VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

School of Information Technology and Engineering

SWE2005 - Software Testing

Final Review

Title: Load Focus Testing for VTOP Website

Submitted By

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Sanjaykumar S
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TESTING WEBSITE:

https://vtop.vit.ac.in/vtop/initialProcess

Introduction:

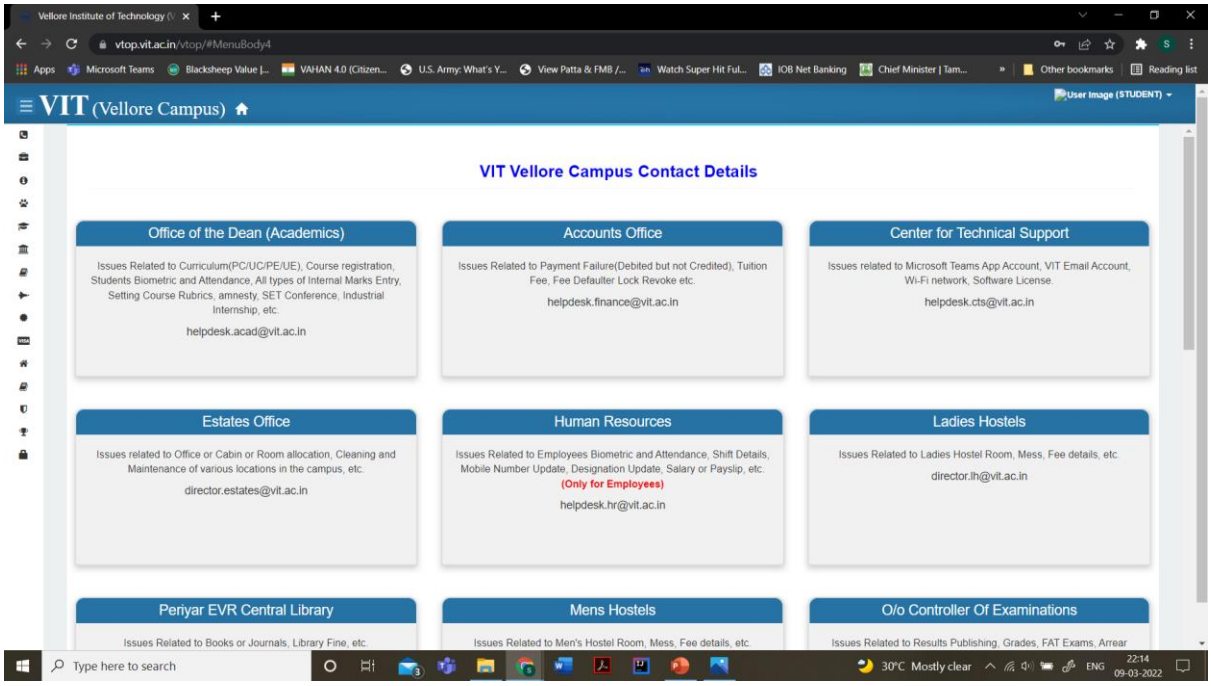
VTOP do not have any specific abbreviation, it is a software which controls everything inside VIT. It used by the teachers, students, parents, and other VIT officials. It consists of all the information such as full course detail, personal details, Assignment records to Attendance to study materials. VIT provides with a login id and password with which we can open VTOP page anywhere if we have an internet connection.

APPLICATION:

- It is used to download the study materials which was uploaded by faculty and we can also download the other faculties materials.
- To check the Timetable and academic calendar for particular Semester.
- If we facing any trouble and we can get clarify through our proctor and the proctor details will be display in this website.
- At the time of course registration if there was minimum seat allotement for any Important course we can contact Hod and he will make an another slot and Hod details will be display in this website.
- We can able to see our profile and mail address and We can also able to change the password at any time .
- It is used making payment forever academic fees, hostel fess and event fess payments.
- Used to view the exam schedule, marks, seat allotment and grade history.
- Upload the digital assignments used this website only.
- Parents can also able to see the marks, attended using this website.
- Alumni can be also using this website to see the grade history and payments receipt.

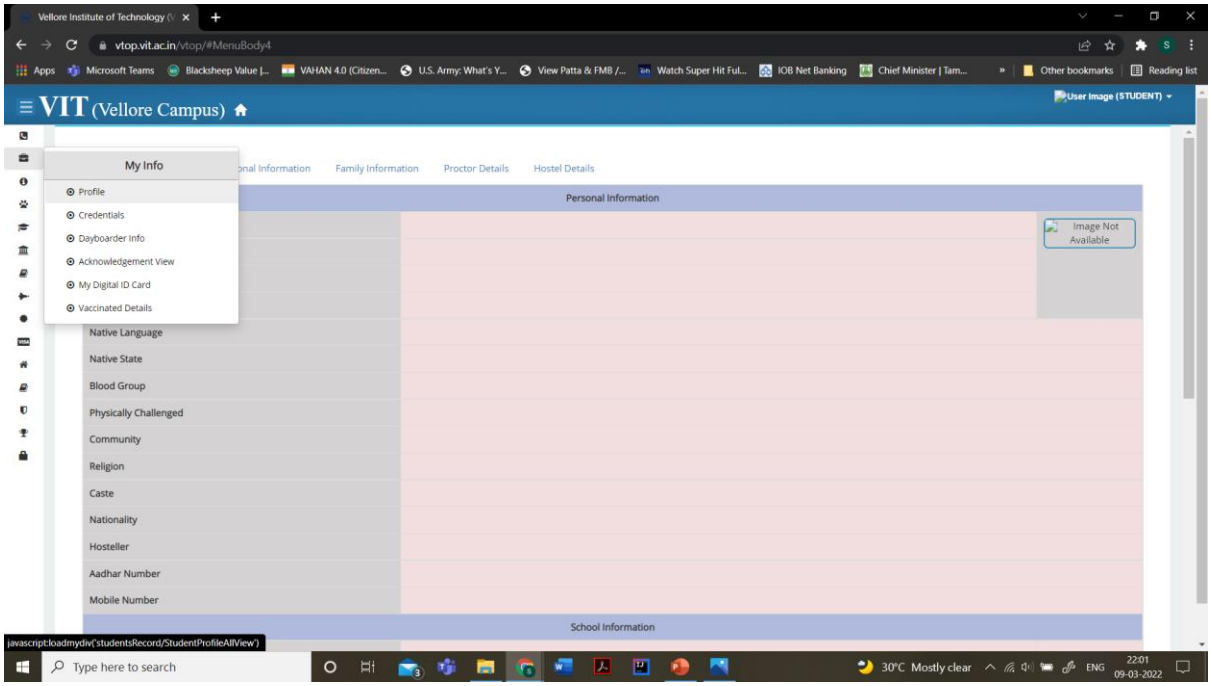
CONTACT:

- If we face any Issues Related to Curriculum, Course registration, Students Biometric and Attendance, all types of Internal Marks Entry, Setting Course Rubrics, amnesty, SET Conference, Industrial Internship, etc.
- Issues Related to Payment Failure (Debited but not Credited), Tuition Fee, Fee Defaulter Lock Revoke etc.
- Issues Related to Books or Journals, Library Fine, etc and Issues related to registration for Placement and Training.
- Issues Related to Profile Update for First Year UG or PG Students (Contact on respective email).
- Issues Related to Bonafede certificate, Student ID card, Student Profile data update (such as Address), Name correction, etc . we can get contact details from here.



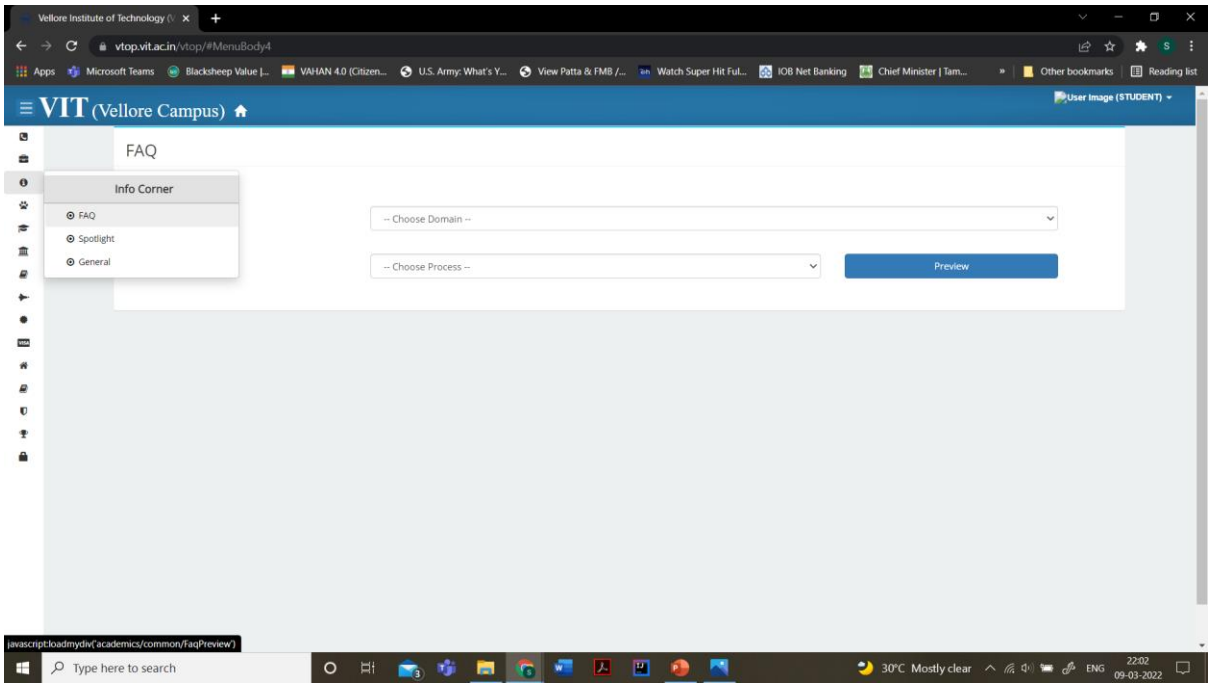
MY INFO:

From here we can get a information like personal, family, education and proctor. we can retrieve our default password from here like gmail, virtual lab and moddle and we can also see student bank information.



