

# **Chat Application Using DevOps Tools**

## **DevOps Project Report**

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## **PROJECT DESCRIPTION**

### **CHAT APPLICATION**

#### **Main Components**

1. Create React App.
2. Profile => Component depicts the randomly generated main user avatar, name.
3. Contact => Component depicts the randomly generated contact list (almost 15) and their recent messages.
4. MessageBox => Component shows the structure of the whole message box and messages (almost 50 per contact) are sorted according to date and time.
5. Message => Components show the structure of each message.
6. Input => Component for sending an input message, Things to note here is until we don't type, the microphone icon is shown on right, as soon we start typing it changes to the send button. Also, we can send messages by the stroke of entering Key, but we can't send an empty message.

#### **Main Features**

1. We can send and receive messages.
2. We can send messages with the stroke of Enter Key.
3. We can't send an empty message.
4. Messages are sorted on the basis of date and time.
5. Always most recent message will appear in the contact list, with atmost 30 character.
6. Until we don't start typing microphone icon is shown on the right, as soon we start typing it changes to the send button.
7. Messages are also sorted on the basis of date and time in the contact list as well.

#### **Languages Used**

1. HTML
2. CSS
3. Javascript

# VERSION CONTROL SYSTEM: GIT

The term Version control refers to a system that records changes to a file or set of files over time called the 'versions'. In other words, these versions help us in tracking the changes in your codes/project and if necessary, undo those changes as well. This feature of being able to compare, differentiate and revert changes between two versions of a particular project becomes really helpful when working on a larger project. Larger projects mean more people working on the same code which increases the chances of conflicts. Using version control we can easily prevent these conflicts.

Git is a version control system which tracks the changes when working with computer codes while GitHub is a Web-based Git version control repository hosting service. It provides all of the distributed version control and source code management (SCM) functionalities of Git while topping it with a few of its own features.

Github Repository link:

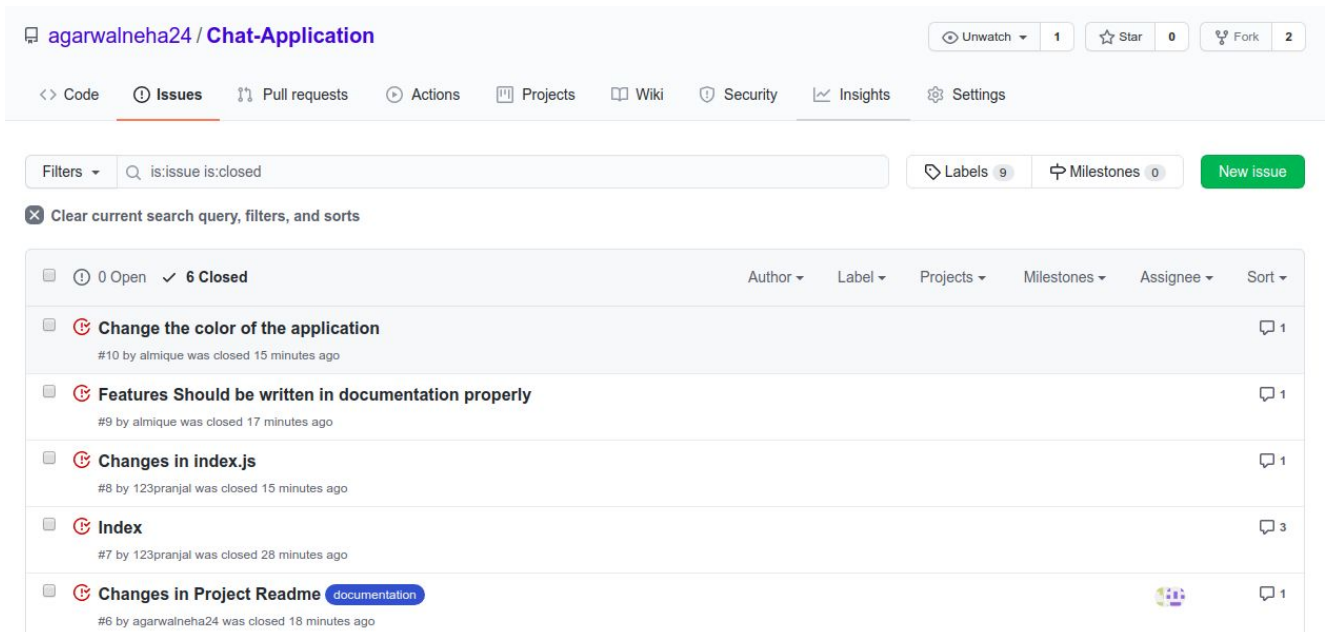
[Click here](#)

