

Software Development Homework 4

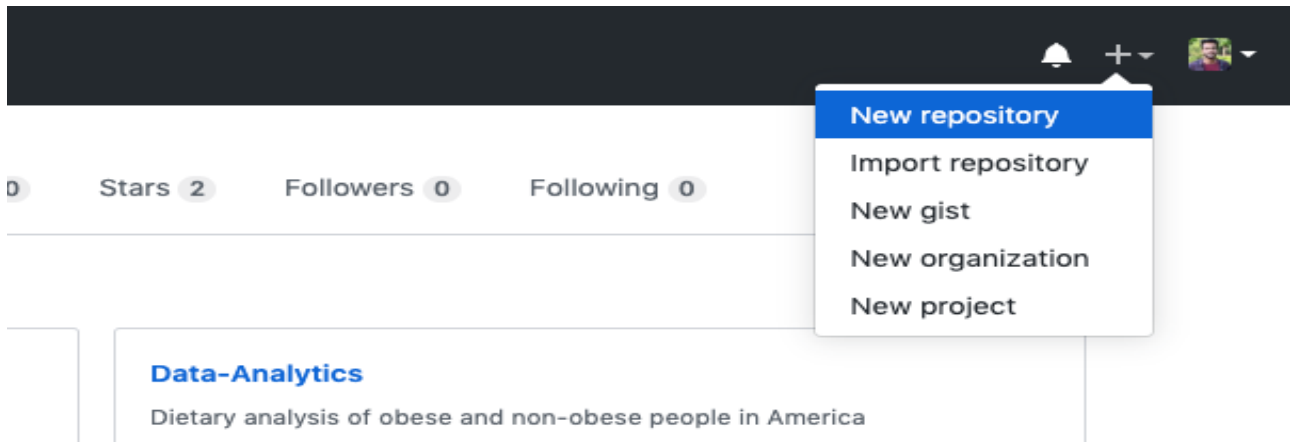
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1. Version Control System: Git

To start off working with my working Git. I created a New repository in my GitHub account by selecting the New repository option under the “+” sign on the top right on my home page.



To push my files over the GitHub, I created a folder(GitDemo) and copied my desired files to be uploaded into that folder.

```
Last login: Thu Mar  5 00:50:42 on ttys000
abhisheks-MacBook-Air:~ abhishekgupta$ cd Desktop
abhisheks-MacBook-Air:Desktop abhishekgupta$ cd GitDemo
abhisheks-MacBook-Air:GitDemo abhishekgupta$ ls
Amazon_Q&A.pages      Git_and_Redmine      assign4.txt
abhisheks-MacBook-Air:GitDemo abhishekgupta$ git init
Reinitialized existing Git repository in /Users/abhishekgupta/Desktop/GitDemo/.git/
abhisheks-MacBook-Air:GitDemo abhishekgupta$ git add "Amazon_Q&A.pages"
abhisheks-MacBook-Air:GitDemo abhishekgupta$ git commit -m "Second Commit"
[master 13c9cd7] Second Commit
 2 files changed, 1 insertion(+)
   create mode 100644 Amazon_Q&A.pages
   create mode 160000 Git_and_Redmine
abhisheks-MacBook-Air:GitDemo abhishekgupta$ git push -f githubRepo master
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 766.95 KiB | 13.00 MiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/Abhishek2202/Git_and_Redmine.git
 a824c00..13c9cd7 master -> master
abhisheks-MacBook-Air:GitDemo abhishekgupta$
```

I then ran the following commands in order to push my files over to GitHub:

```
> cd Desktop
> cd GitDemo
> git init
> git add "assign4.txt"
> git commit -m "Initial Commit"
> git remote add githubRepo https://github.com/Abhishek2202/Git_and_Redmine.git
> git push -f githubRepo master
```

Here, githubRepo is the local directory that was initialised

I made a file “test.html” over GitHub. Now to pull the file to my local repository, I took the following steps:

To pull the changes made over GitHub to my local repository. I ran the following commands:

```
Last login: Thu Mar  5 21:23:57 on ttys001
abhisheks-MacBook-Air:~ abhishekgupta$ cd Desktop
abhisheks-MacBook-Air:Desktop abhishekgupta$ cd GitDemo
abhisheks-MacBook-Air:GitDemo abhishekgupta$ git init
Reinitialized existing Git repository in /Users/abhishekgupta/Desktop/GitDemo/.git/
abhisheks-MacBook-Air:GitDemo abhishekgupta$ git remote add githubRepo https://github.com/Abhishek2202/Git_and_Redmine.
git
fatal: remote githubRepo already exists.
abhisheks-MacBook-Air:GitDemo abhishekgupta$ git pull githubRepo master
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (2/2), done.
Unpacking objects: 100% (3/3), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
From https://github.com/Abhishek2202/Git_and_Redmine
 * branch                master       -> FETCH_HEAD
    13c9cd7..c963e6c  master       -> githubRepo/master
Updating 13c9cd7..c963e6c
Fast-forward
 test.html | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 test.html
abhisheks-MacBook-Air:GitDemo abhishekgupta$ ls
Amazon_Q&A.pages      assign4.txt
Git_and_Redmine       test.html
```

> git pull githubRepo master

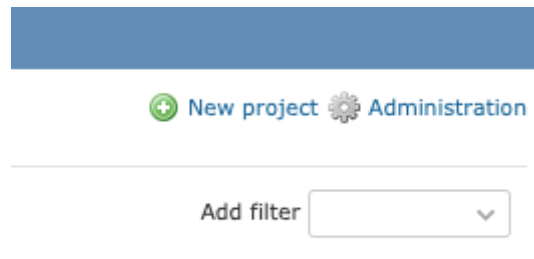
The file test.html was added to my local repository as well as my folder from the above pull command. We can see that the test.html file is there in the local repository by running the ls command.

2. The task management tool: Redmine

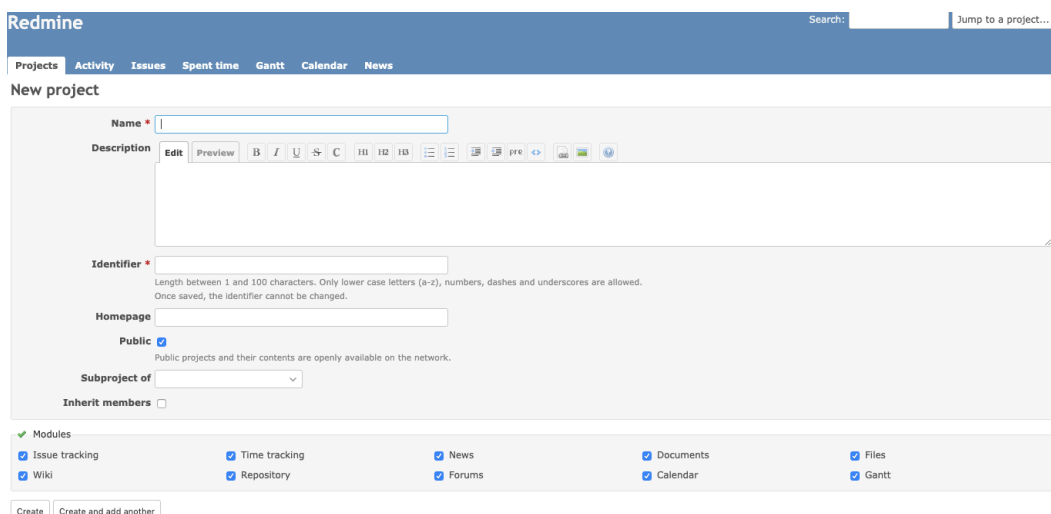
I have used Redmine as my task management tool.

To setup Redmine I downloaded it from <http://bitnami.com/stack/redmine> and followed the default instructions steps to setup Redmine over my computer.