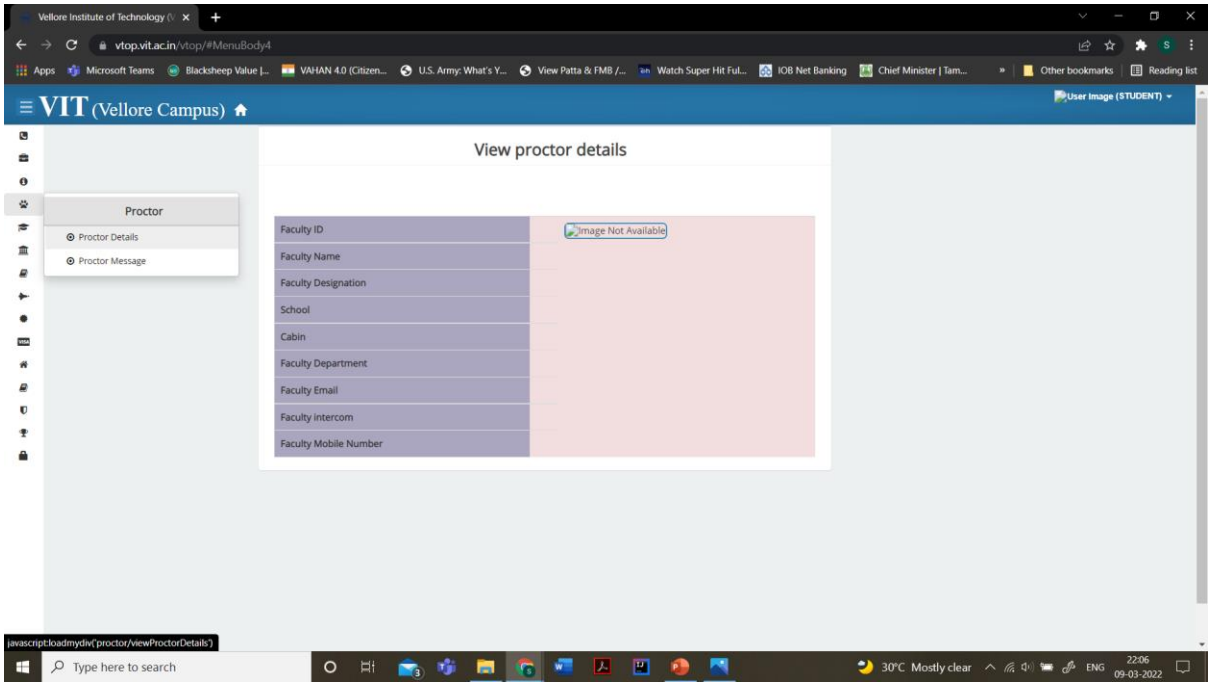
INFO CORNER:

- We can view the circulars from the dean and control of examination .
- It display the current circulars information at home page .



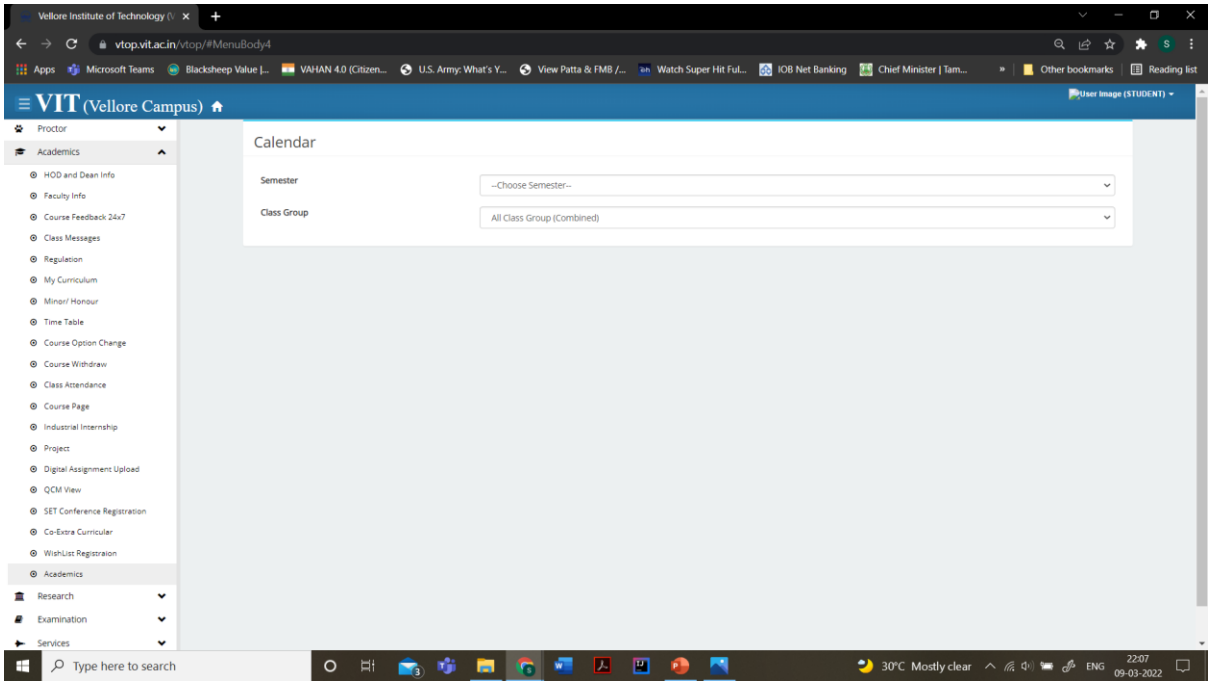
PROCTOR:

We can see the proctor details, contacts and messages for the proctor.



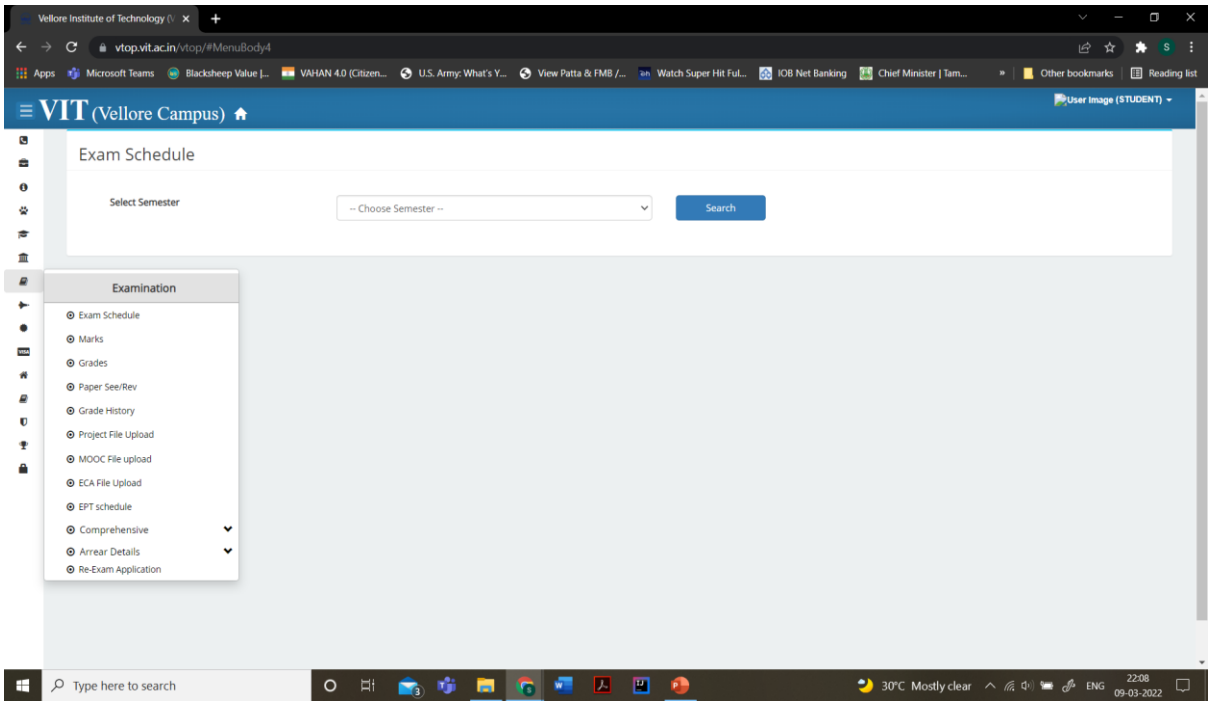
ACADEMICS:

- In this academic will display the curriculum, faculty information, class messages, attendee, wish list, academic calendar and study materials.
- we can also upload the digital assignments here and able to download the study materials.



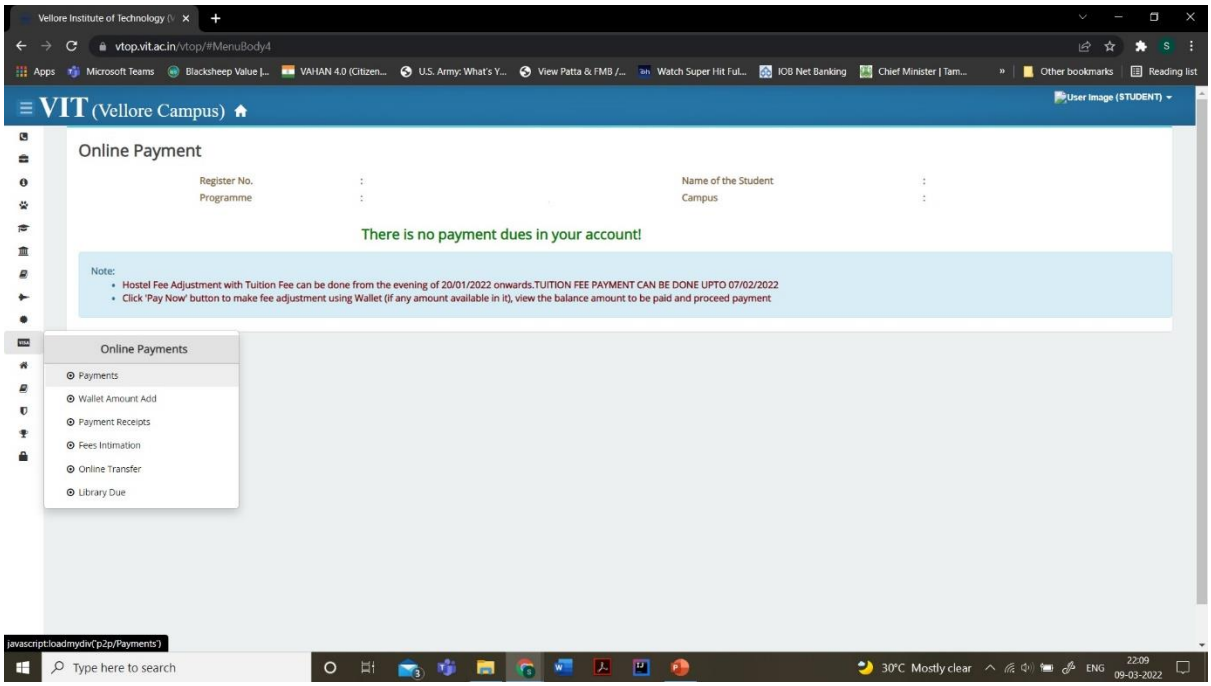
EXAMINATION:

It will display the Exam schedule, marks, grades ,paper seeing, grade history and arrear details here.



