

SchoolBoost Documentation

2023 FBLA NLC Coding and Programming

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Documentation

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1. Software Documentation

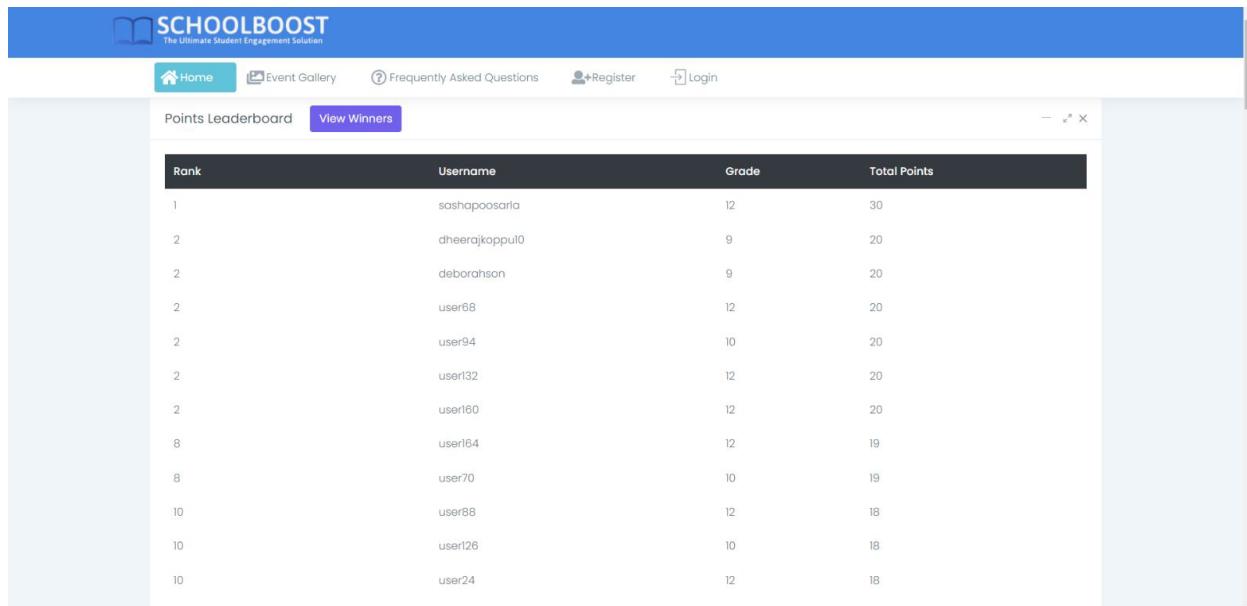
1.1 Overview

SchoolBoost is a semi-3-tier .NET-based program designed to improve student involvement in high school events. It tracks student participation and attendance, awards points, and offers prizes based on accumulated points. The program incentivizes students to engage in school events, promoting teamwork, leadership, and time management skills. By making it easier for schools to plan events and engage with their student body, SchoolBoost aims to enhance the overall school experience for students.

1.2 Home Page

Before running our application, please ensure that all required packages and libraries are installed. Visit section 4 for more information.

After running the application, the user is first greeted with the homepage. Please keep in mind that slight design variations may occur across devices. The webpage is fully responsive and can adapt seamlessly to any screen size.



The screenshot shows the SchoolBoost Points Leaderboard. At the top, there's a blue header bar with the SchoolBoost logo and the tagline "The Ultimate Student Engagement Solution". Below the header is a navigation menu with links for "Home", "Event Gallery", "Frequently Asked Questions", "Register", and "Login". The main content area displays a table titled "Points Leaderboard" with the following data:

Rank	Username	Grade	Total Points
1	sashapooosarla	12	30
2	dheerajkoppul0	9	20
2	deborahson	9	20
2	user68	12	20
2	user94	10	20
2	user132	12	20
2	user160	12	20
8	user164	12	19
8	user70	10	19
10	user88	12	18
10	user126	10	18
10	user24	12	18

- The home page is a simple front page that displays the student points leaderboard.

Menu Bar

- The home page is equipped with a menu bar. This menu bar allows you to navigate to other web pages by clicking on it.



- The menu bar changes based on the signed-in user's role. If the user is not signed in, it will show the menu bar shown above.

- If the user that is signed in is a student, the menu bar will show the following:



- If the user that is signed in is an admin, the menu bar will show the following:



- To navigate back to the homepage at any point, just click on 'Home' or the SchoolBoost logo located at the top of the page.



Leaderboard

- Next, we have the leaderboard functionality. The leaderboard displays the top students by points into one table.
- The leaderboard only shows data from the current quarter.
- The table shows different data depending on the role of the user signed in.
 - If the user is not signed in or is not a student, the leaderboard will display, regardless of grade level.

Points Leaderboard				View Winners
Rank	Username	Grade	Total Points	
1	user17	9	198	
2	user153	9	185	
3	user65	9	182	
4	user146	10	180	
5	user181	9	176	
5	user190	10	176	
7	user45	9	174	
8	user93	9	173	
9	user161	9	171	
10	user118	10	170	
11	user22	10	167	

- If the user signed in is a student, the leaderboard will only display other students in the user's respective grade level, as displayed in the example below where the signed-in user's grade level is 9.

Points Leaderboard		View Winners	
Rank	Username	Grade	Total Points
1	user17	9	198
2	user153	9	185
3	user65	9	182
4	user181	9	176
5	user45	9	174
6	user93	9	173
7	user161	9	171
8	user29	9	166
9	user133	9	165
10	user109	9	163
11	user149	9	160

1.3 Registration Page

The registration form fields are:

- First Name
- Last Name
- Username
- Password
- Confirm Password
- Email
- Grade: 9
- Country: United States of America

- If the user wishes to create an account with SchoolBoost, they will have to click register and will be redirected to the registration page.
- The Registration Page has multiple validators
- Invalid Entries
 - Email: If the email is not of a proper email format, such as xxx@xxx.com, it will prompt the respective error.
 - Password: If the password does not meet the minimum password complexity, the website will return the proper error

[Register](#) [Clear](#)

- Invalid Email
- Invalid Password

- Blank Fields

- First Name: If the user does not input a first name into the registration page, the website will return the respective error.
- Last Name: If the user does not input a last name into the registration page, the website will return the respective error.
- Password: If the user does not input a password into the registration page, the website will return the respective error as well as the invalid password error.
- Email: If the user does not input an email into the registration page, the website will return the respective error.

[Register](#) [Clear](#)

- First Name is required
- Last Name is required
- Password is required
- Email is required
- Invalid Password

- Duplicate Users

- If the user inputs an email that already exists in the SQL database, the program will output the respective error. As emails are uniquely tied to usernames/IDs, a duplicate email will also not allow duplicate usernames.

[Register](#) [Clear](#)

- Email already exists

- Email Confirmation for Account Creation

- After the user creates an account, they will see this prompt.

Success - Registration successful! Please check your email to confirm your email address.

- Upon completing the registration process, an email will be sent to the user's provided email address from schoolboostfbla@gmail.com, containing a verification link to confirm their email address.

Verify Email [Inbox](#) 

 schoolboostfbla@gmail.com
to me ▾

10:26 PM (3 minutes ago)    

Please click the following link to verify your email: [Verify](#).

- After clicking the verification link in the email, a confirmation message will be displayed indicating that the email has been successfully verified. The user will then be redirected back to the homepage.

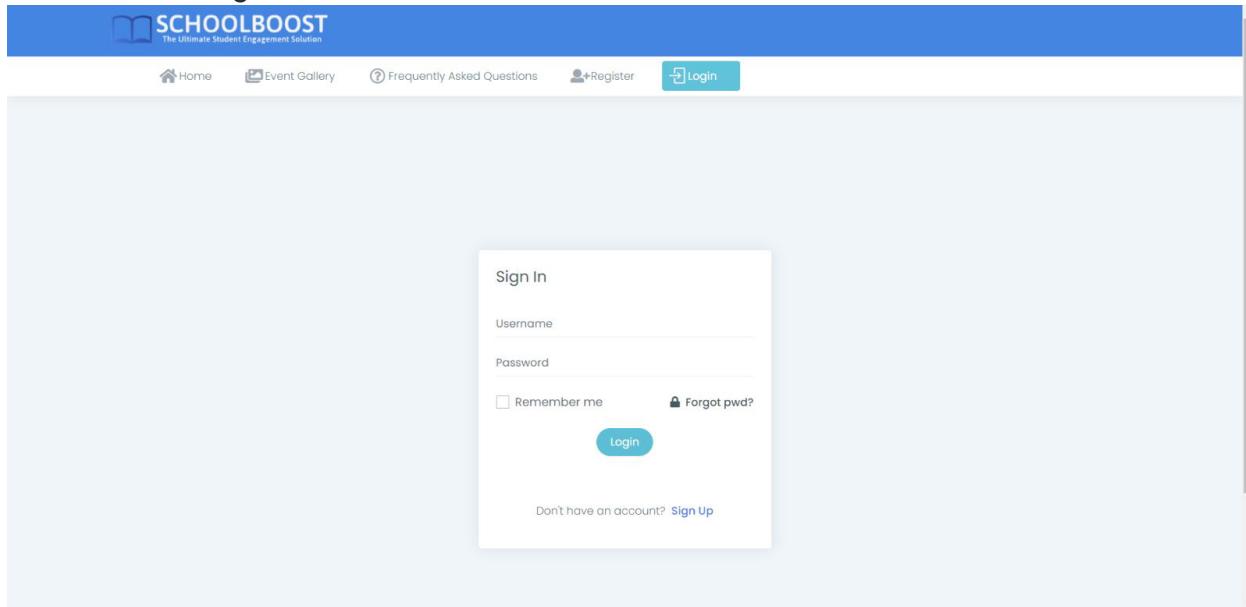
Email Verification

Your email has been successfully verified. Thank you!