The screenshot shows the GitHub interface for the repository 'agarwalneha24 / Chat-Application'. The top navigation bar includes the GitHub logo, a search bar, and links to Pull requests, Issues, Marketplace, and Explore. The repository header shows the name 'agarwalneha24 / Chat-Application', a dropdown menu for 'Unwatch', 1 star, 0 forks, and 2 forks. Below the header is a navigation bar with links to Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The main content area shows the repository's file structure and commit history. The file structure includes folders like .github/workflows, public, and src, and files like .gitignore, .replit, LICENSE, README.md, package.json, and yarn.lock. The commit history shows a merge pull request #3 from 123pranjal/patch-4, 4f919b5, 22 minutes ago, with 32 commits. The right sidebar contains the 'About' section with a description, 'Readme', and 'Apache-2.0 License'. Below that is the 'Releases' section with 'No releases published' and a link to 'Create a new release'. At the bottom is the 'Packages' section with 'No packages published' and a link to 'Publish your first package'.

File	Commit Message	Time
.github/workflows	Create node.js.yml	3 months ago
public	commit done	2 hours ago
src	debugged	1 hour ago
.gitignore	Create React App Step 1	3 months ago
.replit	Create React App Step 1	3 months ago
LICENSE	Initial commit	3 months ago
README.md	Update README.md	1 hour ago
package.json	Create React App Step 1	3 months ago
yarn.lock	Create React App Step 1	3 months ago

## FEATURES OF VERSION CONTROL SYSTEM USED:

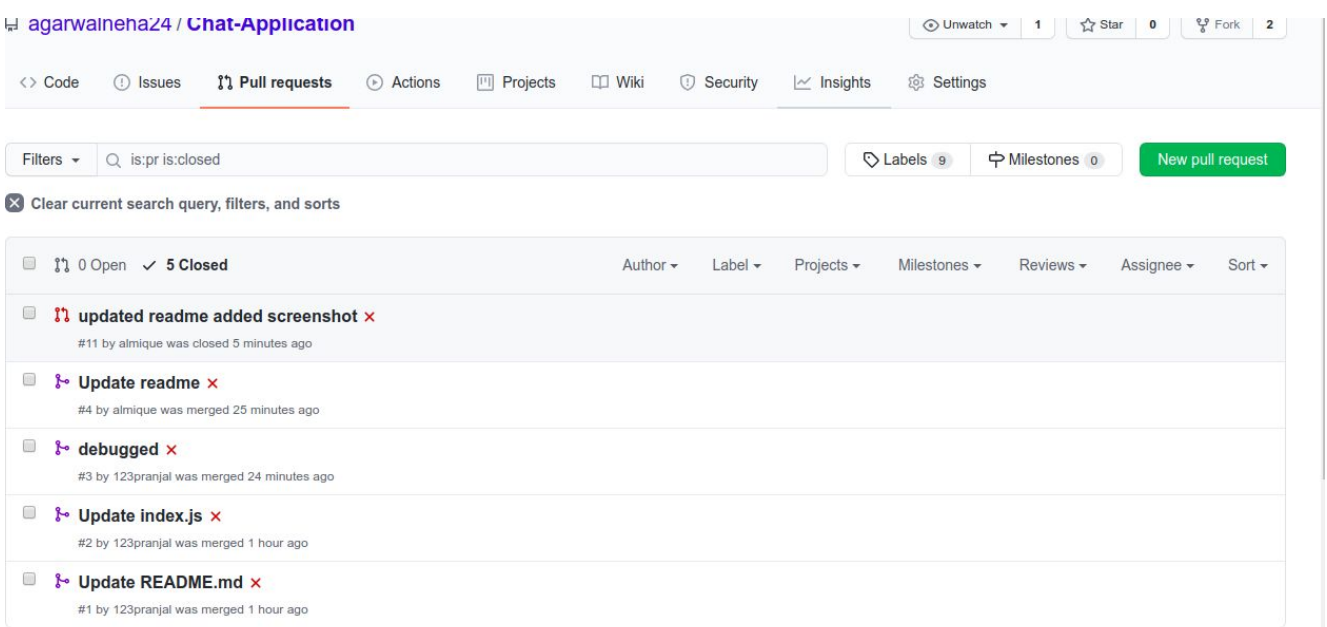
**Issues** are a great way to keep track of tasks, enhancements, and bugs for your projects. They're kind of like email—except they can be shared and discussed with the rest of your team. Most software projects have a bug tracker of some kind. **GitHub's** tracker is called **Issues** and has its own section in every repository.



