

HACKATHON : PROMPT BUILDER 2025

TOPIC : Build an auto-scaling cloud architecture for streaming platforms

Step 1: First We have created an Launch Template which automatically creates EC2 and required templates.

Below are the screenshots of the steps for launch template.

The screenshot shows the AWS Management Console interface for creating a new launch template. The browser address bar indicates the URL: `https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate`. The page title is "Create launch template".

Launch template name and description

Launch template name - *required*
MyTemplate1
Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '%', '@', etc.

Template version description
Template for my project
Max 255 chars

Auto Scaling guidance [Info](#)
Select this if you intend to use this template with EC2 Auto Scaling.
☐ Provide guidance to help me set up a template that I can use with EC2 Auto Scaling

► **Template tags**
► **Source template**

Launch template contents
Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

▼ **Application and OS Images (Amazon Machine Image)** [Info](#)
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Summary

- Software Image (AMI)
-
- Virtual server type (instance type)
-
- Firewall (security group)
-
- Storage (volumes)
-

Free tier: in your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

[Cancel](#) [Create launch template](#)

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Sandbox environmentCreate launch template | EC224Online ClientApache Tomcatwhat is the shortcut for screen24Online Client

←→↻https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate

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EC2Launch templatesCreate launch template

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Quick Start

Don't include in launch template

Amazon Linux

macOS

Ubuntu

Windows

Red Hat

SUSE Linux

Debian

Browse more AMIs

Amazon Machine Image (AMI)

Ubuntu Server 24.04 LTS (HVM), 550 Volume Type
ami-04b4f1a9c54c11d0 (64-bit (x86)) / ami-0a7a4e679394539354 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

▼ Summary

Software Image (AMI)

Virtual server type (instance type)

Firewall (security group)

Storage (volumes)

Free tier: in your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

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EC2Launch templatesCreate launch template

▼ Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name

vockey

Create new key pair

▼ Network settings Info

Subnet Info

Don't include in launch template

Create new subnet

When you specify a subnet, a network interface is automatically added to your template.

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Select existing security group

Create security group

Security groups Info

Select security groups

Compare security group rules

► Advanced network configuration

▼ Summary

Software Image (AMI)

Canonical, Ubuntu, 24.04, amd6...read more
ami-04b4f1a9c54c11d0

Virtual server type (instance type)

t2.micro

Firewall (security group)

Storage (volumes)

1 volume(s) - 8 GiB

Free tier: in your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

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EC2 > Launch templates > Create launch template

Type

Info

Custom TCP

Protocol

Info

TCP

Port range

Info

8080-8089

Source type

Info

Anywhere

Source

Info

Add CIDR, prefix list or security group

0.0.0.0/0

Description - optional

Info

e.g. SSH for admin desktop

Security group rule 2 (TCP, 0)

Remove

Type

Info

Custom TCP

Protocol

Info

TCP

Port range

Info

0

Source type

Info

Custom

Source

Info

Add CIDR, prefix list or security group

Description - optional

Info

e.g. SSH for admin desktop

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Add security group rule

Advanced network configuration

Summary

Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...[read more](#)
ami-04b4f1a9cf54c11d0

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Free tier: in your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

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EC2 > Launch templates > Create launch template

Metadata response hop limit

Info

2

Allow tags in metadata

Info

Don't include in launch template

User data - optional

Info

Upload a file with your user data or enter it in the field.

