

The IIE Varsity College

CLDV6211

Cloud Development A

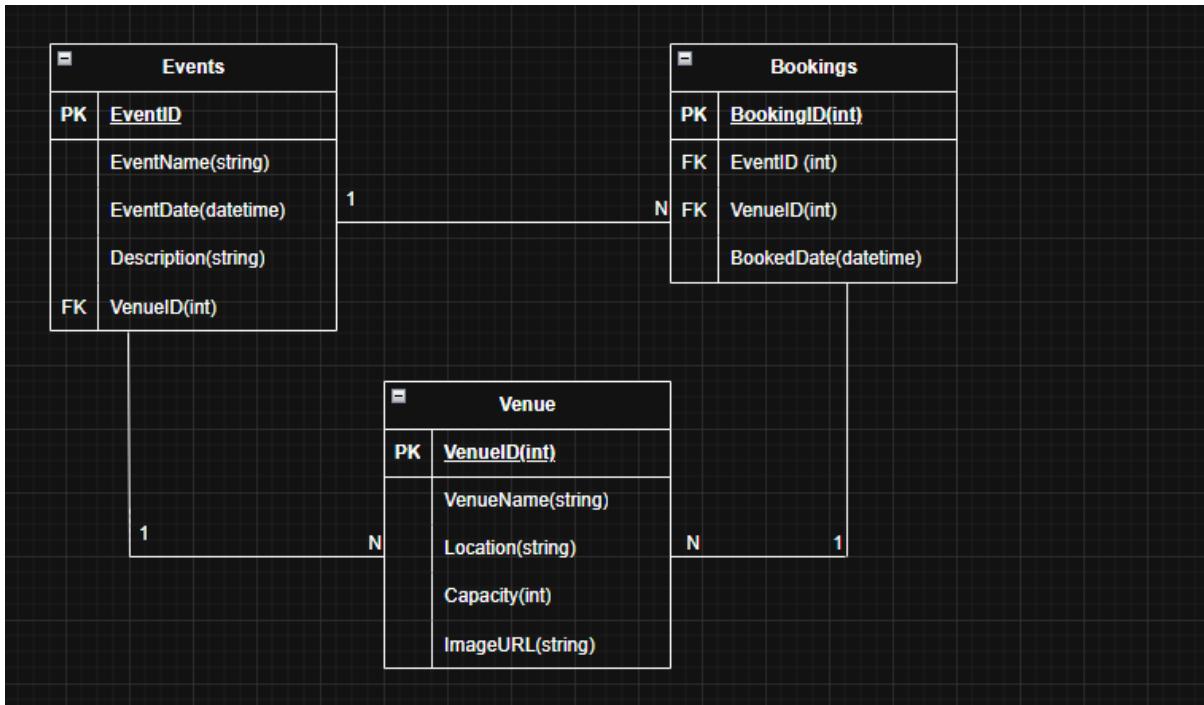
ST10088532

POE Part 1&2

Aobakwe Kegoriloe

Due Date: 07 April 2025

ERD diagram



Screenshots of Web App

Privacy'." data-bbox="118 546 876 829"/>

EventEasePOE Home Venues Event Booking Privacy

Welcome to EventEase

EventEase is your go-to platform for managing events and venue bookings efficiently. Our user-friendly interface allows booking specialists to easily browse available venues, view scheduled events, and manage bookings without the hassle of double bookings or scheduling conflicts.

With EventEase, you can:

- Quickly view and manage venue information.
- Schedule and organize events seamlessly.
- Ensure that all bookings are handled securely and efficiently.

