quality and supply chain controls



## Operations

Keep data in sync across all teams and build portals and interfaces that enhance internal business operations



## Internet of Things

Enhance process data, trigger workflows and augment operations through IoT device interactions



## Accounting and Finance

Load and sync electronic invoice data with multiple systems to enhance reporting, file naming and storage.



## IT

Increase cybersecurity and minimize disruptions through isolated functions and identify incidents immediately.

and more...

# Workers: Custom HTTP endpoints for any use case



[Click Here](#)



URL imports



Env Variables



Native TS



TSX/JSX



Web Standards

```
/** @jsx h */
import { serve } from "https://deno.land/std@0.140.0/http/server.ts";
import { h } from "https://esm.sh/preact@10.5.15";
import { renderToString } from "https://esm.sh/preact-render-to-string@5.1.19?deps=preact@10.5.15";
import { Netzo } from "https://deno.land/x/netzo@v0.1.41/mod.ts";

const netzo = Netzo({ apiKey: Deno.env.get("NETZO_API_KEY") });

const { client } = await netzo.service(Deno.env.get("SERVICE_ID"));

async function handler(_req: Request): Promise<Response> {
  const photos = await client.photos.get({ albumId: 1 });

  const page = (
    <div>
      {photos.map(photo =>
        <img src={photo.thumbnailUrl} alt={photo.title} />
      )}
    </div>
  );

  const html = renderToString(page);

  return new Response(html, {
    headers: {
      "access-control-allow-origin": "*",
      "content-type": "text/html"
    },
  });
}

serve(handler);
```

Netzo SDK



API Integrations



SSR (server- side rendering)



HTTP Server to handle Requests



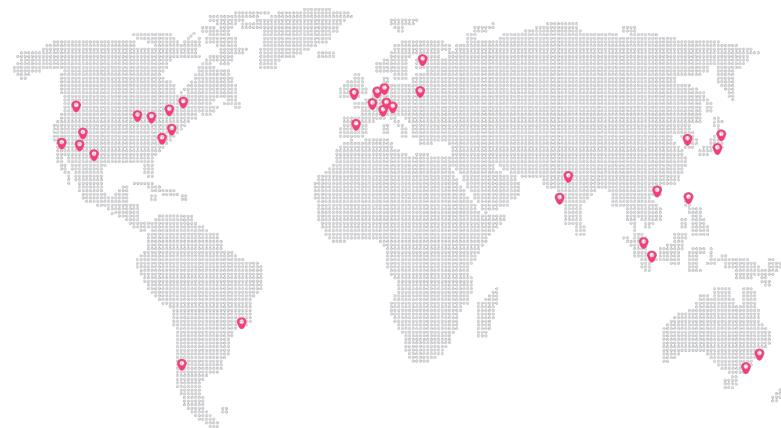
Runs locally as well: `deno run -A https://api.netzo.io/projects/:id/mod.tsx`

# Scripting WoT applications at worker runtimes (serverless edge)

**Worker Runtimes are the new standard for writing HTTP servers in JavaScript.**

Netzo streamlines scripting and deployment of Web of Things applications, enabling users to bring ideas to production faster. For the Web of Things, scripts can be used to...

- **augment** existing WoT deployments
- **integrate** WoT entities with cloud services
- **proxy** WoT entities (act as HTTP Gateway)
- **process** data (aggregated, transform, etc.)
- **respond** to events (e.g. webhooks)
- **automate** interactions of WoT Things
- **schedule** recurring jobs



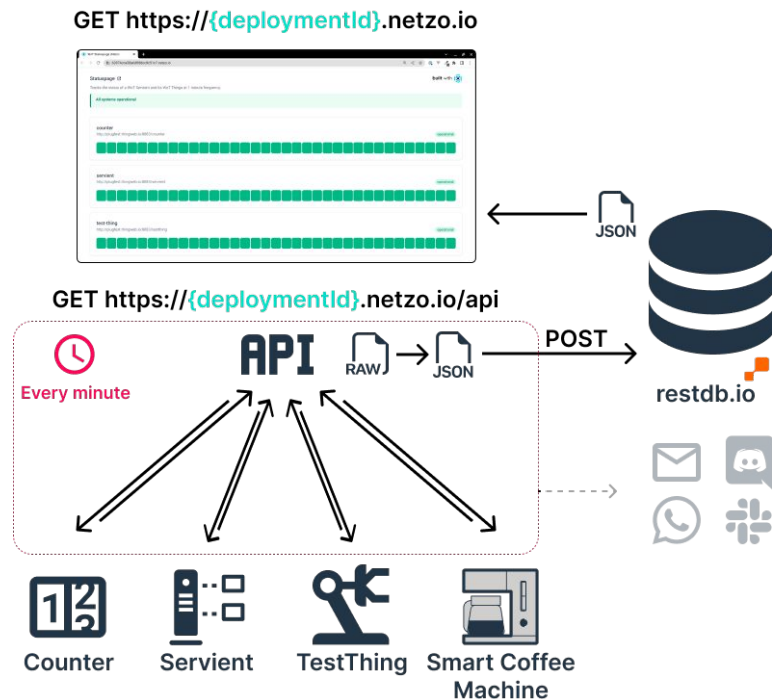
# Demo 01: WoT statuspage for multiple WoT systems



