Test Table – User Registration

Test Name	Description	Sample Inputs	Expected Results	Actual Results	Pass/Fail
Password – no special characters	Enter a password does not contain any of the special characters required for user passwords	Username: i_donated_to_ charity_once_ im_a_good_per son **password: needmorecash** institution: AmaBuseWorker sRights institutional email: replace_em_wi th_robots@ama buseworkersri ghts.kp Full Name: Leff Lezos	Error indicating a special character should be added to the password entered	Error indicating a special character should be added to the password entered (see appendix screenshot 1)	pass
Password – length below 8 characters	Enter a password that does not meet the minimum password length requirements	Username: i_donated_to_ charity_once_ im_a_good_per son **password: more$** institution: AmaBuseWorker sRights institutional email: replace_em_wi th_robots@ama buseworkersri ghts.kp Full Name: Leff Lezos	Error indicating password entered is too short	Error indicating password entered is too short (see appendix screenshot 2)	pass
Password - length below 8 characters and no special characters	No special characters and length below 8 characters combined	Username: i_donated_to_ charity_once_ im_a_good_per son **password: cash** institution: AmaBuseWorker sRights	Error indicating a special character should be added to the password entered	Error indicating a special character should be added to the password entered (see appendix screenshot 3)	pass

		institutional email: replace_em_with_robots@amabuseworkersrights.kp Full Name: Leff Lezos			
Password – length extreme low end data	Enter a password that exactly meets the minimum character length requirement	Username: i_donated_to_charity_once_im_a_good_person **password: more$$$$** institution: AmaBuseWorkersRights institutional email: replace_em_with_robots@amabuseworkersrights.kp Full Name: Leff Lezos	User successfully registered and added to the database	User successfully registered and added to the database (see appendix screenshot 4)	pass
Password – enter a commonly used password	Enter a password that is one of the most commonly used across web apps	Username: i_donated_to_charity_once_im_a_good_person **password: iloveyou!** institution: AmaBuseWorkersRights institutional email: replace_em_with_robots@amabuseworkersrights.kp Full Name: Leff Lezos	Error indicating password is too common	Error indicating password is too common (see appendix screenshot 5)	pass
Institution – Non-existent institution	Enter an institution that does not exist within the application database	Username: i_donated_to_charity_once_im_a_good_person666 password: more$$$$	Error indicating AWS is not a valid institution for registration	Error indicating AWS is not a valid institution for registration (see	pass

		institution: **AWS** institutional email: replace_em_with_robots@amabuseworkersrights.kp Full Name: Leff Lezos		appendix screenshot 6)	
Institutional Email – Incorrect domain	Enter a domain that does not conform to the domain of the institution entered	Username: i_donated_to_ charity_once_ im_a_good_per son666 password: more$$$$ institution: AmaBuseWorker sRights **institutional email:** [**replace_em_with_robots@hAWS.kp**](mailto:replace_em_with_robots@hAWS.kp) Full Name: Leff Lezos	Error indicating the domain entered is not valid for the institutio n entered	Error indicating the domain entered is not valid for the institution entered (see appendix screenshot 7)	pass
Institutional Email – Incorrect format	Enter an email with no '@' symbol	Username: i_donated_to_ charity_once_ im_a_good_per son666 password: more$$$$ institution: AmaBuseWorker sRights **institutional email:** [**replace_em_with_robotsamabuseworkersrights.kp**](mailto:replace_em_with_robotsamabuseworkersrights.kp) Full Name: Leff Lezos	Error indicating the domain entered is not valid for the institutio n entered	Error indicating the domain entered is not valid for the institution entered (see appendix screenshot 8)	pass
All data expected/within normal ranges	Enter data within expected formats, and well within	Username: i_donated_to_ charity_once_ im_a_good_per son666	User successful ly registered and added	User successfully registered and added to the database	pass