The screenshot shows the GitHub Issues page for the repository 'agarwalneha24 / Chat-Application'. The top navigation bar includes links for Code, Issues (selected), Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. On the right, there are buttons for Unwatch (1), Star (0), and Fork (2). Below the navigation bar, there is a search bar with the query 'is:issue is:closed' and buttons for Labels (9) and Milestones (0). A green 'New issue' button is also present. The main content area displays a list of issues, with a summary bar showing '0 Open' and '6 Closed'. The issues listed are:

- Change the color of the application** (#10) by almique, closed 15 minutes ago. 1 comment.
- Features Should be written in documentation properly** (#9) by almique, closed 17 minutes ago. 1 comment.
- Changes in index.js** (#8) by 123pranjal, closed 15 minutes ago. 1 comment.
- Index** (#7) by 123pranjal, closed 28 minutes ago. 3 comments.
- Changes in Project Readme** (#6) by agarwalneha24, closed 18 minutes ago. 1 comment. This issue is labeled 'documentation'.

**Pull requests** are **important** because they help ensure that quality reviewed code is merged into **GitHub** repositories. Without PRs, messy and confusing code can easily run rampant in a codebase.



The screenshot shows the GitHub Pull requests page for the repository 'agarwalneha24 / Chat-Application'. The top navigation bar includes links for Code, Issues, Pull requests (selected), Actions, Projects, Wiki, Security, Insights, and Settings. On the right, there are buttons for Unwatch (1), Star (0), and Fork (2). Below the navigation bar, there is a search bar with the query 'is:pr is:closed' and buttons for Labels (9) and Milestones (0). A green 'New pull request' button is also present. The main content area displays a list of pull requests, with a summary bar showing '0 Open' and '5 Closed'. The pull requests listed are:

- updated readme added screenshot** (#11) by almique, closed 5 minutes ago. 1 review.
- Update readme** (#4) by almique, merged 25 minutes ago. 1 review.
- debugged** (#3) by 123pranjal, merged 24 minutes ago. 1 review.
- Update index.js** (#2) by 123pranjal, merged 1 hour ago. 1 review.
- Update README.md** (#1) by 123pranjal, merged 1 hour ago. 1 review.