1. Create project

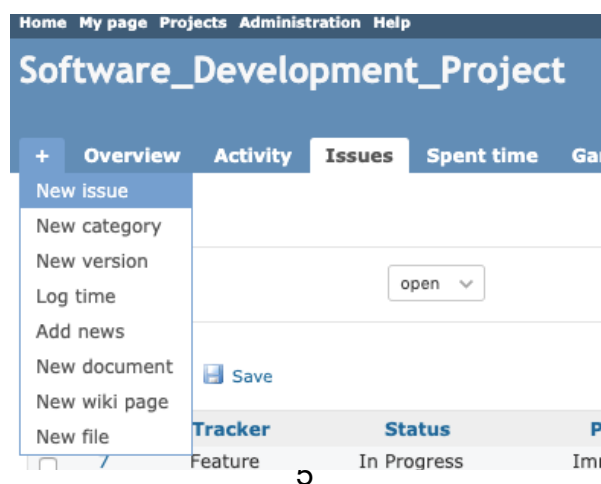


To create a new project, I clicked on the “New project” option on my Home page.

The image displays the "New project" form in Redmine. The form includes fields for "Name", "Description" (with a rich text editor), "Identifier" (with a note about character limits), "Homepage", "Public" (checked), and "Subproject of". At the bottom, there is a section for "Modules" with checkboxes for various features like "Issue tracking", "Time tracking", "Wiki", "Repository", "News", "Forums", "Documents", "Calendar", "Files", and "Gantt". The "Create" and "Create and add another" buttons are at the bottom left.

I filled in the name of my project and the desired fields and clicked on save after which my project was setup on Redmine

2. Create tasks



To add a task, I selected the New issue option available at my homepage under the “+” sign.

New issue

Tracker * Bug ☐ Private

Subject *

Description **B** *I* U **C** H1 H2 H3

Status * New

Priority * Normal

Assignee

Parent task

Start date 06/03/2020

Due date dd/mm/yyyy

Estimated time Hours

% Done 0%

Files No file chosen (Maximum size: 5 MB)

Watchers ☐ Abhishek Gupta ☐ Abhishek Gupta

I filled in the fields under the New Issue page and clicked on “Create” to create my new issue

I created five such issues which can be seen in the image below. Each issue had different time duration, end dates, status, attributes as per the requirement of my project

Issues

[New issue](#) ...

Filters

☒ Status open

Options

<input type="checkbox"/>	#	Tracker	Status	Priority	Subject	Assignee	Updated	
<input type="checkbox"/>	7	Feature	In Progress	Immediate	Daatbase	Abhishek Gupta	03/05/2020 11:26 PM	...
<input type="checkbox"/>	6	Bug	New	High	Back-end	UserName LastName Admin	03/05/2020 10:39 PM	...
<input type="checkbox"/>	5	Bug	New	High	Front-end	Abhishek Gupta	03/05/2020 10:37 PM	...
<input type="checkbox"/>	4	Bug	New	Normal	Improving back-end	Abhishek Gupta	03/05/2020 10:31 PM	...
<input type="checkbox"/>	3	Feature	Resolved	Low	Adding a feature	UserName LastName Admin	03/05/2020 11:27 PM	...
<input type="checkbox"/>	2	Bug	New	Immediate	Database Access	Abhishek Gupta	03/05/2020 10:05 PM	...
<input type="checkbox"/>	1	Bug	New	Normal	Tracking bugs on the website	UserName LastName Admin	03/05/2020 10:04 PM	...

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Also available in: [Atom](#) | [CSV](#) | [PDF](#)

3. Set tasks' dependency

To set up a task dependency, I created a sub-task under my previously created subtask.

Subtasks

Name	Status	Start date	Due date	Assignee	Progress
Feature #8: Back-end	New	03/06/2020	03/25/2020	Abhishek Gupta	<div></div>

Related issues

History

Updated by [UserName LastName Admin](#) about 1 hour ago

- Status changed from New to In Progress

Also available in: [Atom](#) | [PDF](#)

The completion of my main task depends on the completion of my sub-task as there exists a dependency between them.

4. Add attachment to a task

To add an attachment to my task, we click on the “Choose files” option while creating a task and select the file from our computer.