[View Venues](#) [View Events](#) [View Bookings](#)

© 2025 - EventEasePOE - [Privacy](#)

Index - EventEasePOE

localhost:5035/Venues

EventEasePOE Home Venues Event Booking Privacy

Index

[Create New](#)

VenueName	Location	Capacity	ImageUrl
Ntsie street	Soweto	200	https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.schemecolor.com%2Fshades-of-blue.php&psig=AOvVaw3Deo4OO0LUU_LpiWNnRlb8&tust=1744132122518000&source=images&cd=vfe&opi=89978449&ved=0CBQC

© 2025 - EventEasePOE - [Privacy](#)

Events - EventEasePOE

localhost:5035/Events

EventEasePOE Home Venues Event Booking Privacy

Index

[Create New](#)

EventName	EventDate	Description	VenuelId
-----------	-----------	-------------	----------

© 2025 - EventEasePOE - [Privacy](#)

Create - EventEasePOE

localhost:5035/Events/Create

EventEasePOE Home Venues Event Booking Privacy

Create

Event

EventName
The Sundae Chronicles

EventDate
2025/04/27 13:00

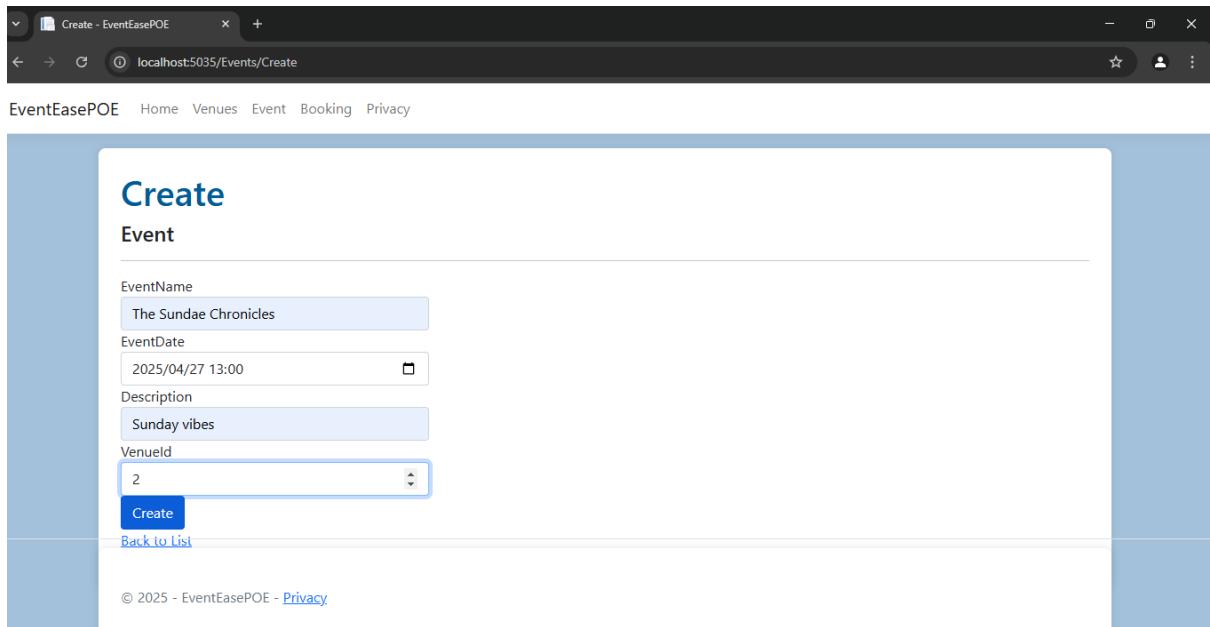
Description
Sunday vibes

VenuelId
2

[Create](#)

[Back to List](#)

© 2025 - EventEasePOE - [Privacy](#)