		input ranges set	password: morecash$$$$ institution: AmaBuseWorker sRights institutional email: replace_em_wi th_robots666@ amabuseworker srights.kp Full Name: Leff Lezos	to the database	(see appendix screenshot 9)	
All data attempts XSS injection	Attempt XSS script injection in each user input box	URL: https:// 127.0.0.1:500 0/auth/regist er<script>ale rt(1)</script > Username: i_donated_to_ charity_once_ im_a_good_per son666<SCRIPT >alert(1)</SC RIPT> password: <script>alert (1)</script>m orecash$$$$ institution: <ScRiPt>alert (1)</ScRiPt>A maBuseWorkers Rights institutional email: <ScRiPt>alert (1)replace_em _with_robots6 66@amabusewor kersrights.kp </ScRiPt> Full Name: <ScRiPt>alert (1)</ScRiPt>	An error appears indicating that a valid institutio n has not been registered . No alert box should appear.	An error appears indicating that a valid institution has not been registered. No alert box appears.(see appendix screenshot 10)	pass
No data entered	Make a post request/ click the register button with no data entered	[no data entered]	The applicatio n indicates the user must fill out	The application indicates the user must fill out required fields (see	pass

			required fields	appendix screenshot 11)	

Test Table – User Log-In

Test Name	Description	Input	Expected Result	Actual Result	Pass/Fail
No data entered	Make a post request/ click the log in button with no data entered	[no data entered]	The application indicates the user must fill out required fields	The application indicates the user must fill out required fields (see appendix screenshot 12)	pass
Enter invalid username	Attempt log in with a non-existent/inc orrect username	Username: Ozzy Osbourne 666 Password: @BlackSabbat h@$	The application indicates the username entered is invalid	The application indicates the username entered is invalid (see appendix screenshot 13)	pass
Enter invalid password	Attempt to log in with an incorrect password	Username: i_donated_to _charity_onc e_im_a_good_ person666 Password: coldhardcash	The application indicates the password is invalid	The application indicates the password is invalid (see appendix screenshot 14)	pass
Login from an unauthentica ted device	Attempt to log in from a different device than the device used during user registration	Username: i_donated_to _charity_onc e_im_a_good_ person666 Password: morecash$$$$	The application indicates the device used is not authenticate d	The application indicates the device used is not authenticate d (see appendix screenshot 15)	pass
Device MAC address cannot be retrieved	Attempt to log in, in a scenario where the authorised device mac address cannot be retrieved	Username: i_donated_to _charity_onc e_im_a_good_ person666 Password: morecash$$$$	The application indicates the device can't be authenticate d	The application indicates the device can't be authenticate d (see screenshot 16)	pass

Attempt SQL and XSS injection	Attempt to execute XSS and HTML scripts within the username and password fields	Username: ;DELETE FROM User WHERE UserID = 943180813; password: \<script>alert(1)\</script>	The application inidcates the username is invalid. The user record is not deleted. The script is not executed.	The application inidcates the username is invalid. The user record is not deleted. The script is not executed. (see appendix screenshots 17 and 18)	pass
Login as expected	Login using correct credentials and a MAC address that can be retrieved	Username: i_donated_to_charity_once_im_a_good_person password: cash$$$$	The application logs the user in and redirects to the project index page	The application logs the user in and redirects to the project index page (see appendix screenshot 19)	pass

Test Table – Project Index

Test Name	Description	Input	Expected Result	Actual Result	Pass/Fail
Attempt to perform XSS injection	Insert a HTML script into the page URL	https://127.0.0.1:5000/ \<script>alert(1)\</script>	The application returns a URL not found error. No alert window appears	The application returns a URL not found error (see appendix screenshot 20)	pass
Unauthorised access	Attempt to navigate back to the project index page after log out	Log out click → browser back button click	The application redirects to the login page	The application redirects to the login page (see appendix screenshot 21)	pass