# COMMIT HISTORY

<> Code

Issues

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings

master

Commits on Nov 27, 2020

Merge pull request #3 from 123pranjal/patch-4

agarwalneha24 committed 32 minutes ago

Verified

4f919b5

<>

Merge pull request #4 from almique/master

agarwalneha24 committed 32 minutes ago

Verified

4c63efb

<>

Update README.md

almique committed 1 hour ago

Verified

420a745

<>

debugged

123pranjal committed 1 hour ago

Verified

566d77d

<>

Merge pull request #2 from 123pranjal/patch-3

agarwalneha24 committed 1 hour ago

Verified

6679575

<>

Update index.js

123pranjal committed 1 hour ago

Verified

d3daf15

<>

Merge pull request #1 from 123pranjal/patch-2

agarwalneha24 committed 1 hour ago

Verified

a529009

<>

Update README.md

Verified


82d1a0e

<>


# CONTRIBUTORS

Contributors


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abhiverma1924 Abhinav verma



agarwalneha24 Neha Agarwal



123pranjal



almique Anuranjan Dubey

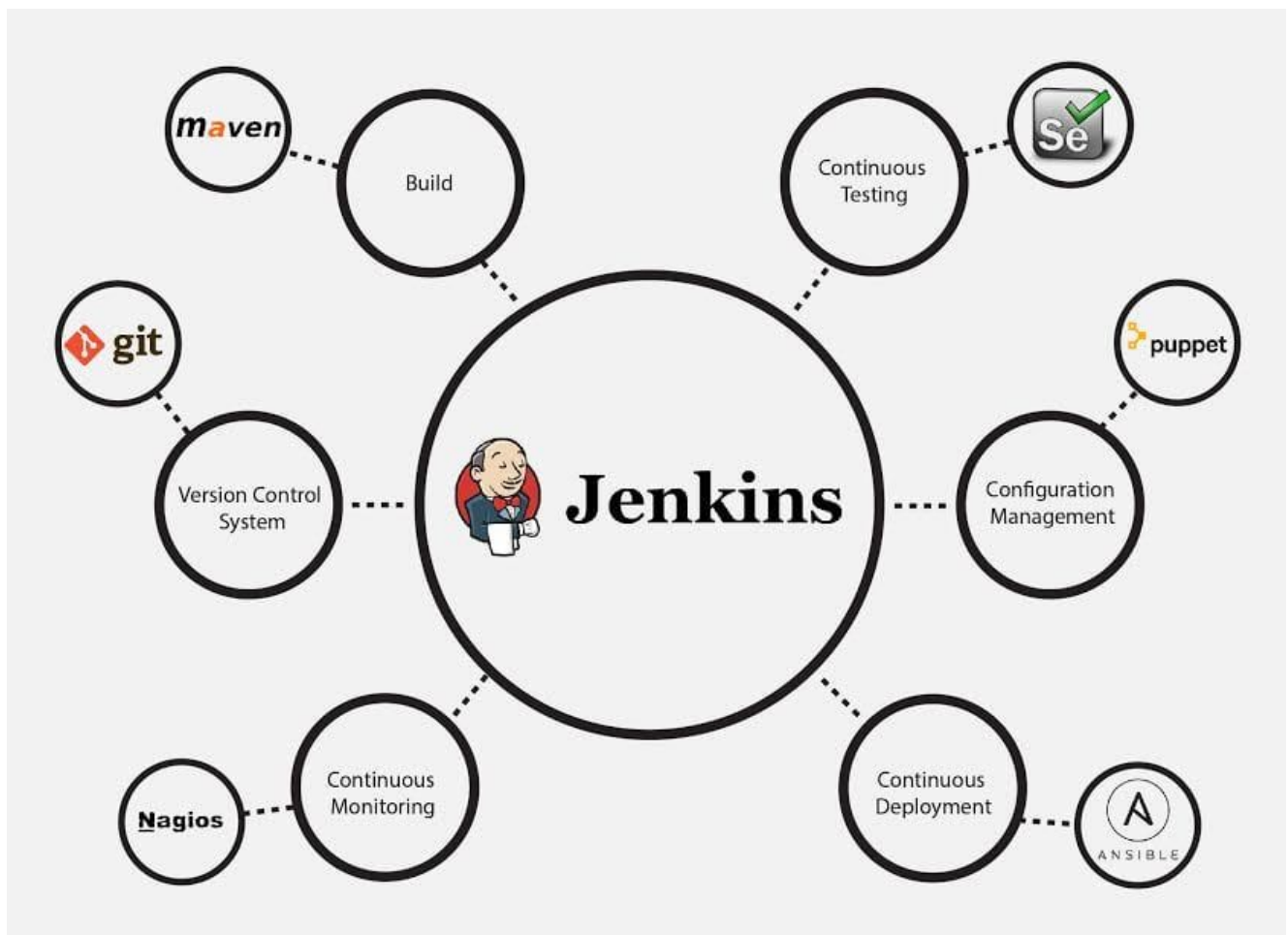
## CI/CD PIPELINE- JENKINS

In software engineering, CI/CD or CICD generally refers to the combined practices of continuous integration and either continuous delivery or continuous deployment. CI/CD bridges the gaps between development and operation activities and teams by enforcing automation in building, testing and deployment of applications.

Jenkins is an open-source automation tool written in Java with plugins built for Continuous Integration purposes. Jenkins is used to build and test our software projects continuously making it easier for developers to integrate changes to the project, and making it easier for users to obtain a fresh build. It also allows us to continuously deliver our software by integrating with a large number of testing and deployment technologies.

With Jenkins, organizations can accelerate the software development process through automation. Jenkins integrates development life-cycle processes of all kinds, including build, document, test, package, stage, deploy, static analysis, and much more.

Jenkins achieves Continuous Integration with the help of plugins. Plugins allow the integration of Various DevOps stages. If you want to integrate a particular tool, you need to install the plugins for that tool. For example Git, Maven 2 project, Amazon EC2, HTML publisher etc.






# CHAT APPLICATION JENKINS PIPELINE DESCRIPTION

Each time we will commit a change to our Github repository, automated deployment on Heroku will be done through the Jenkins CI/CD pipeline thus making it easier to integrate and tackle errors. On building the project, Jenkins will automatically clone the recent code, test, and deploy it on Heroku.