[Click Here](#)

**Goal:** Provide monitoring capabilities to existing WoT Things and automate status reporting (e.g. notifications, email)

- `GET /` → serves UI
- `GET /api` → serves JSON data after fetching, aggregating and storing real-time state to DB
- **Process:** aggregate real-time state
- **Store:** state of WoT systems to DB
- **Alert:** when systems are down



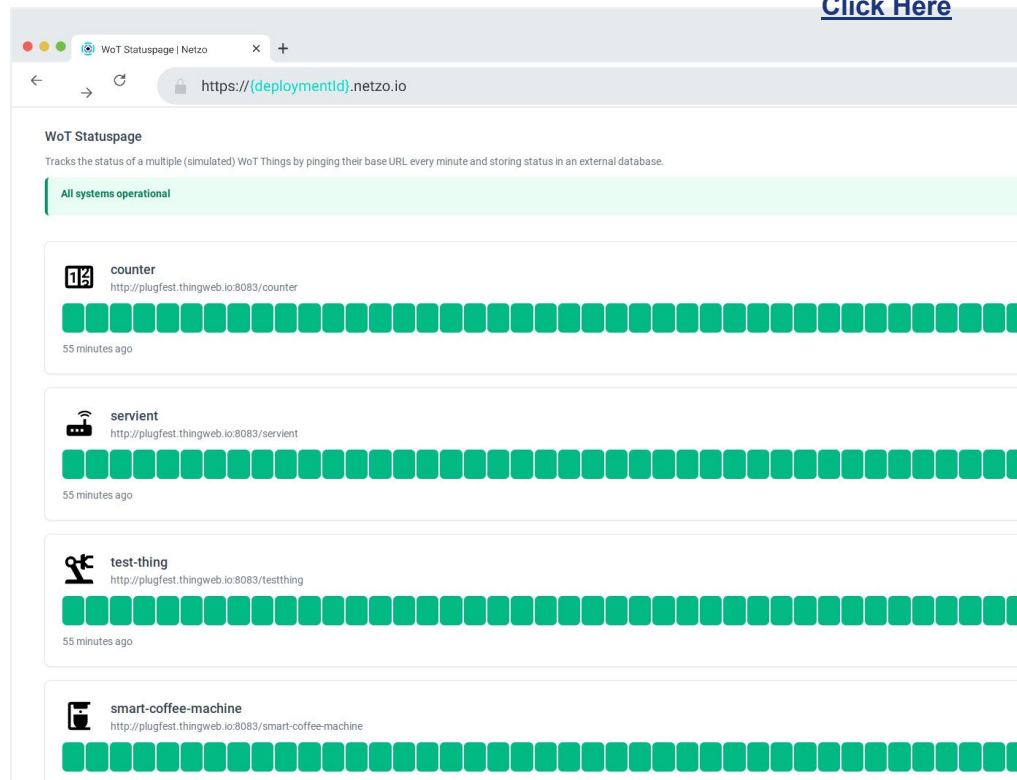
# Demo 01: WoT statuspage for multiple WoT systems



[Click Here](#)

This demo showcases:

- **SSR** (server-side rendered) UI built with TSX (no build step)
- **Schedules**: polls the real-time state and persists it to an external database
- **API Integrations**: GETs real-time state and POSTs it to external database
- **Database**: persist data to external DB
- **Routes**: separate handlers for routes





