



## ***PROJECT REPORT***

***PROJECT TITLE: “ONLINE FILING OF VAT RETURNS FOR  
MEGHALAYA TAXATION DEPARTMENT AT NIC, SHILLONG”***

***DATE: 27<sup>TH</sup> May – 26<sup>th</sup> July, 2024***

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ALVIN GARNET LANGSTIEH***

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Secondly, I would like to thank Sir Benos Lyngskor, [Scientist-F and Sr.IT Director, National Informatics Centre], for your constant support and for being so helpful on this project and also whose expertise and insightful suggestions have been instrumental in shaping the direction and outcome of this work. Your patience and willingness to share your knowledge have been greatly appreciated.

I am truly thankful to both of you for your unwavering support and for being a source of inspiration throughout this journey.

**PROJECT WORK: “ONLINE FILING OF VAT RETURNS FOR MEGHALAYA TAXATION DEPARTMENT” AT NIC MEGHALAYA STATE CENTER, SHILLONG**

**OBJECTIVE:** TO CREATE A WEBSITE ON THE DEALER AND CIRCLE OFFICER’S SIDE FOR THE MEGHALAYA TAXATION DEPARTMENT AT NIC MEGHALAYA STATE CENTER, SHILLONG

**Tools and Technologies Used:** Spring Boot STS, Thymeleaf, Bootstrap, PostgreSQL.

## INTRODUCTION

In the development of this web application, I have utilized a combination of powerful and modern technologies to ensure a robust, scalable, and user-friendly product. The key technologies employed are Bootstrap, Thymeleaf as FrontEnd, Spring Boot as BackEnd and PostgreSQL as Database. Each of these technologies has been chosen for its specific strengths and their seamless integration to deliver a cohesive application.

### BOOTSTRAP

Bootstrap is a widely-used front-end framework that facilitates the creation of responsive and visually appealing web pages. In this project, I utilized Bootstrap to design a clean and consistent user interface. By leveraging Bootstrap's pre-designed components and responsive grid system, I ensured that the application is accessible and functional across a variety of devices and screen sizes. This not only enhances the user experience but also speeds up the development process by reducing the need for extensive custom CSS.

### Thymeleaf

Thymeleaf is a modern server-side Java template engine that I used to create dynamic and interactive web pages. Integrated with Spring Boot, Thymeleaf allows for easy data binding and template rendering. In this project, Thymeleaf templates are used to generate HTML views that display data from the backend in a user-friendly manner. Its natural templating capability made the development process more intuitive, enabling the creation of reusable and maintainable templates.

### Spring Boot

Spring Boot is the backbone of this application, providing a comprehensive framework for building production-ready applications. I chose Spring Boot for its ability to simplify the setup and development of a Spring-based application. Its embedded server, dependency management, and extensive ecosystem of plugins and modules streamlined the development process. Spring Boot's integration with Thymeleaf and PostgreSQL enabled the creation of a cohesive application where different components work seamlessly together.

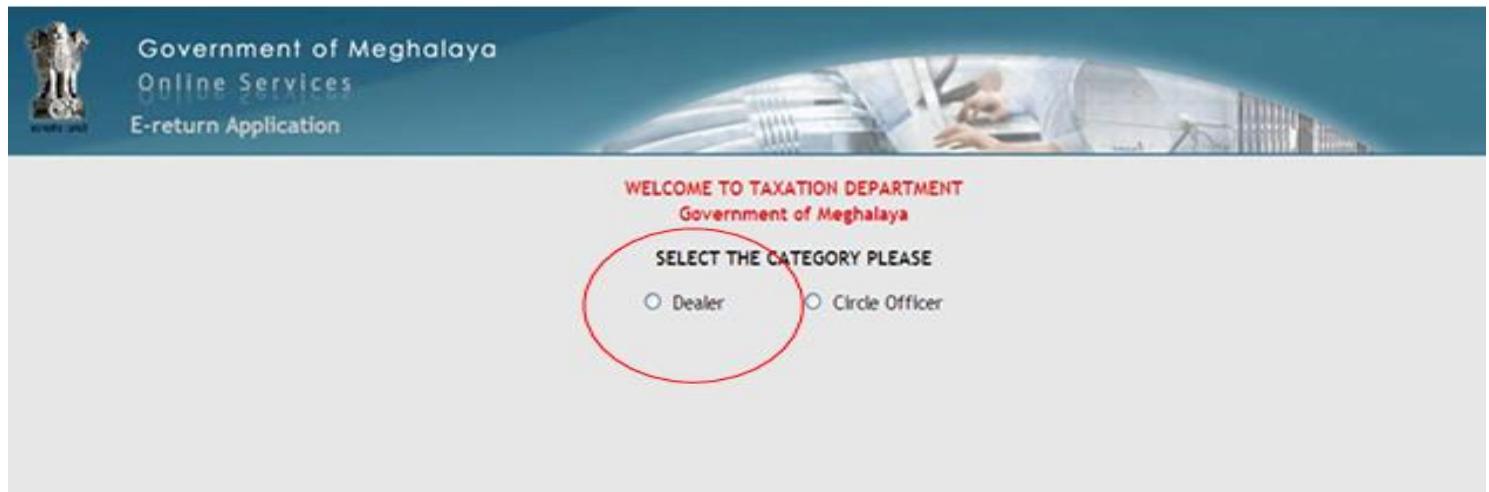
### PostgreSQL

PostgreSQL is the database management system chosen for this project due to its robustness and advanced features. I used PostgreSQL to handle all data storage and retrieval operations. Its support for complex queries and data integrity constraints ensured reliable and efficient data management. Integrating PostgreSQL with Spring Boot allowed for smooth data operations and simplified the configuration and management of the database.