Clone the code → Test the project → Deploy on Heroku

## JENKINS DASHBOARD

 Jenkins

 Neha Agarwal  log out

Jenkins

New Item

People

Build History

Project Relationship

Check File Fingerprint

Manage Jenkins

My Views






















Lockable Resources

New View

Build Queue

No builds in the queue.

All

S	W	Name ↓	Last Success	Last Failure	Last Duration	
		Chat Application	2 hr 4 min - #4	N/A	2 min 1 sec	
		devops project123	20 hr - #1	N/A	4.5 sec	
		devops_project	N/A	N/A	N/A	
		project check	4 hr 15 min - #3	N/A	2.4 sec	
		project_2	N/A	1 day 19 hr - #3	0.1 sec	
		Web chat application	N/A	1 day 19 hr - #1	8 min 15 sec	
		web_project	1 day 20 hr - #1	N/A	10 sec	

Icon: S M L

Legend


Atom feed for all

Atom feed for failures

Atom feed for just latest builds




# PROJECT CHAT APPLICATION BUILD HISTORY


 **Jenkins**


search


Jenkins


Chat Application


 Back to Dashboard


 Status


 Changes


 Workspace


 Build Now


 Configure

 Delete Project

 GitHub Hook Log

 GitHub

 Workspace

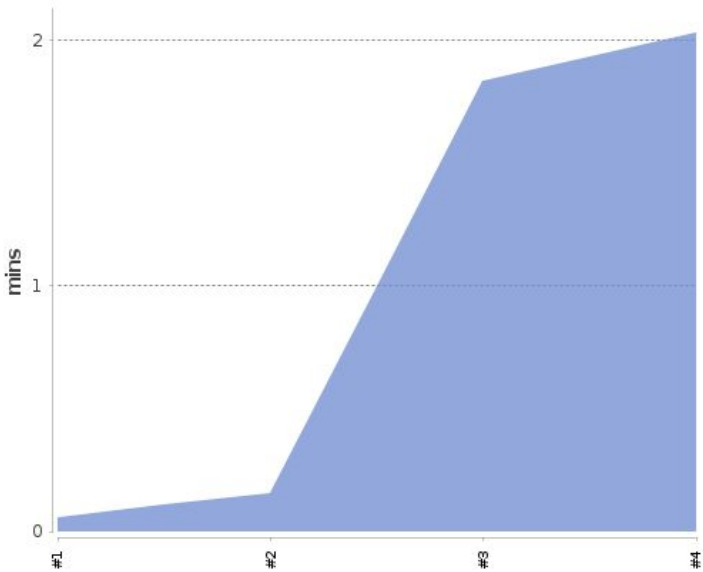
 Recent Changes

Permalinks

- Last build (#4), 2 hr 5 min ago
- Last stable build (#4), 2 hr 5 min ago
- Last successful build (#4), 2 hr 5 min ago
- Last completed build (#4), 2 hr 5 min ago

## Build Time Trend

Build	Duration
#4	2 min 1 sec
#3	1 min 49 sec
#2	9.3 sec
#1	3.2 sec





## CONSOLE OUTPUT

### Console Output

```
Started by user Neha Agarwal
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/Chat Application
The recommended git tool is: NONE
No credentials specified
using credential 127bc898-9ef7-437c-a9e0-99407b11178e
Cloning the remote Git repository
Cloning repository git@heroku.com:devops-project123.git
> git init /var/lib/jenkins/workspace/Chat Application # timeout=10
Fetching upstream changes from git@heroku.com:devops-project123.git
> git --version # timeout=10
> git --version # 'git version 2.25.1'
using GIT_SSH to set credentials
> git fetch --tags --force --progress -- git@heroku.com:devops-project123.git +refs/heads/*:refs/remotes/abcd/* #
timeout=10
> git config remote.abcd.url git@heroku.com:devops-project123.git # timeout=10
> git config --add remote.abcd.fetch +refs/heads/*:refs/remotes/abcd/* # timeout=10
Avoid second fetch
> git config remote.origin.url https://github.com/agarwalneha24/Chat-Application # timeout=10
Fetching upstream changes from https://github.com/agarwalneha24/Chat-Application
> git fetch --tags --force --progress -- https://github.com/agarwalneha24/Chat-Application
+refs/heads/*:refs/remotes/origin/* # timeout=10
Seen branch in repository abcd/master
Seen branch in repository origin/main
Seen branch in repository origin/master
Seen 3 remote branches

> git config core.sparsecheckout # timeout=10
> git checkout -f 3f0c471dbe67b1efd62da292f1fbd4b4b25b978 # timeout=10
Commit message: "commit done"
> git rev-list --no-walk 261cdeaac12282a04af14f97d0f024a3c3067db4 # timeout=10
The recommended git tool is: NONE
No credentials specified
using credential 127bc898-9ef7-437c-a9e0-99407b11178e
Pushing HEAD to branch master at repo abcd
> git --version # timeout=10
> git --version # 'git version 2.25.1'
using GIT_SSH to set credentials
> git push git@heroku.com:devops-project123.git HEAD:master -f # timeout=10
Finished: SUCCESS
```