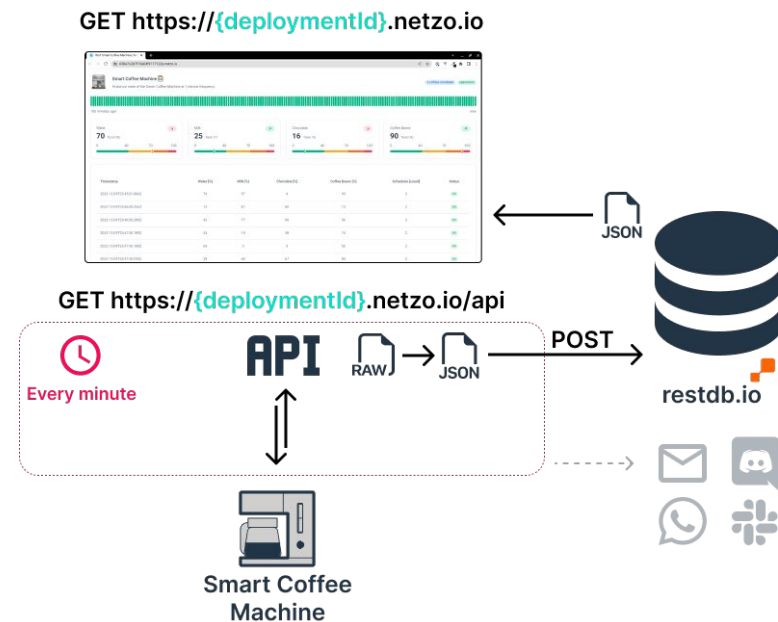
# Demo 02: WoT dashboard for monitoring and control



[Click Here](#)

**Goal:** Persists historical state (time-series data) of a WoT Thing, augment it, provide a dashboard for monitoring and control and add reporting (e.g. via notifications, email)

- GET / → serves UI
- **Collect:** data from multiple sources
- **Process:** aggregate real-time stats
- **Visualize:** render information and insights in a actionable dashboard
- **Report:** notify to external services



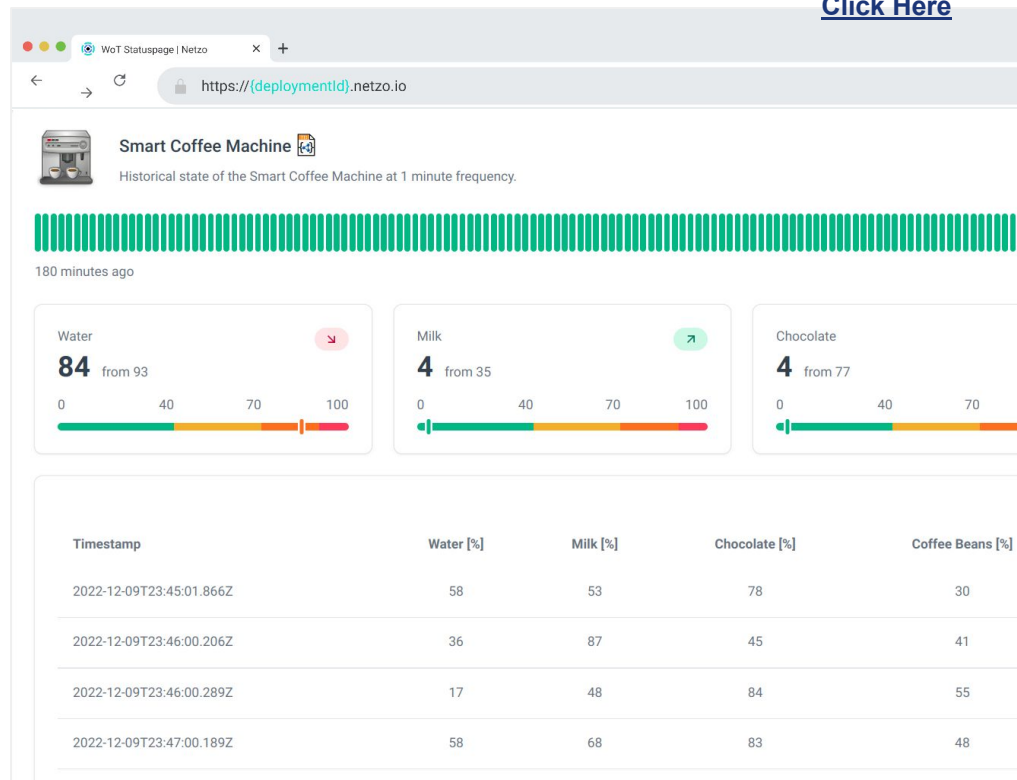
# Demo 02: WoT dashboard for monitoring and control




[Click Here](#)

This demo showcases:

- **Environment Variables:** provides separate dev/prod environments
- **Static file hosting:** serves WoT Thing Description (JSON) at a Web URL
- **SSR** (server-side rendered) UI built with TSX (no build step)
- **Schedules:** polls the real-time state and persists it to an external database
- **API Integration:** GETs real-time state and POSTs it to external database
- **Database:** persist data to external DB



# Marketplace of ready-made solutions

**Marketplace**

Marketplace items are ready-made solutions for specific use-cases. Anything you find here is public and you are free to fork into any or your Workspaces. When you fork an items, a copy is created so you can go ahead and make changes. Forked items will count normally for your Workspace usage.