## DEALER MODULE

STEP BY STEP Instructions for various activities:  
(To enter A FRESH RETURN )

Step 1: Login as Dealer by clicking on the dealer radio button.



Step2: Enter correct login credentials for the dealer including the TIN assigned by the Dept.

A screenshot of a web page titled "SIGN IN". It features fields for "Username \*", "Tin No.\*", and "Password \*". Below these is a CAPTCHA field containing the code "n3p82". There is also a "Enter Captcha \*" label and a text input field. At the bottom are "Log in" and "Reset" buttons. The page has a header with the Government of Meghalaya logo and "Online Services Online VAT Application".

**Step3:** After successful login, the System will display the details of the dealers which is registered on the system. Select the Return Period (i.e. From months and year & To Month and year) for which You (dealer ) wants to file this return.

Government of Meghalaya  
Online Services  
E-return Application

Home ▾ User Manual Logout

THE MEGHALAYA VALUE ADDED TAX RULES-2005  
FORM-5  
VAT RETURN  
QUARTERLY RETURN VALUE ADDED TAX ENTRY FORM

⚠ PLEASE ENTER THE FOLLOWING FORM CAREFULLY

Todays Date	2024-12-14
1.Tin of the dealer	17020510073
2.Name of the Dealer	TESTING
Trade name of business	M/S VALLINE FASHION AVENUE
Address of the principal post of business	POLICE BAZAR SHILLONG

Select Return Period

From	select	select
To	select	select
Jan Apr Jul Oct		
<input type="button" value="Search"/>		

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**Step 4:** Now click on the 1st TAB (SL.No. 4-10), the system will display the various items which needs to be entered as appeared in the Return Form – 5.

 Government of Meghalaya  
Online Services  
E-return Application

Home ▾ User Manual Logout

THE MEGHALAYA VALUE ADDED TAX RULES-2005  
FORM-5  
VAT RETURN  
QUARTERLY RETURN VALUE ADDED TAX ENTRY FORM

**⚠ PLEASE ENTER THE FOLLOWING FORM CAREFULLY**

<b>Todays Date</b>	<b>2024-12-14</b>
1.Tin of the dealer	17020510073
2.Name of the Dealer	TESTING
Trade name of business	M/S VALLINE FASHION AVENUE
Address of the principal post of business	POLICE BAZAR
	SHILLONG

Select Return Period

From	Jan	2012
To	Mar	2012

**Search**

Circle Cd  
02

Stocks In Transition

A form will be displayed as shown below:

Fill in the form with required data.

SI.No:4-10	SI.No:11-19	SI.No:20-22	SI.No:23-25	SI.No:26-35
*All fields are to be filled				
PURCHASES IN THE QUARTER (INPUT)		VALUE EXCLUDING VAT(A) VAT CLAIMED(B)		
4 Exempt or non-creditable purchases :		122	0	
5 5 ..% Rate Purchases :		121	5	
6 13.5 ..% Rate Purchases :		121	15	
7 1% Rate Purchases :		0	0	
8 0 ..%Rate Purchases(Schedule V):		0	0	
9 0 ..%Rate Purchases(Schedule V):		0	0	
10 Total Amount Of Input Tax:		20		

Step 5: After you have entered the data in sl 4-10, click on next tab (Sl.No:11-19), to proceed for other details. Another form will be displayed from Sl. 11 to 19. Fill this form with required data as shown

Circle Cd 02	Stocks In Transition			
SI.No:4-10	SI.No:11-19	SI.No:20-22	SI.No:23-25	SI.No:26-35
*All fields are to be filled				
SALES IN THE QUARTER (OUTPUT)		VALUE EXCLUDING VAT(A)		VAT DUE(B)
11 Exempt sales :		12	0	
12 Zero Rate Sales-International Exports :		0	0	
13 Zero Rate Sales-Others(CST Sales) :		0	0	
14 Tax Due On Purchase Of Goods(if any):	0 %	12120	0	
15 5 ..% Rate Sales :		0	0	
16 13.5 ..% Rate Sales :		0	0	
17 1 ..% Rate Sales :		0	0	
18 (a). 0 ..%Rate Sales(Schedule V):		0	0	
(b). 0 ..%Rate Sales(Schedule V):		0	0	
19 Total Amount Of Output Tax:		d		

Step 6: After entering the data for serial 11-19, click on next tab ( i.e. Sl.No:20-22), to proceed. Another form will be displayed from Sl. 20 to 22. Fill this form with required data as shown.