[Go to Home Page](#)

1.4 Login Page

- Users can sign up by clicking on the 'Sign Up' button and following the registration process.
- Users can log in by entering their valid credentials on the login page and clicking on the 'login' button.



- The login page includes multiple validators to ensure that users enter their credentials correctly.

Black Username/Password

- If a user leaves the username or password field blank when attempting to log in, the program will prompt an error message in the respective category.

The image shows a 'Sign In' form. At the top, it says 'Sign In'. Below that is a 'Username' input field. Underneath it is a 'Password' input field, which has a yellow exclamation mark icon and the text 'Please fill out this field.' A checkbox for 'Remember me' and a link 'Forgot pwd?' are below the password field. A blue 'Login' button is centered. At the bottom, there's a link 'Don't have an account? [Sign Up](#)'.

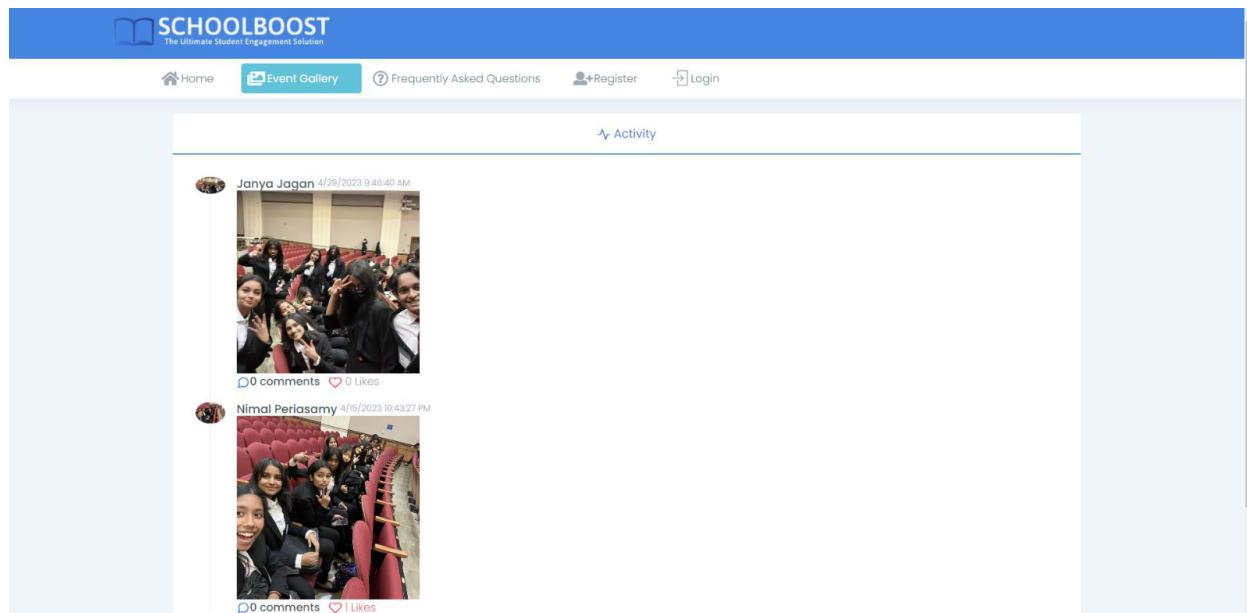
Invalid Username/Password

- If a user enters an incorrect or nonexistent username or password, the program will prompt an error message in the respective category.
- If the user does not verify their email, they will not be permitted to login to the program.

The image shows a 'Sign In' form. At the top, it says 'Sign In'. Below that is a red error box containing the text 'Error - Invalid Username/Password'. There are two input fields: one with 'sdf' and another with '...'. Below the inputs are checkboxes for 'Remember me' and 'Forgot pwd?'. A blue 'Login' button is centered. At the bottom, there's a link 'Don't have an account? [Sign Up](#)'.

1.5 Event Gallery Page

To view or upload pictures of students at events, users can access the Event Gallery webpage.



The Event Gallery Page has a variety of features:

■ Posting a Picture

- The 'Event Upload' button will vary depending on the user's role:
 - If the user is a student, they will have access to the upload button and can post pictures.

A screenshot of a file upload form. It shows a 'Choose File' button with 'No file chosen' next to it, and a purple 'Submit' button below it.

- If the user is an admin or not signed in, the upload button will be fully removed, and they will not be able to upload pictures.

■ Liking Posts

- Users can express their appreciation for other users' posts by clicking on the 'like' button.
- If the user has not already liked the post, the like count will be displayed in gray.



- If the user already liked the post, the like count will be displayed in red.



- To like a post, users simply need to click on the heart or the like counter, and the count will update accordingly.

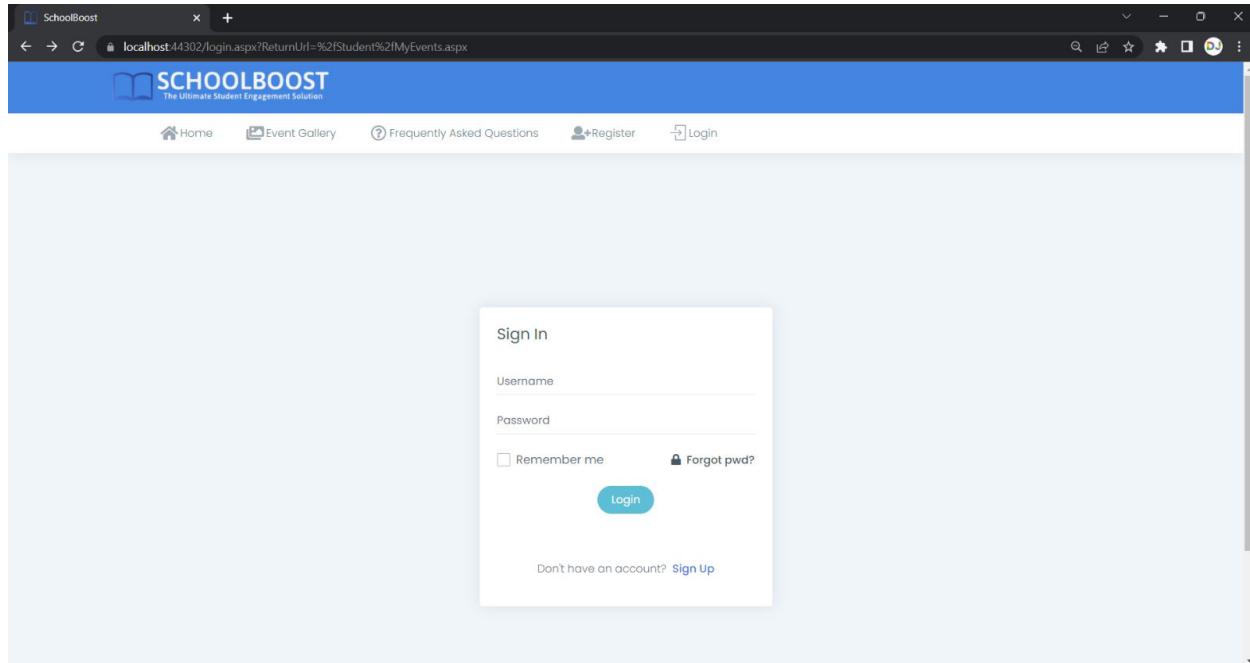
■ Deleting Posts



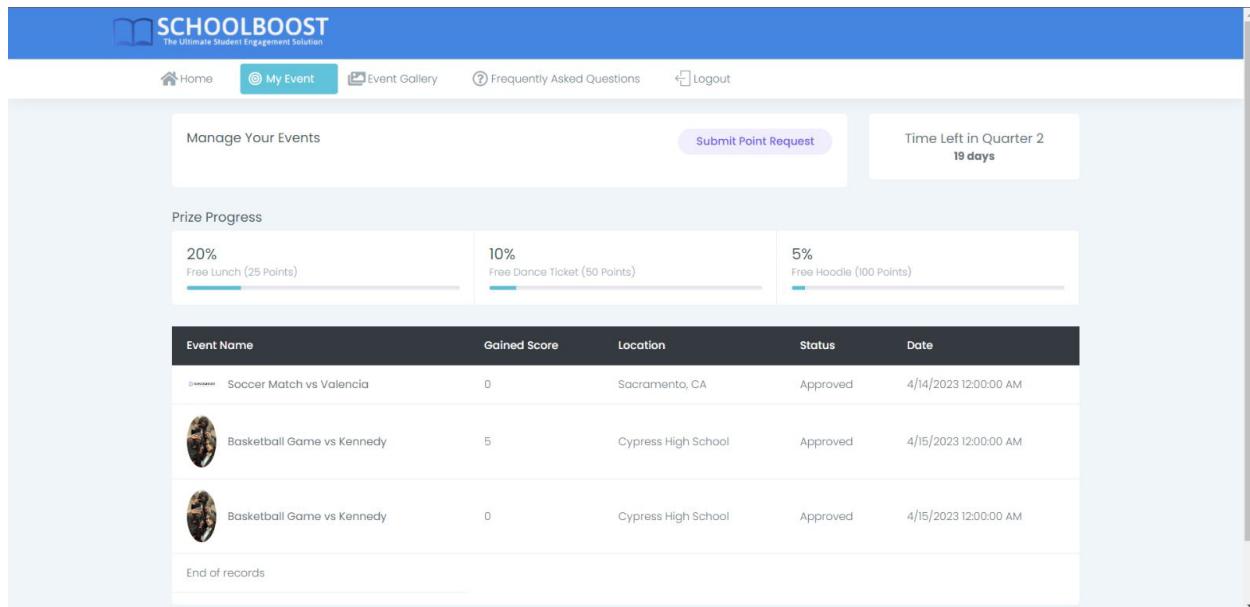
- Admins can delete posts by clicking on the 'delete' button located below each post.