Test Table – Create Project

Test Name	Description	Input	Expected Result	Actual Result	Pass/Fail
Attempt to perform XSS and SQL injection	Enter XSS and SQL text into the given fields.	Project Name: ;DELETE FROM User WHERE UserID = 943180813; Project Description: <script>alert(1)</script>	The application creates a project with name and description ;DELETE FROM User WHERE UserID = 943180813; password: <script>alert(1)</script>. No alert appears. The given user is not deleted from the database.	The application creates a project with name and description ;DELETE FROM User WHERE UserID = 943180813; password: <script>alert(1)</script>. No alert appears. The given user is not deleted from the database. (see appendix screenshot 22)	pass
Leave fields blank	Don't enter any data for project name or description when making a POST request/ clicking the save button.	save button click	The application indicates that the user must enter data into the required fields	The application indicates that the user must enter data into the required fields (see appendix screenshot 23)	pass
Enter data into fields as expected	Enter a project name and description as expected	Project Name: Banning toilet breaks Project Description: Ban all toilet breaks to increase efficiency! *evil laugh ensues*	The application creates the project and redirects the user to the project index page	The application creates the project and redirects the user to the project index page (see appendix screenshot 24)	pass
Unauthorised access	Attempt to navigate back to the create	Log out → back button click	The application redirects the user to	The application redirects the user to	pass

	project page after log out		the login page	the login page (see appendix screenshot 26)	

Test Table – Ticket Index

Test Name	Description	Input	Expected Result	Actual Result	pass/fail
Attempt to perform XSS injection	Insert a HTML script into the page URL	https:// 127.0.0.1:50 00/ ticket_viewe r/Banning toilet breaks<scrip t>alert(1)</ script>	The application returns a URL not found error. No alert window appears	The application returns a URL not found error. No alert window appears (see screenshot 25)	pass
Unauthorised access	Attempt to navigate back to the ticket index page after log out	Log out → back button click	The application redirects the user to the login page	The application redirects the user to the login page (see appendix screenshot 27)	pass

Test Table – Create Ticket

Test Name	Description	Input	Expected Result	Actual Result	pass/fail
Attempt to perform XSS and SQL injection	Enter XSS and SQL text into the given fields.	Ticket Name: ;DELETE FROM User WHERE UserID = 943180813; Assignee Username: <script>aler t(1)</script > Ticket Description: <sCript>aler	The application indicates that a ticket can't be assigned to a user from a different institution. No alert box is shown. The given user is not deleted from	The application indicates that a ticket can't be assigned to a user from a different institution. No alert box is shown. The given user is not deleted from	pass

		t(1)</ sCript> ;DELETE FROM User WHERE UserID = 943180813;	the database.	the database. (see appendix screenshots 28 and 29)	
Leave fields blank	Don't enter any data for ticket name, assignee username or description when making a POST request/ clicking the save button.	Save button click	The application prompts the user to fill the required fields	The application prompts the user to fill the required fields (see appendix screenshot 30)	pass
Assign ticket to a different institutional user	Attempt to assign a ticket to a user that is registered within a different institution	Ticket Name: Investigate the use of plastic bottles Assignee Username: Gamers2Gamblers (Microtransction Arts) Ticket Description: Assign plastic bottles to each worker. Closely monitor workers through CCTV. Deduct their pay if they leave their station!	The application indicates that a ticket can't be assigned to a user from a different institution.	The application indicates that a ticket can't be assigned to a user from a different institution. (see appendix screenshot 31)	pass
Enter data into fields as expected	Enter a ticket name, correct user assignee and description as expected	Ticket Name: Investigate the use of plastic bottles Assignee Username: bagsomoney Ticket Description: Assign plastic	A ticket is created	A ticket is created as expected (see appendix screenshot 32)	pass

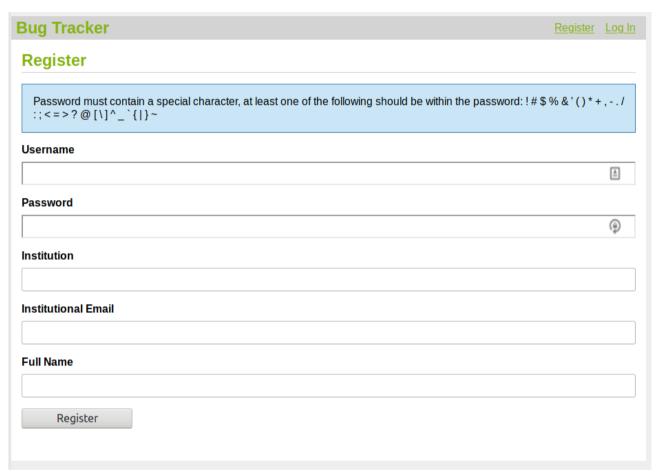|		bottles to each worker. Closely monitor workers through CCTV. Deduct their pay if they leave their station!			
Unauthorised access	Attempt to navigate back to the create project page after log out	Back button click	The user is redirected to the login page	The user is redirected to the login page (see screenshot 33)	pass