New issue

Tracker *

Bug

Subject *

Description

Edit

Preview

B

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H1

H2

H3

≡

≡

≡

pre

<>

GO

Private

Status *

New

Priority *

Normal

Assignee

Parent task

Start date

06/03/2020

Due date

dd/mm/yyyy

Estimated time

Hours

% Done

0 %

Files

bug_tracking_issue.txt

Choose Files

No file chosen

Optional description

(Maximum size: 5 MB)

Watchers

Abhishek Gupta

Abhishek Gupta

Search for watchers to add

Create

Create and add another

After selecting the file to upload we click on the “Create” button after which our file is attached along with the issue being created.

5. Add team members to the project

To add team members to my project. I navigated to Members tab under my settings option.

Software_Development_Project

Search:

Software_Development_Pr...

+

Overview

Activity

Issues

Spent time

Gantt

Calendar

News

Documents

Wiki

Files

Settings

Settings

Project

Members

Issue tracking

Versions

Issue categories

Repositories

Forums

Time tracking

New member

Administration

User / Group	Roles
Abhishek Gupta	Developer
Abhishek Gupta	Reporter
	<div>Edit</div> <div>Delete</div>
	<div>Edit</div> <div>Delete</div>

To add a new team member, we click on the New member option available on the page.

OverviewActivityIssuesSpent timeGanttCalendarNewsDocumentsWikiFilesSettings

Settings

New member

Search for user or group:

UserName LastName

Admin

Non member users

Anonymous users

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Roles

Manager

Developer

Reporter

Add

Cancel

We select the member by clicking on the search icon and select the member and click “Add”.

6. Assign tasks to team members

To assign a task to a team member, we select the user name of the member under the Assignee option and then click save.

Change properties

Tracker * Bug Private

Subject * Back-end

Description [Edit](#)

Status << me >>

Priority Abhishek Gupta

Assignee ☒ Abhishek Gupta ☐ UserName LastName Admin

Parent task

Start date 05/03/2020

Due date 15/04/2020

Estimated time 80.0 Hours

% Done 60 %

Log time

Spent time Hours

Activity --- Please select ---

Comment

Notes

The task is assigned to the member corresponding to that username.

7. Setup milestones and schedule

To setup milestones and schedule for my project for my project, I entered the starting and end date for each of the tasks that I have created.

Tracker * Feature Private

Subject * Back-end

Description [Edit](#)

Status * New

Priority * Immediate

Assignee Abhishek Gupta

Parent task

Start date 06/03/2020

Due date March 2020

Estimated time

% Done

Activity

Log time

Spent time Hours

Comment

Month March Year 2020 [Apply](#) [Clear](#) [February](#) [April](#)

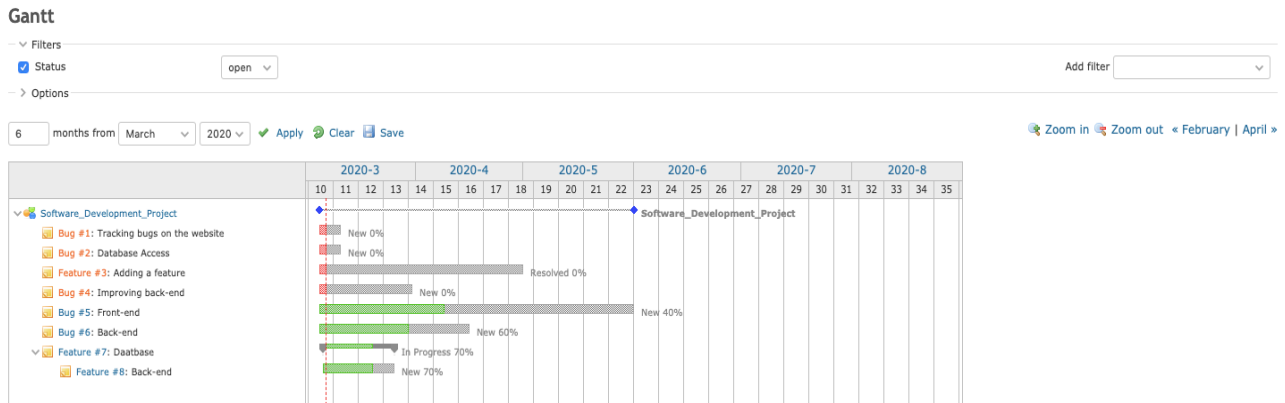
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10	1	2	3	4	5	6
				Bug #6: Back-end Bug #5: Front-end Bug #4: Improving back-end Feature #3: Adding a feature Bug #2: Database Access Bug #1: Tracking bugs on the website	Feature #8: Back-end Feature #7: Database	
11	8	9	10	11	12	13
		Bug #2: Database Access Bug #1: Tracking bugs on the website				
12	15	16	17	18	19	20
13	22	23	24	25	26	27
			Feature #8: Back-end Feature #7: Database			
14	29	30	31	1	2	3
	Bug #4: Improving back-end					