1.6 My Events Page

- Upon successful login, if the user is a student, they will be automatically redirected to the 'My Events' page.



- If the user is not logged in and tries to access the My Events page, they will be redirected to the login page, which will redirect them to the My Events page upon successful login.



- The My Events Page has a variety of features for students:
 - Time Left in Quarter
 - The page displays the amount of time left in the current school quarter as well as the quarter number.
 - Prize Progress
 - The website shows the progress a student has made towards earning each of the available prizes, based on the points they have accumulated.
 - Event Table
 - The Event Table lists all the events the user has signed up for, including the event name, score, location, status, and date.
 - Submit Point Request:
 - Users can submit new events for verification by clicking on the 'Submit Point Request' button.
- After clicking on the 'Submit Point Request' button, users will be presented with a prompt to submit a new event for verification.

Submit Point Request

Basketball Game vs Kennedy

mm/dd/yyyy

--:-- --

Location Attended

Choose File No file chosen

Close **Submit**

- When users fill out the required entries for the new event submission prompt, the Event Table will be updated to include the new event as 'Pending' until it has been verified. No points will be given until the status has been changed to 'approved'.

Event Name	Gained Score	Location	Status	Date
FBLA State Leadership Conference	20	Sacramento, CA	Approved	4/27/2023 12:00:00 AM
Basketball Game vs Kennedy	0	Cypress High School	Pending	4/15/2023 12:00:00 AM
End of records				

- Upon submitting an event, the students will also receive a confirmation email.

Thank You for Submitting an Event [Inbox](#)

 schoolboostfbla@gmail.com
to me ▾

Fri, Apr 14, 6:01PM (2 days ago) [Star](#) [Reply](#) [Forward](#) [More](#)

Dear ashvinkoppu,

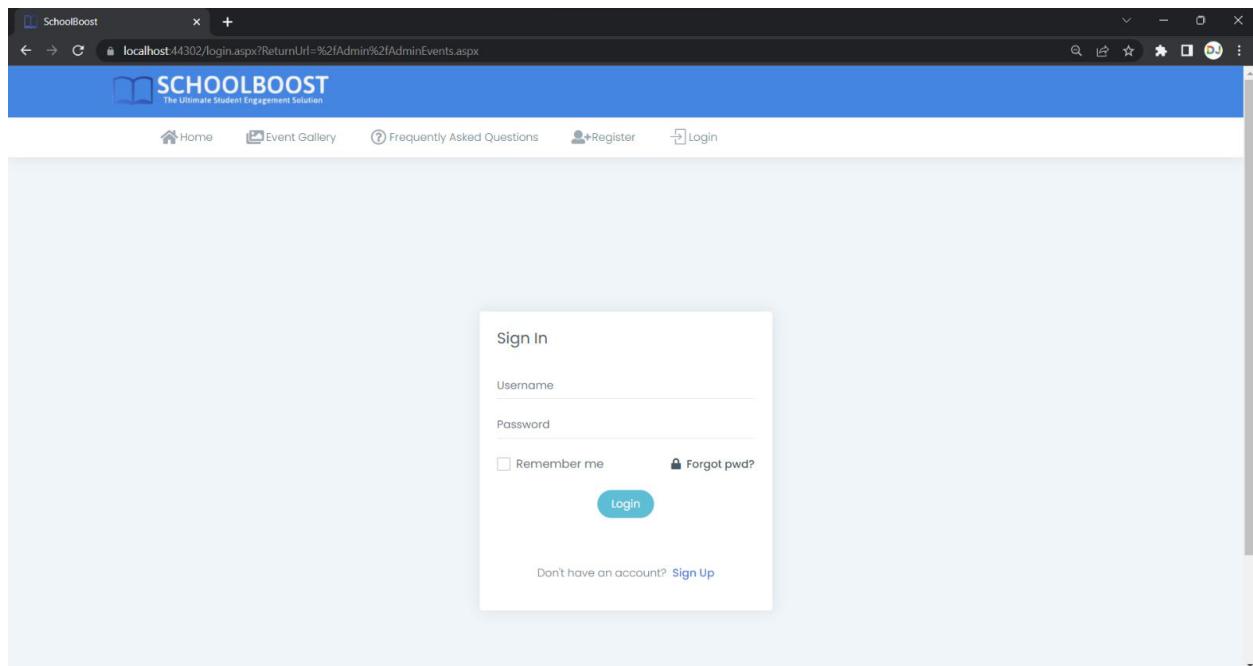
Thank you for submitting the event '**Basketball Game vs Kennedy**' on . We will review your request and let you know if it is accepted or rejected.

Regards,
SchoolBoost Team

[Reply](#) [Forward](#)

1.7 Admin Events Page

- Upon successful login, if the user is an admin, they will be automatically redirected to the 'Admin Events' page.



- If the user is not logged in and tries to access the Admin Events page, they will be redirected to the login page, which will redirect them to the Admin Events page upon successful login.

The screenshot shows the 'Manage Your Events' section of the SchoolBoost Admin Events page. It displays a table of events with the following columns: Event Name, Username, Score, Location, Status, Date, Action, and Bulk Update. The table contains several entries, each with a small thumbnail icon, a unique event name, a user's first name and last name, a score (ranging from 0 to 14), a location (e.g., Sacramento, test file), a status (Approved or Rejected), a date (e.g., 4/29/2023, 4/28/2023), and buttons for 'Update' and 'Approved'.

- The Admin Events Page has a variety of features for school administrators to control the program:
 - Time Left in Quarter
 - The page displays the amount of time left in the current school quarter as well as the quarter number.
 - Generate Report
 - Administrators can generate a report containing all student data by clicking on the 'Generate Report' button. The program will automatically compile and display the report.

The screenshot shows an Excel spreadsheet titled 'SchoolBoostStudentData'. The data is organized into columns: A (Student ID), B (Username), C (First Name), D (Last Name), E (Grade), F (Total Points), and G (Events Attended). The data consists of approximately 30 rows of student information, including names like Dheerajko Dheeraj, James Lebron, and AshvinKopAshvin, along with their respective student IDs, usernames, grades, total points, and the number of events attended.

- The generated report is an Excel file contains the following data:

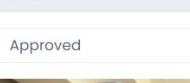
- Student ID
- Username
- First Name
- Last Name
- Grade
- Total Points
- Events Attended
- The Excel table is organized in ascending order by grade level.
- Administrators will receive an email with this report at the end of each quarter.

Event Name	Username	Score	Location	Status	Date	Action	Bulk Update
 FBLA State Leadership Conference	jjagan	0	Sacramento	Rejected	4/29/2023 12:00:00 AM	Update	<input type="checkbox"/> Approved ▾
 FBLA State Leadership Conference	hragavan	0	Sacramento	Rejected	4/28/2023 12:00:00 AM	Update	<input type="checkbox"/> Approved ▾
 Football Game vs Pacifica	user2	7	test file	Approved	4/21/2023 12:00:00 AM	Update	<input type="checkbox"/> Approved ▾
 Football Game vs Pacifica	user4	6	test file	Approved	4/21/2023 12:00:00 AM	Update	<input type="checkbox"/> Approved ▾
 Football Game vs Pacifica	user6	14	test file	Approved	4/21/2023 12:00:00 AM	Update	<input type="checkbox"/> Approved ▾
 Football Game vs Pacifica	user8	2	test file	Approved	4/21/2023 12:00:00 AM	Update	<input type="checkbox"/> Approved ▾
 Football Game vs Pacifica	user10	11	test file	Approved	4/21/2023 12:00:00 AM	Update	<input type="checkbox"/> Approved ▾

- Manage Events Table

- The Manage Events Table lists all events in pending status first, to help administrators prioritize their review process.
- The Manage Events Table lists the last 50 entries in the current quarter.

Update Event

User name	ashvinkoppu
Event Title	Basketball Game vs Kennedy
Score	0
Point Range	0 - 5
Status	Approved
Proof	

- To update the point value or status of an event, administrators can click on the 'Update' button.
 - When the 'Update' button is clicked, the website will display the relevant data for the selected student entry.
 - Administrators have the option to approve or reject the event submission based on the provided proof of the event. They can also assign a point value within the score range for the student's performance in the event.
 - After entering the appropriate data, administrators can update the record by clicking on the 'Update' button or exit the update menu by clicking on the 'Clear' button.