TYPE

☒ All

☐ Services

☐ Projects

STATUS

☒ All

☐ Stable

☐ Beta

☐ Alpha

☐ Requested

☐ Deprecated

CATEGORY

☒ All

☐ Core

☐ Community

☐ Enterprise

Filter by name

Aa

Request

Contribute

i

admin

analytics

artificial-intelligence

billing

blog

chart

communications

crm

database

energy

example

form



framework

google

infrastructure


integrations

iot

**ActiveCampaign**  Alpha  
service  
Service for the ActiveCampaign...  



crm

marketing



**Bar Chart with Billboard...**  
project  
An HTTP server that serves a ...  

example

chart



**Bigin**   
service  
Service for the Bigin API  

crm



**Clarifai**  Alpha  
service  
Service for the Clarifai API  

artificial-intelligence

machine-learning



**Cloudflare**  Alpha  
service  
Service for the Cloudflare API  

infrastructure

**Discord**  Alpha  
service  
Service for the Discord API  

social



communications

**Enode**   
service  
Service for the Enode API  

iot

energy



solar

**Enphase**   
service  
Service for the Enphase API  



iot

energy



solar

**Ergast F1**  Alpha  
service  
Service for the Ergast F1 API  



mock

**Facturama**  Alpha  
service  
Service for the Facturama API  



billing

**Fathom Analytics**  Alpha  
service  
Service for the Fathom Analyti...  

analytics



**FaunaDB**  Alpha  
service  
Service for the FaunaDB Graph...  

database



**Get Client IP Address**   
project  
An HTTP server that responds ...  

example



json

**GitHub**  Alpha  
service  
Service for the GitHub API  

infrastructure


**Google AppSheet**  Alpha  
service  
Service for the Google AppShe...  

productivity

**Google Sheets**   
service  
Service for the Google Sheets ...  

productivity



google

**Handling Form Submis...**  
project  
An HTTP server that serves a ...  

example


form

json

**Hashnode**   
service  
Service for the Hashnode API  

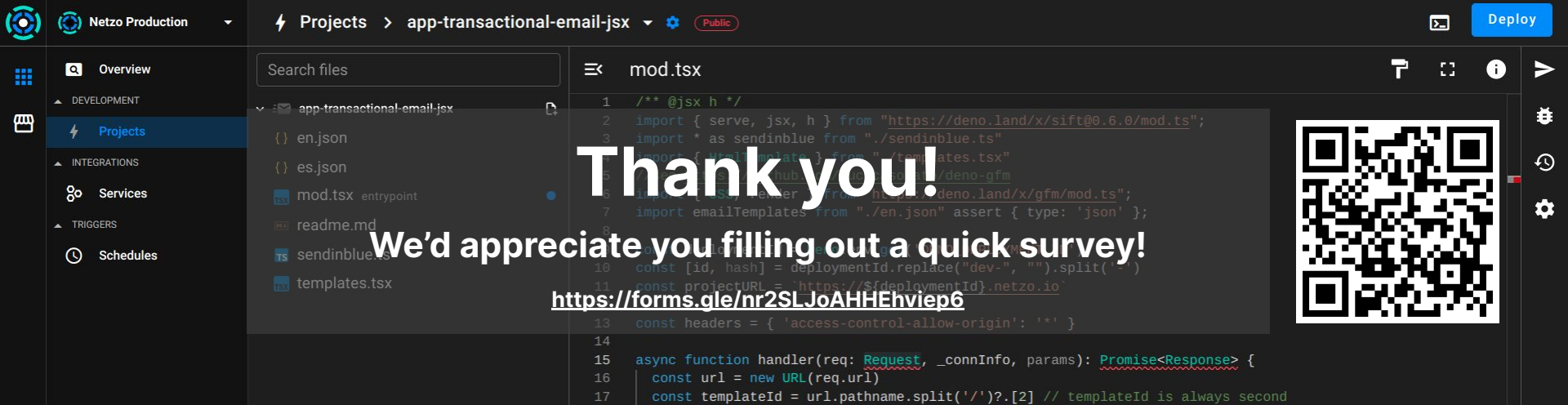
social

blog



[app.netzo.io/marketplace](https://app.netzo.io/marketplace)

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# netzo

ROKAWARE SL

P. de la Castellana 89, Planta 8ª  
28046 Madrid, España  
netzo.io | hello@netzo.io | +34 910 601 536  
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