App Delivery Manager

Lab Guide

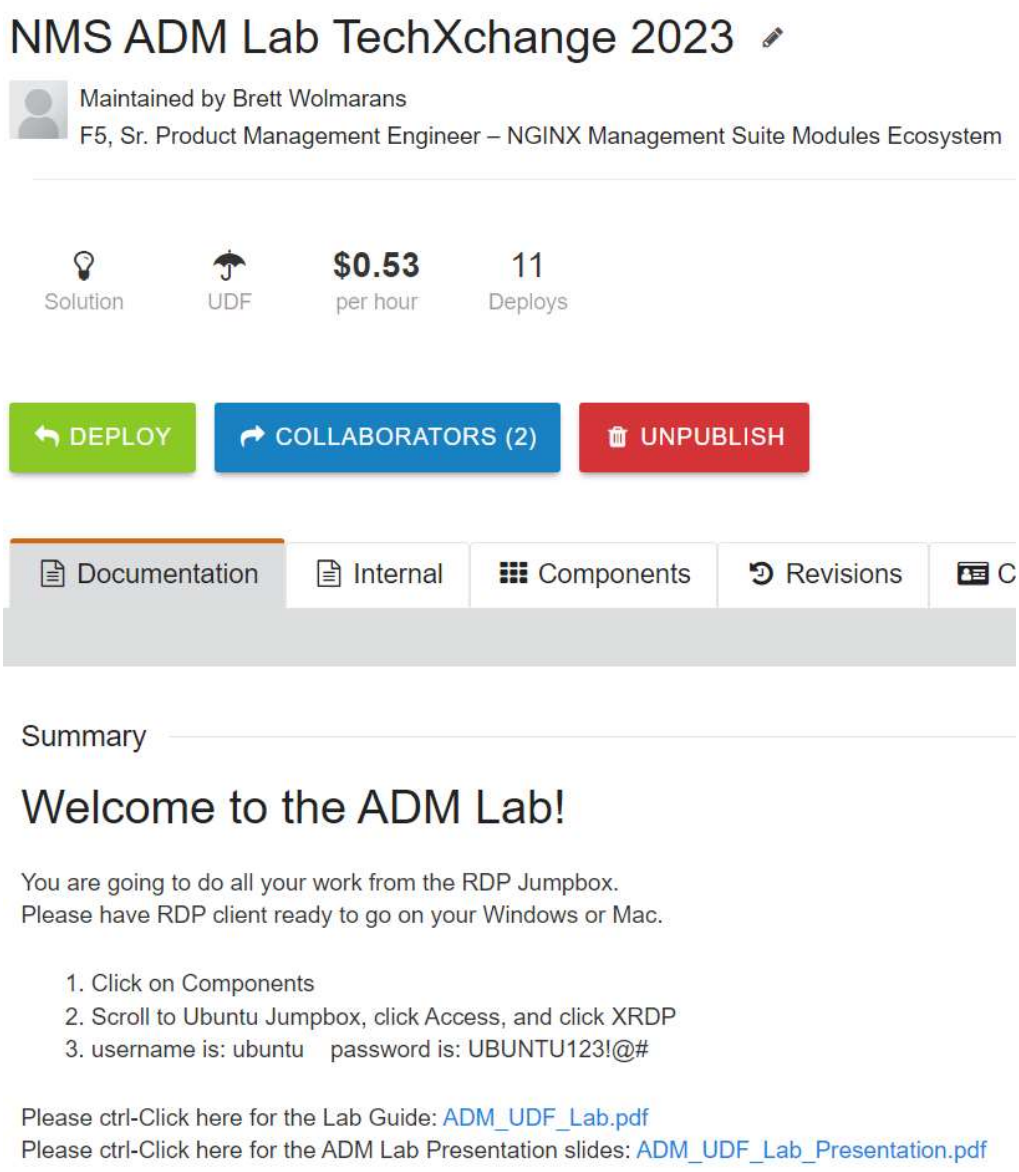
Version 1.10

7/24/2023 12:31PM PT

UDF Lab

Deploy the following UDF Blueprint **in the region closest to you**:

1. Click on Components
2. Scroll to Ubuntu Jumpbox, click Access, and click XRDP
3. username is: ubuntu password is: UBUNTU123!@#



Presentation Slides

The Lab Presentation Slides link can be found in the UDF deployment documentation.

Module 1 – Simple HTTP Deployment

Learn how to create a simple HTTP deployment that securely load balances between several apps including microservices apps

High Level Business Objective

- You work in the information technology department for a global drinks company, and you have been tasked with delivering the following critical business applications reliably, securely, and with high performance:
  - **Brewz**
  - **Juiceshop**

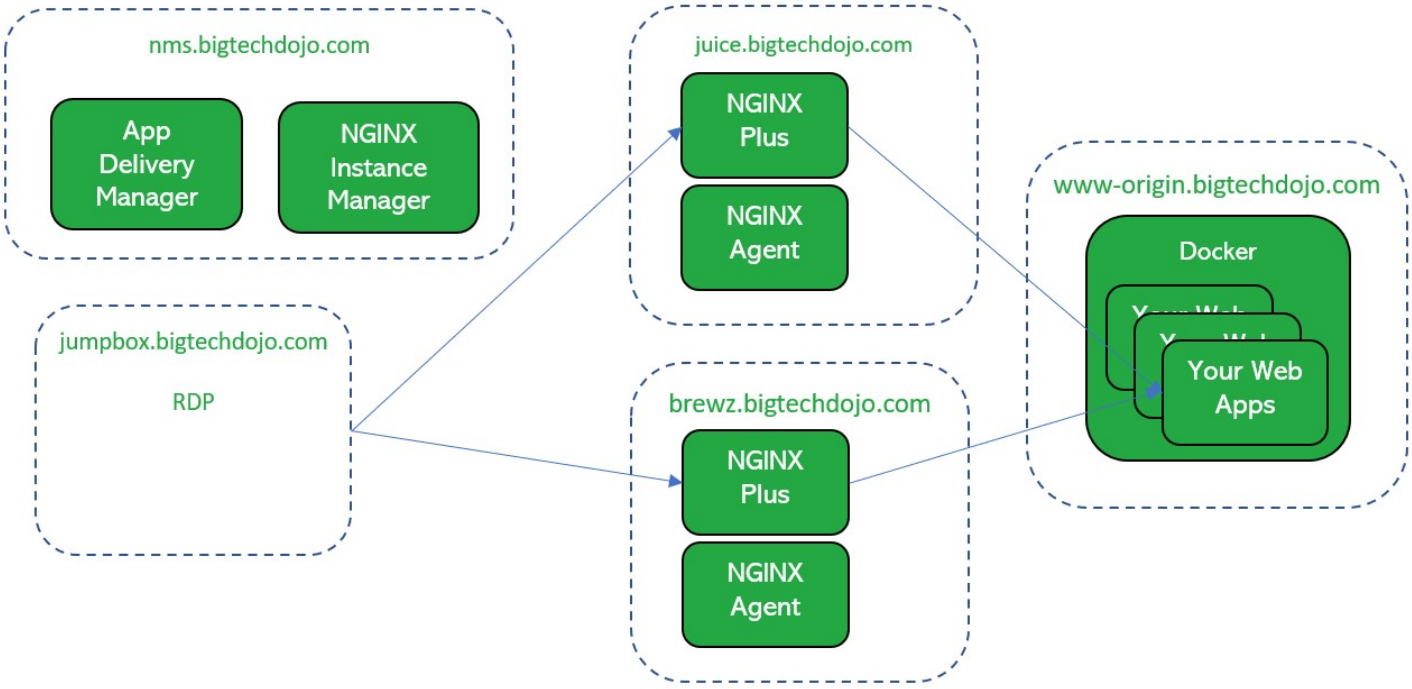
Brewz lives on **www.bigtechdojo.com** server, and consists of multiple microservices a shown here:

```
IMAGE                              PORTS
spa-demo-app_recommendations       0.0.0.0:8001->8001/tcp
spa-demo-app_spa                   0.0.0.0:8081->80/tcp,
spa-demo-app_inventory             0.0.0.0:8002->8002/tcp
spa-demo-app_api                   0.0.0.0:8000->8000/tcp
spa-demo-app_checkout              0.0.0.0:8003->8003/tcp
```

Juiceshop also lives on **www.bigtechdojo.com**, is containerized, but is monolithic, deployed on a single port, but there are two instances of Juiceshop on ports **3000** and **3001** as shown here:

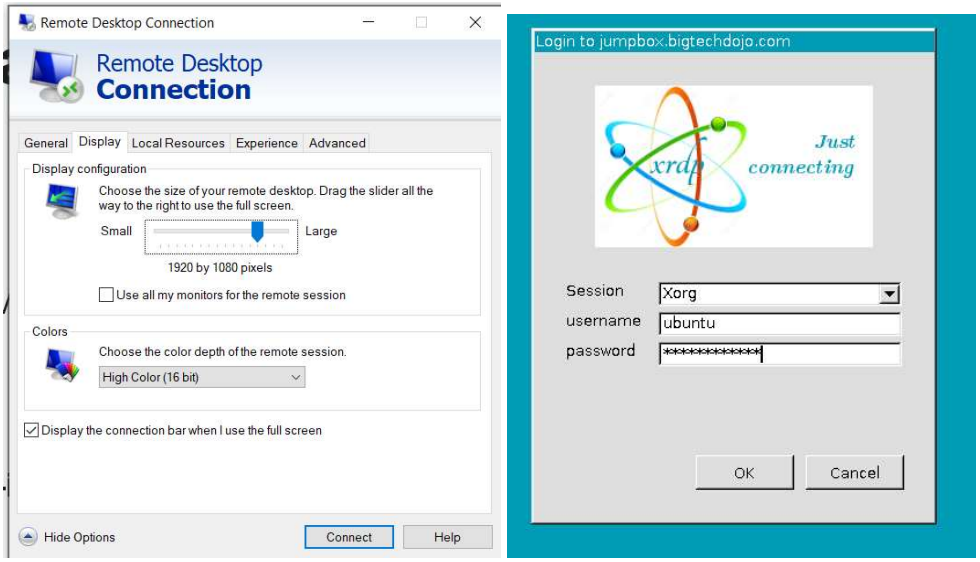
```
bkimminich/juice-shop    0.0.0.0:3001->3000/tcp
bkimminich/juice-shop    0.0.0.0:3000->3000/tcp
```