Event Status Update: Basketball Game vs Kennedy - Approved Inbox

 schoolboostfbla@gmail.com 3:09 PM (0 minutes ago) ☆ ↗ ⋮

to me ▾

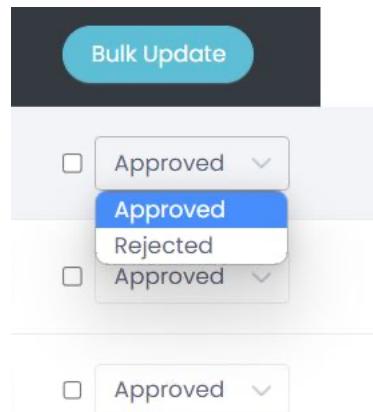
Dear Student,

Your event '**Basketball Game vs Kennedy**' status has been updated to '**Approved**'.

Regards,
SchoolBoost Team

Reply Forward

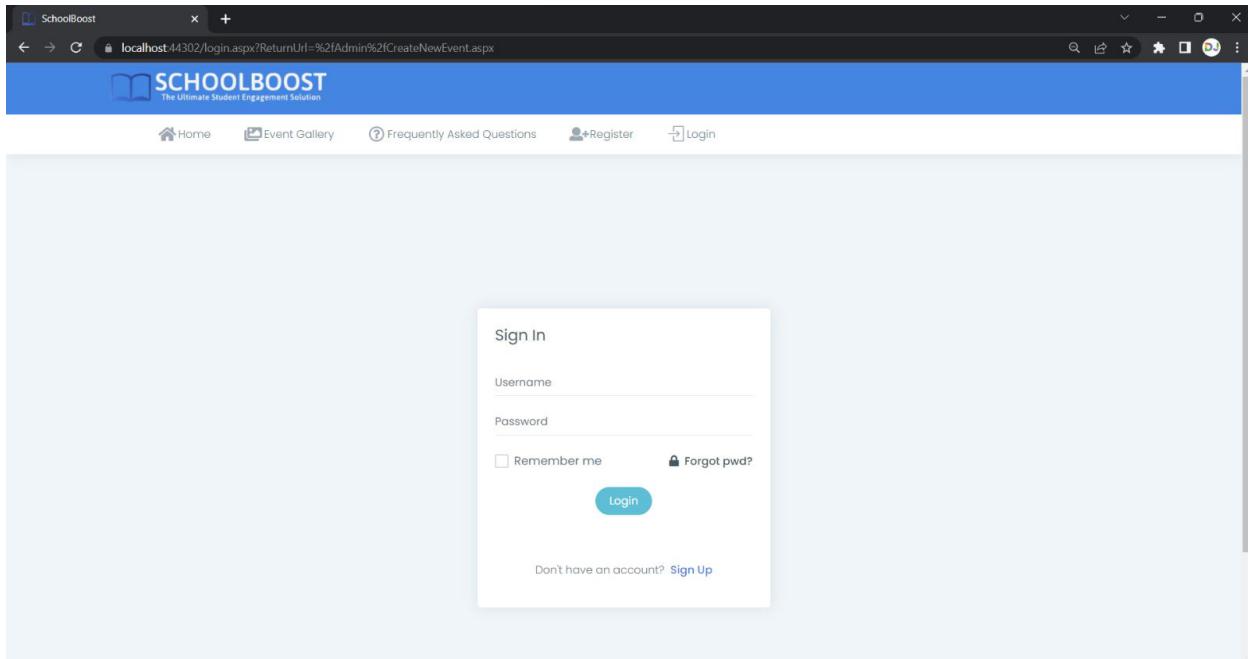
- Students will also receive an email regarding the status of their event.
- Bulk Update
 - If administrators want to bulk update events without manually reviewing each event submission, they can use the Bulk Update feature.



- Admins will click the checkbox next to each event they want to bulk approve and can choose the status for each event.
 - Choosing 'Approved' with Bulk Update will award students full points for the event.
 - Choosing 'Rejected' with Bulk Update will award students 0 points for the event.
- After all changes have been made, click the 'Bulk Update' button on the black table header to save them.
- Students will also receive an email regarding the status of their event.

1.8 View Events Page

- The View Events Page can be accessed through two methods:
 - Direct URL Entry
 - The URL could be entered into the search bar to reach the website.



- If a user tries to access the View Events Page without being signed in as an admin, the program will prompt them to log in with accepted credentials before allowing access.

- The Menu Bar



- Clicking on the 'View Events' button from the menu bar will redirect administrators to the View Events Page.

A screenshot of the 'View Events' page. The header shows the 'SCHOOLBOOST' logo and the 'View Events' link is highlighted in teal. Below the header is a table with columns: Event Name, Event Type, Start Date, End Date, Points, Status, Minimum Score, Maximum Score, and Action. The table lists several events: FBLA NLC, FBLA State Leadership Conference, Spring Dance, Prom, Seaperch Competition, Speech Club Debate, and Swimming Competition. Each row has 'Update' and 'Delete' buttons in the Action column.

Event Name	Event Type	Start Date	End Date	Points	Status	Minimum Score	Maximum Score	Action
FBLA NLC	Clubs	2023-04-30	2023-05-06	50	active	0	50	<button>Update</button> <button>Delete</button>
FBLA State Leadership Conference	Clubs	2023-04-27	2023-04-30	25	active	0	25	<button>Update</button> <button>Delete</button>
Spring Dance	Dances	2023-04-09	2023-04-10	10	active	0	10	<button>Update</button> <button>Delete</button>
Prom	Dances	2023-04-06	2023-04-06	10	active	0	10	<button>Update</button> <button>Delete</button>
Seaperch Competition	Clubs	2023-04-01	2023-04-01	5	active	0	5	<button>Update</button> <button>Delete</button>
Speech Club Debate	Clubs	2023-03-25	2023-03-25	5	active	0	5	<button>Update</button> <button>Delete</button>
Swimming Competition	Sports	2023-	2023-	5	active	0	5	<button>Update</button> <button>Delete</button>

- The View Events Page has a variety of features for school administrators to control the event aspect of the program:

- Event Table
 - The Event Table displays all school events in a tabular format, including the following information:
 - Event Name
 - Event Type
 - Start Date
 - End Date
 - Points
 - Status
 - Minimum Score
 - Maximum Score
- Create New Event
 - To add an event to the program, administrators can click on the 'Create New Event' button.

The screenshot shows a modal dialog titled "Create New Event". It contains the following fields:

- Enter Event Name
- Sports (dropdown menu showing "Sports")
- mm/dd/yyyy (date input field)
- mm/dd/yyyy (date input field)
- Enter Minimum Score
- Enter Maximum Score

Below these fields is an "Approval Type" section with two radio buttons: "Manual" (selected) and "Auto". At the bottom are "Close" and "Create" buttons, and a copyright notice: "All Rights Reserved by SchoolBoost."

- To create an event, administrators will need to enter the following details:
 - Event Name
 - Event Type (Dropdown with options of Sports, Dances, Clubs)
 - Start Date
 - End Date
 - Minimum Score
 - Maximum Score
 - Approval Type

- Administrators can choose one of the following options for an event:
 - Auto-Approval: The event will be automatically approved for students without any need for admin intervention.
 - Manual Approval: Admins will have to manually approve each student or use the bulk-update feature to approve multiple students at once.
- To exit this menu and return to the full View Events page, administrators can click on the 'Close' button.
- Upon event creation, the event will be added to the event table.

- Update Event

Event Name	Event Type	Start Date	End Date	Points	Status	Minimum Score	Maximum Score	Action
FBLA NLC	Clubs	2023-04-30	2023-05-06	50	active	0	50	<button>Update</button> <button>Delete</button>

- To update the details of an event, administrators can select the event in the Events Table and click on the 'Update' button.

Update Event

Event Name	FBLA NLC
Event Type	Clubs
Start Date	04/30/2023
End Date	05/06/2023
Points	50
Status	active
Minimum Score	0
Maximum Score	50

Update Close

- Administrators can edit the following information:
 - Event Type
 - Start Date
 - End Date
 - Status
 - Minimum Score
 - Maximum Score

- To save any changes made to event details, administrators must click on the 'Update' button. The updated data will then be reflected in the Event Table and throughout the program.
- To exit the update menu without saving changes, administrators can click on the 'Clear' button.

- Delete Event

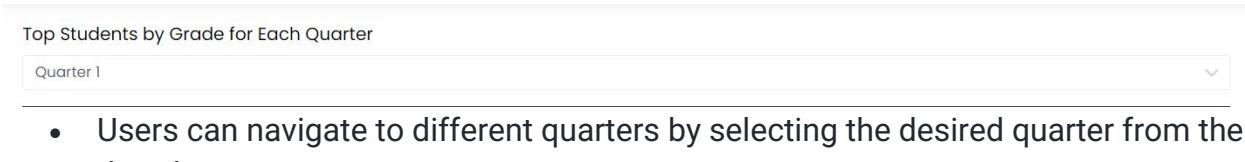
Event Name	Event Type	Start Date	End Date	Points	Status	Minimum Score	Maximum Score	Action
FBLA NLC	Clubs	2023-04-30	2023-05-06	50	active	0	50	<button>Update</button> <button>Delete</button>

- To delete an event, administrators can select the 'Delete' button on the event they wish to be deleted.
- Once the button is pressed, the event will be permanently deleted from the system.

1.9 Winners Page



- The Winners Page can be accessed through the homepage by clicking on 'View Winners' Button above the table.
- The View Winners Page shows the winners by quarter in grade level ascending order.