		Test Table – View Ticket			
Test Name	**Description**	**Input**	**Expected Result**	**Actual Result**	**pass/fail**
Attempt to perform XSS and SQL injection	Input XSS and SQL text data into the comment title and ticket comment fields	Comment title: <sCript>alert(1)</sCript> Ticket Comment: ;DELETE FROM User WHERE UserID = 943180813;	A comment is generated. An alert box is not shown. The given user is not deleted from the database.	A comment is generated. An alert box is not shown. The given user is not deleted from the database. (see screenshots 34 and 35)	pass
Attempt to submit an empty comment	Leave both the Comment title and ticket comments field blank	Submit button click	The application prompts the user to enter data into the empty fields	The application prompts the user to enter data into the empty fields (see appendix screenshot 36)	pass
Enter a comment as expected	Enter a comment title and ticket comment in an expected format	Comment title: Could we use goons? Ticket Comment: Can we bend legislation to legally employ	The application adds the comment to the ticket	The application adds the comment to the ticket (see appendix screenshot 37)	pass

		enforcers? Lord knows we've done it when it comes to dodging tax!			
Unauthorised access	Attempt to navigate back to the create project page after log out	Log out → back button click	The application redirect the user to the login page	The application redirect the user to the login page (see appendix screenshot 38)	pass
Closed ticket comment	Attempt to comment on a closed ticket	Comment title: Transcript from replacing workers with robots meeting at the Amazon warehouse in Dunfermline Ticket Comment: Dunfermline area manager: *"I'll never turn to the dark side. You've failed, Your Highness. I am a Union Member, like my father before me."* Jeff Bezos: *"So be it... Unionist."*	The application indicates that a user cannot comment on a closed ticket.	The application indicates that a user cannot comment on a closed ticket. (see appendix screenshot 39)	pass

Known Bugs

- The application is unable to continually persist identification of MAC addresses between server runs. If the server is shutdown and restarted, the MAC address of the original device is no longer authenticated against as expected for user login

Appendix - Test Screenshots

Bug Tracker Register Log In

Register

> Password must contain a special character, at least one of the following should be within the password: ! # $ % & ' ( ) * + , - . /
> : ; < = > ? @ [\ ] ^ _ ` { | } ~

Username

[ ]

Password

[ ]

Institution

[ ]

Institutional Email

[ ]

Full Name

[ ]

[Register]

Screenshot 1

Register

Password is too short, password should at least be 8 characters long

Username

Password

Institution

Institutional Email

Full Name

Register

Screenshot 2

Bug Tracker

Register

Password must contain a special character, at least one of the following should be within the password: ! # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } ~

Username

Password

Institution

Institutional Email

Full Name

Register

Screenshot 3

	UserID	InstitutionID	InstitutionalEmail	UserName	Password	FullName	MacAddress
	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	943180813	4	7gWIAOf9$fff35b2a0d106259091f7...	aCQ8Jxmi$21cfb172e4100be...	SQn32Bn0$1b57d8a37e7f47d996cdaff444e6ddc49799c...	zzJs2Gzp$f6cb6a...	6LmRUTZb...

Table: User   New Record Delete Record

1 - 1 of 1   Go to: 1

Screenshot 4

Bug Tracker

Register

password chosen is too common, choose a more unique password!