Diagram



List of Components

1. NMS - this is your NMS and ADM management platform. Creds are shown in the UDF deployment->NMS component->details
2. JUICE - this is one of your NGINX+ and NGINX-AGENT instances.
3. BREWZ - this is another
4. WWW - this is a box of web servers, with one listening on port 80
5. UBUNTU - this is simply a jumpbox. creds are creds are shown in the UDF deployment->Ubuntu component->details.
    1. Access via RDP, and then do all your work from the jumpbox.
    2. This box is faster, smoother, more fun and easier than a Windows Jumpbox. Don't worry it has Firefox on it.
    3. Pro Tip: When you download the RDP file, right-click and edit the file and set color depth to 16-bit, set the screen resolution to slightly less than your monitor, set the username to ubuntu, and enable saving username. Use Ctrl-Shift-V to paste.



Detailed Requirements & Information

- The platform infrastructure team has already configured the software and hardware for you, including NGINX Management Suite, App Delivery Manager, the NGINX instances, and the application servers.

  You are the application delivery team, and in that role, you will consume the platform to deliver the application. The business wants the Juice application deployed in the West, and the Brewz application deployed in the East.

  Apps need to be accessed securely over the Internet at the domains as shown in the diagram.

  You will know you have succeeded when you can browse securely to the Juice Gateway and use the Brewz app, and you can browse securely to the Brewz Gateway and use the Juice app.

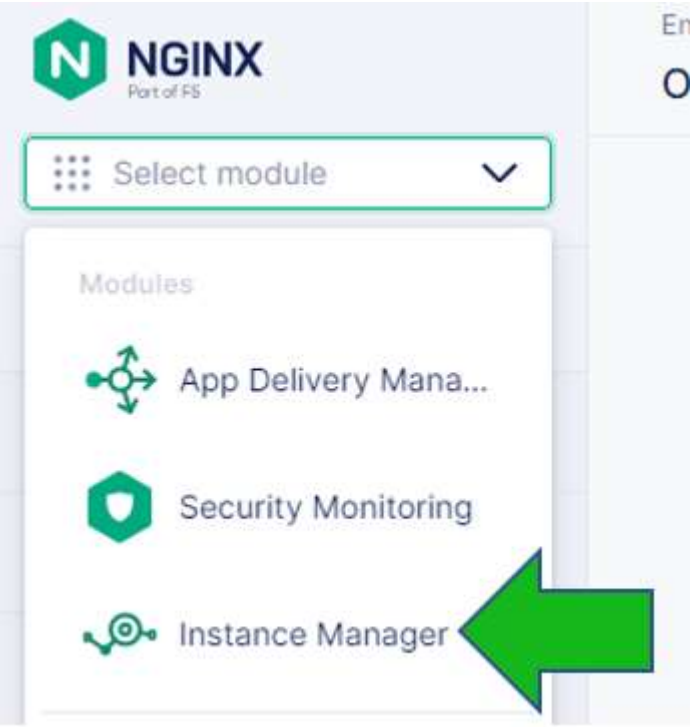
  You will do everything from the Ubuntu RDP jumpbox

Spoiler Alert – Do not proceed unless you want to see the step-by-step solution

Solution

In the NGINX Management Suite web interface, you access the App Delivery Manager (ADM) features by performing the following operations. You will do everything from the Ubuntu RDP jumpbox.

1. Log into the Ubuntu jumpbox via RDP: credentials can be found in UDF under “Ubuntu JumpBox RDP”, “Details” and then “Documentation” tab
2. Start Firefox on the Ubuntu jumpbox
3. Click on the “Juice Gateway” book mark link in Firefox, and notice nothing is there. This is because Juice Gateway is a totally unconfigured nginx instance.
4. Click on the NMS bookmark in the bookmark bar and login. Credentials can be found in UDF under “NMS-ADM”, “Details” and then “Documentation” tab
5. From the Top-Left Menu, select **Instance Manager**



6. From the left menu, select “Instances” to see your instances that have already been deployed for you.
    1. These have been put into two Instance Groups, region-1 and region-2.
    2. From the Left Menu, select “Instance Groups”
    3. Click on any one of the instance groups and click “edit config” to see the configuration.
        1. You will see a lot of configuration lines, but none of this configuration is enough to delivers any apps.
        2. The configuration that you see here was created automatically by the installation software when the platform team installed NGINX Plus, Agent, NAP, and Metrics.
7. Now, go back to the top-left menu and select the **App Delivery Manager** card

Create an Environment

The first resource you need to create, if one doesn’t already exist, is an Environment resource. This can be accomplished by taking the following steps:

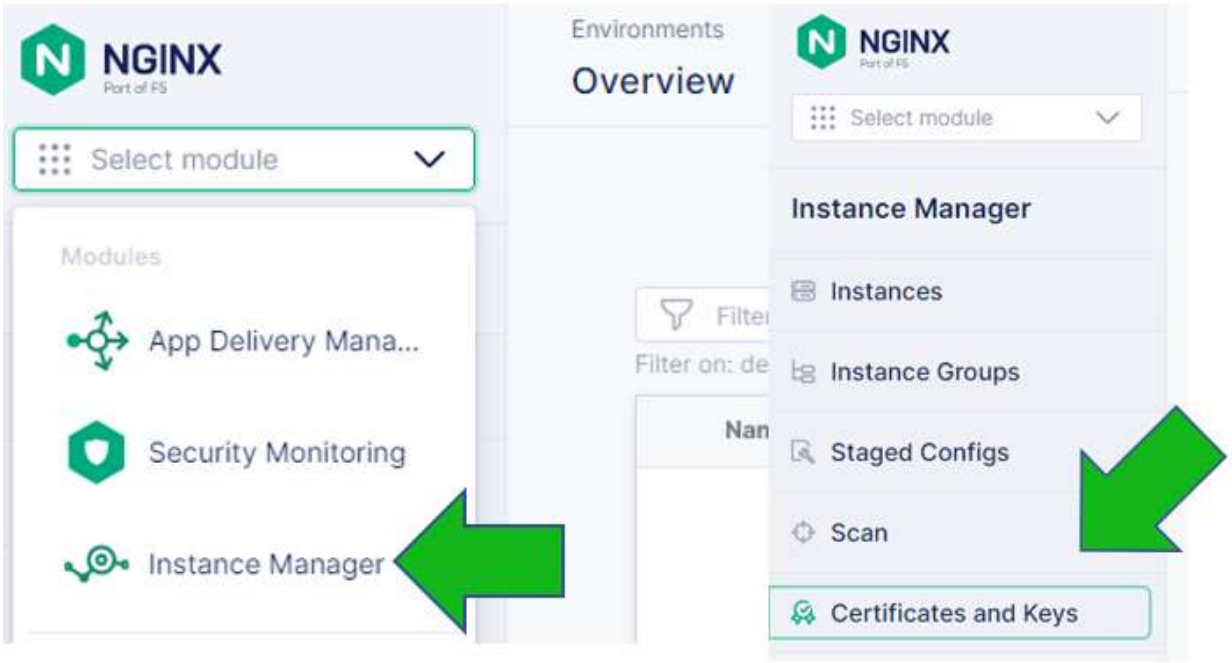
1. Select **Environments** from the **App Delivery Manager** list in the left-hand sidebar. The list of existing environments will then display.
2. Select **Create Environment** on the right-hand side of the list. A panel will appear that allows you to configure the environment.
3. Enter the value **Production** for the **Name** field. This logical environment is not just for one app, but for all your internet-facing websites. You can take the defaults for all the other fields (this exercise does not require customized templates).
4. Select **Submit** to finish creating the environment.

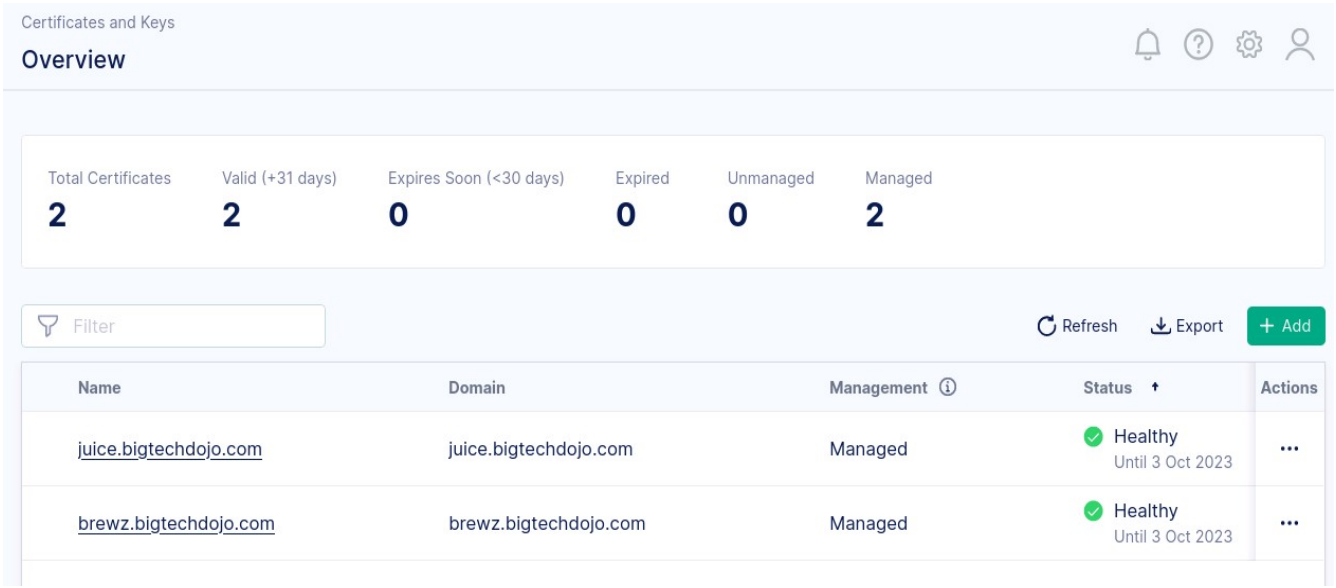
Create a Gateway for Juice Shop

The gateway controls how traffic will route through an NGINX instance to get to the app workloads.