- Users can navigate to different quarters by selecting the desired quarter from the dropdown menu.
- The following information is displayed for each quarter.
 - The student with the most point accumulation per grade for that respective quarter.
 - A randomly selected winner per grade for that respective quarter.

Top Students by Grade for Each Quarter

Username	Grade	Quarter	Total Score	Winner Type
fmansuri	9	1	20	Top Scorer
user81	9	1	10	Random
user38	10	1	20	Top Scorer
user174	10	1	12	Random
user23	11	1	20	Top Scorer
user51	11	1	9	Random
user40	12	1	20	Top Scorer
user160	12	1	19	Random

End of records

All Rights Reserved by SchoolBoost.

- If that user tries to load a quarter that has not yet occurred or been completed, the system will display a notification on the table indicating that the results are not available.

Top Students by Grade for Each Quarter

Quarter

Info - The winners for this quarter are currently unavailable. We will announce the winners at the end of the selected quarter.

- The table will automatically update with the corresponding quarter data at 12:00:00 AM when the new quarter commences.

1.10 Frequently Asked Questions Page

- The Frequently Asked Questions Page can be accessed through the menu bar by clicking on 'Frequently Asked Questions'.

The screenshot shows the 'Frequently Asked Questions' section of the SchoolBoost website. At the top, there's a blue header bar with the SchoolBoost logo and the tagline 'The Ultimate Student Engagement Solution'. Below the header, a navigation bar includes links for 'Home', 'My Event', 'Admin Events', 'Event Gallery', 'Frequently Asked Questions' (which is highlighted in green), 'Register', and 'Login'. The main content area has a light gray background and features a title 'Frequently Asked Questions' and a search bar labeled 'Search...'. A list of questions is displayed in a table format, each with a collapse/expand arrow icon on the right:

Question	Action
How can I contact SchoolBoost if I have any questions?	▼
How can I create an event?	▼
How do I submit a point request?	▼
How can I generate a report with student data?	▼
How do I create an account?	▼
How do I post a picture of myself at an event?	▼
How do I edit an event's details?	▼
How do I logout?	▼
How do I login?	▼
How do I view the winners of each quarter?	▼
How do I view my prize progress?	▼
How do I view the time left in the quarter?	▼

- This page shows common frequently asked questions regarding the program.
- Users can navigate the Help Page in two ways:

This screenshot shows the same 'Frequently Asked Questions' page as above, but with a different visual style. It features a light gray header with the title 'Frequently Asked Questions' and a search bar labeled 'Search...'. Below the header, the list of questions is shown in a table format with collapse/expand arrows.

- By using the search feature
 - The search feature will intelligently filter out questions based on the keywords entered in the search bar.
- By browsing through each question manually.

This screenshot shows the 'Frequently Asked Questions' page with some questions expanded. The first question, 'How can I contact SchoolBoost if I have any questions?', is expanded, revealing its answer: 'If you have any questions or concerns, you can contact SchoolBoost by sending an email to schoolboostfbla@gmail.com. We aim to respond to all inquiries within 2 business days.' The second question, 'How can I create an event?', is also expanded.

- To access further information about a question, simply click on the question, and the relevant assistance will be displayed.
- For aesthetic purposes, the program permits only one question to be expanded at a time.
 - If you open a new question while another one is already expanded, the program will automatically close the previously opened question.

1.11 Usage Tips

In addition to the information regarding various features listed above, there are a handful of useful tips to know when using our application that will vastly improve your experience.

- To access the majority of program features, users must create an account.
- Users cannot become administrators automatically; administrator access must be manually granted by an authorized backend user.
- Clear your browsers cache to get rid of autofill entries anywhere throughout the program.

2. Source Documentation

2.1 Sources

Our application makes use of various files, libraries, and images.

- The icons and template used in our program were sourced from a purchased Bootstrap HTML Template for design purposes only.
- All program functionality, including but not limited to features, functions, and logic, have been created from scratch by our team.
- All images used throughout the program, including the SchoolBoost logo and user pictures, have been created by me.
- As necessary, we have imported libraries from Visual Studio to help support various program features and functions.

2.2 Image Documentation

Our application makes use of attraction images, application logos and icons.

- Program Design/Icons
 - <https://www.wrappixel.com/templates/materialpro/>
 - Available to the public for a fee
 - All rights belong to original author
- Logo image
 - Credits to team members for image use
 - Available to our project for free use
 - All rights belong to original author
- Sources for event submission images and event gallery are available in a folder entitled uploads.
 - Credits to team members for image use
 - Available to our project for free use
 - All rights belong to original author

2.3 Licenses

Our application makes use of various programs, libraries, and modules. We used such resources under specific rules and licenses, of which are outlined below.

- **Visual Studio:** Visual Studio is a software development tool and platform offered by Microsoft. It is used for developing applications for various platforms and programming languages. The program and its releases are open source, and it is also compatible with the GPL license, which guarantees users the freedom to run, study, share, and modify.
- **Microsoft:** The program uses imported libraries from Microsoft, which are subject to their own licensing agreements.

- **Microsoft SQL Server Management Studio:** Microsoft SQL Server Management Studio is a software application used for managing SQL Server databases. It is a programming tool for the back end and can be used to develop SQL Server applications.
- **Material Pro:** Material Pro is a premium HTML template used for the design and layout of this program.
- **DotNet:** DotNet is a widely used programming language and framework developed by Microsoft. It is publicly available and commonly used for developing Windows applications and web services.

3. System Requirements

3.1 Windows

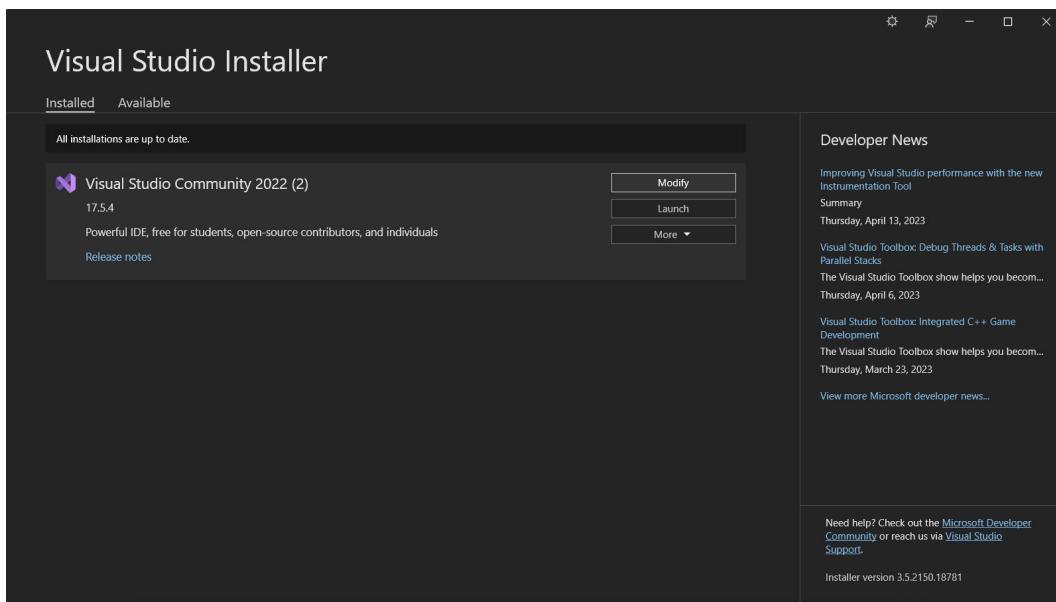
- Operating system must be **Windows 10** or above.
- Device must be able to install all of the necessary programs and libraries.
- Device must have at least **2 GB of RAM**.
- Device must have at least **800 MB of storage space**.

4. Requirements and Accessibility

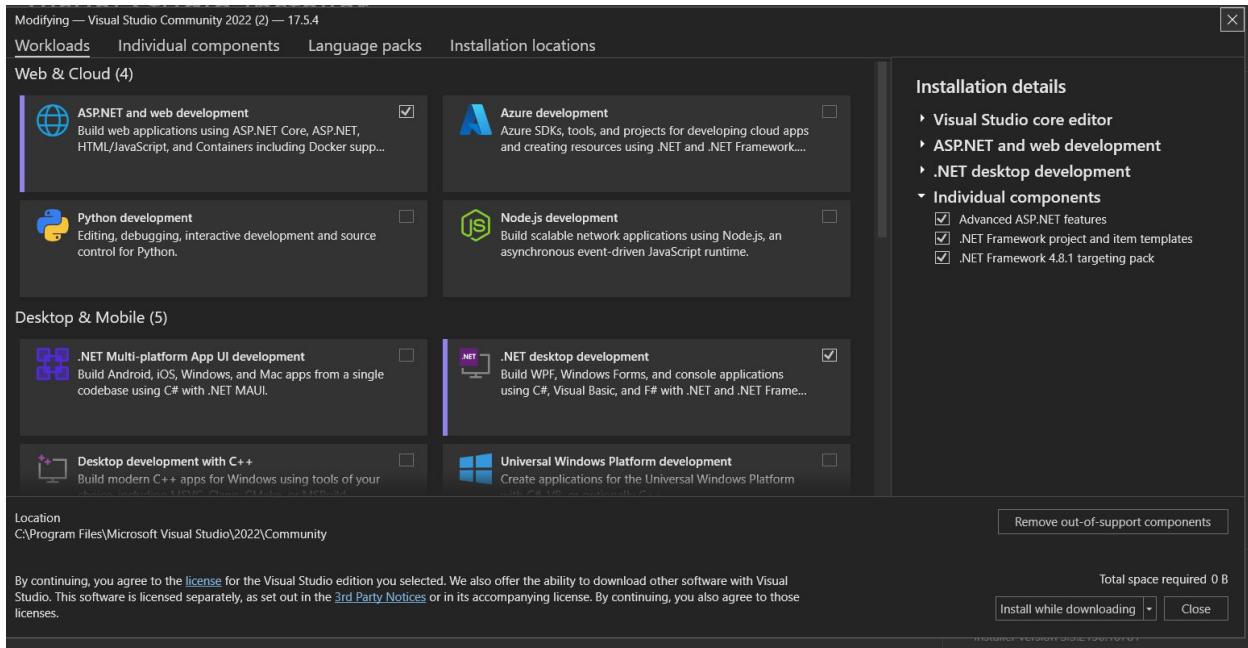
4.1 Application Required Programs

In our application, various programs and libraries are utilized. For the code to properly run, all the following must be properly installed and functioning.