Bookings - EventEasePOE

localhost:5035/Bookings

EventEasePOE Home Venues Event Booking Privacy

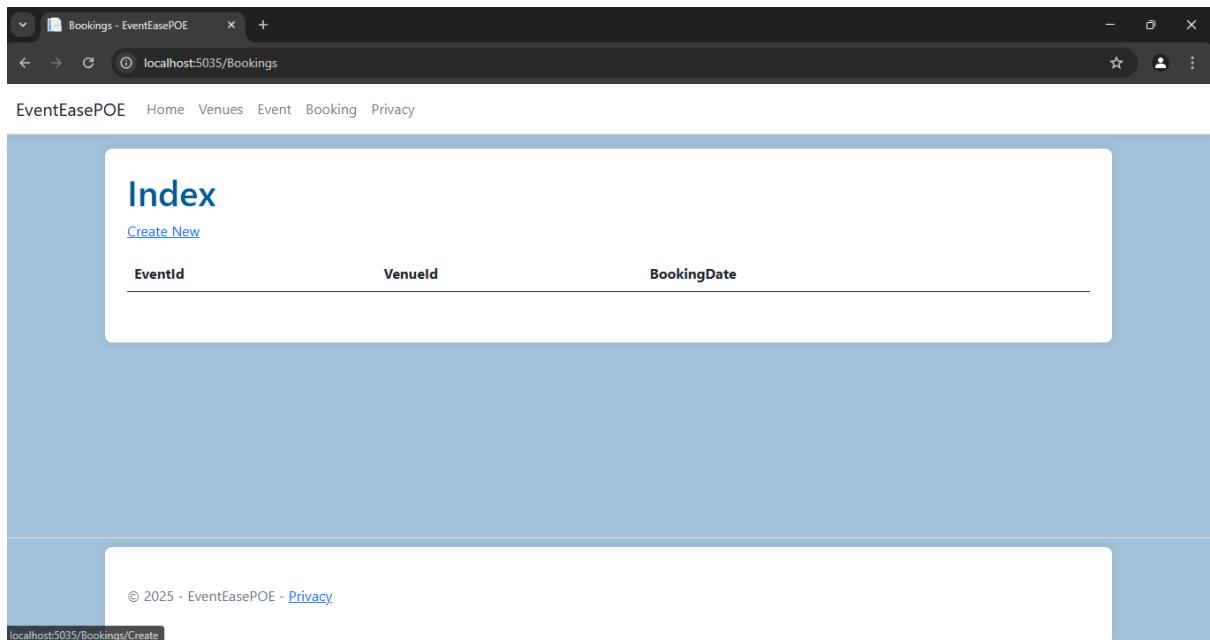
Index

[Create New](#)

EventId	VenuelId	BookingDate
---------	----------	-------------

© 2025 - EventEasePOE - [Privacy](#)