Sl.No:4-10	Sl.No:11-19	Sl.No:20-22	Sl.No:23-25	Sl.No:26-35
*All fields are to be filled				
<b>TAX CALCULATION</b>				
<b>20 Output Tax:</b>	<input type="text" value="0"/>			
<b>21 Add/Less: Adjustment to output Tax if any:-</b>				
(a)Sale Cancelled:	<input type="text" value="0"/>			
(b)Return of Sold Goods:	<input type="text" value="0"/>			
(a)Sale Cancelled	(i)To be Added :	<input type="text" value="0"/>		
	(ii)To be Subtracted :	<input type="text" value="0"/>		
<b>Total Adjustment:-</b>	<input type="text" value="0"/>			
<b>22 Total Output Tax:</b>	<input type="text" value="0"/>			

Step 7: After entering the data for Sl 20-22, click on next tab (i.e. Sl.No:23-24), to proceed. Another form will be displayed from Sl. 23 to 24. Fill this form with required data as shown

Sl.No:4-10	Sl.No:11-19	Sl.No:20-22	Sl.No:23-25	Sl.No:26-35
*All fields are to be filled				
<b>TAX CALCULATION</b>				
<b>23 Input Tax credit on Purchases:</b>	<input type="text" value="20"/>			
<b>24 Add/Less: Adjustment to input Tax if any:-</b>				
(+)Input Tax Credit on capital goods:	<input type="text" value="0"/>			
(+)Increase on input Tax Credit due to debit note:	<input type="text" value="0"/>			
(+)Other Adjustments if any(specify):	<input type="text" value="0"/>			
<b>Total Tax Credit:</b>	<input type="text" value="20"/>			
(-)Decrease in input tax credit due to credit note:	<input type="text" value="0"/>			
(-)Tax credit reversed/disallowed for the use of goods for purpose other than for which credit is allowed	<input type="text" value="0"/>			
(-)other adjustments(if any) :	<input type="text" value="0"/>			
<b>25 Total Net Input Tax Credit:</b>	<input type="text" value="20"/>			

Step 8: After you have entered the data for sl 23-24, click on next tab (i.e Sl.No:25-35), to proceed. Another form will be displayed from Sl. 25 to 35. Fill this from with required data as shown

Circle Cd  
02

Stocks In Transition

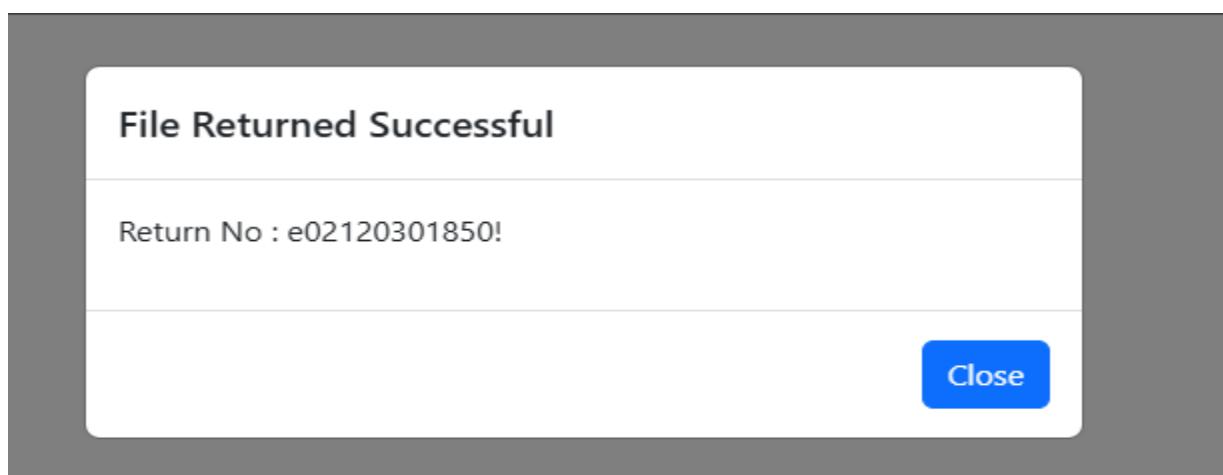
SI.No:4-10      SI.No:11-19      SI.No:20-22      SI.No:23-25      **SI.No:26-35**

\*All fields are to be filled

26	<b>Tax Payable:</b>	-20
27	Interest, Penalty or other Dues:	0
28	<b>Total Dues:</b>	-20
29	Less: Tax Deducted At Source	0
30	Balance/Excess Paid:	0
31	Tax Paid	9200.0
32	Balance Due:	-9200
33	Adjusted Against Central Sales Tax liability:	0
34	Refund Claimed:	0
<b>Balance Carried Forward to Next Period:</b>		-9200

**Submit**      **Clear**

Step 9: After completing all the tabs, click on submit. The system will auto-generate the Return No as shown below. You will have to write down and remember this Return No. for future reference of this Return No.



Step 11: Here are the approved returns, the system will display all the Returns which have been filed online by the dealers under his/her jurisdiction. Click on the return number button to examine.

The screenshot shows the 'E-return Application' interface. At the top, there's a banner with the Indian National Emblem, the text 'Government of Meghalaya', 'Online Services', and 'E-return Application'. Below the banner, a photograph of a person working on a computer is displayed. The main content area contains a table with dealer information and a list of approved returns.