Username

Password

Institution

Institutional Email

Full Name

Register

Screenshot 5

Bug Tracker

Register

Institution AWS is not a valid institution for registration

Username

Password

Institution

Institutional Email

Full Name

Register

Screenshot 6

Bug Tracker

Register

Email: replace_em_with_robots@hAWS.kp does not contain a valid institutional email domain for given institution: AmaBuseWorkersRights

Username

Password

Institution

Institutional Email

Full Name

Register

Screenshot 7

Register

Email: replace_em_with_robotsamabuseworkersrights.kp does not contain a valid institutional email domain for given institution: AmaBuseWorkersRights

Username

Password

Institution

Institutional Email

Full Name

Register

Screenshot 8

Table: User

	UserID	InstitutionID	InstitutionalEmail	UserName	Password	FullName	MacAddress
	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	943180813	4	7gWIAOf9$fff35b2a0d106259091f7...	aCQ8Jxmi$21cfb172e4100be...	SQn32Bn0$1b57d8a37e7f47d996cdaff444e6ddc49799c...	zzJs2Gzp$f6cb6a...	6LmRUTZb...
2	3643011183	4	xxCzKODV$ec33d512d453d62e2cb...	FSdJlFon$7721a42bcd960959...	ILz0RAok$71f561177b4c997c170357f1dfa6e4e4900266...	wP3WyjfP$a074...	0F8EYU24$...

1 - 2 of 2   Go to: 1

Screenshot 9

Bug Tracker

Register

Institution <ScRiPt>alert(1)</ScRiPt>AmaBuseWorkersRights is not a valid institution for registration

Username

Password

Institution

Institutional Email

Full Name

Register

Screenshot 10

Bug Tracker

Register

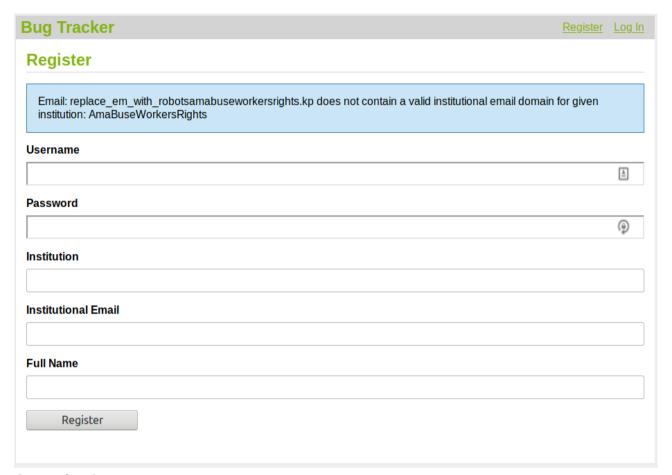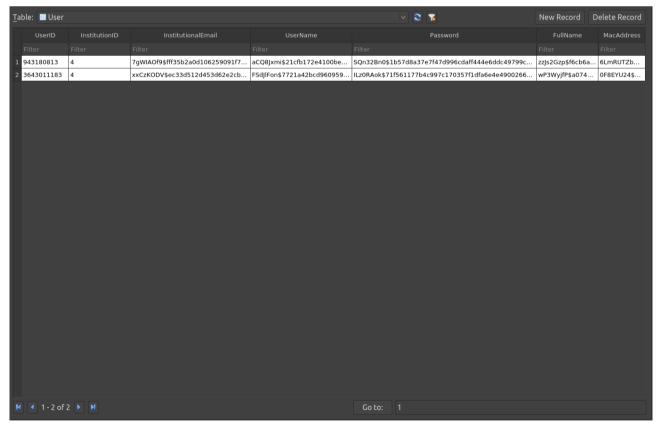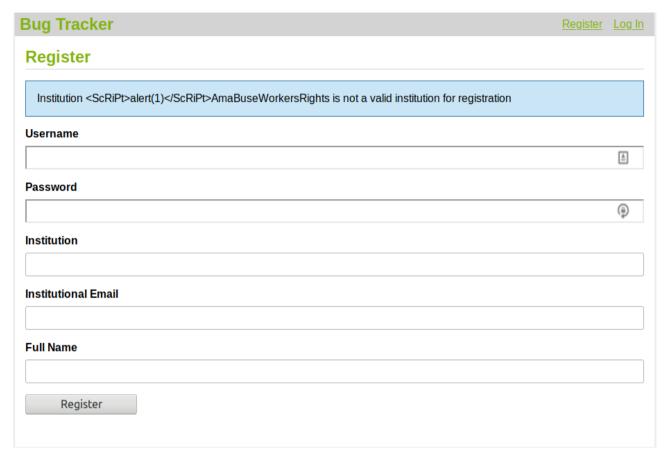**Username**