Choose file

```
#!/bin/bash
sudo apt-get update -y
sudo apt-get install -y openjdk-11-jdk maven git tomcat10 tomcat10-admin

# Create a directory for your application
sudo mkdir -p /opt/myapp
cd /opt/myapp

# Clone the GitHub repository
sudo git clone https://github.com/anujdevopslearn/MavenBuild.git
cd MavenBuild

# Build the Maven project
sudo mvn clean install
```

Summary

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Canonical, Ubuntu, 24.04, amd6...[read more](#)
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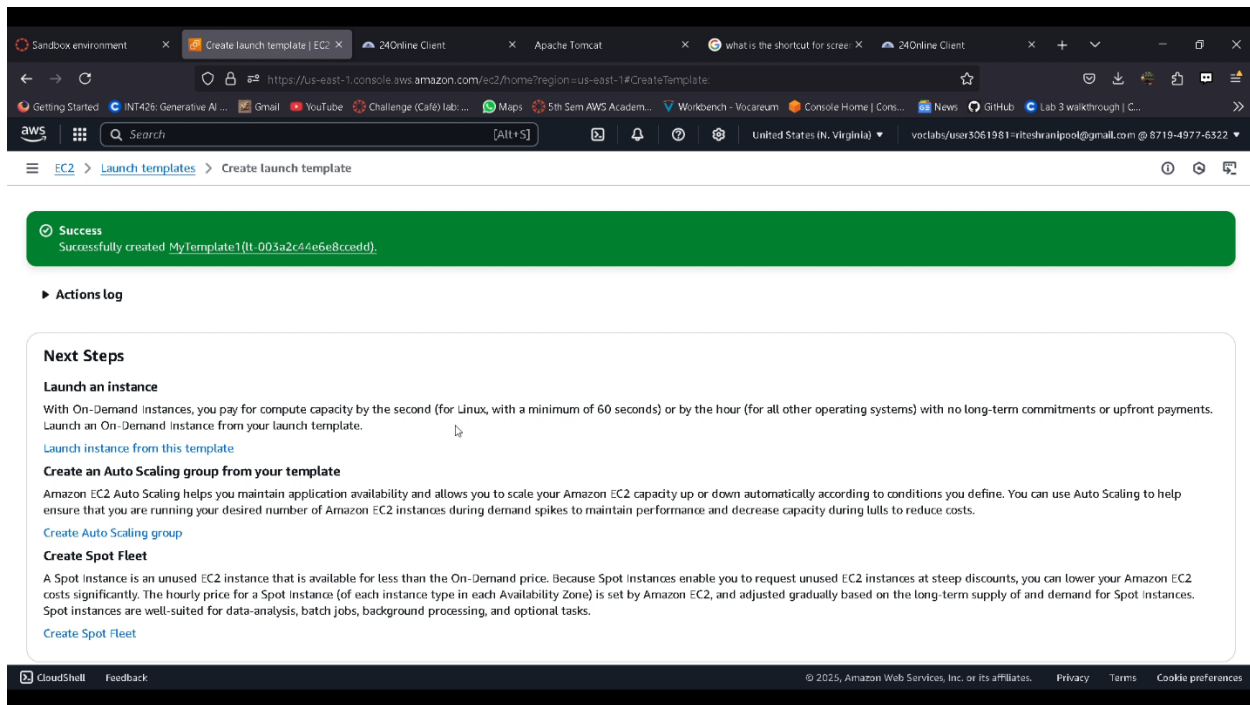
Cancel