1.Tin of the dealer	17020510073
2.Name of the Dealer	TESTING
Trade name of business	M/S VALLINE FASHION AVENUE
Address of the principal post of business	POLICE BAZAR SHILLONG

**Approved Returns**

Tin	Return Number	From(mm/yyyy)	To(mm/yyyy)	Status
17020510073	<a href="#">e02110600048</a>	04/2011	06/2011	Approved
17020510073	<a href="#">e02110300045</a>	01/2011	03/2011	Approved
17020510073	<a href="#">e02101200043</a>	10/2010	12/2010	Approved
17020510073	<a href="#">e02100900042</a>	07/2010	09/2010	Approved
17020510073	<a href="#">e02100600035</a>	04/2010	06/2010	Approved
17020510073	<a href="#">e02100300025</a>	01/2010	03/2010	Approved

Step 12: After the return has been approved by the user, the system will ask you to enter the dates which will display the Return Number and the Tin Number. After you have entered the correct dates, the system will display a similar screen as before but this time the return numbers and tin numbers that have been approved will appear on the screen.



### View Returns By Return Period

#### Select Return Period

From	Jan	2009
To	Mar	2009

Search

Clear

### Search Results

Return ID	TIN No	From Month	From Year	To Month	To Year	Status
e0209030000	17020510073	01	2009	03	2009	Approved

## ST MODULE

This module is for the Superintendent of Taxes who will examined the Return Form filed by the dealer and approves it after he has satisfied with his physical verification.

STEP BY STEP Instructions for various activities:

Step 1: Login as Circle Officer by clicking on the circle officer radio button.



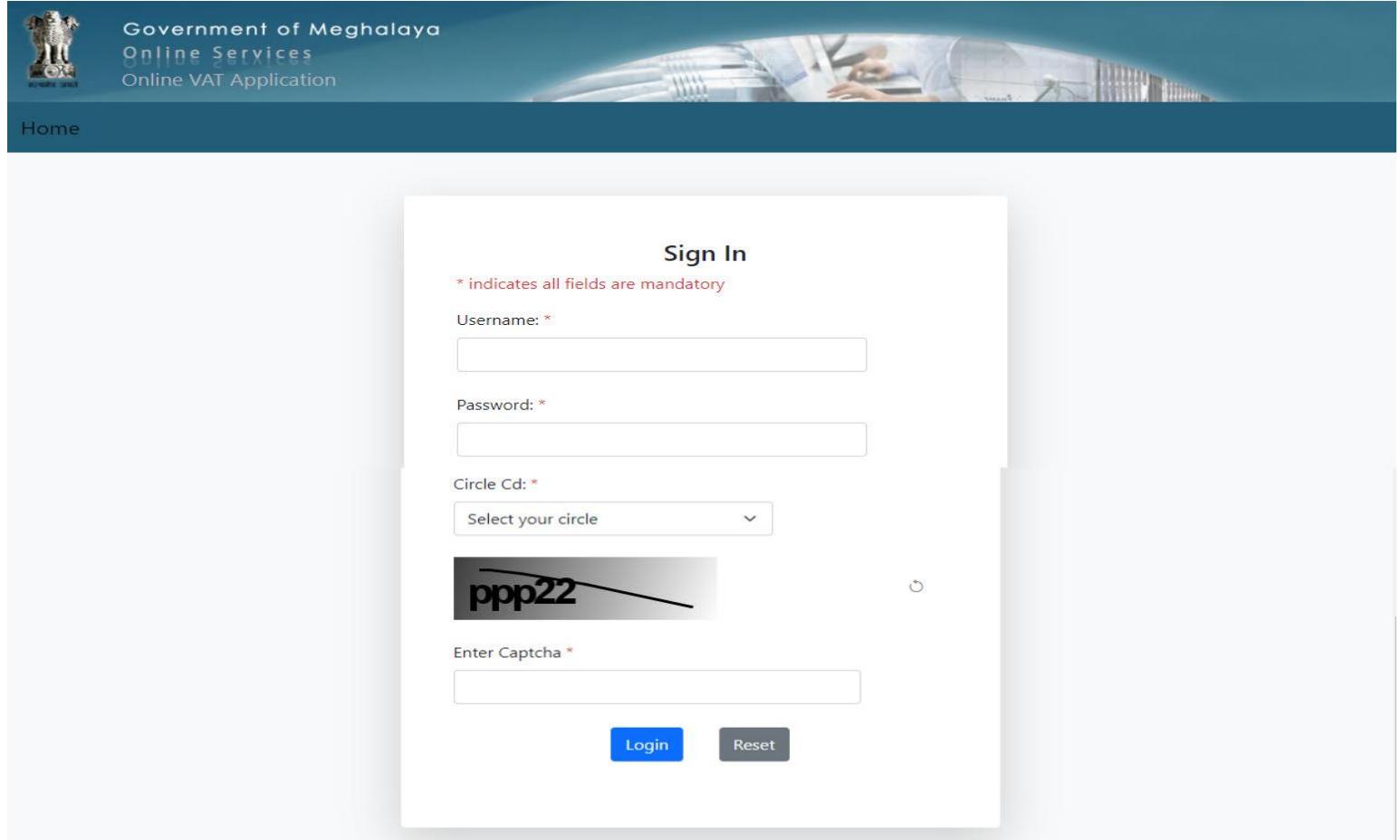
Government of Meghalaya  
Online Services  
E-return Application

WELCOME TO TAXATION DEPARTMENT  
Government of Meghalaya

SELECT THE CATEGORY PLEASE

Dealer       Circle Officer

Step2: Enter the correct login credentials assigned by the Department. Each ST will be provided with a unique Password.