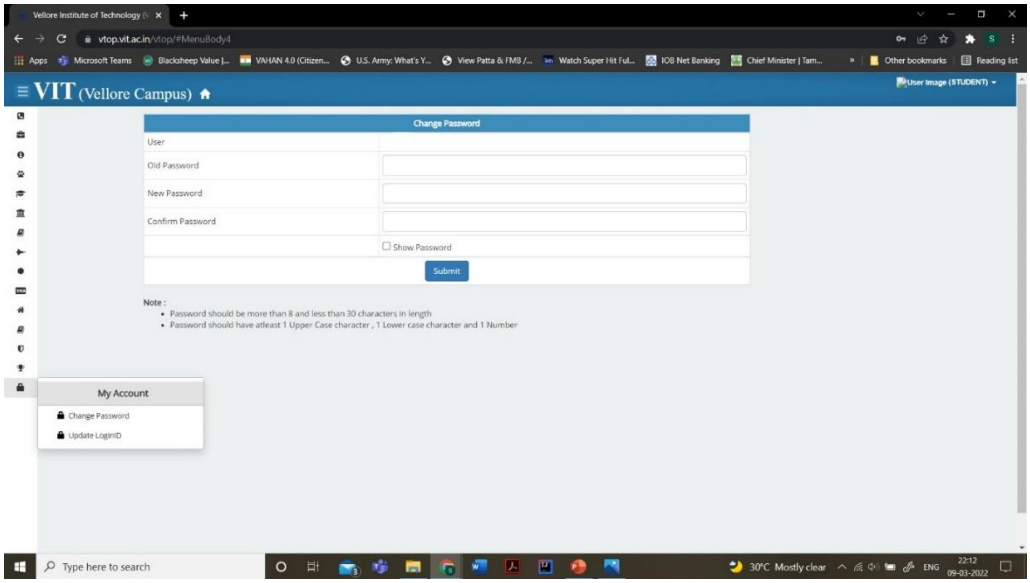
ONLINE PAYMENTS:

We can able to pay tusion fees, Hostel and Any events(if you register) and download the payment receipt.



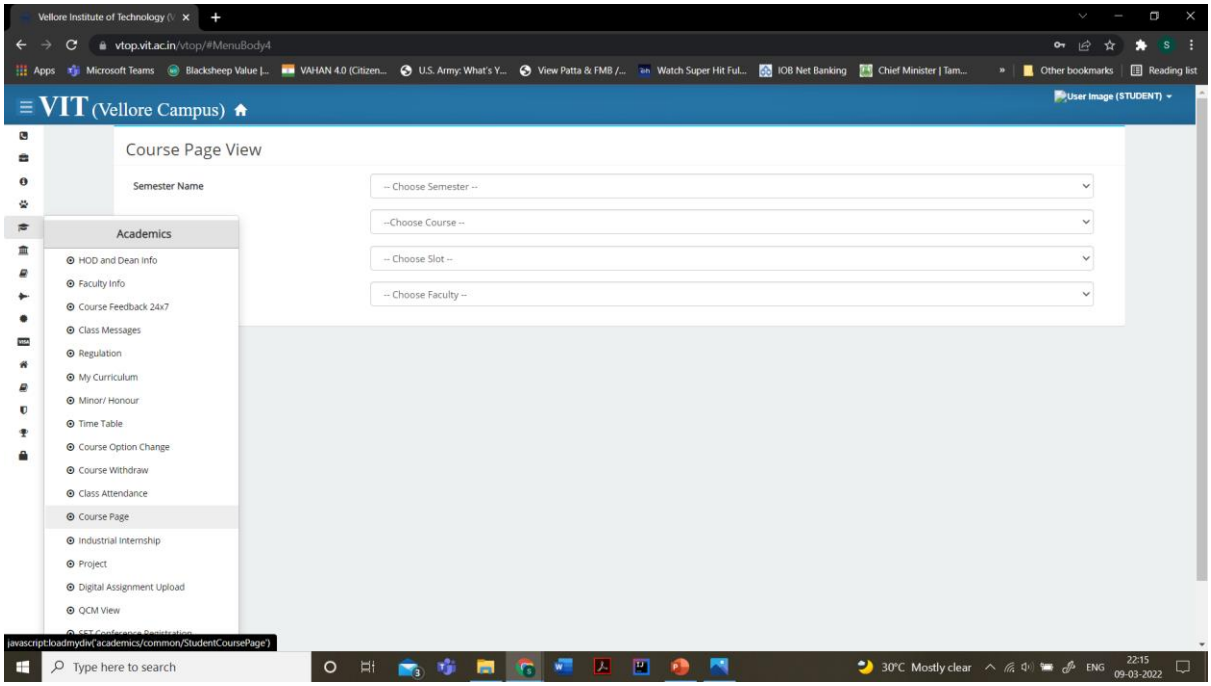
MY ACCOUNT:

We can update our login Id and change the Passwords.



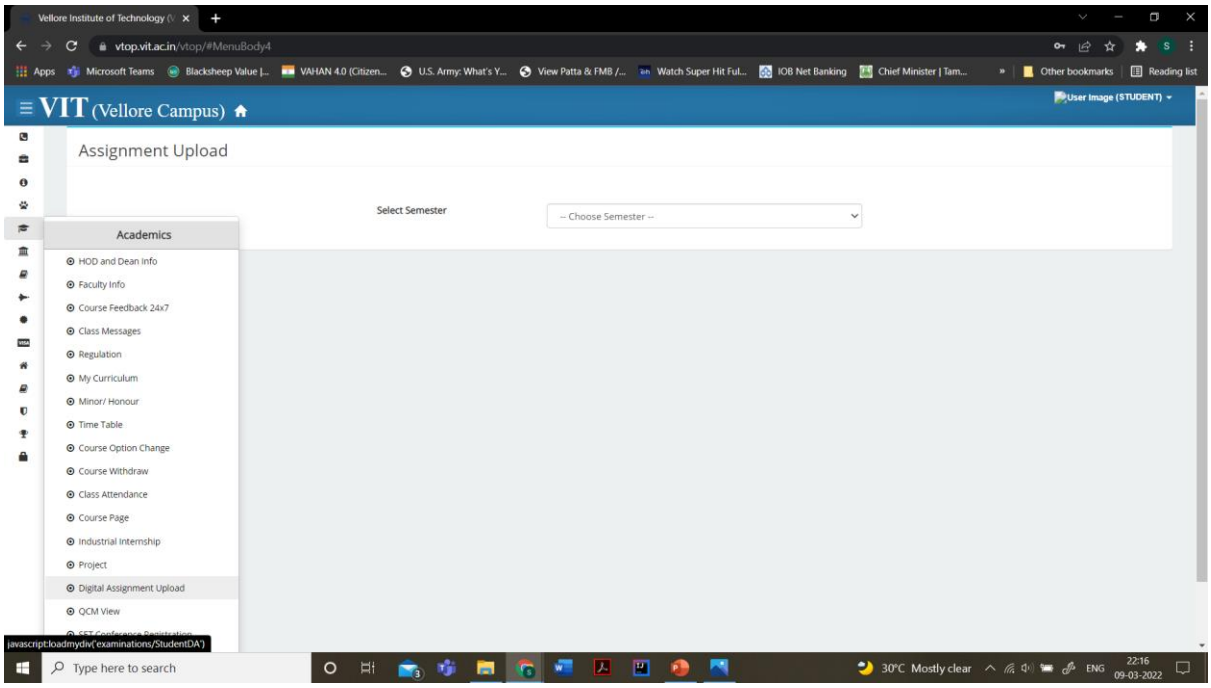
Course page:

- This page is used to download the student study materials according to the semester and by select the registered course, Slot, faculty.
- And the faculty members also upload the reference materials like model question paper and answer keys etc…



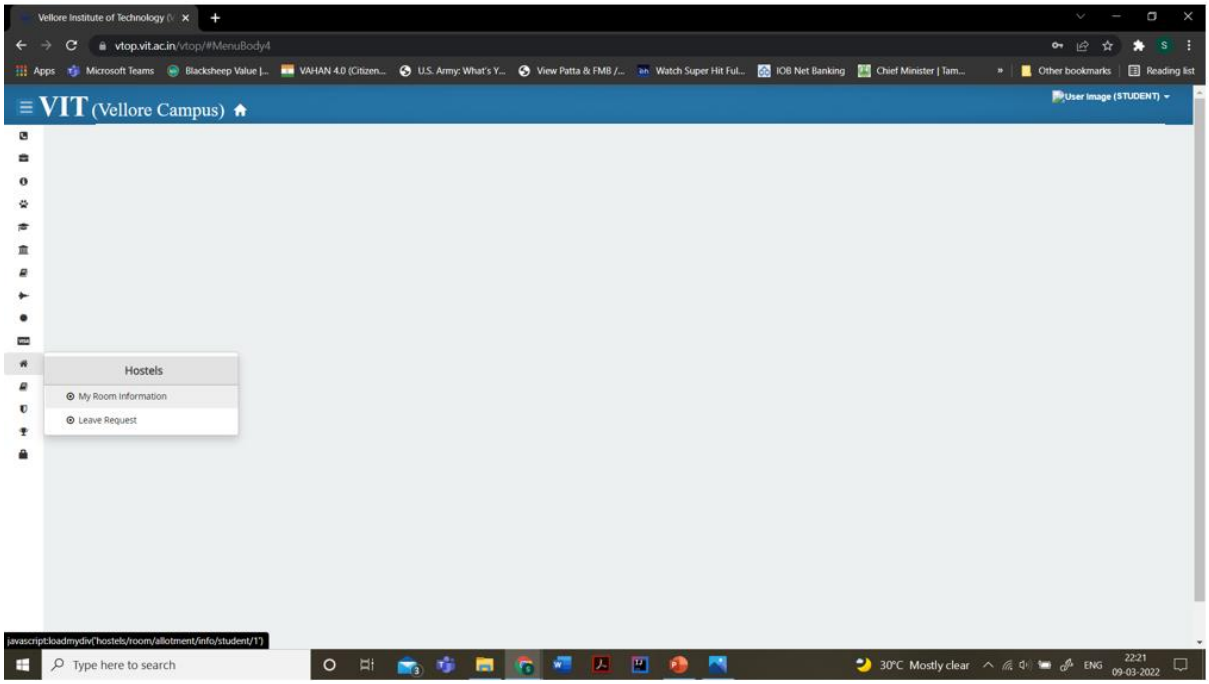
Digital assignment:

This page is used for uploading the softcopy of student assignments according to the registered course and the concern faculty members fix the deadline for the given assignment.



HOSTELS:

- Displaying the Room details ,block details and mess.
- We can able to change the mess and we can apply the leave request.



TOOL: LOAD FOCUS

Website Link:

http://www.testingtoolsguide.net/tools/loadfocus/

INTRODUCTION:

Load Focus is a Web/Mobile Applications and APIs with thousands of concurrent users. Measure page load time and get insights to optimize websites performance. Build functional tests and automate regression manual tests of your website. It is Automated Testing and Monitoring for Mobile & Web applications. Load Focus provides a full suite of free cloud testing tools. It's like Selenium WebDriver, but for projects that are short infrastructure and/or coding expertise to confidently develop and manage automated test suites of UI tests.

Used For:

- Load Testing
- Website Performance Monitoring
- Website UI Testing
- Mobile Emulation Testing
- Visual Regression Testing

Implementation:

We have a broad cross-section of industries that conduct load testing. IT, Finance, Services, Retail, Government, Media, Communications, Utilities, Gaming, and even Construction industries all tend to load test.

Typical drivers for load testing within these industries include one or more of the following reasons:

- Need to service a large number of concurrent users or high demand
- Need balance load or confirm correct operation of a load balancer
- Need to balance costs or provide capacity planning
- Need right-sizing or scaling of infrastructure
- Need to control the operational expenditure of IT resources
- Need to conduct any form of website load testing traffic at scale

- Need to quantify or qualify nonfunctional testing requirements or performance metrics
- Already have a high risk or historically weak performing applications
- Are simply concerned with the performance characteristics of their applications and underlying systems.