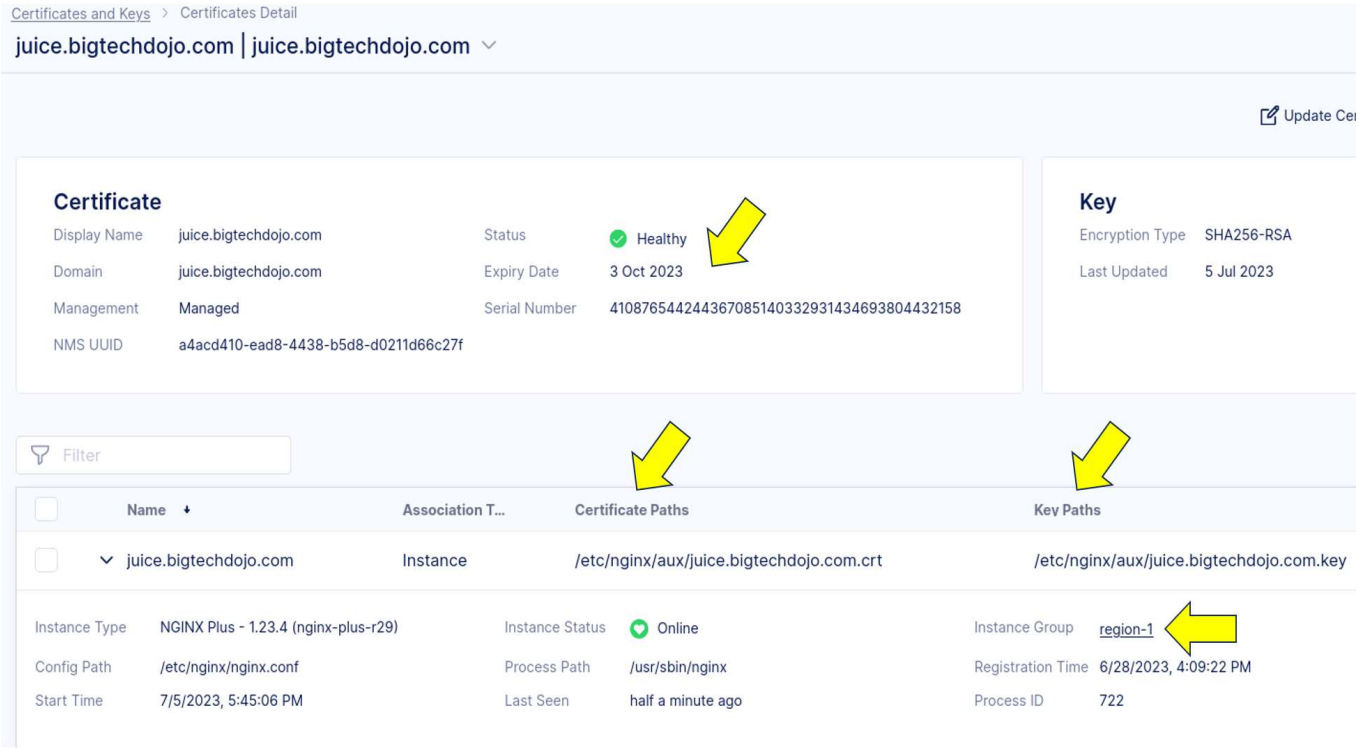
1. Select **Gateways** from the **App Delivery Manager** list in the left-hand sidebar.
2. Select **Create Gateway** on the right-hand side of the list. A panel will appear that allows you to configure the gateway.
3. From the Configuration page of Create Gateway, enter the gateway name as **Juice Gateway**. You can accept defaults for the next two fields.
4. For the environment field, select the environment **Production** that you previously created.
5. Select **Next** to get to the **Placements** page.
6. The platform team should have created an instance group **region-1**. Select **Add Placement** and from the Instance Group **Refs** dropdown, select **region-1**. Then click **Done**.
7. Select **Next** to get to the **Hostnames** page.
8. Select **Add Hostname** then enter **https://juice.bigtechdojo.com** for the Hostname.

9. Your platform team working with your security team, added Certificates already.
10. Using the top-left drop-down menu, switch to Instance Manager and view the certificates:





11. Click on the juice.bigtechdojo.com and you will see details of the Cert and Key, and you will see it is deployed to the **region-1** instance group.



12. Switch back to ADM.
13. In the Shared TLS Settings section, select the **juice.bigtechdojo.com** certificate.
14. Click Submit

Create your Application for Juice Shop

Follow these steps to create the applications:

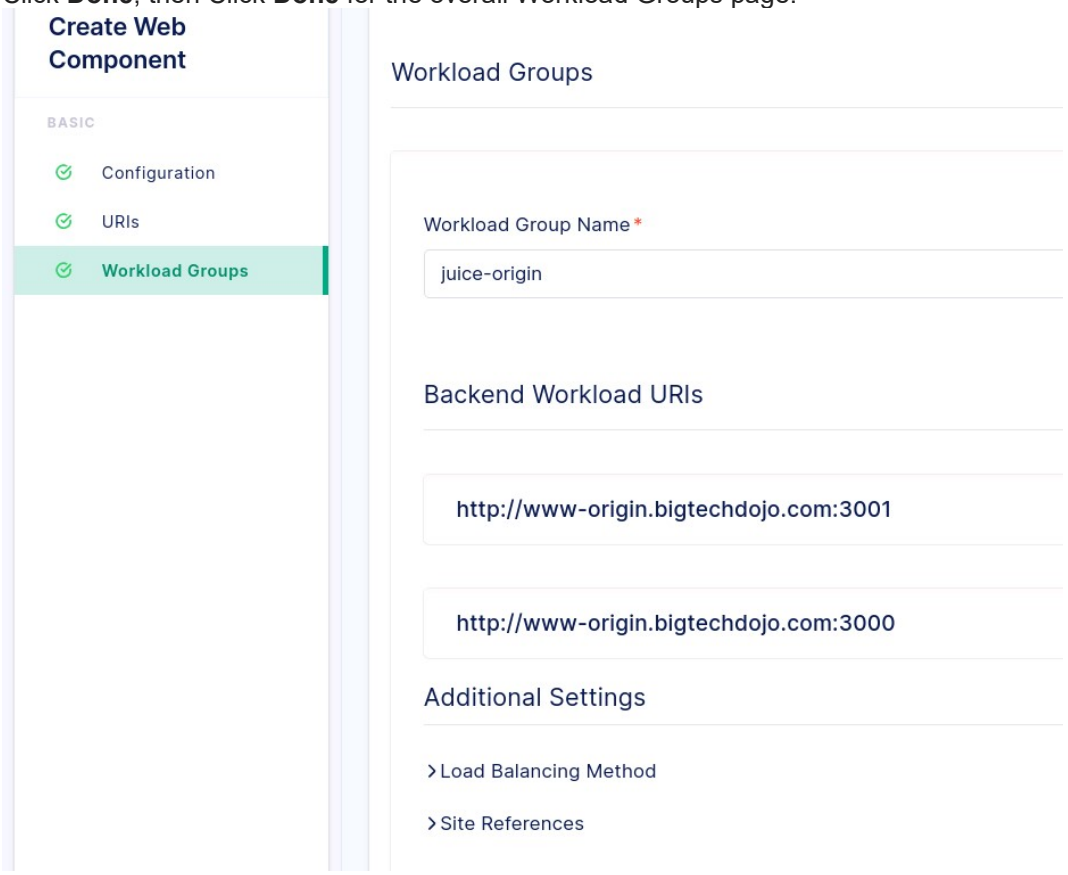
1. Select **Apps** from the **App Delivery Manager** list in the left-hand sidebar. The list of existing apps will then display.
2. Select **Create App** on the right-hand side of the list. A panel will appear that allows you to configure the app.
3. Enter the value **Juice** for the Name field. Select **Production** for the **Environment** field. You can take the defaults for all the other fields.
4. Select **Submit** to finish creating the app.
5. Status will be displayed as **Configured**

Create the Juice Shop Production Web Component

The app we just created is a wrapper that can be composed of multiple components, each potentially referencing a unique service or microservice. To create the production component, perform these steps:

1. You should be on the **Apps Overview** page at this point. Select the app that was just created in the list by clicking the app name.
2. The main display will now show basic metrics for the app. We are not, at this point, interested in the metrics, but from this page we can create a component. At the top of the page, select Web Components.
3. The list of web components will appear, but should be empty.
4. Select **Create Web Component** on the top right-hand side of the display. A panel will appear that allows you to configure the component. There will be several pages of configuration that will need to be performed.
5. On the first page (Configuration), enter the value **Juice** for the Name field.
6. The only other field that needs to be set on this page is the **Gateway Refs** field. Under this field, select **Juice Gateway**.
7. Click **Next** to advance to the URIs page.
8. Click “Add” on URI
9. Enter / for the URI (if you are not able to enter a value, click the pencil icon to edit the URI).