Government of Meghalaya  
Online Services  
Online VAT Application

Home

Sign In

\* indicates all fields are mandatory

Username: \*

Password: \*

Circle Cd: \*

Select your circle

ppp22

Enter Captcha \*

Login      Reset

Upon typing incorrect details, a message is displayed. Hence the user must enter the correct details to login.

Government of Meghalaya  
Online Services  
Online VAT Application

Home

### Sign In

\* indicates all fields are mandatory

Username: \*

Password: \*

Circle Cd: \*



Enter Captcha \*

Invalid details! Please try again

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Step 3: After successful login, the system will display all the Returns which have been filed online by the dealers under his/her jurisdiction. Click on the return number button to examine.

The screenshot shows the 'Pending Returns Filed by the Dealer' section of the portal. At the top, there's a banner with the Government of Meghalaya logo, 'Online Services', and 'Online VAT Application'. Below the banner, there are 'Menu' and 'Logout' buttons. The main content area has a blue header bar with the title 'PENDING RETURNS FILED BY THE DEALER'. Underneath, there's a search bar with dropdowns for 'entries per page' (set to 10) and 'Search'. A table lists three pending returns with columns for Sl.No, Tin Number, Return Number, Period From (Month), Period From (Year), Period To (Month), and Period To (Year). The entries are:

Sl.No	Tin Number	Return Number	Period From (Month)	Period From (Year)	Period To (Month)	Period To (Year)
1	17042079090	<a href="#">e04160300022</a>	01	2016	03	2016
2	17042079090	<a href="#">e04151200021</a>	10	2015	12	2015
3	17042079090	<a href="#">e04150900020</a>	07	2015	09	2015

Below the table, it says 'Showing 1 to 3 of 3 entries' and has navigation buttons for '«', '<', '1', '>', and '»'. At the bottom of the page, there's a footer with the text '© Designed, Developed and Hosted by National Informatics Centre (NIC)'.

Step 4: The system will display the Return Form for the ST to examined the data online. The ST has the privilege to approve or reject the data if he/she wishes to do. After the ST is satisfied with the Returns, he/she clicks on the Approve Button but if the ST is not satisfied with the Returns, he/she clicks on the Reject Button. Once he/she clicks on the approve or reject button the record is locked and cannot be edited anymore.



DETAILS OF THE RETURN SUBMITTED BY THE REGISTERED DEALER  
SALES TAX DEPARTMENT  
MEGHALAYA

Tin No of the dealer:	17042079090
1. Name of the Dealer:	WAR BANKITLANG
2. Trade name of business:	M/S POWER BLOCKS
3. Address of the principal post of business:	29 CANTONMENT SHILLONG EAST KHASI HILLS 793002

Period from	01	2016	Period to	03	2016
-------------	----	------	-----------	----	------

Any changes made to the fields will disable the Reject Action

<b>PURCHASES IN THE QUARTER (INPUT)</b>			<b>VALUE EXCLUDING VAT(A)</b>	<b>VAT CLAIMED(B)</b>
4	Exempt or non-creditable purchases :		0.00	0.00
5	5.00 ..% Rate Purchases :		94000.00	4700.00
6	13.50 ..% Rate Purchases :		0.00	0.00
7	1% Rate Purchases :		0.00	0.00
8	0 ..%Rate Purchases(Schedule V):		0.00	0.00
9	0 ..%Rate Purchases(Schedule V):		0.00	0.00
10	Total Amount Of Input Tax:			4700.00
<b>SALES IN THE QUARTER (OUTPUT)</b>			<b>VALUE EXCLUDING VAT(A)</b>	<b>VAT DUE(B)</b>
11	Exempt sales :		0.00	0.00
12	Zero Rate Sales-International Exports :		0.00	0.00
13	Zero Rate Sales-Others(CST Sales) :		0.00	0.00
14	Tax Due On Purchase Of Goods(if any):	0 %	0.00	0.00
15	5.00 ..% Rate Sales :		0.00	0.00
16	13.50 ..% Rate Sales :		0.00	0.00
17	1.00 ..% Rate Sales :		0.00	0.00
18	(a). 0 ..%Rate Sales(Schedule V):		0.00	0.00
	(b). 0 ..%Rate Sales(Schedule V):		0.00	0.00
19	Total Amount Of Output Tax:			0.00
<b>TAX CALCULATION</b>				
20	Output Tax:			0.00
21	Add/Less: Adjustment to output Tax if any:-			
	(a)Sale Cancelled:			0.00
	(b)Return of Sold Goods:			0.00
	(a)Sale Cancelled		(i)To be Added :	0.00
			(ii)To be Subtracted :	0.00
<b>Total Adjustment:-</b>				0.00
22	Total Output Tax:			0.00
23	Input Tax credit on Purchases:			0.00
24	Add/Less: Adjustment to input Tax if any:-			0.00
	(+)Input Tax Credit on capital goods:			0.00
	(+)Increase on input Tax Credit due to debit note:			0.00
	(+)Other Adjustments if any(specify):			0.00
<b>Total Tax Credit:</b>				4700.00
	(-)Decrease in input tax credit due to credit note:			0.00
	(-)Tax credit reversed/disallowed for the use of goods for purpose other than for which credit is allowed			0.00
	(-)other adjustments(if any) :			0.00
25	Total Net Input Tax Credit:			4700.00
26	Tax Payable:			-4700.00
27	Interest/Penalty or other Dues:			0.00
28	<b>Total Dues:</b>			-4700.00
29	Less:Tax Deducted At Source			0.00
30	Balance/Excess Paid:			0.00
31	Tax Paid			0.00
32	Balance Due:			0.00
33	Adjusted Against central Sales Tax liability:			0.00
34	Refund Claimed:			0.00
<b>Balance Carried Forward to Next Period:</b>				4700.00