- .Net, v4.8
 - .NET is a free, open-source, cross-platform development framework used for building applications on Windows, Linux, and macOS. It supports multiple programming languages and provides a vast library of pre-built components and tools, making it easier to develop, test, and deploy applications.
 - To install .Net:

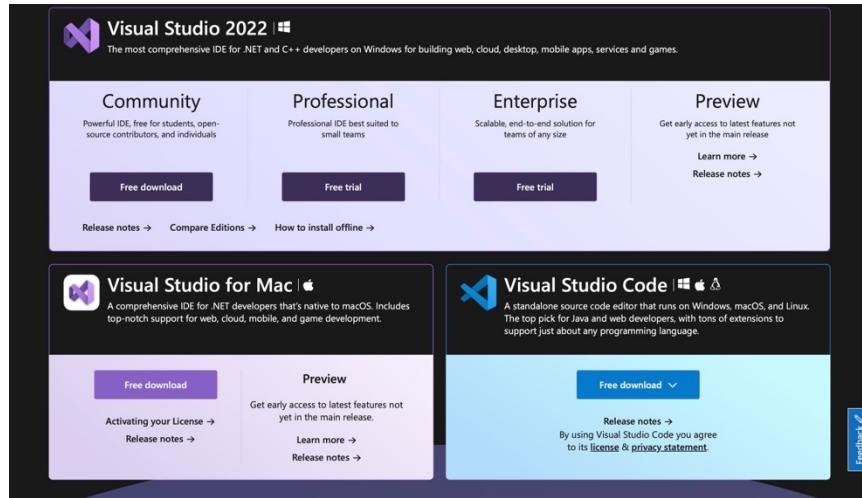


- Upon opening the Visual Studio Installer, click on 'Modify'



■ Select all the .Net options and follow its instructions until completion.

- Visual Studio v.17.5.4
 - For this project, Visual Studio was used for the development of the application. To find the system requirements and installation process:
<https://learn.microsoft.com/en-us/visualstudio/install/install-visual-studio?view=vs-2022>
 - To install Visual Studio:
 - Head to the official homepage for Visual Studio.



■ Download the Visual Studio installer and follow its instructions until completion.

- SQL Server Management Studio v19.0
 - Microsoft SQL Server Management Studio (SSMS) is a powerful tool used for managing and administering Microsoft SQL Server databases. It provides a user-friendly interface for database developers and administrators to interact with their databases, create queries, and perform various maintenance tasks. SSMS allows users to create, modify, and delete databases, tables, stored procedures, views, and more. It also provides powerful debugging, tracing, and profiling tools to help users troubleshoot issues and optimize their databases.
 - To find the system requirements and installation process:
<https://learn.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?view=sql-server-ver16>
 - To install SQL Server Management Studio:
 - Open the link shown above.

Download SSMS

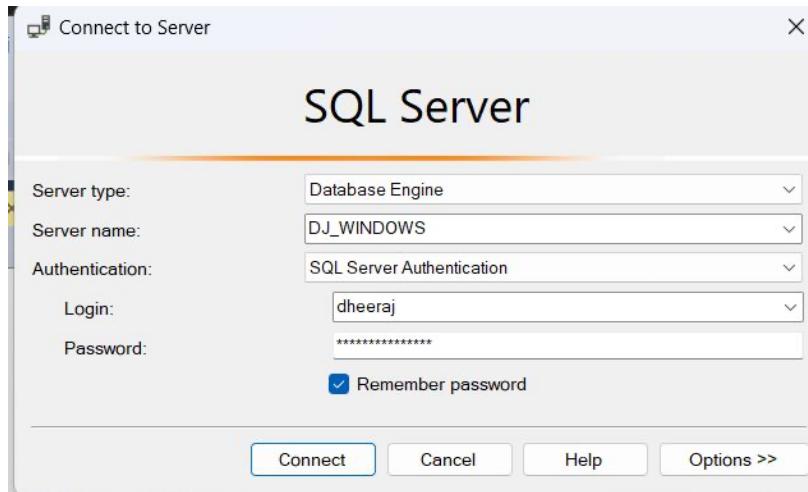
[Free Download for SQL Server Management Studio \(SSMS\) 19.0.2](#)

SSMS 19.0.2 is the latest general availability (GA) version. If you have a *preview* version of SSMS 19 installed, you should uninstall it before installing SSMS 19.0.2. If you have SSMS 19.x installed, installing SSMS 19.0.2 upgrades it to 19.0.2.

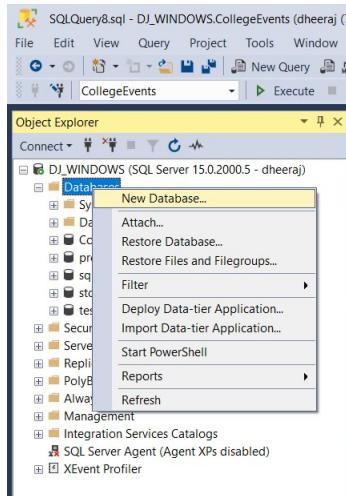
- Release number: 19.0.2
- Build number: 19.0.20209.0
- Release date: March 13, 2023

■ Click on ‘Free Download for SQL Server Management Studio (SSMS) 19.0.2’ and follow the following prompts for installation.

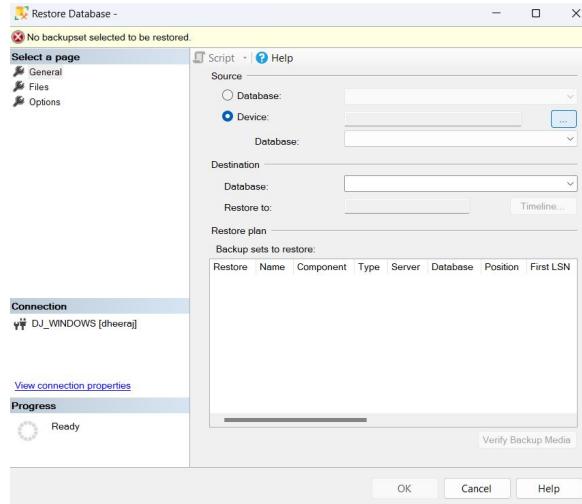
To add all the necessary SQL tables into the program:



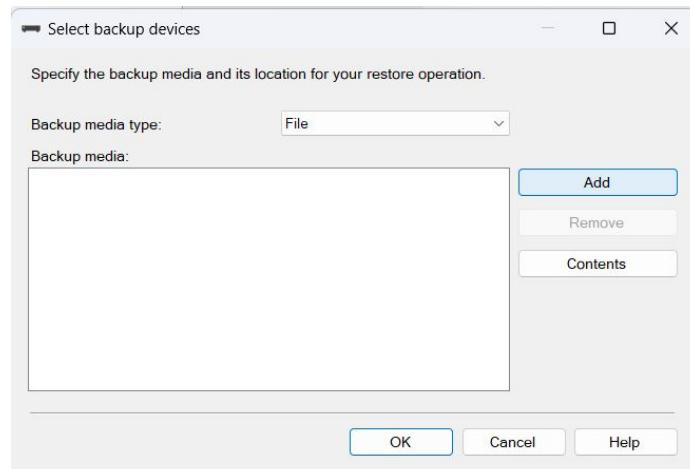
1. Connect to the SQL Server with your credentials.
2. Create a New Database called CollegeEvents in SQL Server Management Studio