localhost:5035/Bookings/Create



Create - EventEasePOE

localhost:5035/Bookings/Create

EventEasePOE Home Venues Event Booking Privacy

Create

Booking

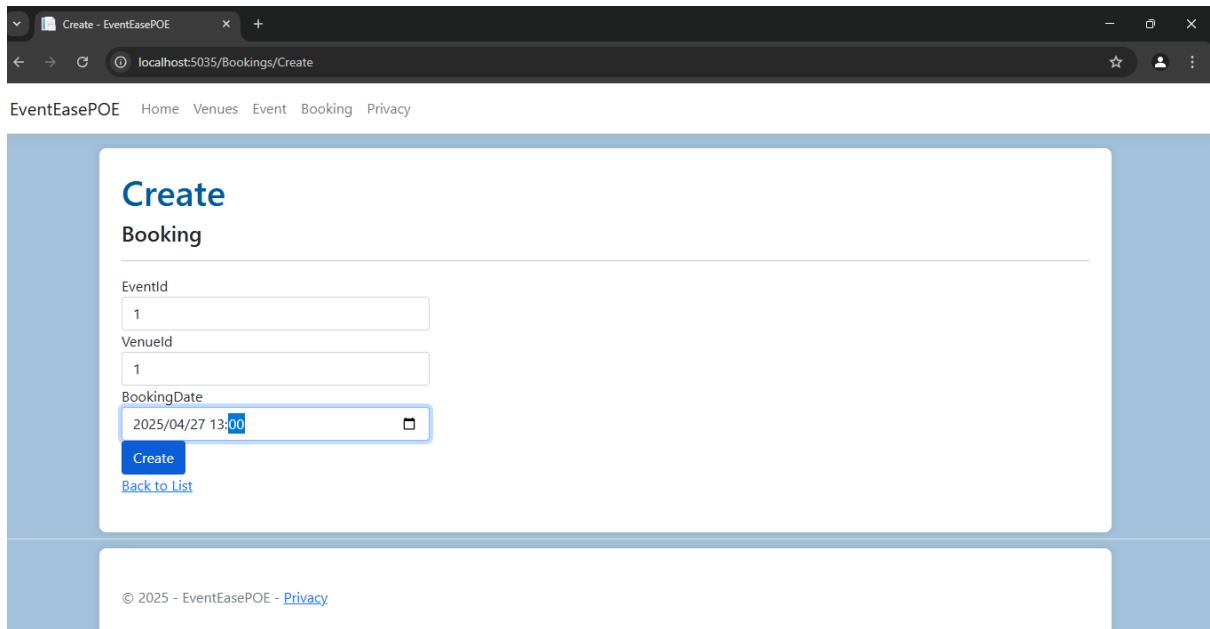
EventId
1

VenueId
1

BookingDate
2025/04/27 13:00

[Back to List](#)

© 2025 - EventEasePOE - [Privacy](#)



Visual Studio Code

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q) EventEasePOE AK Live Share

Feature 'Edit and Continue' is currently unavailable due to an internal error. Show Stack Trace
Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

Server Explorer

laptop-tktpff6\sqlexpress.Connection Data.dbo
laptop-tktpff6\sqlexpress.DataCraft_db.dbo
laptop-tktpff6\sqlexpress.EventEaseData.dbo

- Tables
 - _EFMigrationsHistory
 - Bookings
 - BookingId
 - EventId
 - VenueId
 - BookingDate
 - Events
 - EventId
 - EventName
 - EventDate
 - Description
 - VenueId
 - Venue
 - VenueId
 - VenueName
 - Location
 - Capacity
 - ImageUrl
 - Venues
 - VenueId
 - VenueName
 - Location
 - Capacity
 - ImageUrl

oft.AspNetCore.Mvc.Infrastructure
oft.AspNetCore.Mvc.Infrastructure
oft.AspNetCore.Mvc.Infrastructure
oft.AspNetCore.Mvc.Infrastructure
oft.AspNetCore.Mvc.Infrastructure
oft.AspNetCore.Mvc.Infrastructure
oft.AspNetCore.Mvc.Infrastructure
oft.AspNetCore.Mvc.Infrastructure
oft.AspNetCore.Mvc.Infrastructure
oft.AspNetCore.Routing.Endpoints
oft.AspNetCore.Authorization
oft.AspNetCore.Diagnostics.DependencyInjection
tools services...
tools design surface service
tools selection service
tools tag navigation service
tools hotkey manager service
on connected
host services...
ad ignoring http://localhost
icon connected
tools services...
tools design surface service
tools selection service
tools tag navigation service
tools hotkey manager service
on connected
host services...
x0 has exited with code 0 (0)
JavaScript debug adapter: 1
.. has exited with code 4294
'[28324] EventEasePOE.exe' has

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help Search (Ctrl+Q) EventEasePOE AK Live Share

Program.cs

```

1 //using EventEasePOE.Models; // Ensure this namespace is included
2 using Microsoft.EntityFrameworkCore;
3
4 var builder = WebApplication.CreateBuilder(args);
5
6 // Add services to the container.
7 builder.Services.AddControllersWithViews();
8
9 // Configure the DbContext with SQL Server
10 builder.Services.AddDbContext<ApplicationDbContext>(options =>
11     options.UseSqlServer(builder.Configuration.GetConnectionString("DefaultConnection")));
12
13 var app = builder.Build();
14
15 // Configure the HTTP request pipeline.
16 if (app.Environment.IsDevelopment())
17 {
18     app.UseExceptionHandler("/Home/Error");
19 }
20 app.UseStaticFiles();
21
22 app.UseRouting();
23
24 app.UseAuthorization();
25
26 app.MapControllerRoute(
27     name: "default",
28     pattern: "[controller=Home]/[action=Index]/[id?]");
29
30 app.Run();