Password

Institution
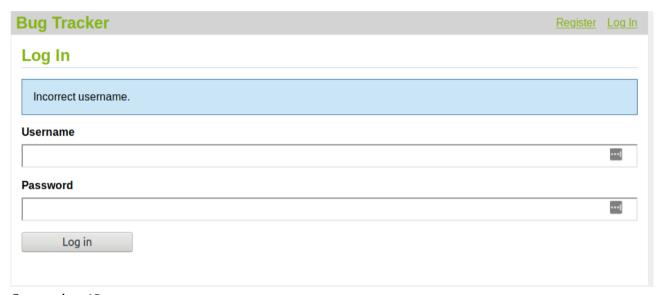
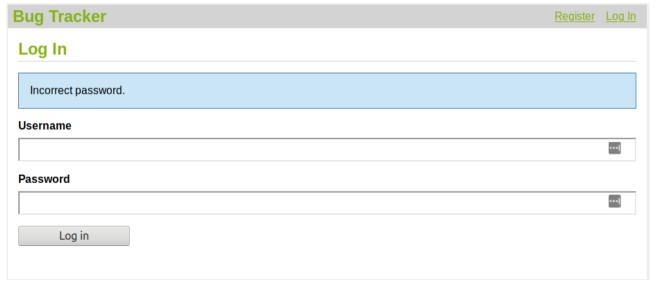**Institutional Email**

Full Name

Register

Screenshot 11

Screenshot 12

Screenshot 13

Screenshot 14

Screenshot 15

Screenshot 16

Screenshot 17

Screenshot 18

Bug Tracker Log Out

Projects New

Screenshot 19

https://127.0.0.1:5000/<script>alert(1

Not Found

The requested URL was not found on the server. If you entered the URL manually please check your spelling and try again.

Screenshot 20

Bug Tracker

Log In

Username

Password

Log in

Screenshot 21

Bug Tracker

Log Out

Projects

New

;DELETE FROM User WHERE UserID = 943180813; password: <script>alert(1)</script>

Description: ;DELETE FROM User WHERE UserID = 943180813; password: <script>alert(1)</script>

created on 2019-12-01

Screenshot 22

Bug Tracker

Log Out

New Project

Project Name

Project Description

Save

Screenshot 23

Bug Tracker   Log Out

Projects   New

;DELETE FROM User WHERE UserID = 943180813; password: <script>alert(1)</script>

Description: ;DELETE FROM User WHERE UserID = 943180813; password: <script>alert(1)</script>

created on 2019-12-01

Banning toilet breaks

Description: Ban all toilet breaks to increase efficiency! *evil laugh ensues*

created on 2019-12-01

Screenshot 24

https://127.0.0.1:5000/ticket_viewer/

Not Found

The requested URL was not found on the server. If you entered the URL manually please check your spelling and try again.

Screenshot 25

https://127.0.0.1:5000/auth/login

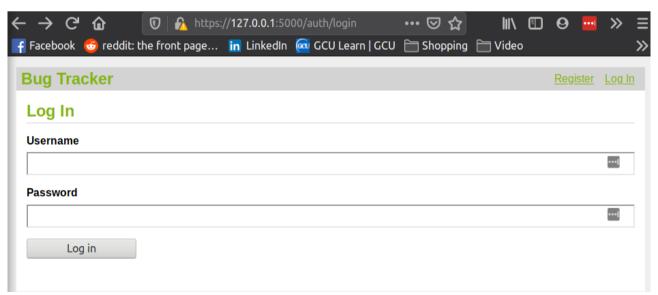**Bug Tracker**   Register   Log In

Log In

Username

Password

Log in

Screenshot 26

Bug Tracker

Log In

Username

Password

Log in

screenshot 27

Bug Tracker

New Ticket

Can't assign a ticket to a user not within the same institution

Ticket Name

;DELETE FROM User WHERE UserID = 943180813;