issue beginning this day
 issue ending this day

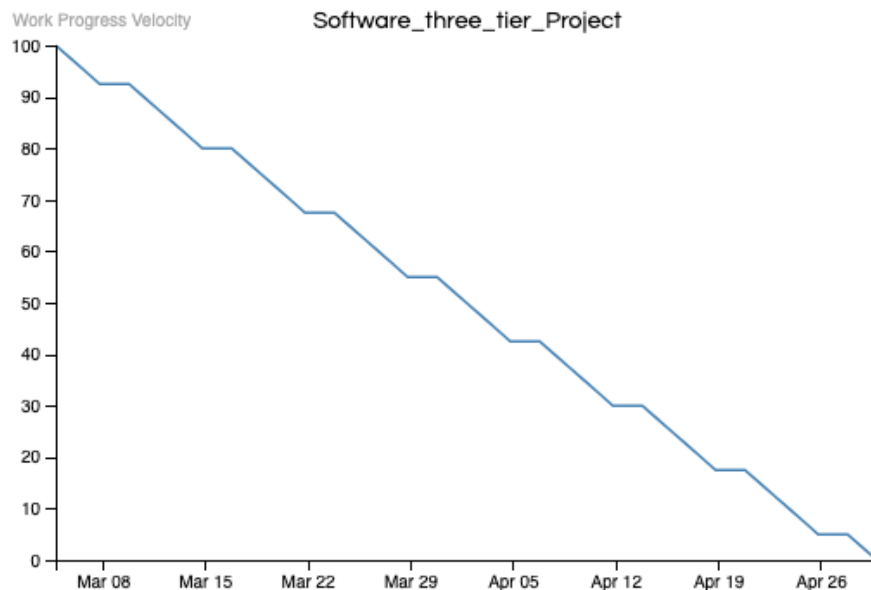
A calendar displaying all my milestones and scheduled dates for the project was generated by the Redmine software.

8. Create a Gantt chart to show tasks, their dependency, schedules, and milestones

A Gantt chart is created automatically according to the tasks that are created. A green highlight indicates the percentage completion of that task. The Gantt chart also displays the dates corresponding to my tasks over the top of the Gantt chart.



9. Generate a burn down chart to show the work progress velocity



To make a burn down chart for my project, I used an online tool available at <https://printyourburndown.com/> where I put out the dates for my project and the days that my team would be working on to generate the corresponding burn-down chart.

10. Set task status, such as new, developing, testing, closed

To set status of various tasks in my project, I select the option under the “Status” field available in the properties section while creating the task. In my above task the Status has been set to “In Progress”.

Change properties

Tracker * Feature Private

Subject * Daatbase

Description [Edit](#)

Status * In Progress

Assignee Abhishek Gupta

Parent task

Estimated time 50.0 Hours

Log time

Spent time Hours

Activity --- Please select ---

Comment

Notes

11. Send email to notify a task assignment

To set up emails to notify the user about a task assignment we will go to Users under the Administration menu.

Users » AbhishekGupta Profile Emails Lock Delete

General Projects

Information

Login * AbhishekGupta

First name * Abhishek

Last name * Gupta

Email * gupta2910abhi@gmail.com

Language English

Administrator ☐

Email notifications

- ☒ For any event on all my projects
- ☐ For any event on the selected projects only...
- ☐ Only for things I watch or I'm involved in
- ☒ Only for things I watch or I am assigned to
- ☐ Only for things I watch or I am the owner of
- ☐ No events

Hide my email address ☒

Time zone

We will then select the option under the Email Notification option form the drop down menu and click save.