```

Solution Explorer

Event.cs
Venue.cs

- Views
 - Bookings
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml
 - Events
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml
 - Home
 - Index.cshtml
 - Privacy.cshtml
 - Shared
 - _Layout.cshtml
 - _ValidationScriptsPartial.cshtml
 - Error.cshtml
 - Venues
 - _ViewImports.cshtml
 - _ViewStart.cshtml

appsettings.json

```

Schema: https://json.schemastore.org/appsettings.json
1 {
2     "Logging": {
3         "LogLevel": {
4             "Default": "Information",
5             "Microsoft.AspNetCore": "Warning"
6         }
7     },
8     "AllowedHosts": "*",
9     "ConnectionStrings": {
10        "DefaultConnection": "Server=LAPTOP-TKTPFF6S\\SQLEXPRESS;Initial Catalog=EventEaseData;Integrated Security=True"
11    }
12 }
13

```

Three screenshots of the Microsoft Visual Studio IDE interface showing the code editor, Solution Explorer, and various files for a .NET Core application named "EventEasePOE".

Screenshot 1: The code editor shows the file `Index.cshtml`. The page contains an `<h1>Index</h1>` heading and a table with columns for Venue Name, Location, Capacity, and Image URL. The table rows are generated by a `@foreach` loop over the `Model` object.

```

1 <@model IEnumerable<EventEasePOE.Models.Venue>
2
3 @{
4     ViewData["Title"] = "Index";
5 }
6
7 <h1>Index</h1>
8
9 <p> <a href="#" asp-action="Create">Create New</a></p>
10 <table class="table">
11     <thead>
12         <tr>
13             <th>@Html.DisplayNameFor(model => model.VenueName)</th>
14             <th>@Html.DisplayNameFor(model => model.Location)</th>
15             <th>@Html.DisplayNameFor(model => model.Capacity)</th>
16             <th>@Html.DisplayNameFor(model => model.ImageUrl)</th>
17         </tr>
18     </thead>
19     <tbody>
20         @foreach (var item in Model) {
21             <tr>
22                 <td>@Html.DisplayFor(modelItem => item.VenueName)</td>
23                 <td>@Html.DisplayFor(modelItem => item.Location)</td>
24                 <td>@Html.DisplayFor(modelItem => item.Capacity)</td>
25                 <td>@Html.DisplayFor(modelItem => item.ImageUrl)</td>
26             </tr>
27         </tbody>
28     </table>
29
30     @section Scripts {
31         <script>
32             $(document).ready(function () {
33                 $("tbody").on("click", "tr", function () {
34                     var id = $(this).find("td:first-child").text();
35                     var venueName = $(this).find("td:nth-child(2)").text();
36                     var location = $(this).find("td:nth-child(3)").text();
37                     var capacity = $(this).find("td:nth-child(4)").text();
38
39                     $("#VenueName").val(id);
40                     $("#VenueName").attr("disabled", "disabled");
41                     $("#VenueName").css("background-color", "#f2f2f2");
42
43                     $("#Location").val(location);
44                     $("#Capacity").val(capacity);
45
46                     $("#Capacity").attr("disabled", "disabled");
47                     $("#Capacity").css("background-color", "#f2f2f2");
48
49                     $("#ImageURL").val("");
50                     $("#ImageURL").attr("disabled", "disabled");
51                     $("#ImageURL").css("background-color", "#f2f2f2");
52
53                     $("#CreateNew").prop("disabled", false);
54                     $("#CreateNew").css("background-color", "#d9e1f2");
55
56                     $("#CreateNew").attr("type", "button");
57                     $("#CreateNew").text("Update");
58
59                     $("#CreateNew").click(function () {
60                         $.ajax({
61                             url: "/Home/Edit/" + id,
62                             type: "PUT",
63                             data: {
64                                 venueName: venueName,
65                                 location: location,
66                                 capacity: capacity,
67                                 imageUrl: $("#ImageURL").val()
68                             },
69                             success: function (response) {
70                                 alert("Venue updated successfully!");
71                                 window.location.href = "/Home/Index";
72                             }
73                         });
74                     });
75
76                 });
77             });
78         </script>
79     </section>
80 
```