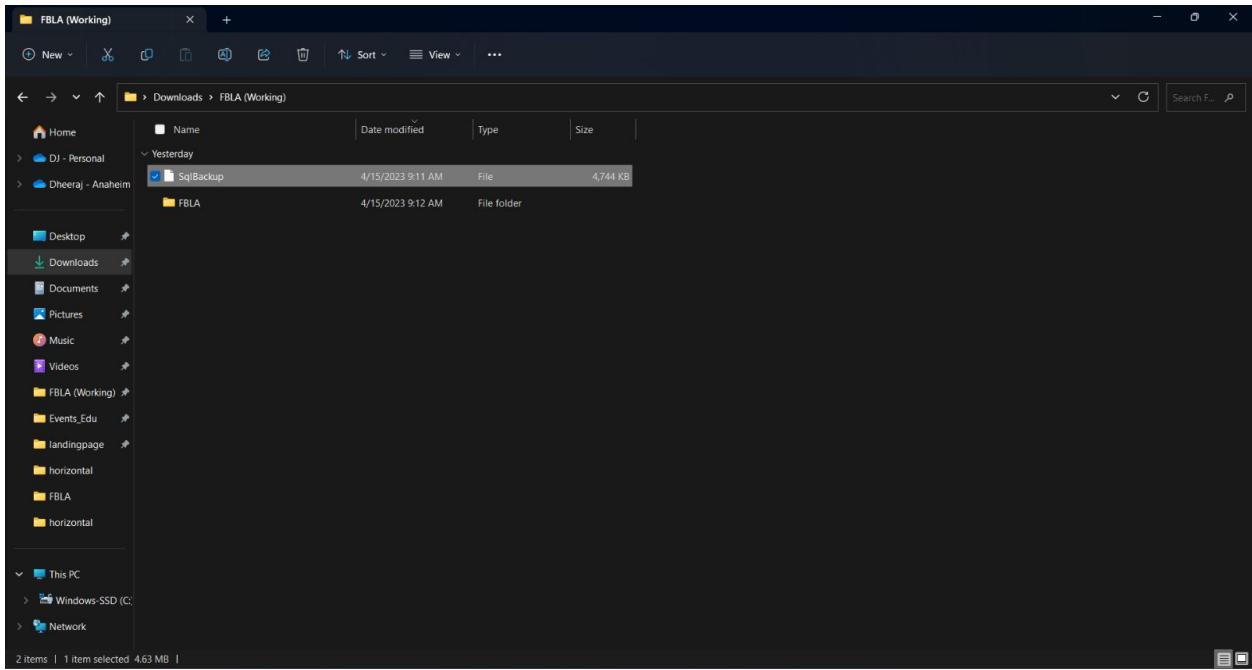
3. Right Click on Databases and Select Restore Database



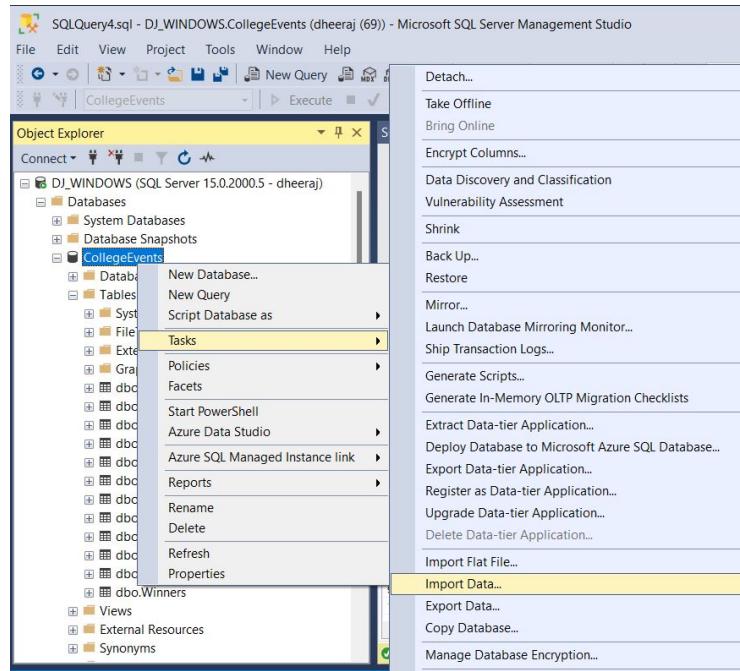
4. Select Device for the source and click on the '...' button.



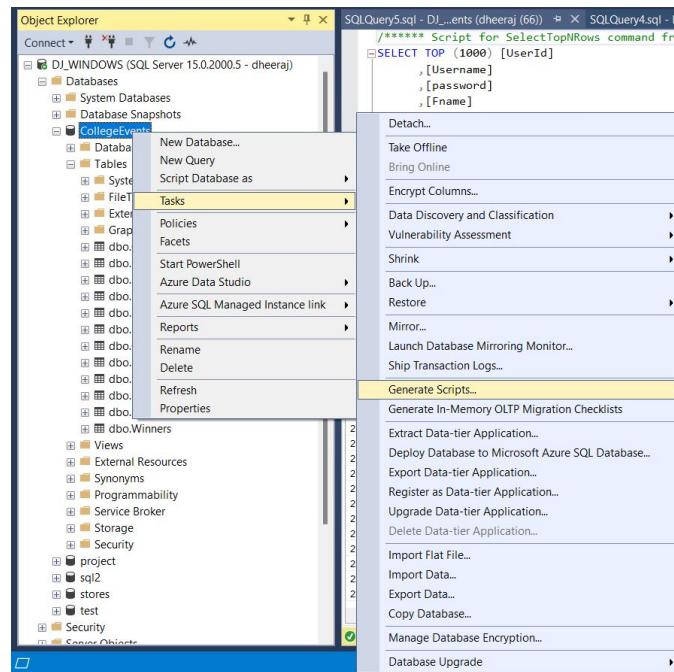
5. Select 'Add' for the source and click on the '...' button and navigate to the path of the SQL backup.



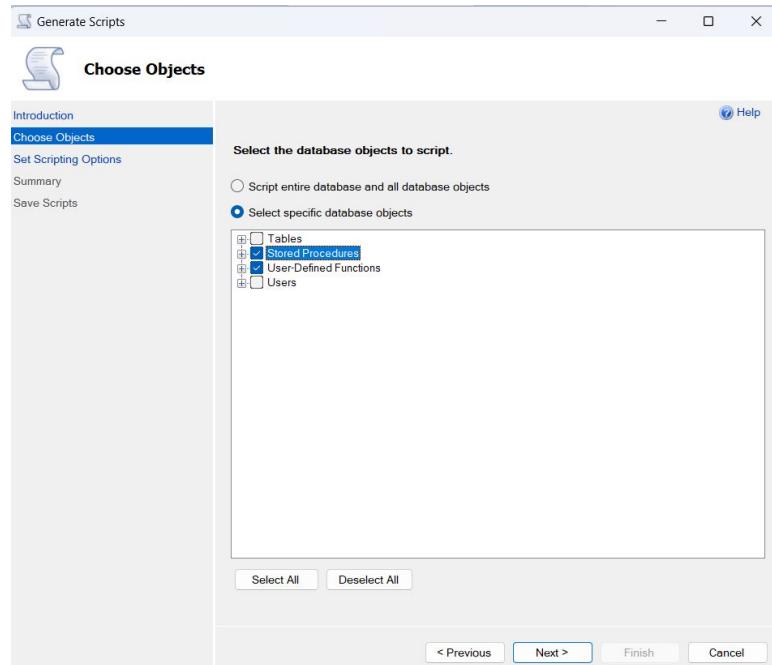
- Typically, the path would be 'C:\Users\<YOUR_USERNAME>\Downloads\SchoolBoost\SqlBackup'
- Click 'Ok' and 'Ok' again and follow the prompts to create the database.
- If you would like to erase all the data from the tables, use the command 'truncate <TABLE NAME>' on every table.
- Users can also activate backups of the database by connecting the database to an Azure account by doing the following:
 - Open up Azure Portal and buy a Database
 - Copy the login credentials and login to the SQL Server.
 - During the first time, to copy data to the SQL Server, do the following:



- Right Click on your local database and go to Tasks and Click Import Data.
- Follow the remaining prompts and copy all tables.
- To Import Stored Procedures



- Right Click on your local database and go to Tasks and Click Generate Scripts.



- Only Script Stored Procedures and User-Defined Functions.
- Follow the remaining prompts and paste it into the cloud database.

```

<?xml version="1.0" encoding="utf-8"?>
<!-- For more information on how to configure your ASP.NET application, please visit
      https://go.microsoft.com/fwlink/?LinkId=169433
-->
<configuration>
  <system.web>
    <compilation debug="true" targetFramework="4.7.2" />
    <httpRuntime targetFramework="4.7.2" />
    <authentication mode="Forms">
      <forms defaultUrl="default.aspx" loginUrl="login.aspx" timeout="20" />
    </authentication>
  </system.web>
  <connectionStrings>
    <add name="CollegeEventsConnectionString" connectionString=" providerName="System.Data.SqlClient" />
  </connectionStrings>

  <system.codedom>
    <compilers>
      <compiler language="c#;cs;csharp" extension=".cs" type="Microsoft.CodeDom.Providers.DotNetCompilerPlatform.CSharpCodeProvider, Microsoft.CodeDom.Providers.DotNetCompilerPlatform, Version=1.0.0.0, Culture=neutral, PublicKeyToken=31bf3856ad364e35" />
      <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb" type="Microsoft.CodeDom.Providers.DotNetCompilerPlatform.VBCodeProvider, Microsoft.CodeDom.Providers.DotNetCompilerPlatform, Version=1.0.0.0, Culture=neutral, PublicKeyToken=31bf3856ad364e35" />
    </compilers>
  </system.codedom>
  <runtime>
    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
      <dependentAssembly>
        <assemblyIdentity name="System.Runtime.CompilerServices.Unsafe" publicKeyToken="b03f5f7f1d50a3a" culture="neutral" />
        <bindingRedirect oldVersion="0.0.0-5.0.0.0" newVersion="5.0.0.0" />
      </dependentAssembly>
    </assemblyBinding>
  </runtime>
</configuration>

```

- To establish a connection between Dotnet and SQL, update the connection string ID within the Web.Config file with your own login credentials.

```

public bool ValidationEventName(string eventname)
{
    SqlConnection cn = new SqlConnection(connectionstring);
    SqlDataAdapter da = new SqlDataAdapter("select * from events where eventname='" + eventname + "'", cn);
    DataTable dt = new DataTable();
    da.Fill(dt);
    return dt.Rows.Count > 0;
}
4 references
public void Email(string htmlString, string toAddress, string subjectString, Attachment attachment = null)
{
    try
    {
        MailMessage message = new MailMessage();
        SmtpClient smtp = new SmtpClient();
        message.From = new MailAddress("schoolboostfbla@gmail.com");
        message.To.Add(new MailAddress(toAddress));
        message.Subject = subjectString;
        message.IsBodyHtml = true; //to make message body as html
        message.Body = htmlString;
        if (attachment != null)
        {
            message.Attachments.Add(attachment);
        }
        smtp.Port = 587;
        smtp.Host = "smtp.gmail.com"; //for gmail host
        smtp.EnableSsl = true;
        smtp.UseDefaultCredentials = true;
        smtp.Credentials = new NetworkCredential("schoolboostfbla@gmail.com", "");
        smtp.DeliveryMethod = SmtpDeliveryMethod.Network;
        smtp.Send(message);
    }
    catch (Exception) { }
}

```

- To send emails to users, update the email and password with your own respective username and password in the Validation.cs file.