10. Click **Next** to proceed to the Workload Groups page and select **Add Workload Group**
    a. In the **Workload Group Name** field, enter **Juice Servers**
    b. In the Backend Workload URIs section, enter for the URI field and click Done:
        http://www.bigtechdojo.com:3000
    c. Select Add Backend Workload URI to add another workload, and enter:
        http://www.bigtechdojo.com:3001
    d. Click **Done**, then Click **Done** for the overall Workload Groups page.



11. Select the **Submit** button to complete the component configuration.
12. When the configuration is applied **Status** will be shown as **Configured**

Testing

1. Select the **Juice** bookmark, or refresh the tab if you had one open, and you will see the Juiceshop application loading through your NGINX+ instance.

2. In NMS, navigate to Instance Manager, go to Instance group **region-1**, click on “Edit Config” and you will see the configuration that ADM has created.

```
# Created by Gateway: Juice(52d03640-ee57-4711-a8c3-3dae9be3e03e)
server {
    server_name juice.bigtechdojo.com;
    listen 443 ssl reuseport;
    ssl_certificate /etc/nginx/aux/juice.bigtechdojo.com.crt;
    ssl_certificate_key /etc/nginx/aux/juice.bigtechdojo.com.key;
    status_zone 52d03640-ee57-4711-a8c3-3dae9be3e03e;
    f5_metrics_marker environment b94840ed-bb96-43ab-b8a9-385e274e316e;
    f5_metrics_marker gateway 52d03640-ee57-4711-a8c3-3dae9be3e03e;
    # Generated by web component juice(92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7)
    location / {
        status_zone 92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7;
        proxy_set_header X-Forwarded-For $remote_addr;
        proxy_set_header Host $host;
        proxy_set_header Connection "";
        proxy_http_version 1.1;
        proxy_pass http://92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7;
        # metrics
        f5_metrics_marker app d7a55a20-f0c5-41b8-b583-453ad04184b6;
        f5_metrics_marker component 92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7;
    }
}
upstream 92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7 {
    zone 92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7 1280K;
    server www-origin.bigtechdojo.com:3000 max_fails=1 weight=1;
    server www-origin.bigtechdojo.com:3001 max_fails=1 weight=1;
}
# end publication:region-1, generated for ADM-3e94528f-6f9f-44de-8cdf-fd73fe5fdccb
```

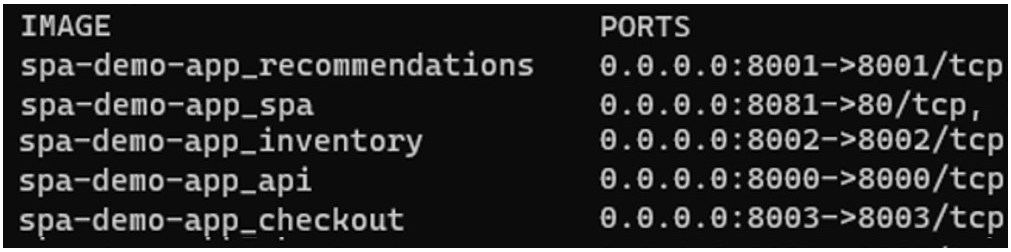
Create a Gateway for Brewz

Follow the steps as shown above in the “Create a gateway for Juice Shop” section, with the following changes:

1. Configuration: name the gateway **Brewz Gateway**
2. Placements: Place this gateway in **region-2** of the country, for low latency.
3. Hostnames: Enter **https://brewz.bigtechdojo.com** for the **Hostname**
4. Select the **brewz.bigtechdojo.com** certificate.
5. Click **Submit**

Create your Application for Brewz

Now that you have the hang of a simple monolithic application, you are going to deploy the microservices application Brewz. Brewz lives on the following ports:



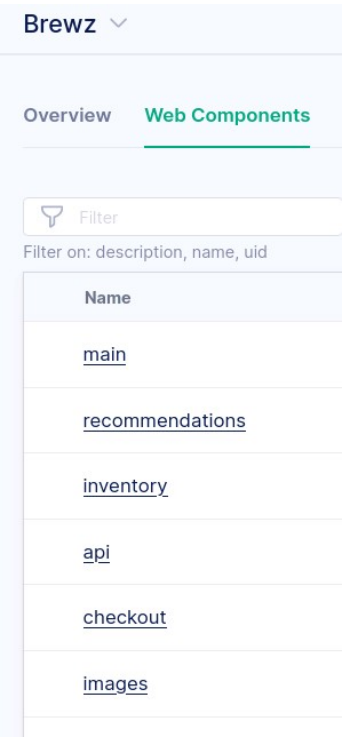
1. Create a new application
2. Enter **Brewz** for the **Name** field and select **Production** in the **Environment** field

The front-end of the Single-Page Application directs traffic to each of these containers based on the following routes:

URI	Port	Web Component	Workload URI
/checkout	8003	checkout	http://www.bigtechdojo.com:8003
/	8081	main	http://www.bigtechdojo.com:8081
/recommendations	8001	recommendations	http://www.bigtechdojo.com:8001
/inventory	8002	inventory	http://www.bigtechdojo.com:8002
/api	8000	api	http://www.bigtechdojo.com:8000
/images	8000	Images	http://www.bigtechdojo.com:8000

1. Create each of the 6 Brewz Web Components

You are going to create a web component for each Brewz microservice so that you end up with the following 6 web components:



*Note: You could also create a single Web Component, and add multiple URI's to that single Web Component. The advantage of adding each URI as a separate Web Component is that if needed, each URI path could be mapped to a different NGINX instance, if needed.

Detailed steps are provided here for the **/checkout** route, you are going to learn from these steps and create the other routes.

Follow the steps you already completed above for the Juice app, with the following changes:

13. On the first page (Configuration), enter the value **checkout** for the **Name** field.
14. The only other field that needs to be set on this page is the **Gateway Refs** field. Under this field, select **Brewz Gateway**. Then click **Next** to advance to the URIs page.

15. Enter **/checkout** for the URI (click the pencil icon to edit the URI).
16. Click **Done** to save the URI
17. Click **Next** to proceed to the Workload Groups page.
    a. In the **Workload Group Name** field, enter **Brewz Checkout**
    b. In the Backend Workload URIs section, copy from the table above and enter for the URI field:

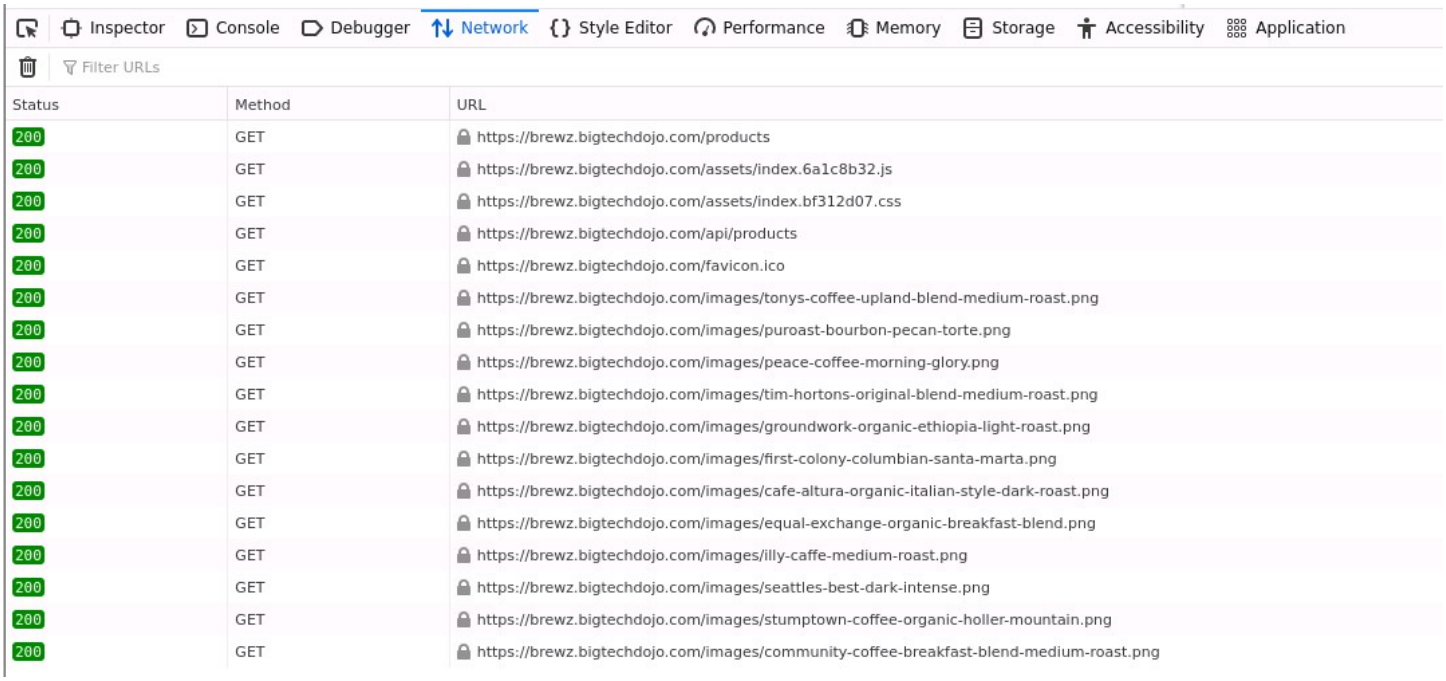
       http://www.bigtechdojo.com:8003

    c. Click **Done**, then click **Done** for the overall Workload Groups page.
18. Select the **Submit** button to complete the component configuration.
19. Create the remaining five routes to Brewz microservices as per the table above.
    Make sure the Backend Workload URI port is configured based on the table.