Screenshot 2: The code editor shows the file `Layout.cshtml`. It defines a responsive navigation bar with a collapse button and dropdown menus for Home, Events, Bookings, and Venues. The layout also includes a header section and a footer with copyright information.

```

1 <!DOCTYPE html>
2 <html lang="en">
3     <head>
4         <meta charset="utf-8" content="width=device-width, initial-scale=1.0" />
5         <title>@ViewData["Title"] - EventEasePOE</title>
6         <link rel="stylesheet" href="/lib/bootstrap/dist/css/bootstrap.min.css" />
7         <link rel="stylesheet" href="/css/site.css" asp-append-version="true" />
8         <link rel="stylesheet" href="/EventEasePOE.styles.css" asp-append-version="true" />
9
10        <style>
11            body {
12                background-color: #3C3D4A; /* Cambridge blue */
13            }
14            .navbar {
15                background-color: #008B96; /* Darker shade for navbar */
16            }
17            .navbar-brand, .nav-link {
18                color: black; /* Black text for navbar */
19            }
20            .nav-link.active {
21                background-color: #00838B;
22                color: white !important; /* White text for active tab */
23            }
24            .container {
25                margin-top: 10px;
26                background-color: white; /* White background for content */
27                padding: 25px;
28                border-radius: 8px;
29                box-shadow: 0 10px rgba(0, 0, 0, 0.1);
30            }
31            h1 {
32                color: #008B96; /* Darker shade for headings */
33            }
34        </style>
35    </head>
36    <body>
37        <header>
38            <nav class="navbar navbar-expand-lg navbar-light bg-white border-bottom box-shadow mb-3">
39                <div class="container-fluid">
40                    <a class="navbar-brand" asp-area="" asp-controller="Home" asp-action="Index">EventEasePOE</a>
41                    <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
42                        <span class="navbar-toggler-icon"></span>
43                    </button>
44                    <div class="collapse navbar-collapse" id="navbarNav">
45                        <ul class="navbar-nav me-auto mb-2 mb-lg-0">
46                            <li class="nav-item">
47                                <a class="nav-link" asp-area="" asp-controller="Venues" asp-action="Index">Venues</a>
48                            </li>
49                            <li class="nav-item">
50                                <a class="nav-link" asp-area="" asp-controller="Events" asp-action="Index">Events</a>
51                            </li>
52                            <li class="nav-item">
53                                <a class="nav-link" asp-area="" asp-controller="Bookings" asp-action="Index">Bookings</a>
54                            </li>
55                            <li class="nav-item">
56                                <a class="nav-link" asp-area="" asp-controller="Home" asp-action="Privacy">Privacy</a>
57                            </li>
58                        </ul>
59                    </div>
60                </div>
61            </nav>
62        </header>
63        <div class="container">
64            <main role="main" class="pb-3">
65                @RenderBody()
66            </main>
67        </div>
68        <footer class="border-top footer text-muted">
69            <div class="container">
70                &copy; 2025 - EventEasePOE - <a href="#" asp-area="" asp-controller="Home" asp-action="Privacy">Privacy</a>
71            </div>
72        </footer>
73        <script src="/lib/jquery/dist/jquery.min.js"></script>
74    </body>
75 </html>
76 
```