History:

It was founded in 2014

Platform:

SaaS (Software as a Service)

System Requirements:

Supported Software Requirements:

- Windows 10
- Windows 8 and 8.1
- Windows 7 with Service Pack 1
- Windows Server 2016
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2008 R2
- Later of macOS X

Minimal System Requirements

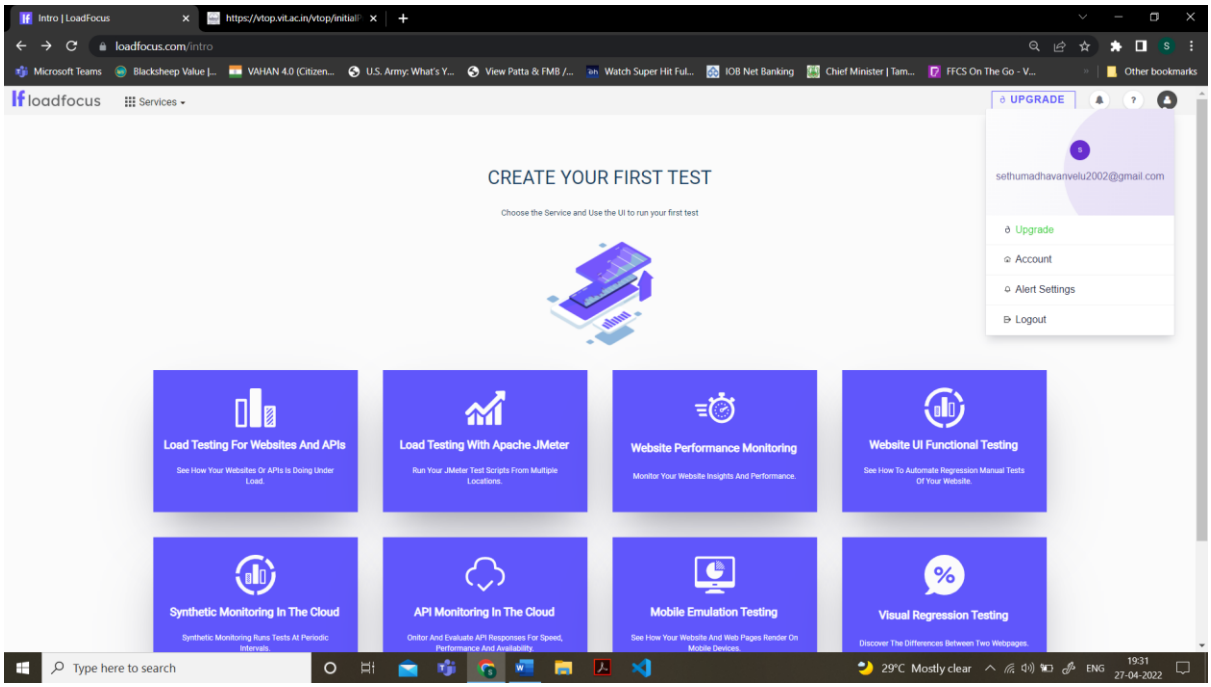
- Intel Core 2 Duo 2GHz or higher.
- Windows Server 2008 R2.
- Microsoft Internet Explorer 10.0 or later.
- 4GB of RAM.
- 1GB of disk space for installation.
- 1024 × 786 or higher display resolution.
- Mouse or other pointing device.

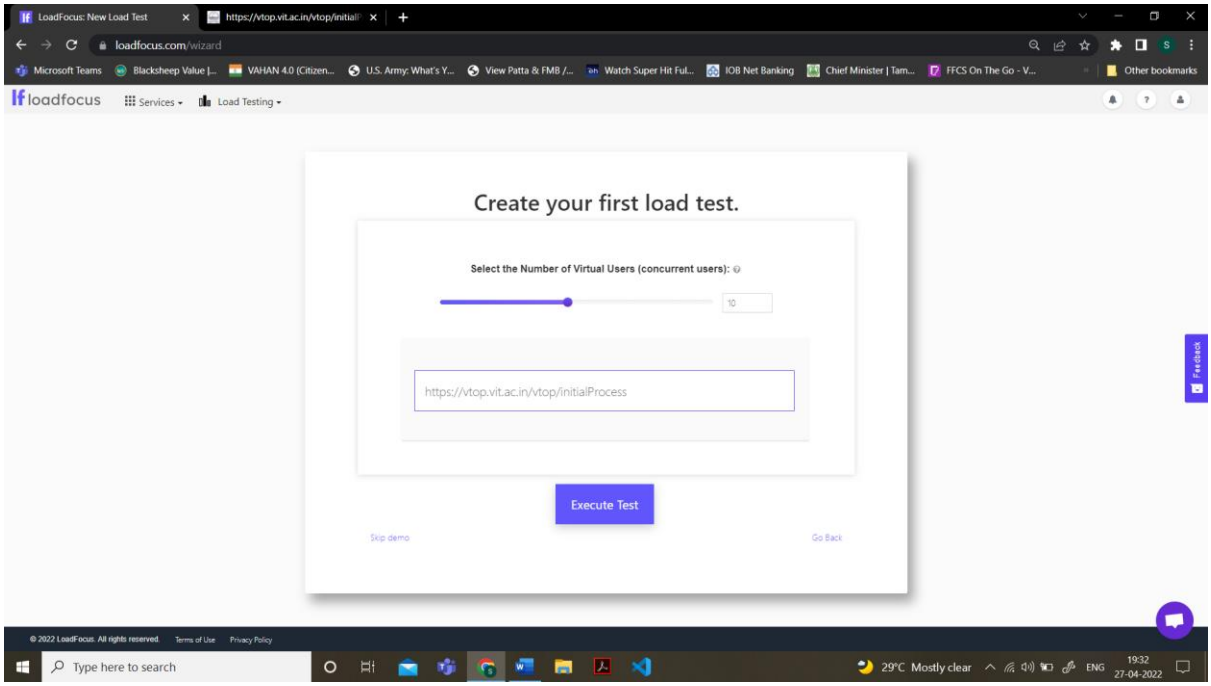
Recommended System Requirements

- Intel Core i7 with 4 or more cores.
- Bit operating system like Windows 7 SP1 or later.
- Microsoft Internet Explorer 10.0 or later.
- Adobe Flash Player 8 or later for Windows Internet Explorer (required to view charts in test results).
- 16GB of RAM or more.
- A solid-state drive with 16GB of free disk space.
- 1280 × 1024 or higher display resolution.
- Mouse or other pointing device.

Instalization:

It is online source of tool.





Features of Load Focus:

- Easily set virtual users and duration
- Load Testing at Scale
- Simulate load test scenarios
- Multiple URLs/Locations per Test
- Real-Time Results
- Load Testing Integrations
- Load Errors & Response codes
- Monitor Your Website Page Speed
- Simulate Real User Conditions
- Measure Website Performance
- Discover Speed Insights
- Schedule Performance Reports

Drawbacks:

- Has a high learning curve thus it requires skilled testers.
- It doesn't support JavaScript and by extension doesn't automatically support AJAX requests.
- Memory consumption is high in GUI mode which causes it gives out
- errors for a large number of users.

Load Testing:

We need to enter test name for our testing by default it will be the present date and time like “Apr_27, 2022 7:41 PM”.

Parameters:

- Location Configuration.
- Load Configuration.
- Virtual Users.
- Ramp Up Time.
- Ramp Up Steps.
- Duration.

Location Configuration:

Geographical location from where the clients will make request to your websites.

Load Configuration:

Set up no. of users, test duration, and delay between each client starts. Inspect visually with the chart.

Virtual Users:

- No. Of virtual clients to hit the application in parallel over a period of time.
- Useful for identifying application behaviour when x clients connect on the app in parallel over a period of time.

Duration:

Total duration of your load test, for how long the clients will hit your application.

Ramp Up Time:

Delay between start of the test until all virtual users are running.

Ramp Up Steps:

- Choose the number of steps for the ramp up period.
- By default, they have predefined three scenarios for load testing. They are:
  - **Initial Load.**
  - **Warm-Up Load.**
  - **Moderate Load.**

Initial Load:

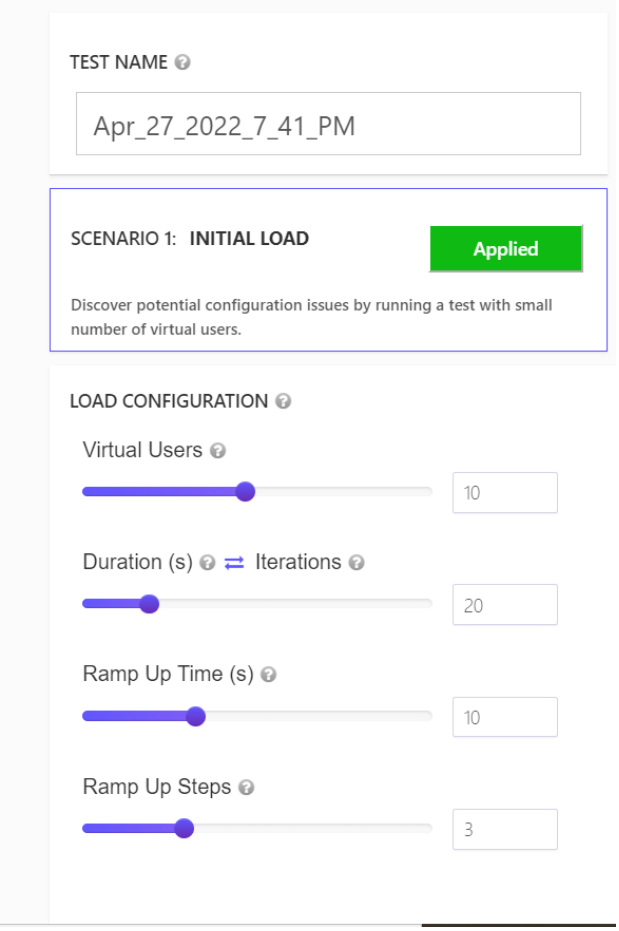
Discover potential configuration issues by running a test with small number of virtual users. Predefined parameters for this scenario are

Virtual Users: 10VU.