Testing

1. Select the **Juice** bookmark, or refresh the tab if you had one open, and you will see the application.
2. In NMS, navigate to Instance Manager, go to Instance group **region-1**, click on “Edit Config” and you will see the configuration that ADM has created.

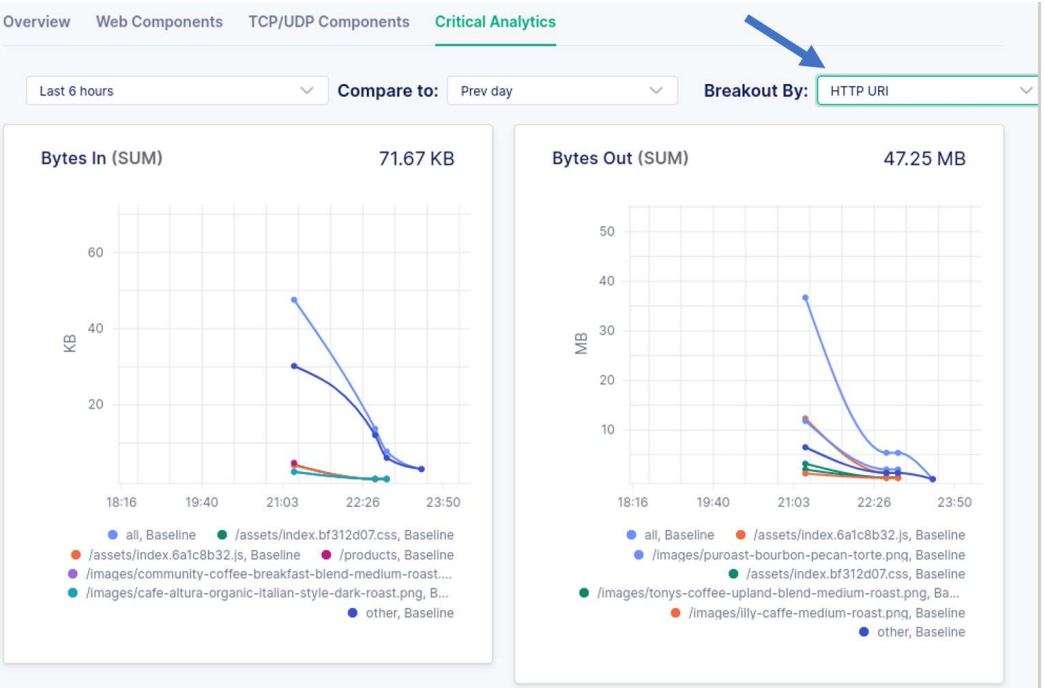
View Paths in Network Inspector



Status	Method	URL
200	GET	https://brewz.bigtechdojo.com/products
200	GET	https://brewz.bigtechdojo.com/assets/index.6a1c8b32.js
200	GET	https://brewz.bigtechdojo.com/assets/index.bf312d07.css
200	GET	https://brewz.bigtechdojo.com/api/products
200	GET	https://brewz.bigtechdojo.com/favicon.ico
200	GET	https://brewz.bigtechdojo.com/images/tonys-coffee-upland-blend-medium-roast.png
200	GET	https://brewz.bigtechdojo.com/images/puroast-bourbon-pecan-torte.png
200	GET	https://brewz.bigtechdojo.com/images/peace-coffee-morning-glory.png
200	GET	https://brewz.bigtechdojo.com/images/tim-hortons-original-blend-medium-roast.png
200	GET	https://brewz.bigtechdojo.com/images/groundwork-organic-ethiopia-light-roast.png
200	GET	https://brewz.bigtechdojo.com/images/first-colony-columbian-santa-marta.png
200	GET	https://brewz.bigtechdojo.com/images/cafe-altura-organic-italian-style-dark-roast.png
200	GET	https://brewz.bigtechdojo.com/images/equal-exchange-organic-breakfast-blend.png
200	GET	https://brewz.bigtechdojo.com/images/illy-caffe-medium-roast.png
200	GET	https://brewz.bigtechdojo.com/images/seattles-best-dark-intense.png
200	GET	https://brewz.bigtechdojo.com/images/stumptown-coffee-organic-holler-mountain.png
200	GET	https://brewz.bigtechdojo.com/images/community-coffee-breakfast-blend-medium-roast.png

Critical Analytics

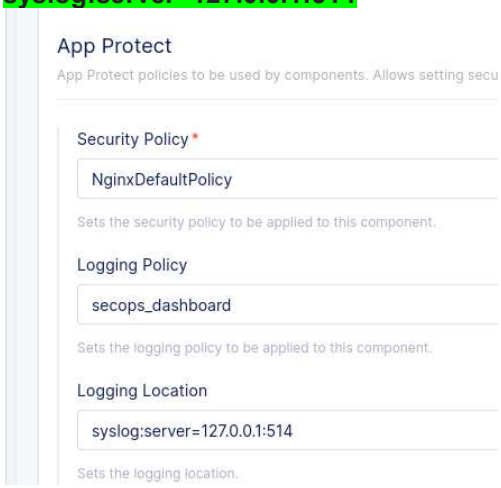
In the ADM module select **Apps** then **Juice** and open the **Critical Analytics** tab. **Select** Breakout By: **HTTP URI** and select **Last 30 minutes**



Module 2 – NAP WAF

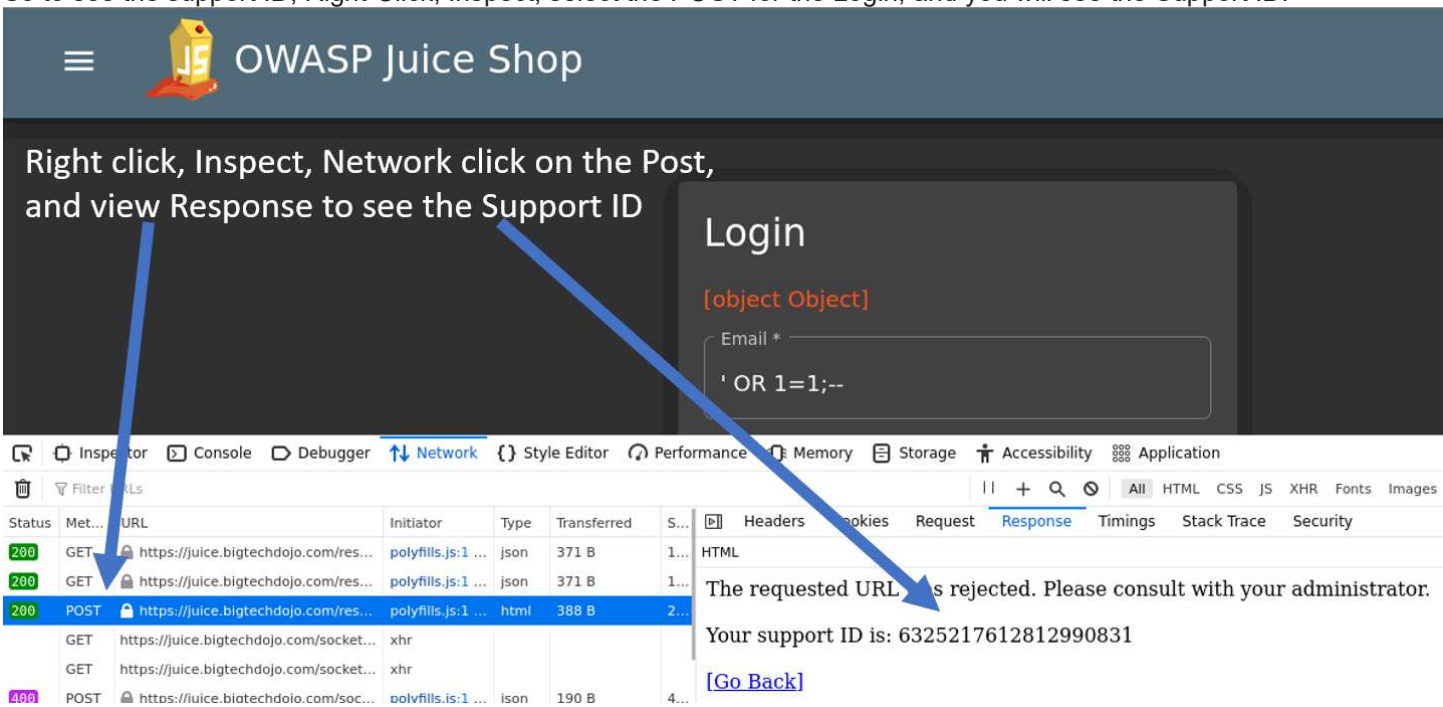
By selecting the NAP Policy in the Template, the pre-complied policy TGZ is automatically pushed out from the ADM host to the NGINX Dataplane host. Furthermore, if the app developer clears any policy from the WAF Template, the agent removes the TGZ from the dataplane host.