This will notify the member every time a task is assigned by sending an email over the registered email.

12. Create different responsibility roles, such as manager, developer, tester, etc.

To create different rules to each of the team members we go to the “Members” menu under the “Settings” tab.

We then select the team member to assign the role to to an d click on the “Edit” button on the right.

Settings

Project Members Issue tracking Versions Issue categories Repositories Forums Time tracking

[New member](#) Administration

User / Group	Roles	
Abhishek Gupta	<input type="checkbox"/> Manager <input checked="" type="checkbox"/> Developer <input type="checkbox"/> Reporter	Edit Delete
Abhishek Gupta	<input type="checkbox"/> Reporter <input type="button" value="Save"/> <input type="button" value="Cancel"/>	Edit Delete

After clicking on the Edit button we will get several roles from which we can assign one or more to that team member.

Change properties

Tracker **Bug** ☒ Feature ☐ Support ☐ ☐ Private

Subject *

Description [Edit](#)

Status *

Priority *

Assignee

Parent task

Start date

Due date

Estimated time Hours

% Done

Log time

Spent time Hours

Activity

Comment

Notes

13. Create different task categories, such as new features, fix bugs,

To assign categories to various tasks, we go that particular task.

<input type="checkbox"/>	#	Tracker	Status	Priority	Subject
<input type="checkbox"/>	8	Feature	New	Immediate	Back-end
<input type="checkbox"/>	7	Feature	In Progress	Immediate	Daatbase
<input type="checkbox"/>	6	Bug	New	High	Back-end
<input type="checkbox"/>	5	Bug	New	High	Front-end
<input type="checkbox"/>	4	Bug	New	Normal	Improving back-end
<input type="checkbox"/>	3	Feature	Resolved	Low	Adding a feature
<input type="checkbox"/>	2	Bug	New	Immediate	Database Access
<input type="checkbox"/>	1	Bug	New	Normal	Tracking bugs on the website

(1-8/8)

After going to a particular task we select the desired option under the “Tracker” field and then click on “Submit” button.

I have assigned various categories to my 8 tasks that I have created

2.3 Bug tracking

(a) Log bugs

New issue

Project *

Tracker **Bug** ☒ Feature ☐ Support ☐

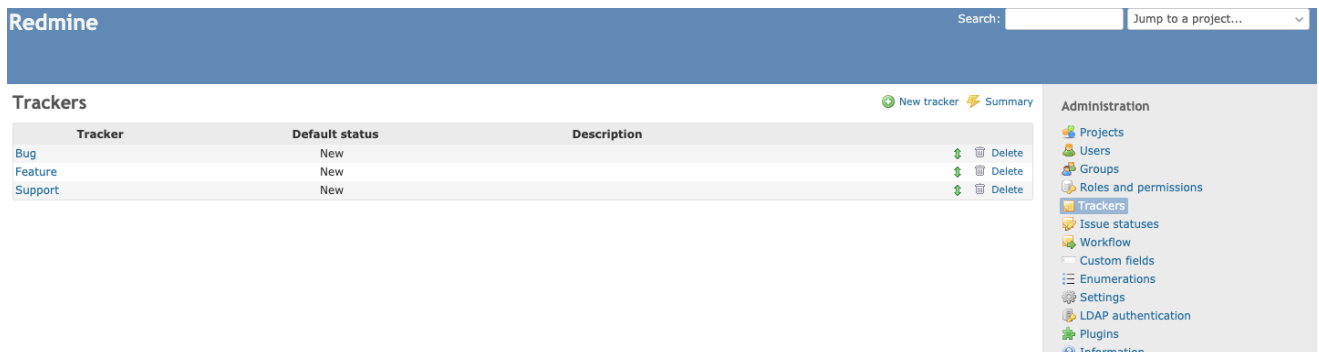
Subject

Description [Edit](#) [Preview](#) [B](#) [I](#) [U](#) [S](#) [C](#) [H1](#) [H2](#) [H3](#) [List](#) [List](#) [List](#) [List](#) [pre](#) [Code](#) [Image](#) [Link](#)

To log a bug in our software we can create a new issue from the issue tab and select “Bug” in the Tracker field and click on save.