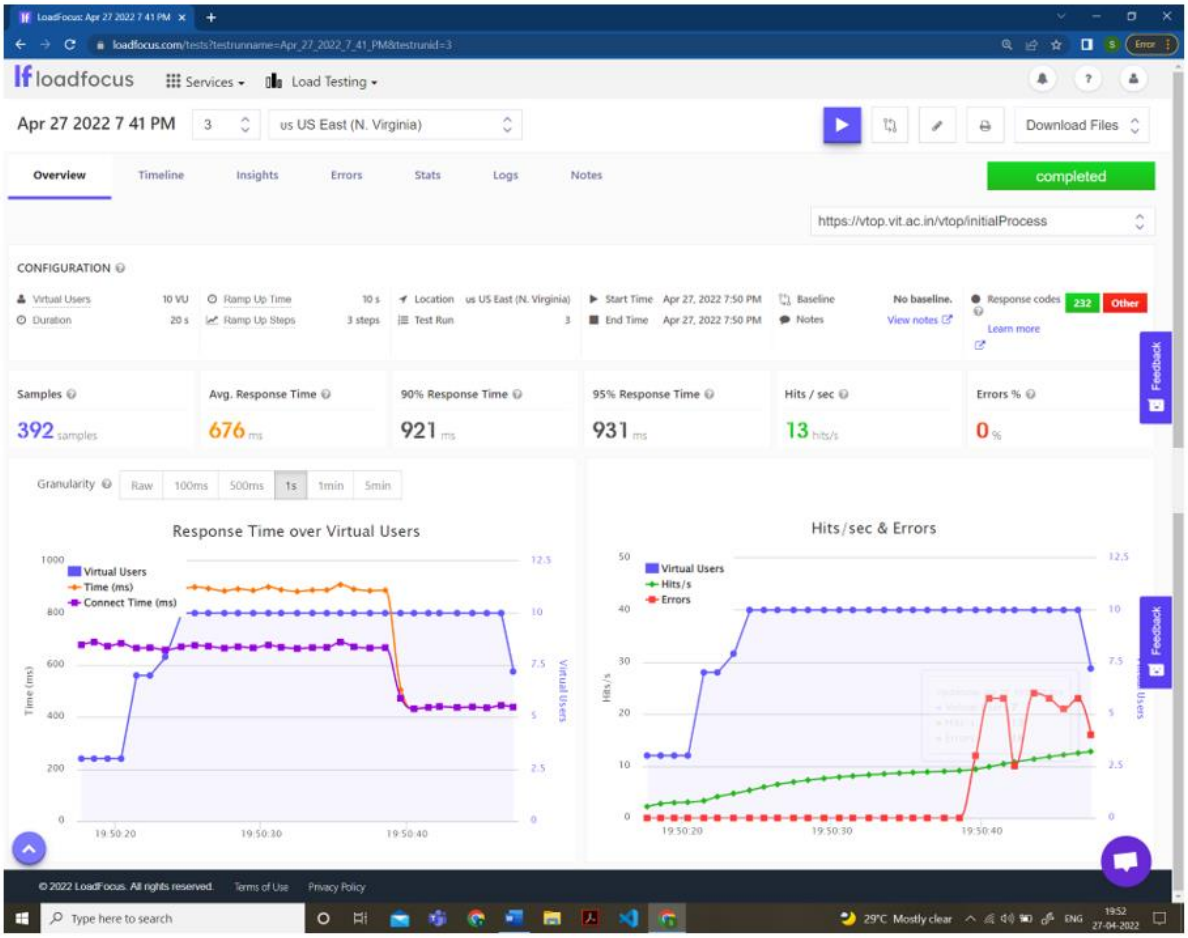
Duration: 20s.

Ramp Up Time: 10s.

Ramp Up Steps: 3 steps.



We need to paste the URL. Then execute the test. This is the overview the result with minute and real time graph.

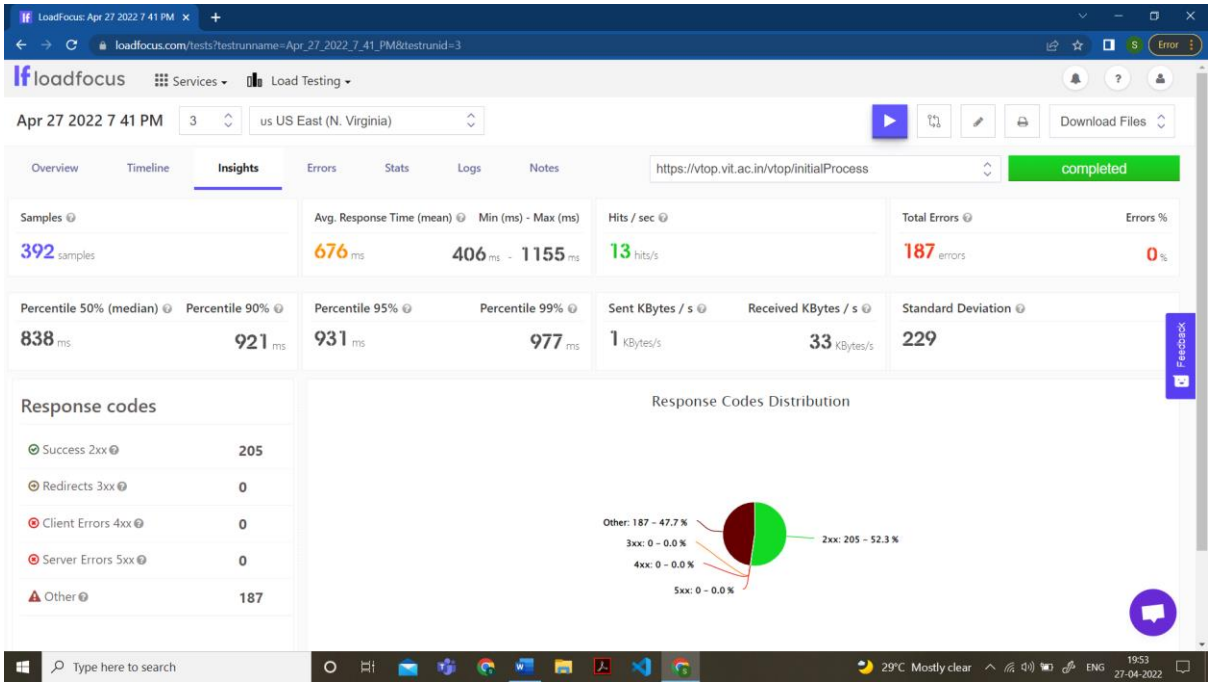


Timeline:

This graph shows the accurate response time, hit/sec, error, latency, response code, sent bytes and received bytes at each and every sec.

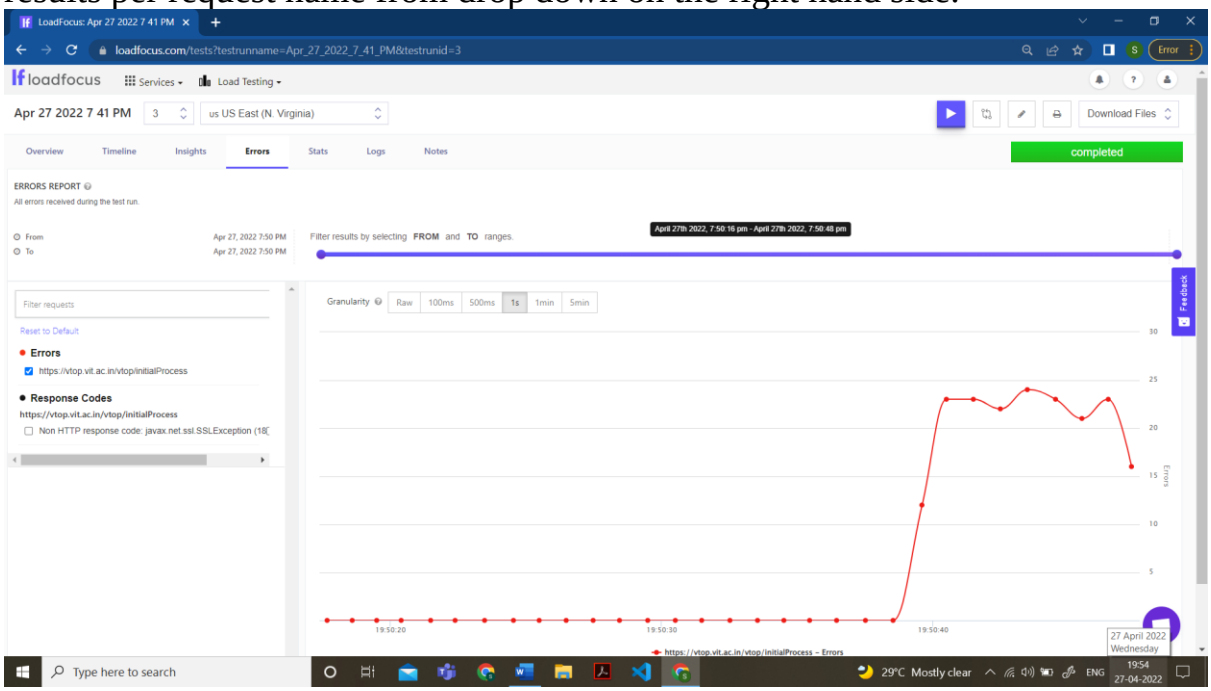
Insights:

It has detailed report on response of code.



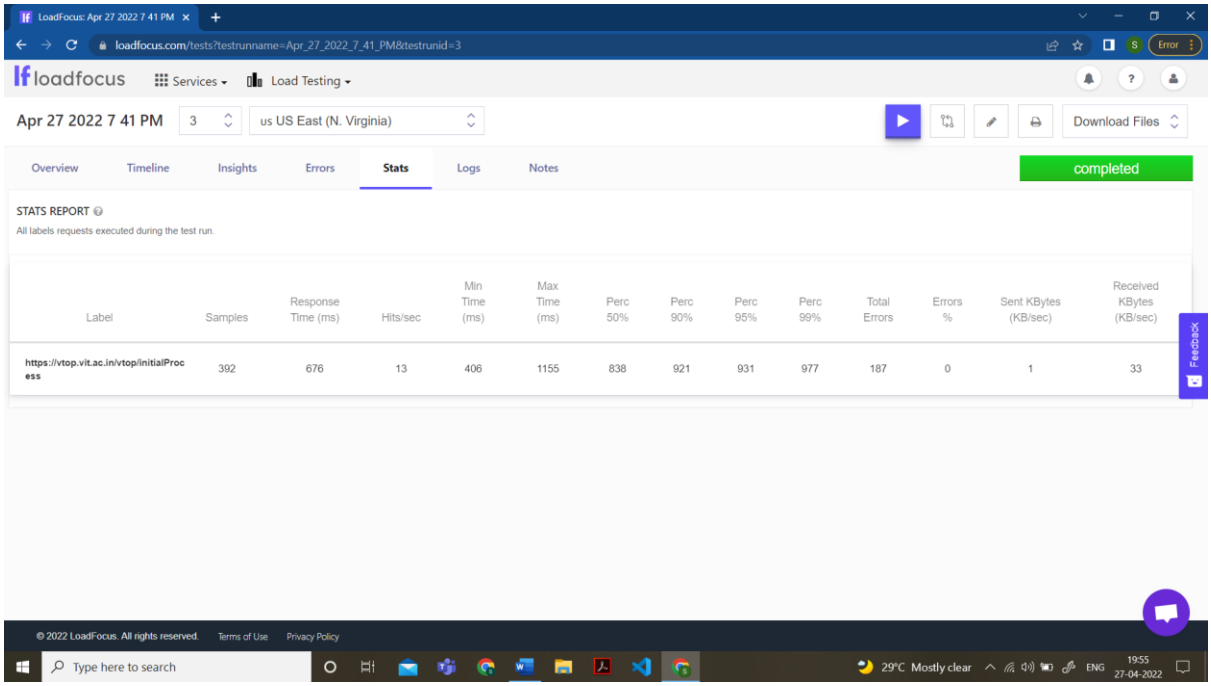
Errors:

This graph displays the error at the time of testing with seconds. View current test configuration, Start & End times and Results overview. Filter the results per request name from drop down on the right hand side.