1. Go to your Production environment and click on the three dots. Click Edit and select Templates.
2. On "Choose Use Cases… " select builtin-waf-v2 then click submit
3. Go to Apps on the left panel
4. Click Juice.
5. On the top menu, select Web Components.
6. Select the three dots on the right of Juice and click Edit
7. On the left panel, select Custom Extensions
8. Select **NginxDefaultPolicy**, set logging to **secops_dashboard**, and logging location to **syslog:server=127.0.0.1:514**

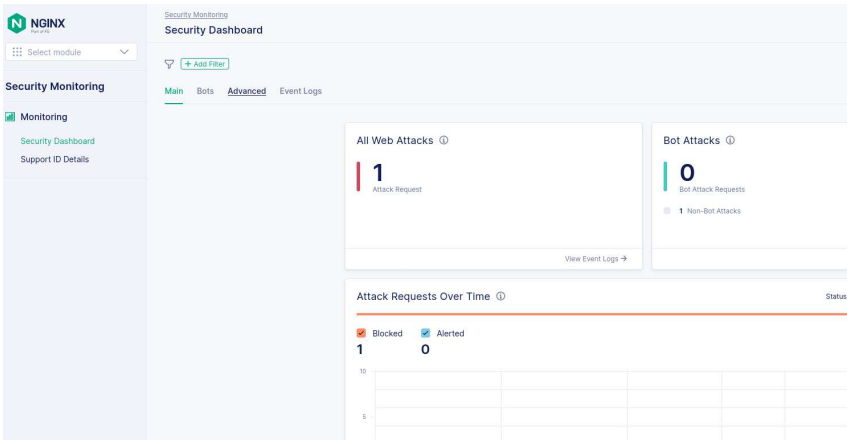
   

9. Submit
10. Review the resulting config in Instance Manager on the region-1 instance group.
11. Go to your juice gateway, click login, and enter ' OR 1=1;-- for the login name and ddd for the password

12. Juiceshop is an Ajax based app, and the front-end Javascript code eats up the normal WAF support ID response. So to see the support ID, Right-Click, Inspect, select the POST for the Login, and you will see the Support ID.



13. Check security monitoring. All the screens are not shown here, but in the Event logs, you can find your Support ID.



Module 3 – More Templates

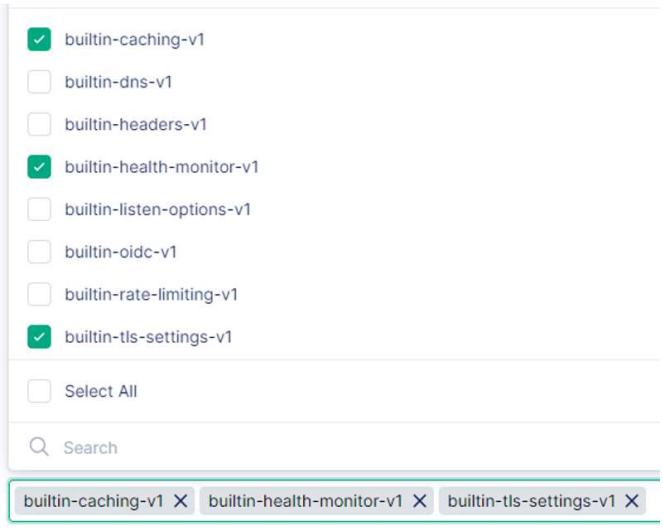
Templates allow a customer to extend ADM.

In this module, you are going to enable existing templates. After that, you will install new templates into ADM that professional services has created to enable remote syslog logging to a rsyslog server.

Enabling Templates

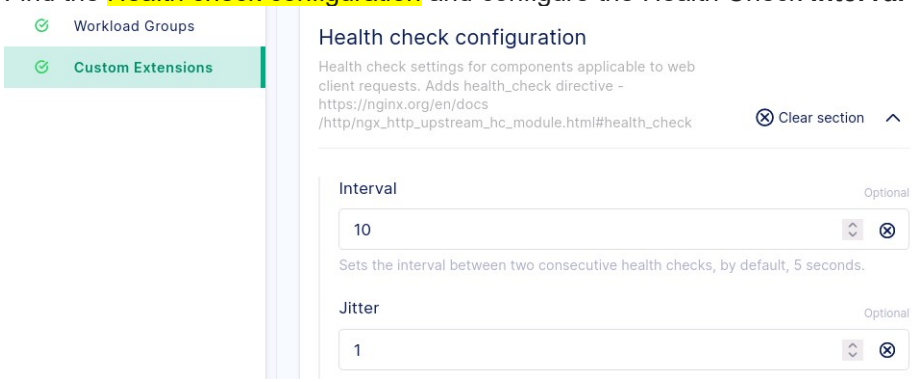
You are going to enable the Caching, Health Monitoring, and TLS templates.

1. Edit your **Production** environment (click on the three dots) and select **Use Cases** templates and select the following templates:
    - builtin-caching-v1
    - builtin-health-monitor-v1
    - builtin-tls-settings-v1

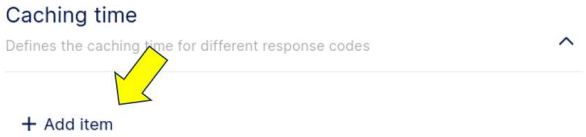


2. From the **Gateways** menu **Edit** your **Juice Gateway** and select **Custom Extensions** and enable the following Custom settings:
    1. TLS Options
        1. Proxy SSL Protocols: **TLSv1.1 TLSv1.2**
        2. Proxy SSL Ciphers : **HIGH:!aNULL:!MD5**
3. Click **Submit**

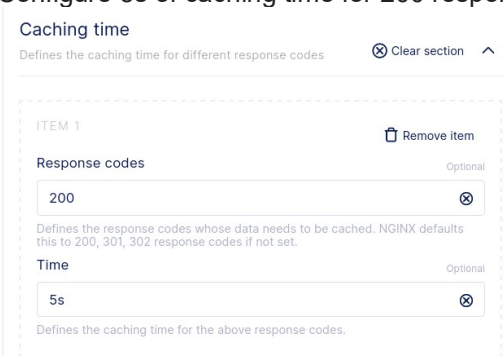
4. From the **Apps** menu select **Juice** and the **Web components** tab. Edit your **Juice Shop** web component by clicking on the three dots
5. Select **Custom Extensions**
6. Find the Health check configuration and configure the Health Check **Interval** to 10 **Jitter** to 1



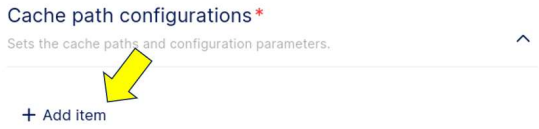
7. Scroll down until you find Caching Time and click Add Item



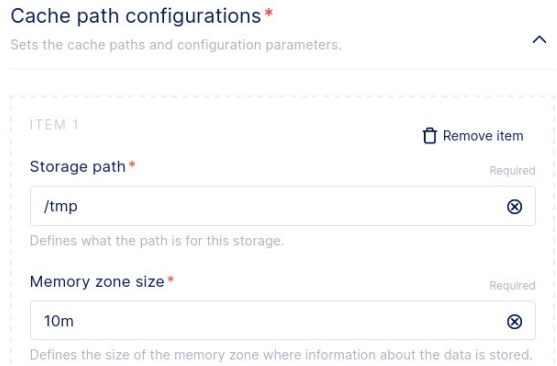
8. Configure 5s of caching time for 200 response codes:



9. Scroll down until you find Cache Path and click Add Item:



10. Set the storage path to /tmp and the Memory Zone size to 10m:



11. View the resulting configuration in Instance Manager by selecting the **Instance Groups** section and opening **region-1**
12. Look for **location = /_health_check** to see configuration lines added by the template.

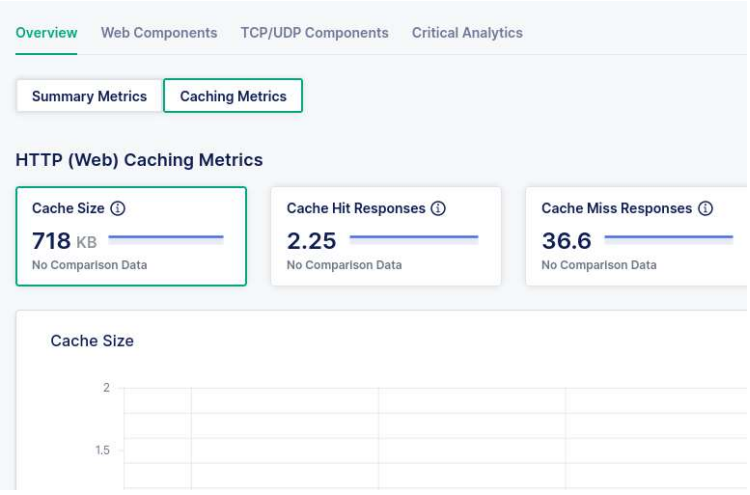
```
location = /_health_check_92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7 {
    internal;
    health_check jitter=1 interval=10 fails=1 passes=1 uri=/;
    proxy_pass http://92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7;
}
# Generated by web component juice(92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7)
```

Look at the Caching configuration for the / Web Component:

```
location / {
    # -- caching shared memory zone  --
    proxy_cache 92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7|d42b9c57d24cf5db3bd8d332dc35437f;
    proxy_cache_valid 200 5s;
```

```
# -- cache paths for web-component 92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7 --
proxy_cache_path /tmp/92548ecf-ee8c-4ff4-9831-b19b5fdb9cd7 keys_zone=92548ecf-ee8c-4ff4-9831
```

View Caching Stats for the Juice App



Module 4 – OIDC

NGINX Dataplane Setup

NOTE: The following steps have already been done for you by the Platform team (aka the Server team). You do not have to do these steps, but these are provided for reference/learning:

--- snip ---

- SSH to Juice NGINX Host, which is an Ubuntu OS Host
- Install the njs module where the nginx instances are by running: For Debian/Ubuntu

```
$ sudo systemctl stop nginx
$ sudo systemctl stop nginx-agent
$ sudo apt-get update
$ sudo install nginx-plus-module-njs
$ sudo systemctl restart nginx
$ sudo systemctl restart ngin-agent
```

- SSH to the NMS System

```
$ cd /etc/nms/modules/adm/templates/usecases/builtin-oidc-v1/files
```