Approve

Reject

Step 5: A popup window will open after clicking on the approve button asking for the confirmation, which will be confirm by adding a remark and then clicking on the Submit button. This action will freeze the record and no one will be able to modify it hereafter.

29 Less:Tax Deducted At Source

30 Balance/Excess Paid:

31 Tax Paid

32 Balance Due:

33 Adjusted Against central Sales

34 Refund Claimed:

Balance Carried Forward to Next Period: 4700.00

Approve      Reject

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Now if the ST is not satisfied with the returns, a popup window will open after clicking on the reject button asking for the confirmation, which will be confirm by adding a remark and then clicking on the Submit button. This action will freeze the record and no one will be able to modify it hereafter.

29 Less:Tax Deducted At Source

30 Balance/Excess Paid:

31 Tax Paid

32 Balance Due:

33 Adjusted Against central Sales

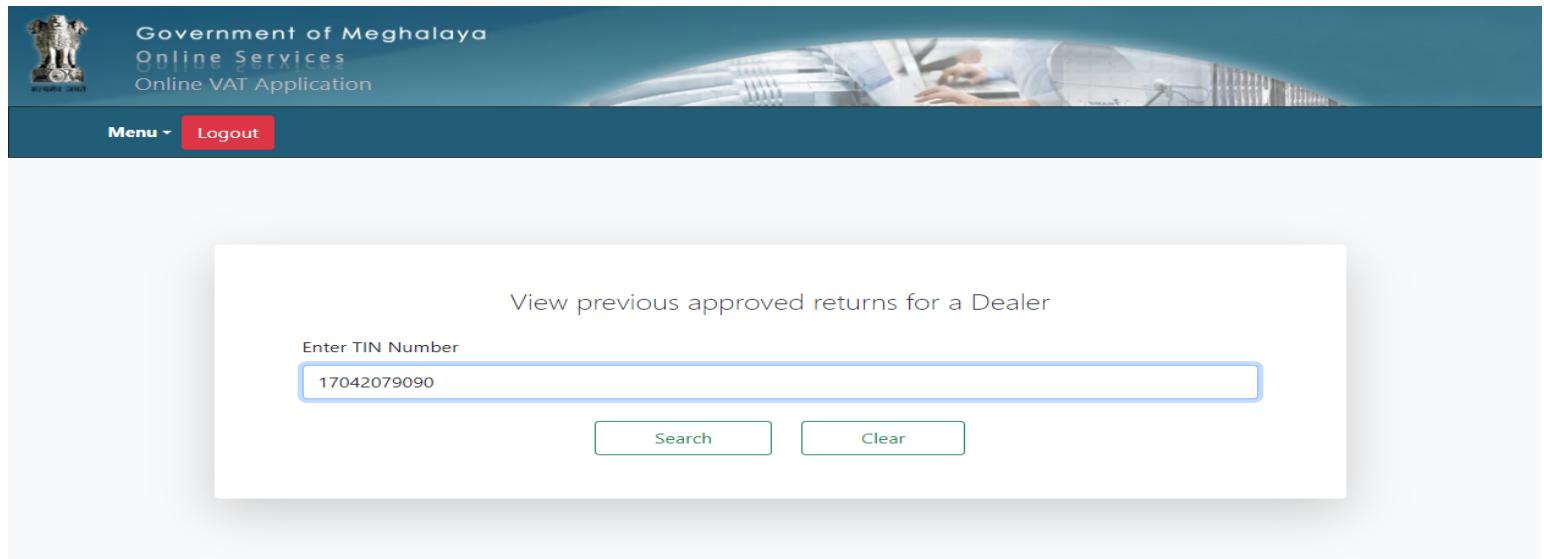
34 Refund Claimed:

Balance Carried Forward to Next Period: 4700.00

Approve      Reject

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**Step 6:** After the return has been approved by the user, the system will ask you to enter for the Tin number.