Assignee Username

<script>alert(1)</script>

Ticket Description

<sCript>alert(1)</sCript> ;DELETE FROM User WHERE UserID = 943180813;

Ticket Type

development

Ticket Priority

low

Ticket Status

open

Submit

Screenshot 28

Screenshot 29

Screenshot 30

Bug Tracker

New Ticket

Can't assign a ticket to a user not within the same institution

Ticket Name

Investigate the use of plastic bottles

Assignee Username

Gamers2Gamblers

Ticket Description

Assign plastic bottles to each worker. Closely monitor workers through CCTV. Deduct their pay if they leave their station!

Ticket Type

development

Ticket Priority

low

Ticket Status

open

Submit

Screenshot 31

Bug Tracker

Tickets

Investigate the use of plastic bottles

Type: development

Status: open

Priority: low

Created on: 2019-12-01

Screenshot 32

Bug Tracker   Register   Log In

Log In

Username

[...]

Password

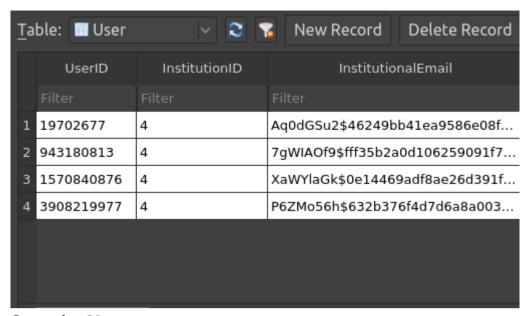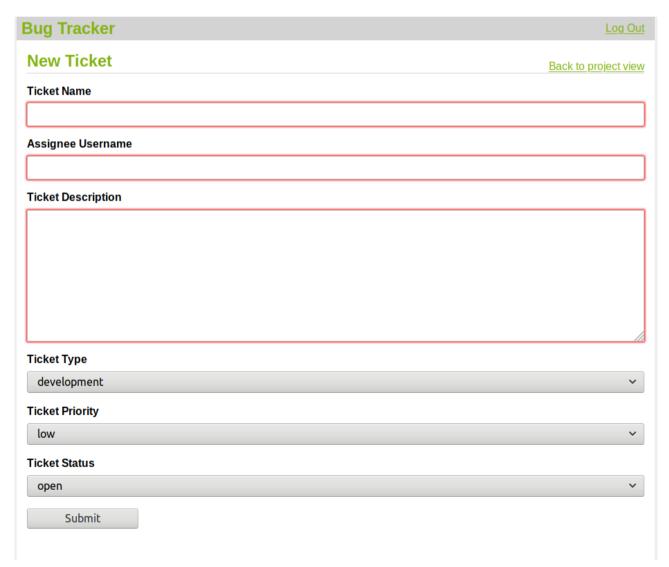[...]

[Log in]

Screenshot 33

Investigate the use of plastic bottles   Back to project view

Ticket Description

Assign plastic bottles to each worker. Closely monitor workers through CCTV. Deduct their pay if they leave their station!