- Copy the `openid_connect.js` file to `/etc/nginx/conf.d` on your Juiceshop NGINX Host

```
ubuntu@nms:/etc/nms/modules/adm/templates/usecases/builtin-oidc-v1$ ls -altr
total 52
-rw-r-----  1 nms nms 1412 Jul 10 03:28 web-component.json
-rw-r-----  1 nms nms 5304 Jul 10 03:28 server-gateway.tmpl
-rw-r-----  1 nms nms  635 Jul 10 03:28 main-instance-group.tmpl
-rw-r-----  1 nms nms 1129 Jul 10 03:28 location-web-component-locations.tmpl
-rw-r-----  1 nms nms 3243 Jul 10 03:28 http-instance-group.tmpl
-rw-r-----  1 nms nms 4351 Jul 10 03:28 gateway.json
-rw-r-----  1 nms nms 4745 Jul 10 03:28 README.md
drwxr-xr-x 16 nms nms 4096 Jul 10 22:30 ..
drwxr-xr-x  2 nms nms 4096 Jul 10 22:30 files
drwxr-xr-x  3 nms nms 4096 Jul 10 22:30 .
ubuntu@nms:/etc/nms/modules/adm/templates/usecases/builtin-oidc-v1$ cd files
ubuntu@nms:/etc/nms/modules/adm/templates/usecases/builtin-oidc-v1/files$ ls
openid_connect.js
```

--- snip ---

KeyCloak Setup

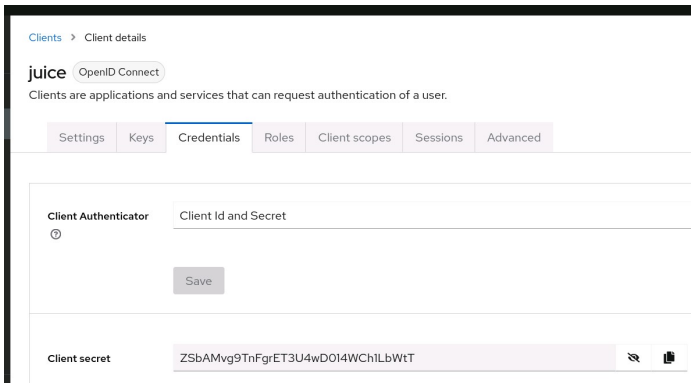
NOTE: The following steps have already been done for you by the Platform team (aka the Server team). You do not have to do these steps, but these are provided for reference/learning:

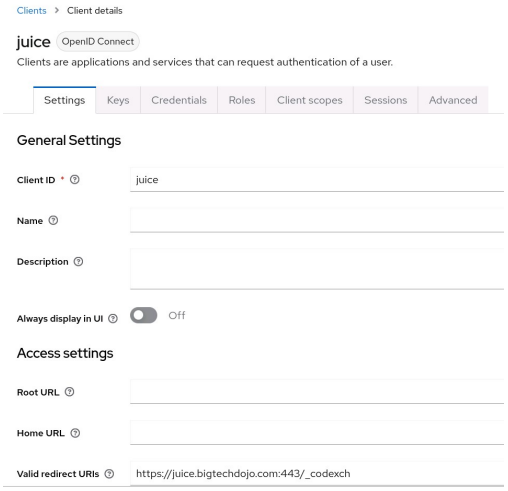
--- snip ---

KeyCloak is configured at http://10.1.1.9:8080 and admin/admin. This is run easily as a docker container:

```
docker run -d --restart unless-stopped -p 8080:8080 -e KEYCLOAK_ADMIN=admin -e KEYCLOAK_ADMIN_PASSWORD=admin quay.io/keycloak/keycloak:22.0.0 start-dev
```

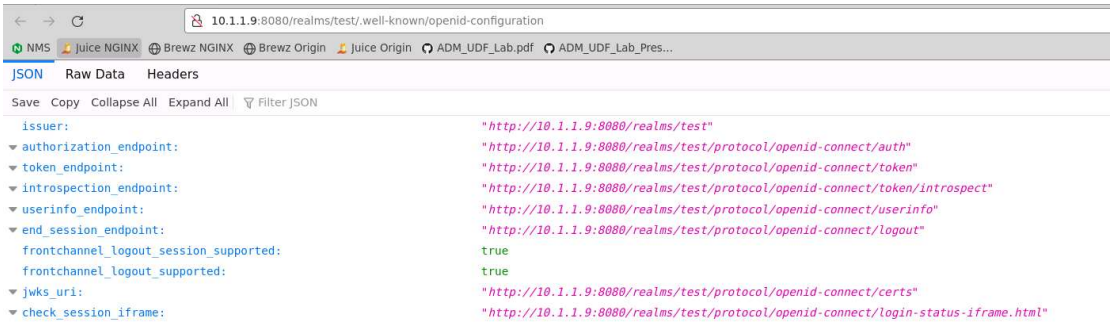
Create a new realm named **Test**. Create a new client and configure the Client ID to be: **juice**, set Client authentication to **On**, and set the valid redirect URL to **https://juice.bigtechdojo.com:443/_codexch**





Go to users, add user **juice-developer**, click Credentials, set password to **juice-developer** and turn off Temporary or else the user will have to change it on first login.

Browse to http://10.1.1.9:8080/realms/test/.well-known/openid-configuration



--- snip ---

OIDC Configuration Steps for ADM

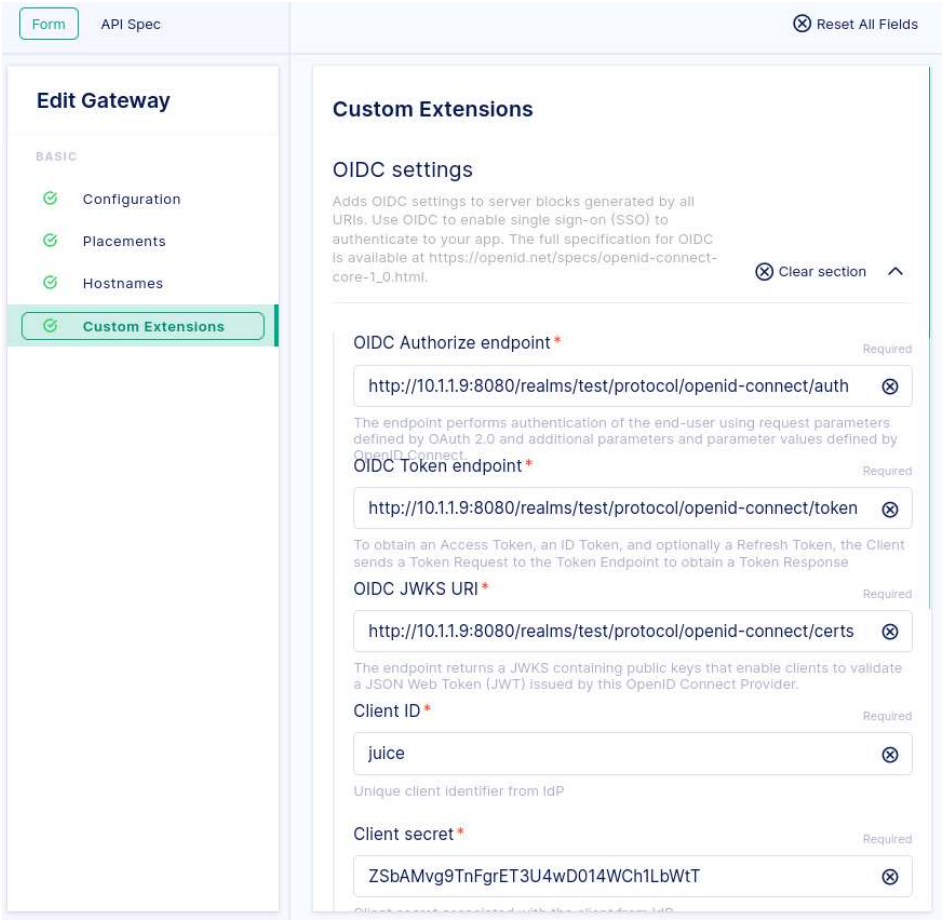
Step 1: Environment

In your **Production** environment, enable the OIDC Use Case Template.

Step 2: Gateway

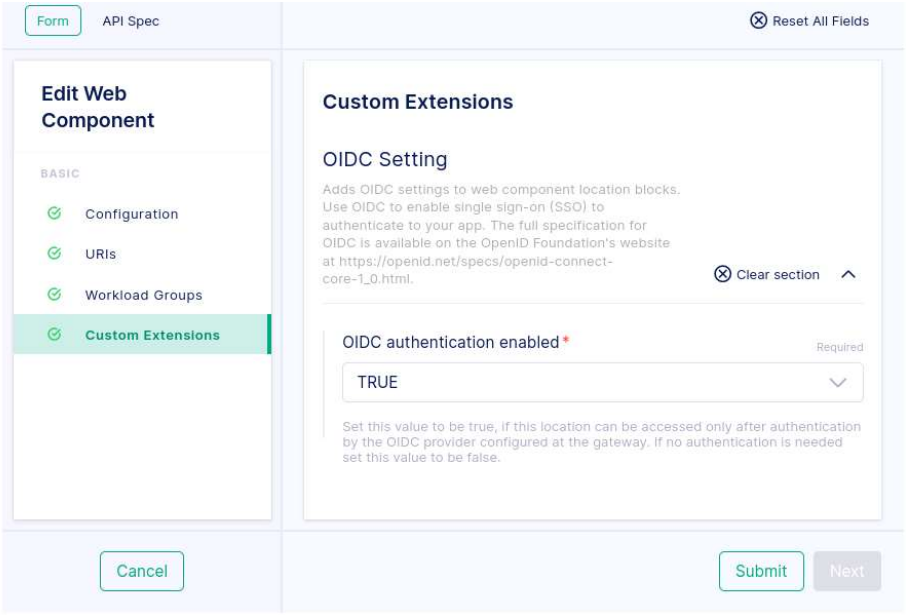
On the Juice Gateway, Select Custom Extensions. Configure the OIDC Custom Extension as follows:

OIDC Setting	Value
OIDC Authorize Endpoint	http://10.1.1.9:8080/realms/test/protocol/openid-connect/auth
OIDC Token Endpoint	http://10.1.1.9:8080/realms/test/protocol/openid-connect/token
OIDC JWKS URI	http://10.1.1.9:8080/realms/test/openid-connect/certs
Client ID	juice
Client Secret	WoWs70m1DXKLRbBxL4CSqi2KmWpaAQ0L



Step 3: Web Component

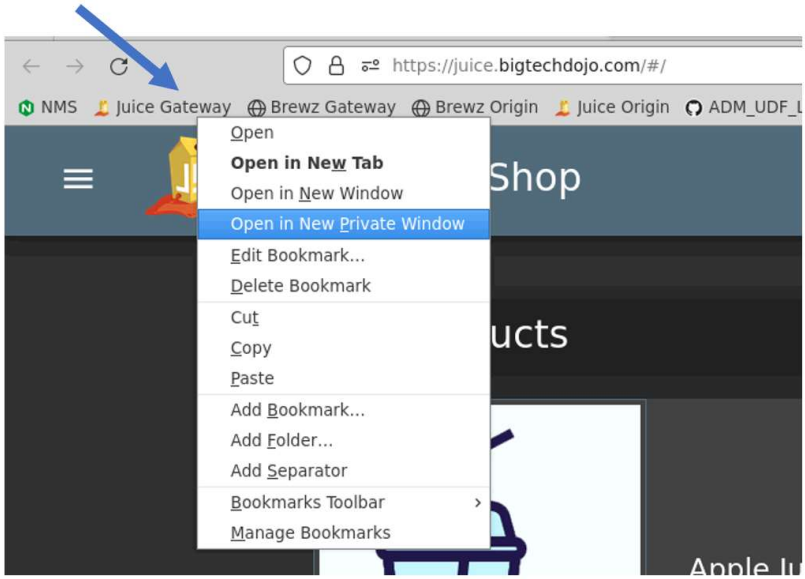
- Select Apps on the left sidebar.
- Click on the underlined Juice.
- On the top menu, select Web Components, then click on the three dots on Juice and select Edit.
- Click Custom Extensions on the sidebar and scroll down to OIDC Setting.
- Set the OIDC authentication to **TRUE**
- Click Submit



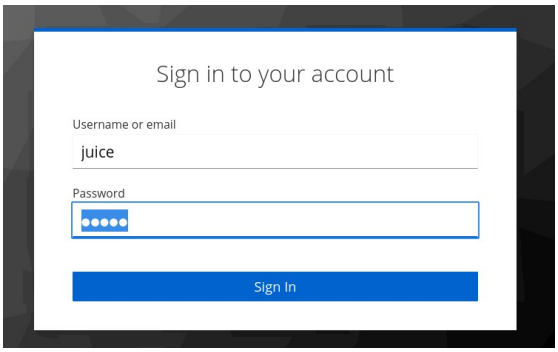
Test OIDC

1. Because there might be OIDC cookies stored in the browser from a previous lab run, instead of deleting these cookies, it's much easier to open a new Private Browser tab with https://juice.bigtechdojo.com

   Right-Click on "Juice Gateway" bookmark and select "Open in New Private Window"



2. You will be re-directed to Keycloak to complete a Login authorization flow
3. Login as : **juice / juice**



4. Keycloak will re-direct you to the Juice application

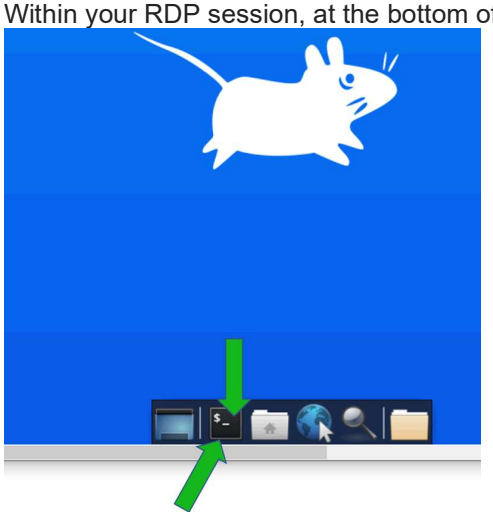
Module 5 - Installing Custom Templates

You can also write your own templates, or have somebody else write them for you. In this case, you are going to use templates that are community supported and housed at on F5 Devcentral's Github.

So you be changing hats for this part. Take off your App Delivery Team hat, and put on your Platform team hat.

You will now be helping the Platform Team, so you are going to touch the NMS at the Operating System level.

1. Within your RDP session, at the bottom of the screen click on "Terminal" to get a terminal window



   In this terminal window, SSH to the NMS system (ssh keys are already set up) by doing the following command:

   ```
   ssh nms.bigtechdojo.com
   ```

3. On the nms box (Hint: on a Windows system, use CTRL-SHIFT-V to paste into the RDP terminal window)

   ```
   git clone https://github.com/f5devcentral/nms-community-templates
   cd nms-community-templates
   cd adm-lab
   sudo cp -r bigtechdojo-logging-v1/ /etc/nms/modules/adm/templates/usecases/
   ```

4. In your jumpbox Terminal window, fully exit out of your SSH session to NMS by typing exit so you are back to your jumpbox prompt.
5. In your jumpbox terminal window, type

   ```
   tail -f /var/log/syslog
   ```

6. That is the end of the work for the Platform team. You can take off your Platform team hat, and put your App Delivery Team hat back on.

7. Send web traffic to your gateway by refreshing the browser, and notice you do not yet see HTTP requests in your syslog on the jumpbox

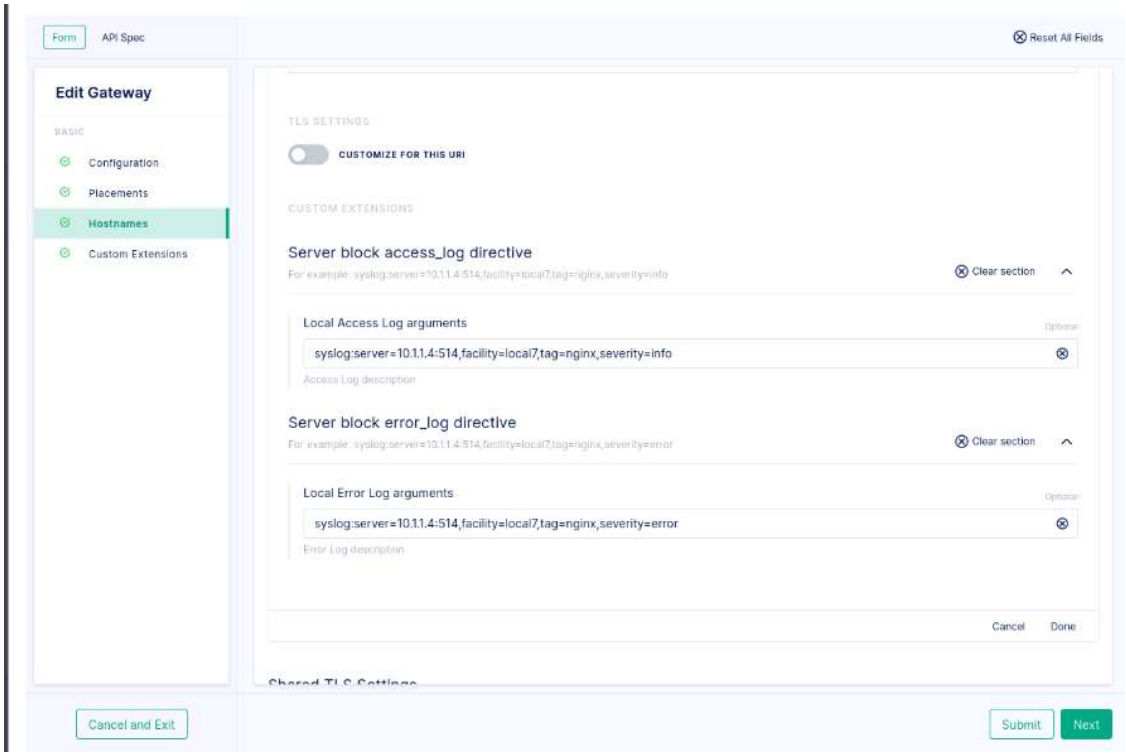
8. Now, go back to your **Browser** window. In the ADM section go to your **Production** environment, select **Edit** from the "..." link on the right side of the screen. Click on the **Templates** section and select your **bigtechdojo-logging-v1** template in the **Use Cases** section, then **Submit** all changes

9. Edit your **Juice Gateway**
10. Under **Hostname**, click the pencil icon to edit the Hostname
11. You will see new **Server block access_log** and **Server block error_log** fields, from the template.
12. Enter (copy and paste) the following for the **Local Access Log arguments** field:

```
syslog:server=jumpbox.bigtechdojo.com:514,facility=local7,tag=nginx,severity=info
```

13. Enter (copy and paste) the following for the **Local Error Log arguments** field:

```
syslog:server=jumpbox.bigtechdojo.com:514,facility=local7,tag=nginx,severity=error
```



14. Click **Submit**

15. View the resulting configuration in Instance Manager, you will see your **access_log and error_log** directives created under the Server block.

16. On your jumpbox, tail -f /var/log/syslog, send web traffic to your gateway by refreshing the browser, and make sure you see nginx access log entries in your syslog