Create launch template

CloudShell

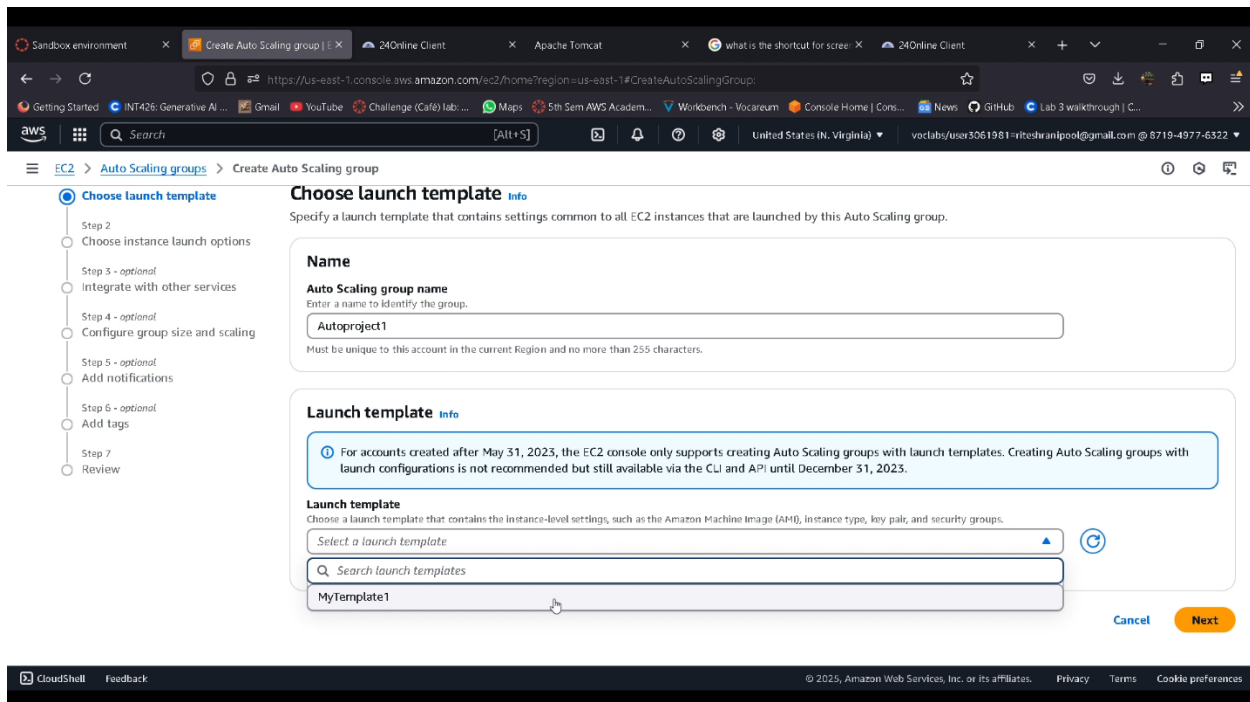
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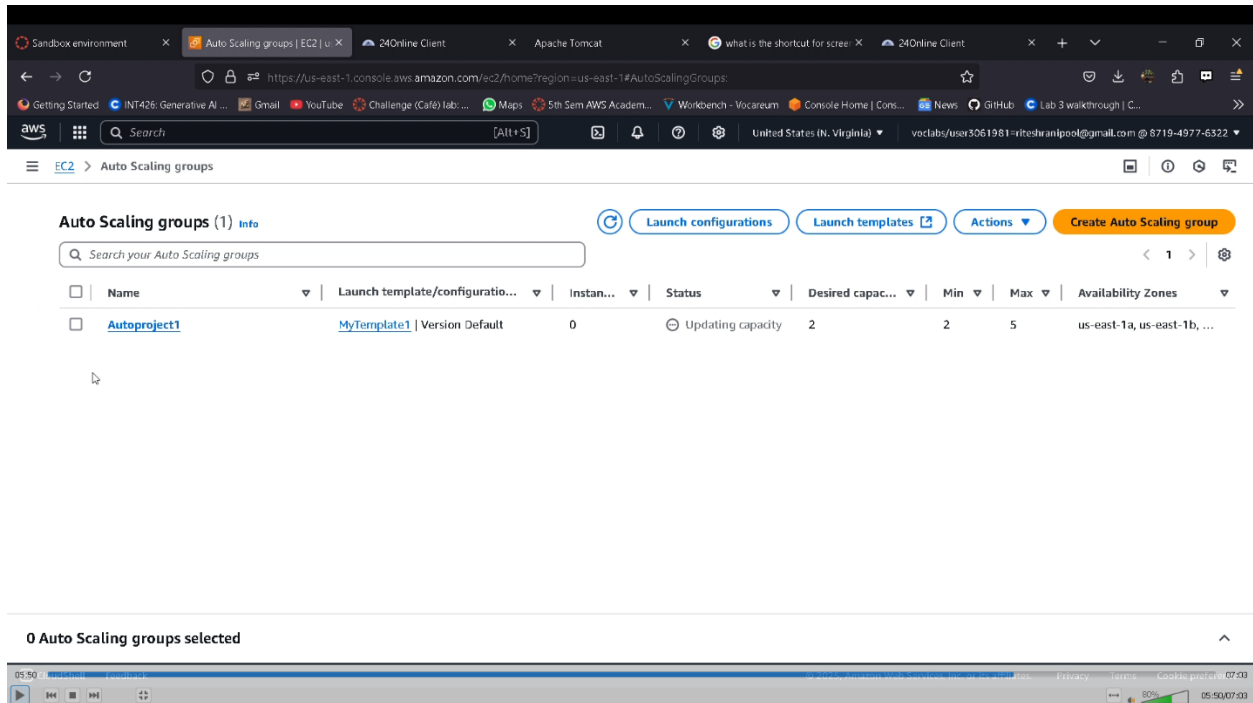
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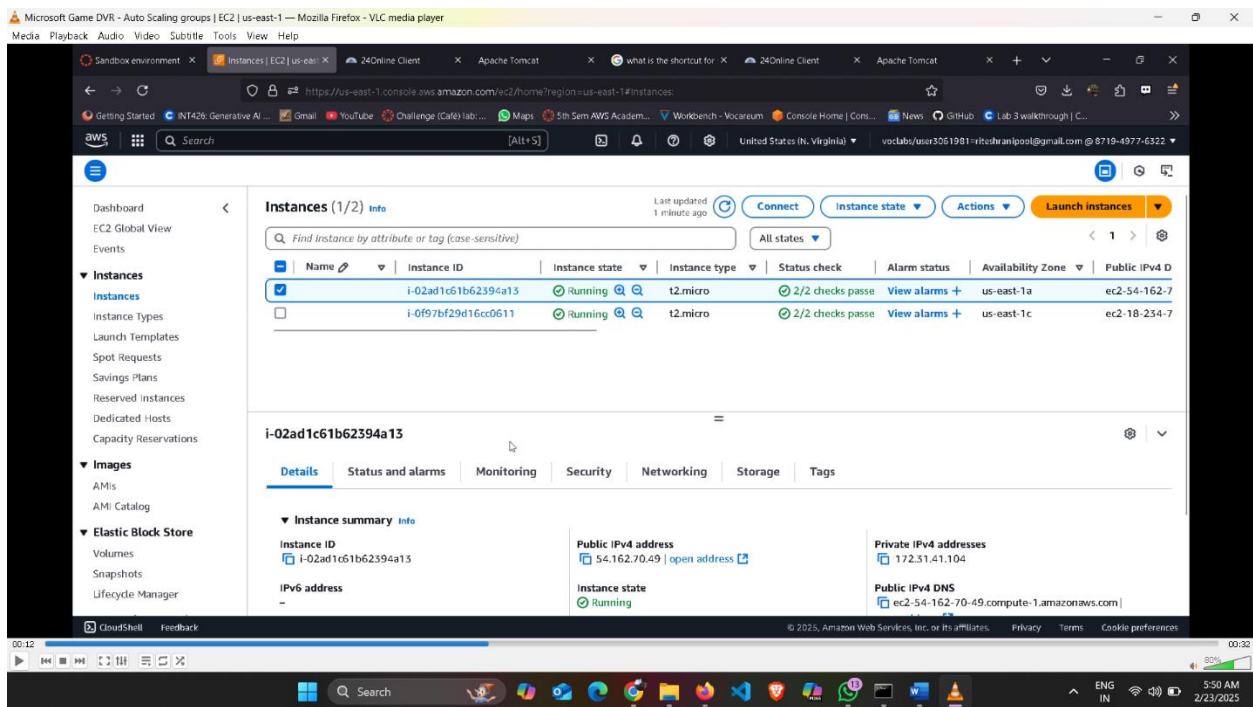
Step 2: We have created an autoscaling group so that the traffic on the page could be distribute across the replica of the EC2 instance .To help in distribute traffic across the network Load Balancer is automatically applied to the Auto Scaling group.