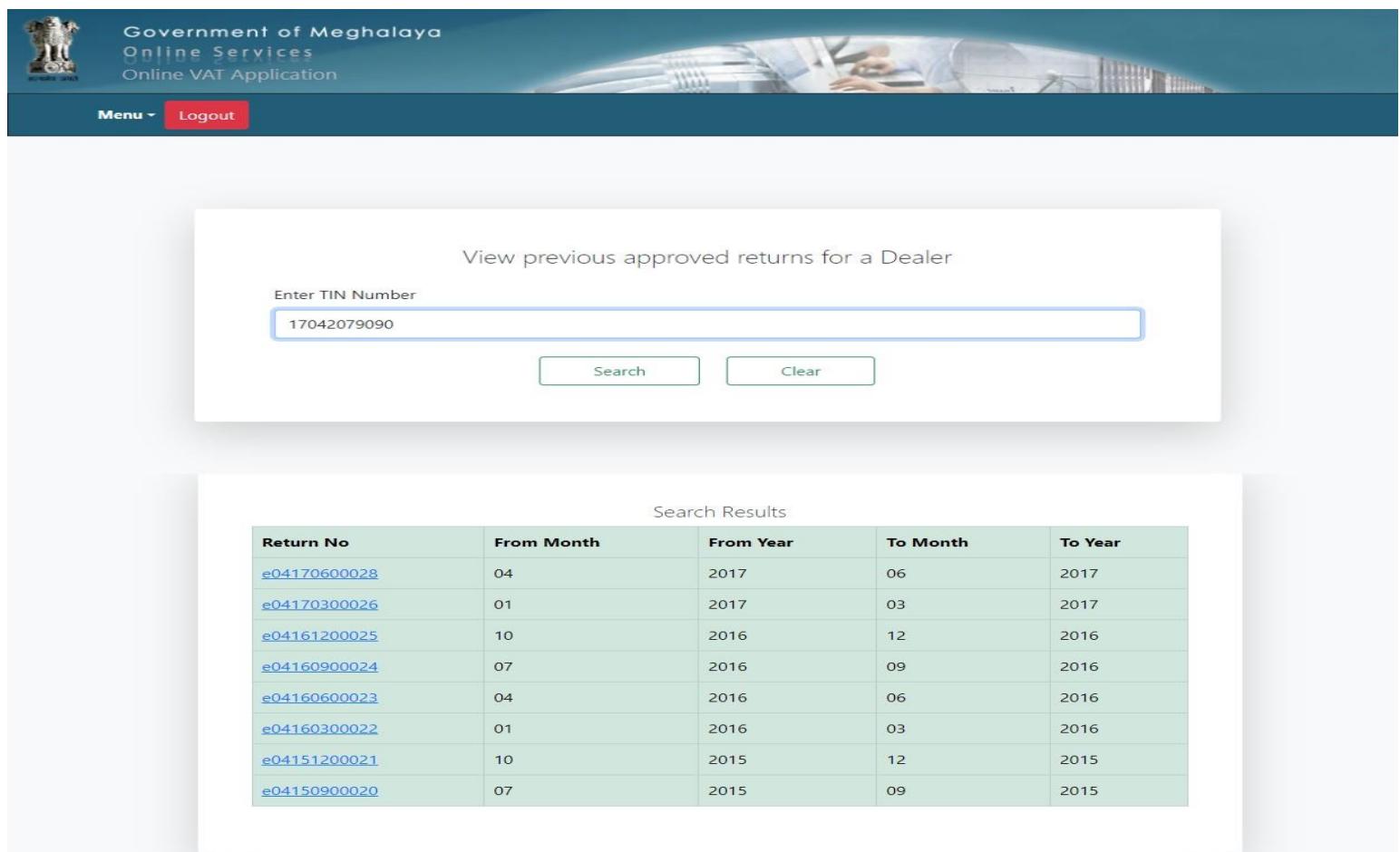
View previous approved returns for a Dealer

Enter TIN Number

17042079090

Search      Clear

After you have entered the correct Tin Number, the system will display a similar screen as before but this time the return numbers that have been approved will appear on the screen.



Search Results

Return No	From Month	From Year	To Month	To Year
e04170600028	04	2017	06	2017
e04170300026	01	2017	03	2017
e04161200025	10	2016	12	2016
e04160900024	07	2016	09	2016
e04160600023	04	2016	06	2016
e04160300022	01	2016	03	2016
e04151200021	10	2015	12	2015
e04150900020	07	2015	09	2015

But if you have entered the incorrect Tin Number, the system will display a message.

The screenshot shows the 'View previous approved returns for a Dealer' page. At the top, there is a header with the Government of Meghalaya logo, 'Online Services', and 'Online VAT Application'. Below the header is a navigation bar with 'Menu' and 'Logout' buttons. The main content area has a heading 'View previous approved returns for a Dealer'. It includes a form with a placeholder 'Enter TIN Number' and two buttons: 'Search' and 'Clear'. A yellow banner at the bottom states 'No returns exist for this Tin Number.' In the footer, there is a copyright notice: '© Designed, Developed and Hosted by National Informatics Centre (NIC)'.

Step 7: After the return has been approved by the user, the system will ask you to enter the dates which will display the Return Number and the Tin Number.

The screenshot shows the 'View Returns By Return Period' page. At the top, there is a header with the Government of Meghalaya logo, 'Online Services', and 'Online VAT Application'. Below the header is a navigation bar with 'Menu' and 'Logout' buttons. The main content area has a heading 'View Returns By Return Period'. It includes a form titled 'Select Return Period' with two dropdown menus for 'From' and 'To' dates. Below the form are 'Search' and 'Clear' buttons. A yellow banner at the bottom states 'No returns exist for this period.' In the footer, there is a copyright notice: '© Designed, Developed and Hosted by National Informatics Centre (NIC)'.