# HEROKU-DEPLOYMENT

Heroku is a cloud platform as a service supporting several programming languages. One of the first cloud platforms, Heroku has been in development since June 2007, when it supported only the Ruby programming language, but now supports Java, Node.js, Scala, Clojure, Python, PHP, and Go.

The screenshot shows the Heroku dashboard for a project named 'devops-project123'. The top navigation bar includes the Heroku logo, a search bar, and a user profile icon. Below the navigation bar, there are tabs for Overview, Resources, Deploy, Metrics, Activity, Access, and Settings. The 'Activity' tab is selected, showing a list of deployment and build events. A sidebar on the left contains a 'Personal' dropdown and a 'devops-project123' dropdown. On the right, there are buttons for 'Open app' and 'More'. A notification banner at the top of the activity feed suggests connecting to GitHub. The activity feed itself shows a sequence of events: a deployment (v5) at 6:54 PM, a successful build at 6:52 PM, a deployment (v4) at 6:29 PM, another successful build at 6:27 PM, and a final deployment (v3) at 12:39 AM. Each event includes a link to view the build log or roll back to the previous version.

HEROKU

Jump to Favorites, Apps, Pipelines, Spaces...

Personal > devops-project123

Open app More

Overview Resources Deploy Metrics Activity Access Settings

If you use GitHub, you can link your deploys to the code diff on GitHub. Hide Connect to GitHub

Activity Feed

- nehaagarwal03346@gmail.com: Deployed 3f0c471d  
Today at 6:54 PM · v5
- nehaagarwal03346@gmail.com: Build succeeded  
Today at 6:52 PM · [View build log](#)
- nehaagarwal03346@gmail.com: Deployed 261cdeaa  
Today at 6:29 PM · v4 · [Roll back to here](#)
- nehaagarwal03346@gmail.com: Build succeeded  
Today at 6:27 PM · [View build log](#)
- nehaagarwal03346@gmail.com: Deployed 68225c7fb  
Today at 12:39 AM · v3 · [Roll back to here](#)

## CHAT APPLICATION VIEW

Link- [Click here](#)

The screenshot shows a web browser window with the address bar displaying 'devops-project123.herokuapp.com'. The browser's address bar and tabs are visible at the top. The main content area shows a chat application interface. On the left, there is a sidebar with a search bar and a list of chat participants, each with a name, a status indicator (a checkmark), and a timestamp. The participants listed are Shannon Miller, Billy Kutch, Genevieve Goyette, Sammy Lang, Stella Heidenreich Jr., Jo Hermann, Carl Hessel, Estelle Kshlerin, and Jodi Schowalter. The main chat area on the right is currently empty, showing a light beige background with a subtle pattern of small icons. At the bottom of the chat area, there is a text input field with the placeholder text 'Type a message' and a microphone icon on the right.

Application

devops-project123.herokuapp.com

Search or start a new chat

- Shannon Miller 27/11/2020  
✓ quibusdam velit incidunt moles ...
- Billy Kutch 27/11/2020  
✓ sint perspicatis dolores quid ...
- Genevieve Goyette 27/11/2020  
✓ beatae consectetur molestiae n ...
- Sammy Lang 27/11/2020  
✓ cumque nisi provident fugiat o ...
- Stella Heidenreich Jr. 27/11/2020  
✓ necessitatibus non deleniti se ...
- Jo Hermann 27/11/2020  
✓ ducimus distinctio nihil sunt ...
- Carl Hessel 27/11/2020  
✓ sequi ut sint quasi distinctio ...
- Estelle Kshlerin 27/11/2020  
✓ occaecati illum enim aut nemo ...
- Jodi Schowalter 27/11/2020  
✓ reprehenderit dolorem rerum ...

Type a message