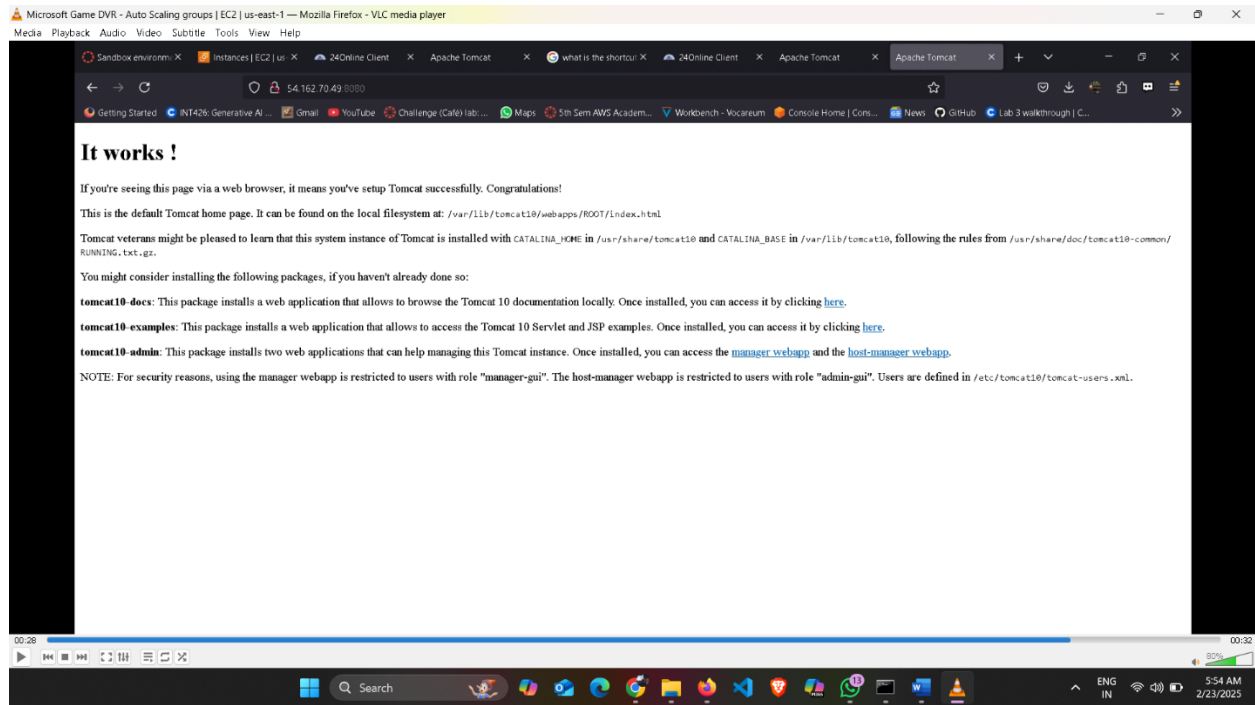
Below are the screenshots of the steps of Auto Scaling performed.