After you have entered the correct dates, the system will display a similar screen as before but this time the return numbers and tin numbers that have been approved will appear on the screen.

The screenshot shows the 'View Returns By Return Period' section of the application. It features a 'Select Return Period' form with 'From' and 'To' date pickers, each with a 'select' placeholder. Below the form are 'Search' and 'Clear' buttons. The 'Search Results' table lists three entries:

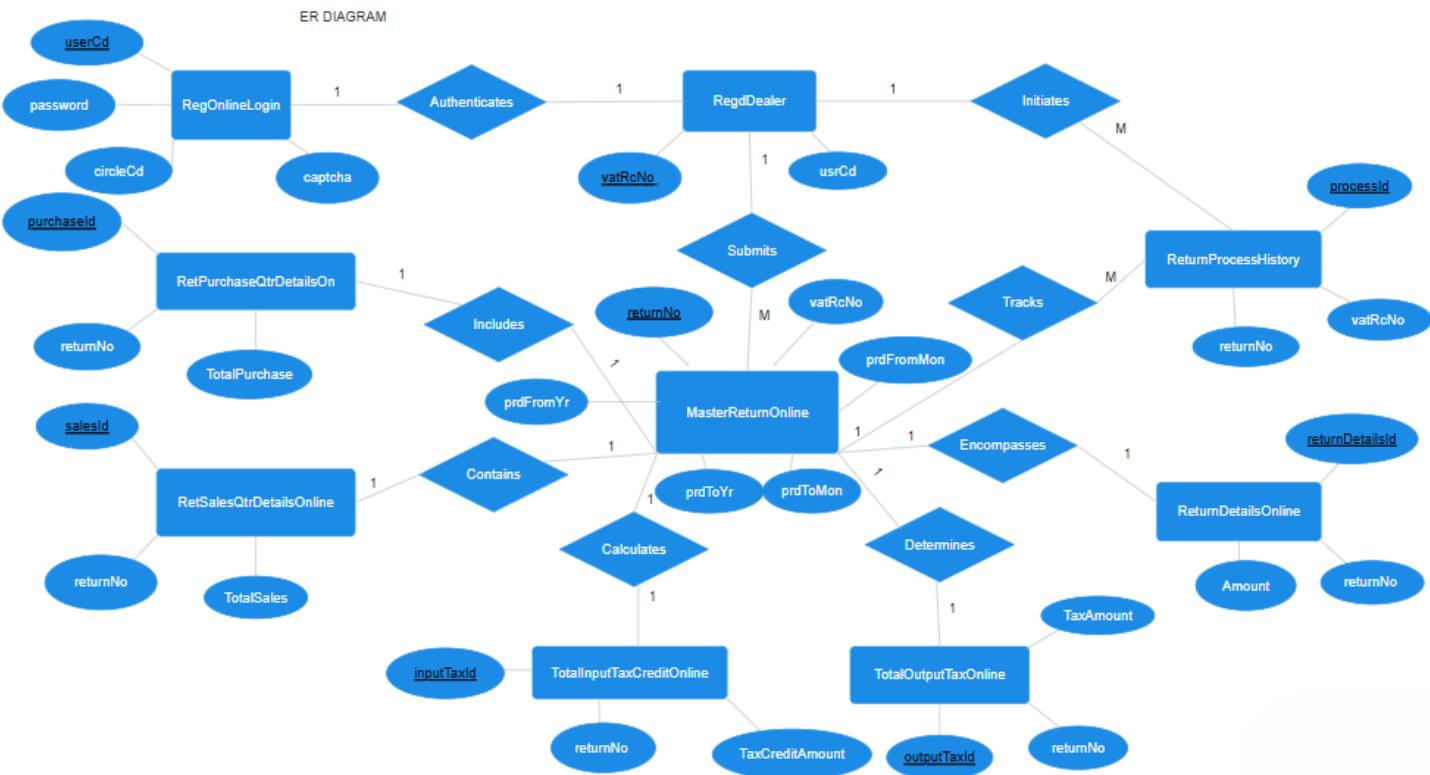
Return No	TIN No	From Month	From Year	To Month	To Year
<a href="#">e04160900013</a>	17041405037	07	2016	09	2016
<a href="#">e04160900024</a>	17042079090	07	2016	09	2016
<a href="#">e04160900017</a>	17042140006	07	2016	09	2016

At the bottom of the page, a footer bar contains the text: © Designed, Developed and Hosted by National Informatics Centre (NIC).

But if you have entered the incorrect dates, the system will display a message.



# ER DIAGRAM



## CONCLUSION

This project successfully demonstrates the power and flexibility of modern web development frameworks and technologies by integrating Bootstrap, Thymeleaf, Spring Boot, and PostgreSQL. The combination of these tools facilitated the creation of a responsive and dynamic web application with a clean and efficient architecture.

This project showcases the synergy between front-end and back-end technologies, delivering a robust and scalable web application. The experience gained through this integration sets a solid foundation for future projects and provides valuable insights into full-stack development using modern frameworks.