(b) Track bugs and change bug status

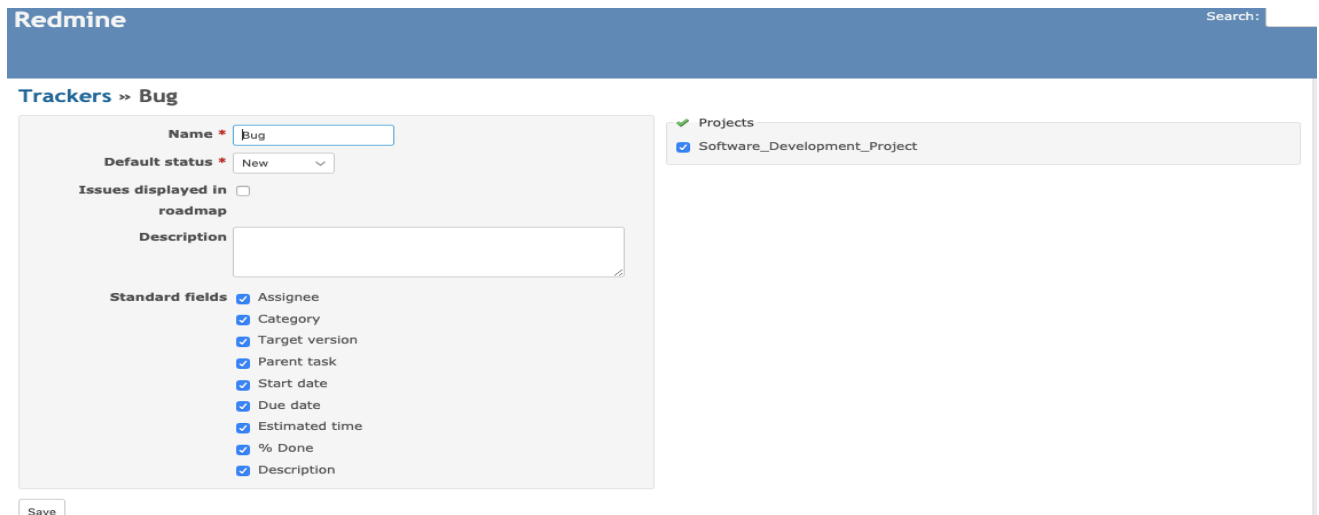
To track for bugs in our project we will first go to the Administration option on the top of our homepage.



The screenshot shows the Redmine Administration page. At the top, there is a header with the Redmine logo, a search bar, and a "Jump to a project..." dropdown. Below the header, the "Trackers" section is visible, showing a table with columns: Tracker, Default status, and Description. The table lists three trackers: Bug, Feature, and Support, all with a default status of "New". To the right of the table are links for "New tracker" and "Summary". On the right side of the page is an "Administration" sidebar menu with options: Projects, Users, Groups, Roles and permissions, Trackers (highlighted), Issue statuses, Workflow, Custom fields, Enumerations, Settings, LDAP authentication, Plugins, and Information.

Tracker	Default status	Description
Bug	New	
Feature	New	
Support	New	

We will then select “Trackers” from the Administration menu and then select the “Bug” option under the Trackers.



The screenshot shows the Redmine "Bug" configuration page. The header includes the Redmine logo, a search bar, and the breadcrumb "Trackers > Bug". The main form on the left contains fields for "Name" (set to "Bug"), "Default status" (set to "New"), "Issues displayed in roadmap" (unchecked), and "Description". Below these are "Standard fields" with checkboxes for Assignee, Category, Target version, Parent task, Start date, Due date, Estimated time, % Done, and Description, all of which are checked. A "Save" button is at the bottom left. On the right side, there is a "Projects" section with a green checkmark and a list containing "Software_Development_Project" with a blue checkmark next to it.

We will then fill out the fields with the Bug name to track and click on save. We can also change the status of the bug under “Default status” field.