Ticket Type: development

Ticket Status: open

Ticket Priority: low

Assigned to: moneybags

Created by: **moneybags2**

Created on: **01-12-19 2:26 AM**

Ticket Comments

User: moneybags2

Title: <sCript>alert(1)</sCript>
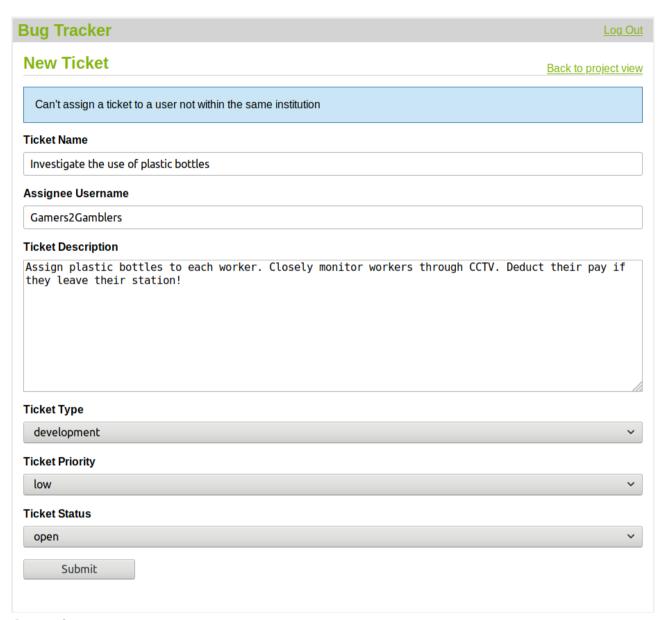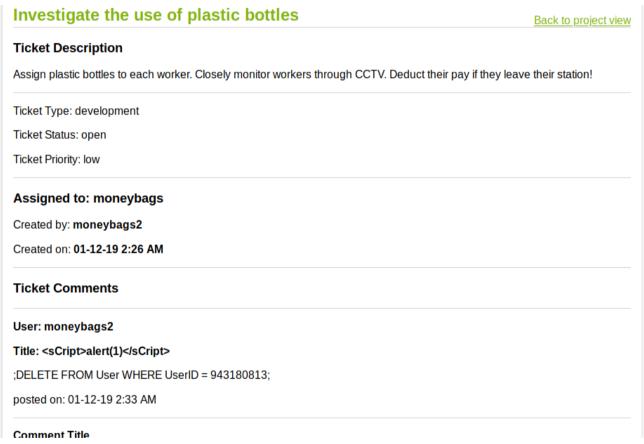
;DELETE FROM User WHERE UserID = 943180813;

posted on: 01-12-19 2:33 AM

Comment Title

Screenshot 34

Screenshot 35

Comment Title

[   ]

Ticket Comment

[   ]
[   ]
[   ]
[   ]
[   ]

[Submit Comment]

Screenshot 36

Bug Tracker

Investigate the use of plastic bottles

Ticket Description

Assign plastic bottles to each worker. Closely monitor workers through CCTV. Deduct their pay if they leave their station!

Ticket Type: development

Ticket Status: open

Ticket Priority: low

Assigned to: moneybags

Created by: **moneybags2**

Created on: **01-12-19 2:26 AM**

Ticket Comments

User: moneybags2

Title: <sCript>alert(1)</sCript>

;DELETE FROM User WHERE UserID = 943180813;

posted on: 01-12-19 2:33 AM
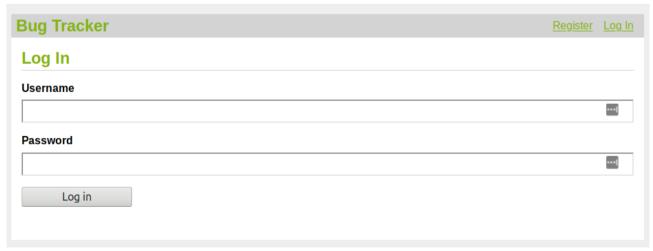

User: moneybags2

Title: Could we use goons?

Can we bend legislation to legally employ enforcers? Lord knows we've done it when it comes to dodging tax!

posted on: 01-12-19 2:40 AM

Comment Title

Could we use goons?

Screenshot 37

Bug Tracker

Log In

Username

Password

Log in

Screenshot 38

replace workers with robots

Can't comment on a closed ticket!

Ticket Description

Replace the workforce with robots for improved workforce exploitation.

Ticket Type: production

Ticket Status: closed

Ticket Priority: high

Assigned to: moneybags

Created by: **nounion4you**

Created on: **01-12-19 5:29 PM**

Ticket Comments

Comment Title

Transcript from replacing workers with robots meeting at the Amazon warehouse in Dunfermline

Ticket Comment

```
Dunfermline area manager: "I'll never turn to the dark side. You've failed, Your Highness. I am a
Union Member, like my father before me."

Jeff Bezos: "So be it... Unionist."
```

Submit Comment

Screenshot 39