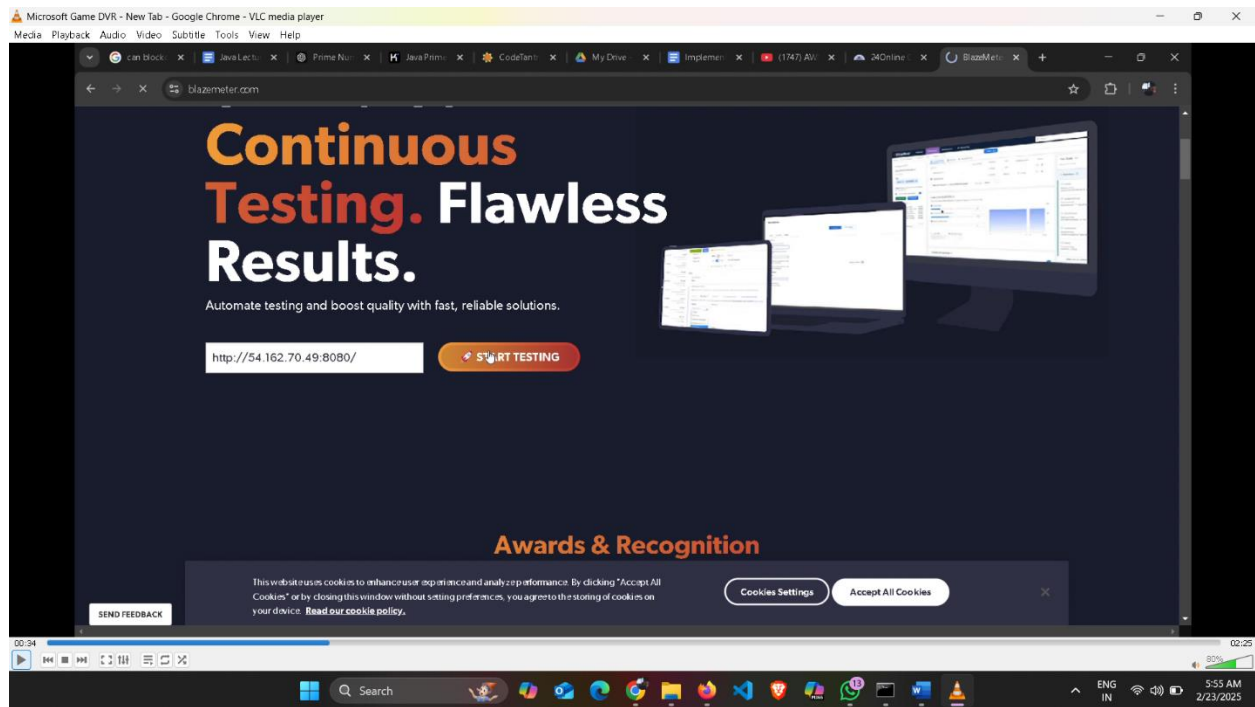


Step 3: After creating Auto Scaling Group we have navigate to EC2 which was created ,click on the EC2 and copied the public IPV4 address and paste it to the browser with port 8080 which was 54.162.70.49:8080





Step 4: Finally we have check the performance of the site through BlazeMeter.



Microsoft Game DVR - New Tab - Google Chrome - VLC media player

Media Playback Audio Video Subtitle Tools View Help

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Home Default workspace Projects Tests Reports Test Data Create Test Active Runs 2 Hide Filters Stop Test

Default project / My first HTTP test

My first HTTP test Running Anomaly Detection Set as Baseline

Feb, 1 2025 06:36:52 PM → Feb, 1 2025 06:36:54 PM http Functional Testing Default Location Milliseconds Seconds

Summary Timeline Report Request Stats Engine Health Errors Logs Original Test Configuration

1 VU Max Users 131.5 Hits/s Avg. Throughput 0 % Errors 6.84 ms Avg. Response Time 8 ms 90% Response Time 276.36 KIB/s Avg. Bandwidth

Duration 1 minute Test Type JMeter

Started Feb 01, 2025, 6:36:52 PM Response Codes 2xx

ETA in 20 minutes Locations Functional Testing Default Location

Tags Define Tags...

Report Notes: Enter report notes...

01:50 02:25

Windows Taskbar: Search, File Explorer, Microsoft Edge, Google Chrome, VLC media player, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Teams, Microsoft OneDrive, Microsoft Outlook, Microsoft Access, Microsoft Publisher, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Teams, Microsoft OneDrive, Microsoft Outlook, Microsoft Access, Microsoft Publisher

System Tray: ENG IN, 5:55 AM, 2/23/2025