Stats:

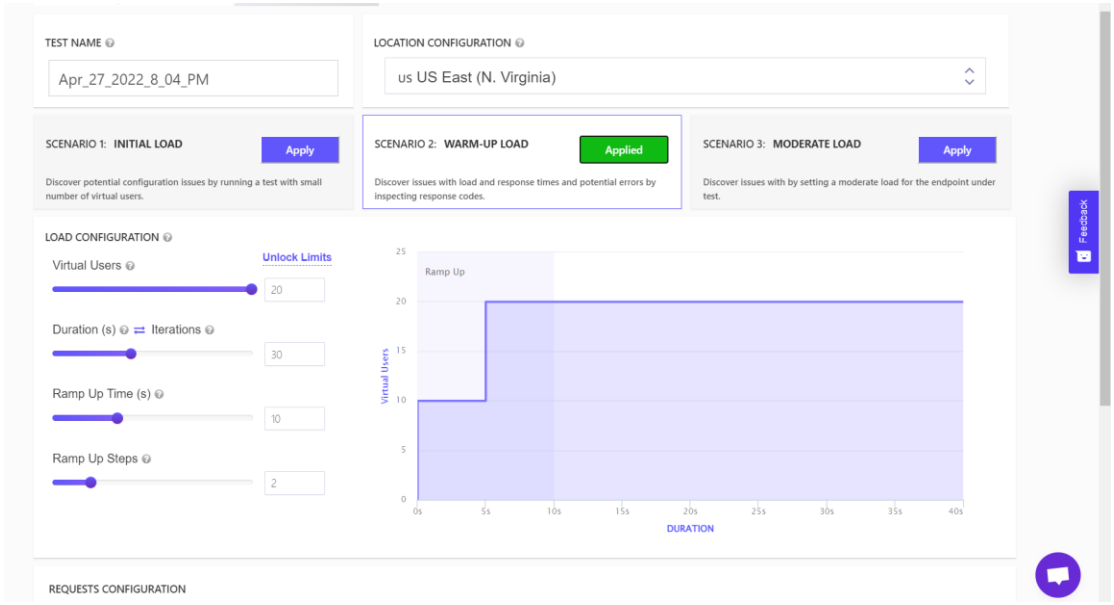
All labels' requests executed during the test run.



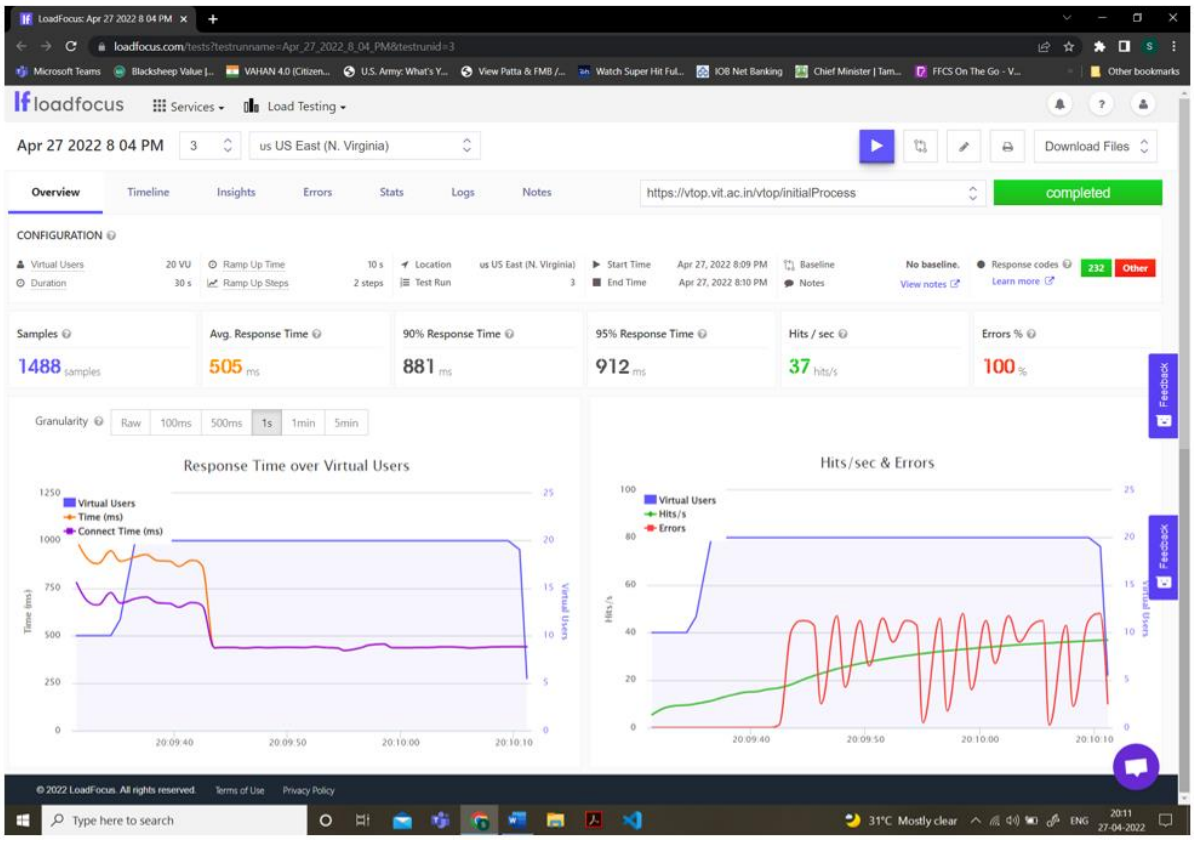
Warm-Up Load:

Discover issues with load and response times and potential errors by inspecting response codes. Predefined parameters for this scenario are

Virtual Users: 20VU.
Duration: 30s.
Ramp Up Time: 10s.
Ramp Up Steps: 2 steps.



We need to paste the URL. Then execute the test. This is the overview the result with minute and real time graph.

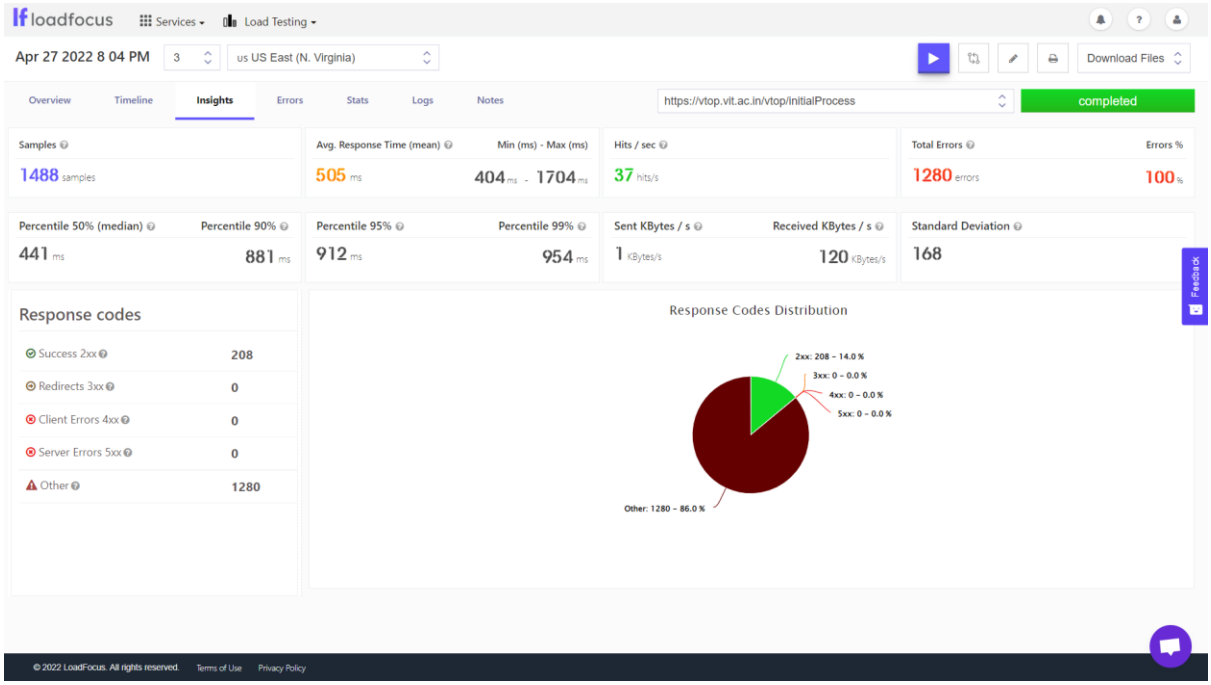


Timeline:

This graph shows the accurate response time, hit/sec, error, latency, response code, sent bytes and received bytes at each and every sec.

Insights:

It has detailed report on response of code.



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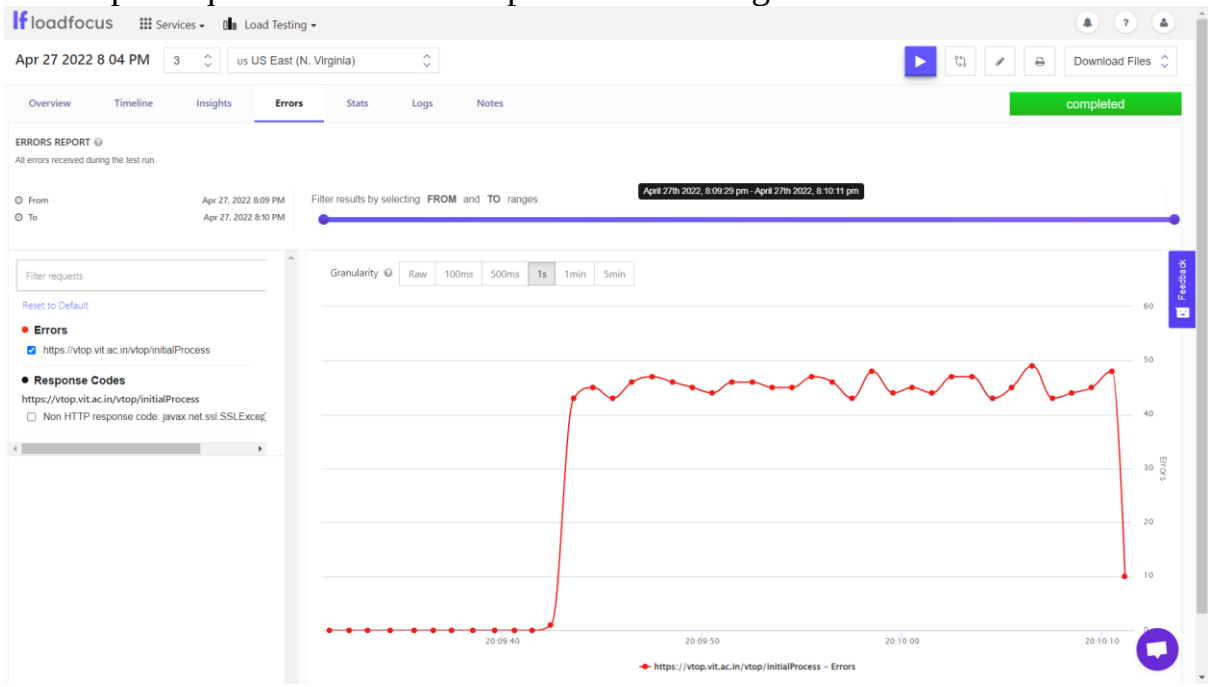
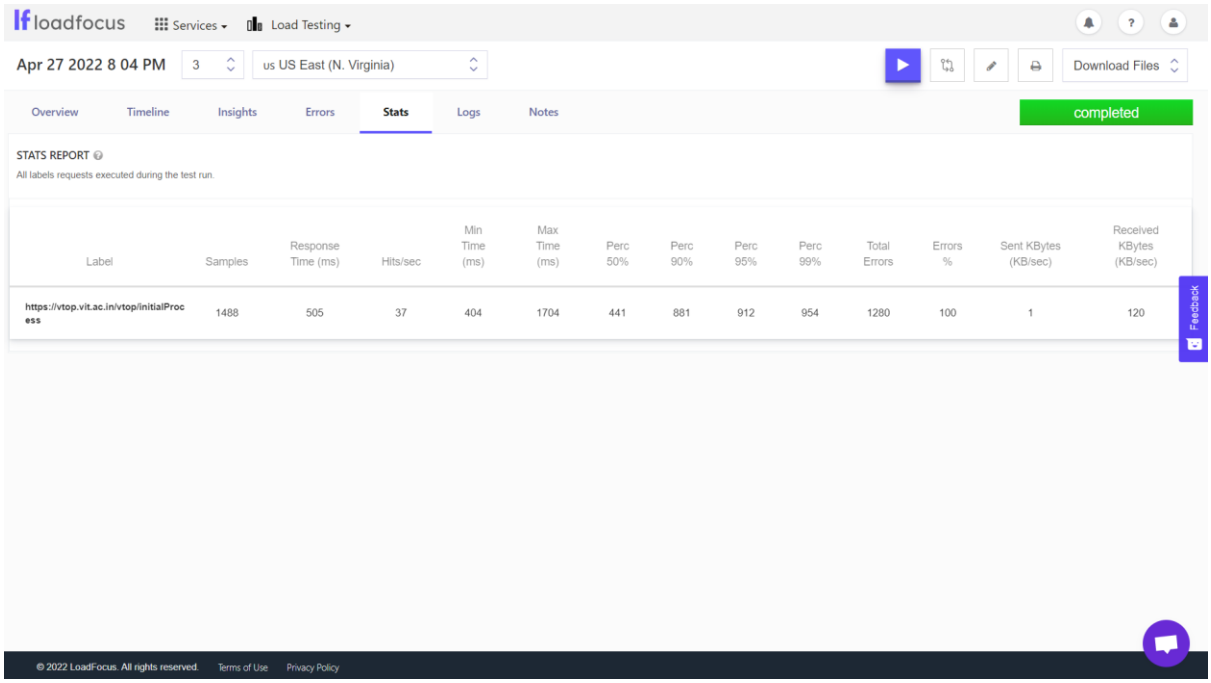