4.2 Packages and Modules

- Microsoft Addons
 - These external libraries were used to provide additional functionality such as creating Excel files, encrypting passwords, and more.
 - To install the libraries:
 - Open the source in Visual Studio (see 4.3)

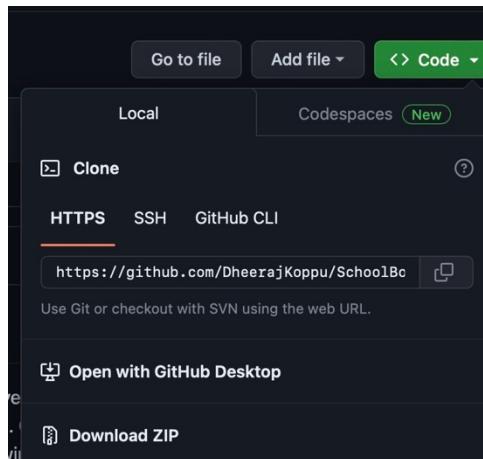
The screenshot shows the Microsoft Visual Studio interface. In the Solution Explorer on the right, there is one project named 'FBLA' containing files like 'ManageEvents.aspx.cs', 'ManageEvents.aspx', and 'Web.config'. In the center, there is a code editor displaying an ASPX page with C# code. The code includes a Repeater control, a table with rows, and various ASP.NET controls like buttons and labels. The status bar at the bottom indicates '83 %'.

- Right Click on the project name and click Manage NuGet Packages
- In the Browse Section, install the following if not already installed:
 - DocumentFormat.OpenXml
 - System.ValueTuple
 - System.Threading.Tasks.Extensions
 - System.Runtime.CompilerServices.Unsafe
 - System.Numerics.Vectors
 - System.Memory
 - System.Diagnostics.DiagnosticSource
 - System.Buffers
 - Microsoft.Extensions.Primitives
 - Microsoft.Extensions.Options
 - Microsoft.Extensions.Logging.Abstractions
 - Microsoft.Extensions.Logging
 - Microsoft.Extensions.DependencyInjection.Abstractions
 - Microsoft.Extensions.DependencyInjection
 - Microsoft.CodeDom.Providers.DotNetCompilerPlatform
 - Microsoft.Bcl.AsyncInterfaces

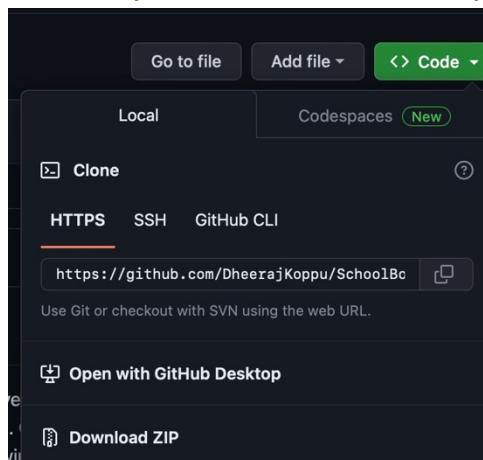
4.3 Accessing Source Code

- All necessary files for the application are stored on GitHub, a hosting site for project management and version control. The source code includes everything related to running our application and SQL tables as well. Commentary is provided to assist the process of running the source code.

- To access the source code and open it on your own device, several approaches can be taken.
 - a. Clone the code from GitHub onto your local Visual Studio. This can be done:
 - i. Through the [github.com](#) interface. The link to our GitHub repository can be found [here](#).



- b. Download the zip file from GitHub and open them in your local IDE.



- i. Download the ZIP file with all program files and unzip.

	Name	Date modified	Type	Size
	Web.Release.config	4/12/2023 11:29 PM	XML Configuration...	2 KB
	WebForm1.aspx	4/12/2023 11:29 PM	ASP.NET Server Pa...	1 KB
	WebForm1.aspx.cs	4/12/2023 11:29 PM	C# Source File	1 KB
	WebForm1.aspx.designer.cs	4/12/2023 11:29 PM	C# Source File	1 KB
	FBLA.csproj.user	4/12/2023 11:29 PM	Per-User Project O...	2 KB
	FBLA.sln	4/12/2023 11:29 PM	Visual Studio Solut...	2 KB
	Gallery.aspx	4/12/2023 11:29 PM	ASP.NET Server Pa...	22 KB
	Gallery.aspx.cs	4/12/2023 11:29 PM	C# Source File	1 KB

- ii. Navigate to FBLA.sln located in
 'C:\Users\<YOUR_USERNAME>\Downloads\SchoolBoost\FBLA\FBLA\FBLA.sln'
- i This file path assumes the zip file has been downloaded to the downloads folder.

- With all that, all the source code should be available on your own device.

5. Program Architecture

5.1 Program Structure

- Our application makes use of various technologies to track event participation to the user in a visual application. Additional intelligent features are also supported.
 - The home page of the application provides access to the menu bar and leaderboard, allowing users to navigate to other sections of the program.
 - Access to certain pages within the application may require user authentication, while others are available to all users.
 - Upon logging in as a student user, the My Events page is loaded with personalized data, such as points and event information.
 - The Admin Events page is accessible to administrators, providing a view of all event data and allowing for the creation and editing of events, as well as the management of student event point requests and report generation.
 - The leaderboard on the homepage highlights a student user's ranking among their peers.
 - The application also offers additional intelligent features such as the ability to upload event photos, a help menu including FAQs and documentation, and the ability to generate user reports.

5.2 Module purposes

- Different modules and libraries are imported with the goal of enhancing our application and improving the user's experience. Each respective library has a specialized purpose.
 - Creation of application and its architecture (Microsoft SQL Server Management Studio, .Net v4.8)
 - Improving user experience and elevating program functions (Material Pro, SQL Server Management Studio v19.0)

6. Version History

6.1 Previous Version(s)

- 1.0
 - Basic ability with limited error notifications
 - Limited functionality
 - Admins have limited functionality over the website controls
 - No Event Gallery Feature
 - No quarter functionality
 - No email verification/functionality
- 2.0
 - A homepage that dynamically changes the data shown based on user grade level.
 - Incorporates appropriate icons for menu bar items.
 - An Event Gallery Page where users can post pictures of themselves at events.
 - Shows time left in quarter.
 - Shows all data based on the current quarter.
 - homepage that dynamically changes the data shown based on user grade level.
 - Admin events table now filters to show pending events at the top before other event statuses.
 - Added functionality of the user report.
 - Added email functionality
 - Includes Events Count for each user
 - Added a Frequently Asked Questions Page.
 - Included a View Winners page that displays the names of program winners.
 - Added email verification.
 - Added comments throughout the code.

6.2 Current Version

- 3.0
 - Improved consistency throughout the tables displayed in the program.
 - Revised the available pages accessible from the menu bar.
 - Implemented daily SQL backups and hosting using Microsoft Azure.
 - Changed the grade picker on the registration page to a dropdown menu.
 - Moved the View Events page from Admin events to the Menu Bar.

- Added the Bulk Update Feature for managing large-scale events.
- Included an Approval Type toggle for event management.
- Streamlined actions that require scrolling to the bottom of the page, automatically directing users there.
- Enhanced the Frequently Asked Questions section.
- Introduced the ability to delete events.
- Moved some database query logic out of button event methods (semi 3-tier architecture).

6.3 Future Versions

- Make the website hosted on a web server.
- Increase user data protection and security.
- Increase performance.
- Add comment functionality for Event Gallery.
- Implement the Forgot Password Functionality.
- Add more error notifications for commonly arisen errors.
- Add the option to sign in via Google for added user convenience.
- Make code more efficient.
- Allow administrators to control more stuff through the GUI rather than through manual SQL entries.
 - Control Quarter Length
 - Delete Users
 - End Quarter
- Improve aesthetics of application.
- Add a 'View Profile' page where users and admin can view their profile and have the ability to change their username, password, email, etc.
- Usability across all 3 major operating systems (Windows, macOS, and Linux).
- Implement Paging functionality to tables.
- Incorporate Bootstrap Validators throughout the program.