Stats:

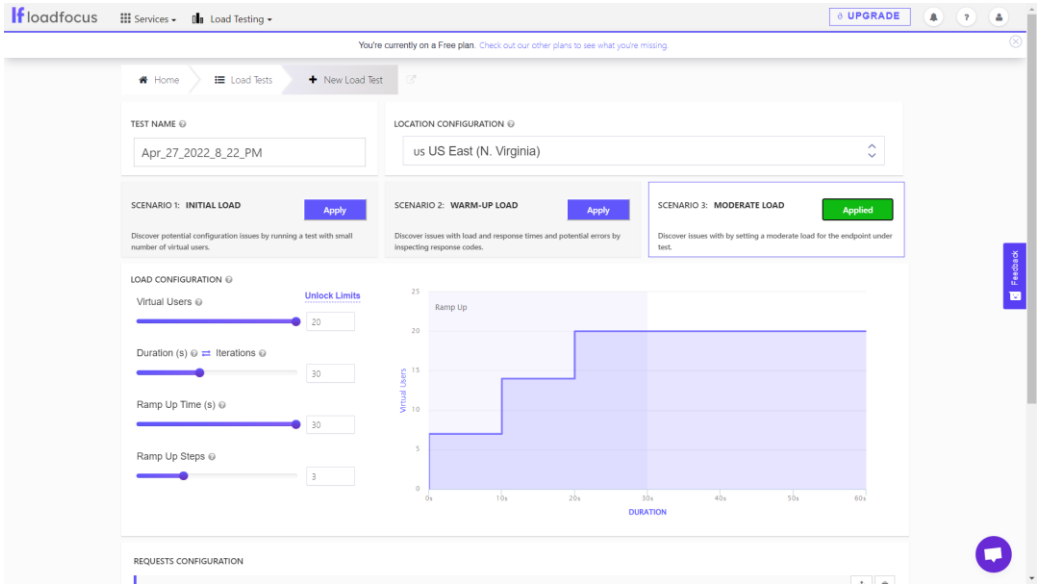
All labels' requests executed during the test run.



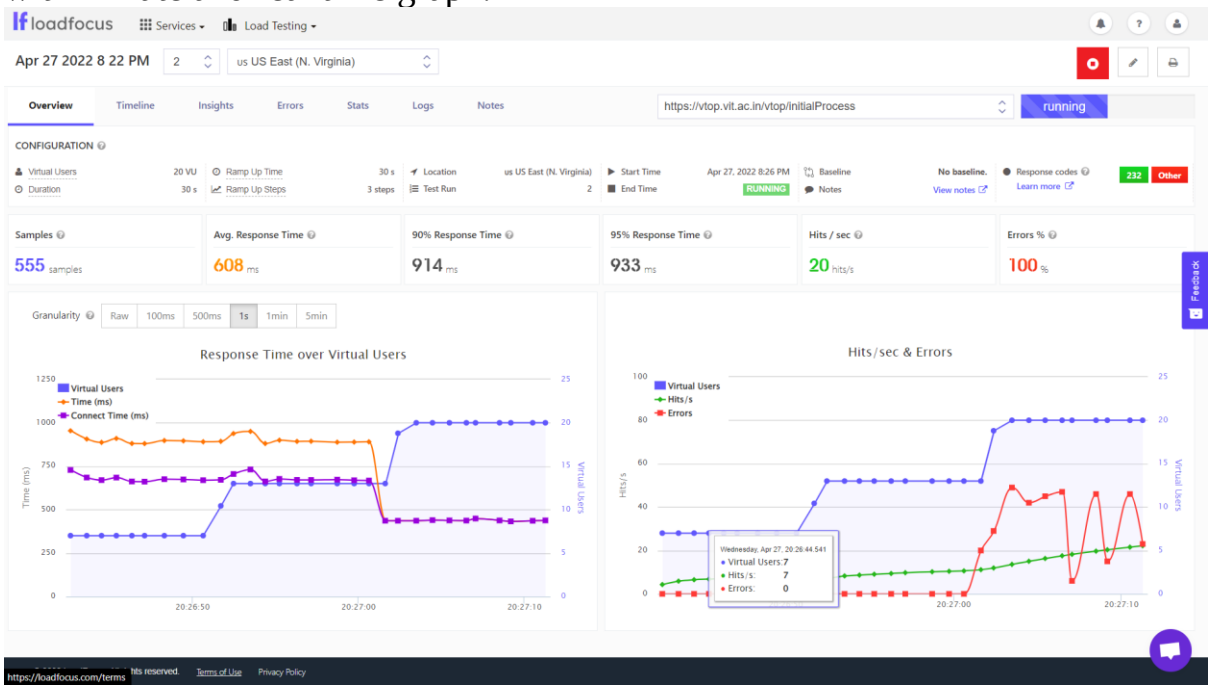
Moderate Load:

Discover issues with by setting a moderate load for the endpoint under test. Predefined parameters for this scenario are

Virtual Users: 30VU.
Duration: 30s.
Ramp Up Time: 30s.
Ramp Up Steps: 3 steps.



We need to paste the URL. Then execute the test. This is the overview the result with minute and real time graph.



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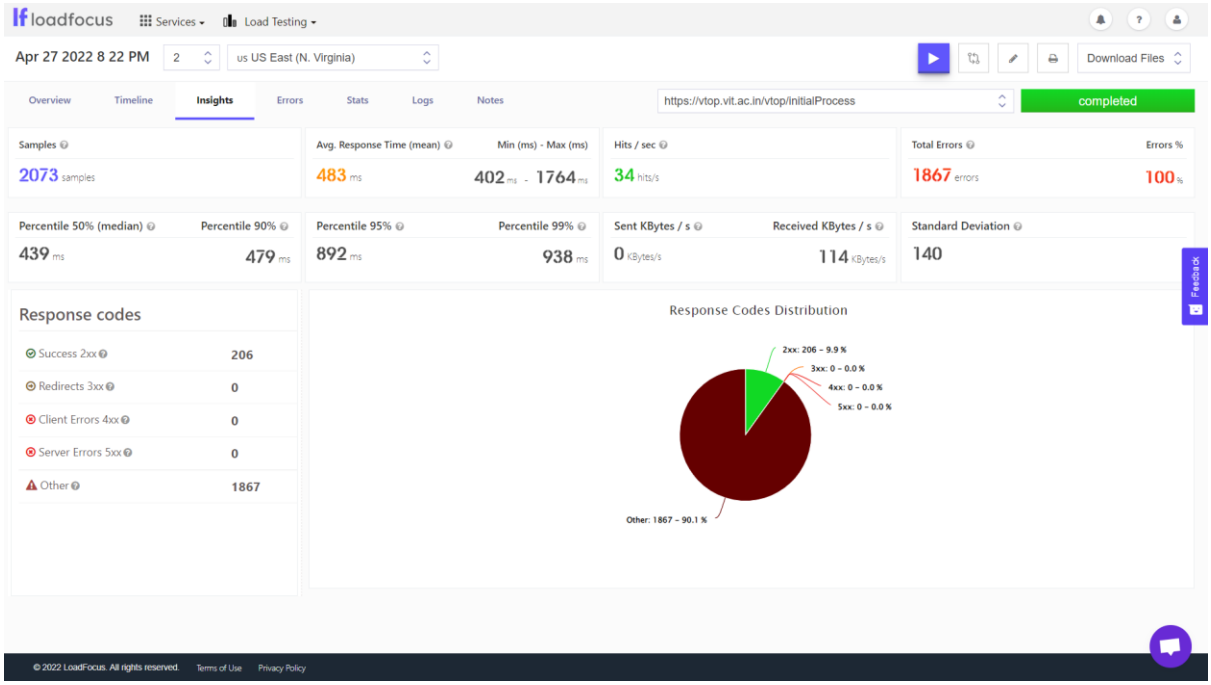

Errors:

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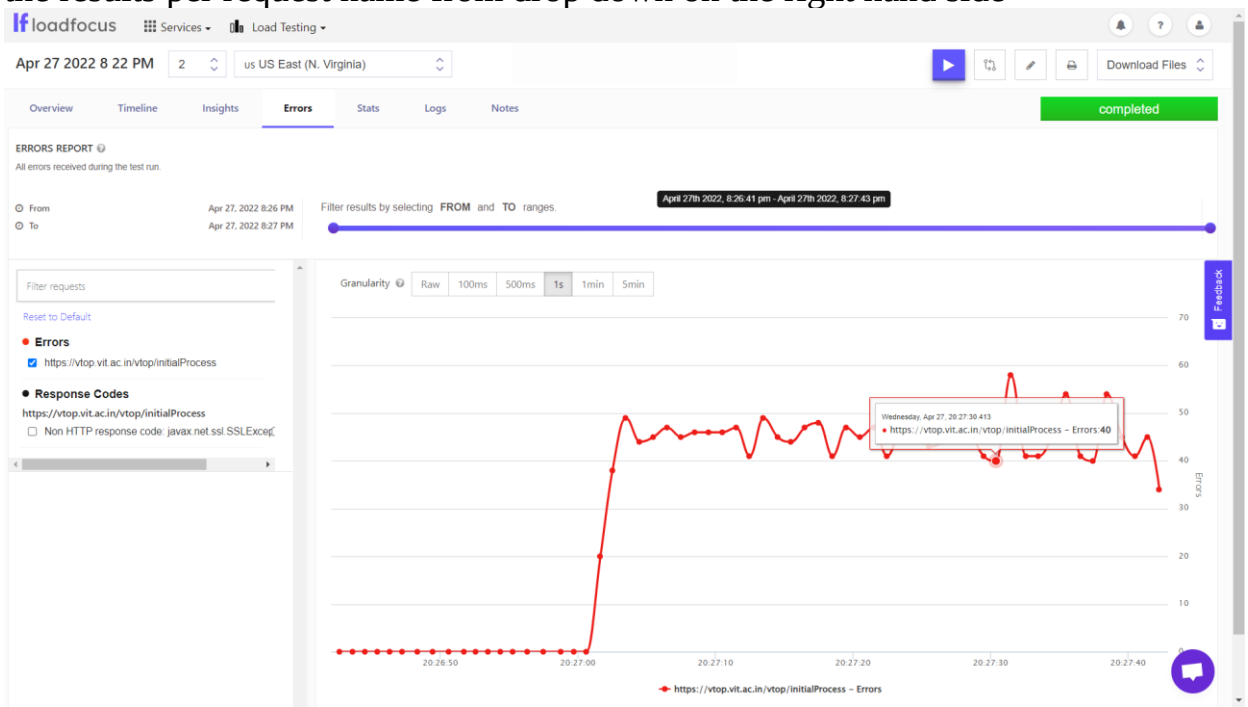
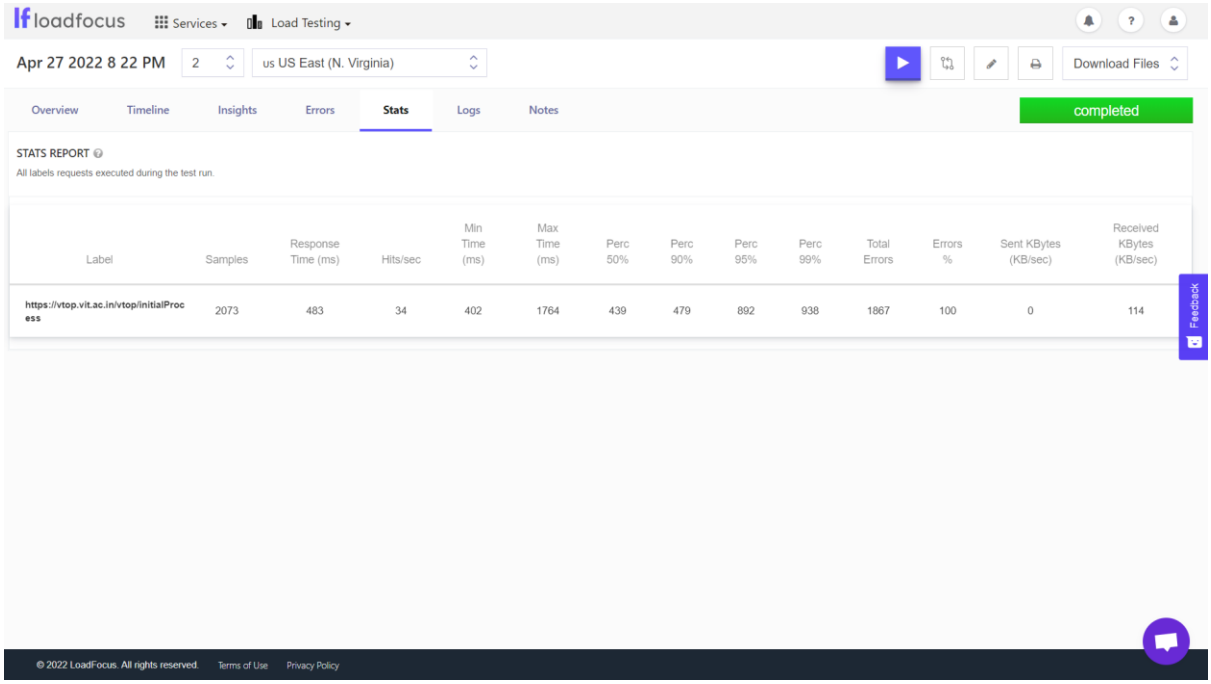


Stats:

All labels' requests executed during the test run.



Website Performance:

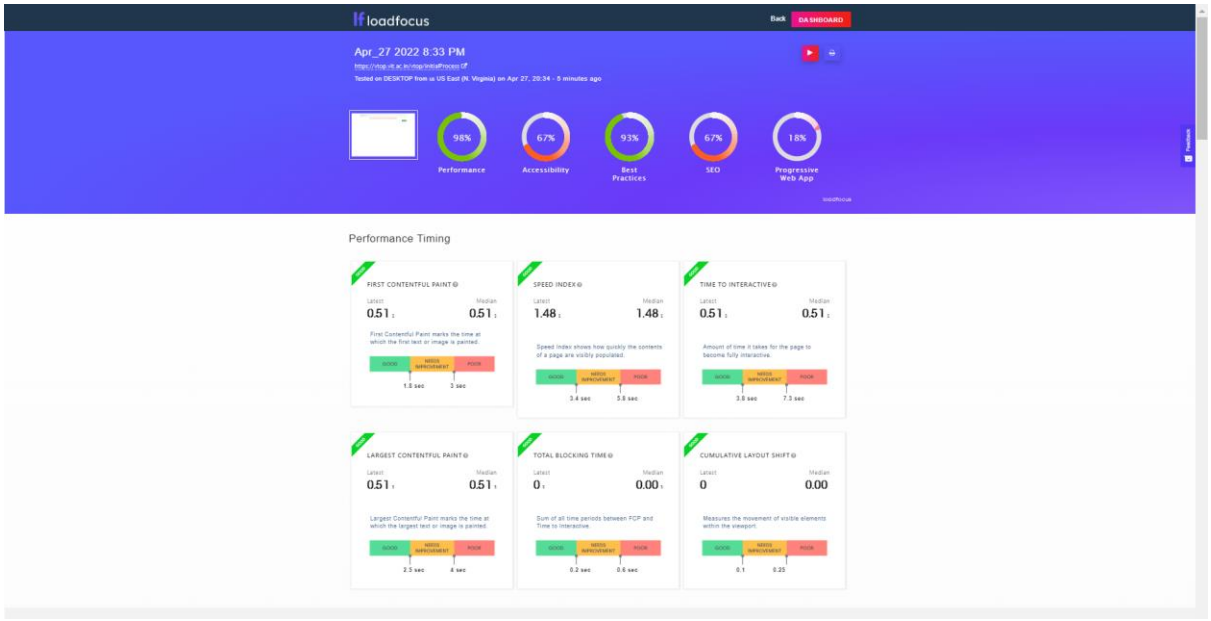
Web performance refers to the speed in which web pages are downloaded and displayed on the user's web browser. Web performance optimization (WPO), or website optimization is the field of knowledge about increasing web performance. Faster website download speeds have been shown to increase visitor retention and loyalty and user satisfaction, especially for users with slow internet connections and those on mobile devices. Web performance also leads to less data travelling across the web, which in turn lowers a website's power consumption and environmental impact. Some aspects which can affect the speed of page load include browser/server cache, image optimization, and encryption (for example SSL), which can affect the time it takes for pages to render. The performance of the web page can be improved through techniques such as multi-layered cache, light weight design of presentation layer components and asynchronous communication with server side components.

Location Configuration:

Geographical location from where the clients will make request to your websites.

Web Page URL:

Paste the URL for which you need to website performance and get tips to improve your user performance. Check history to track results over time. This picture provides over all results in short manner.

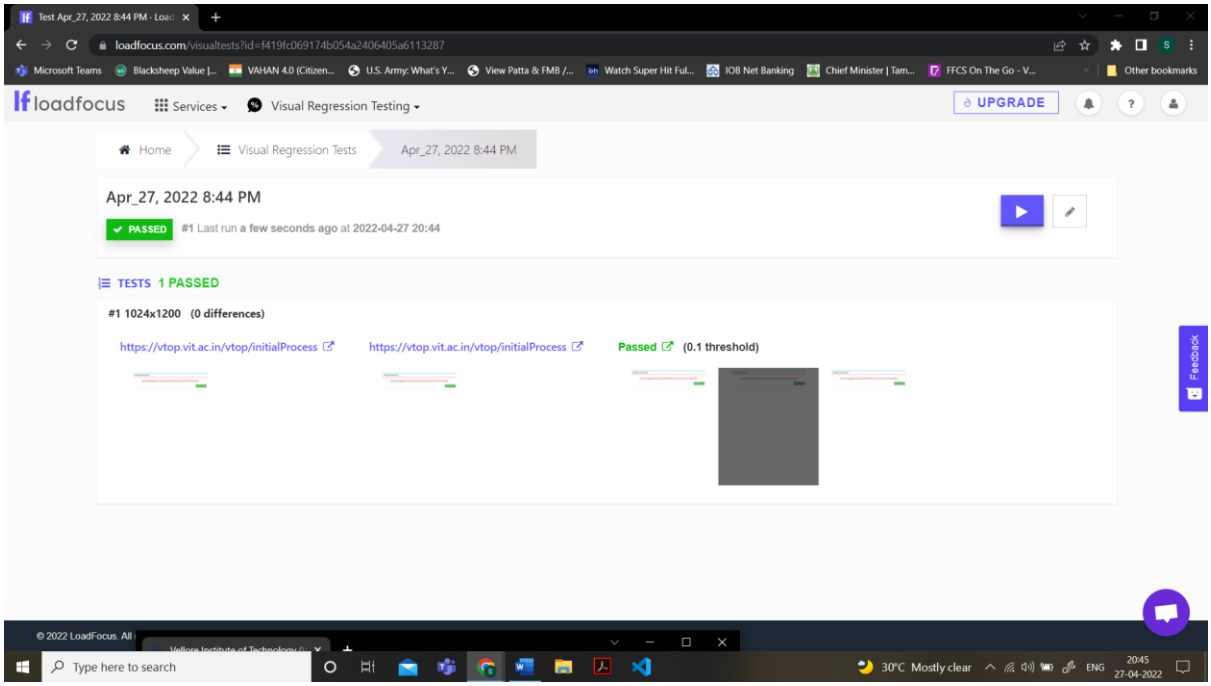


Visual Regression Testing:

Regression Testing is used to verify that any system changes do not interfere with existing features and/or code structure. There's a reason regression tests are part of almost every test suite in software development. It is common for devs to change or add a section of code, and having it unintentionally disrupt something that was previously working just fine. Visual Regression Testing applies the same logic but confines testing to the visual aspects of the software. In other words, it checks that code changes do not break any aspect of the software's visual interface. A visual regression test checks what the user will see after any code changes have been executed by comparing screenshots taken before and after code changes. This is why visual regression tests are also sometimes called visual snapshot tests.

Procedure:

First, we need to paste the URL of two sample sites. Then we need to select dimensions of screen for which is to need to perform. Make a select of comparison thread.



Mobile Emulation:

An **emulator** is a virtual simulation of a **mobile device**. Essentially, it is software that runs a completely **mobile** environment on another computer, such as a PC. ... For example, app developers can use an **emulator** to test their Android or iOS apps on a PC without having to use their phones.