Screenshot 3: The code editor shows the file `Layout.cshtml*`, which is identical to the previous screenshot but includes a copy symbol at the bottom of the code.

```
43     <button class="navbar-toggler" type="button">
44         <span class="navbar-toggler-icon">
45     </button>
46     <div class="collapse navbar-collapse" id="navBarNav">
47         <ul class="navbar-nav me-auto mb-2 mb-lg-0">
48             <li class="nav-item">
49                 <a class="nav-link" asp-area="" asp-controller="Home" asp-action="Index">Home</a>
50             </li>
51             <li class="nav-item">
52                 <a class="nav-link" asp-area="" asp-controller="Venues" asp-action="Index">Venues</a>
53             </li>
54             <li class="nav-item">
55                 <a class="nav-link" asp-area="" asp-controller="Events" asp-action="Index">Events</a>
56             </li>
57             <li class="nav-item">
58                 <a class="nav-link" asp-area="" asp-controller="Bookings" asp-action="Index">Bookings</a>
59             </li>
60             <li class="nav-item">
61                 <a class="nav-link" asp-area="" asp-controller="Home" asp-action="Privacy">Privacy</a>
62             </li>
63         </ul>
64     </div>
65     </div>
66 </header>
67 <div class="container">
68     <main role="main" class="pb-3">
69         @RenderBody()
70     </main>
71 </div>
72 <footer class="border-top footer text-muted">
73     <div class="container">
74         &copy; 2025 - EventEasePOE - <a href="#" asp-area="" asp-controller="Home" asp-action="Privacy">Privacy</a>
75     </div>
76 </footer>
77 </body>
78 </html>
79 <script src="~/lib/jquery/dist/jquery.min.js"></script>
80 <script src="~/lib/bootstrap/dist/js/bootstrap.bundle.min.js"></script>
81 <script src="~/js/site.js" asp-append-version="true"></script>
82     @await RenderSectionAsync("Scripts", required: false)
83 </body>
84 </html>
```

```
1     ViewData["Title"] = "Home";
2
3     }
4
5     <div class="container mt-4">
6         <h1>Welcome to EventEase</h1>
7         <div class="intro">
8             <p>EventEase is your go-to platform for managing events and venue bookings efficiently. Our user-friendly interface allows booking spec:</p>
9             <p>With EventEase, you can:</p>
10            <ul>
11                <li>Quickly view and manage venue information.</li>
12                <li>Schedule and organize events seamlessly.</li>
13                <li>Ensure that all bookings are handled securely and efficiently.</li>
14            </ul>
15        </div>
16        <div>
17            <a class="btn btn-primary" href="@Url.Action("Index", "Venues")">View Venues</a>
18            <a class="btn btn-primary" href="@Url.Action("Index", "Events")">View Events</a>
19            <a class="btn btn-primary" href="@Url.Action("Index", "Bookings")">View Bookings</a>
20        </div>
21    </div>
```

```
1     @model IEnumerable<EventEasePOE.Models.Event>
2
3     @{
4         ViewData["Title"] = "Events";
5     }
6
7     <h1>Index</h1>
8
9     <p>
10        <a href="#" asp-action="Create">Create New</a>
11    </p>
12    <table class="table">
13        <thead>
14            <tr>
15                <th>@Html.DisplayNameFor(model => model.EventName)</th>
16                <th>@Html.DisplayNameFor(model => model.EventDate)</th>
17                <th>@Html.DisplayNameFor(model => model.Description)</th>
18                <th>@Html.DisplayNameFor(model => model.VenueId)</th>
19            </tr>
20        </thead>
21        <tbody>
22            <tr>
23                <td>@Html.DisplayFor(modelItem => item.EventName)</td>
24                <td>@Html.DisplayFor(modelItem => item.EventDate)</td>
25                <td>@Html.DisplayFor(modelItem => item.Description)</td>
26                <td>@Html.DisplayFor(modelItem => item.VenueId)</td>
27            </tr>
28        </tbody>
29    </table>
30
31    <@foreach (var item in Model) {
32        <tr>
33            <td>@Html.DisplayFor(modelItem => item.EventName)</td>
34            <td>@Html.DisplayFor(modelItem => item.EventDate)</td>
35            <td>@Html.DisplayFor(modelItem => item.Description)</td>
36            <td>@Html.DisplayFor(modelItem => item.VenueId)</td>
37        </tr>
38    }>
39
40
```

The screenshot shows the Microsoft Visual Studio IDE interface. The top menu bar includes File, Edit, View, Git, Project, Build, Debug, Test, Analyze, Tools, Extensions, Windows, Help, and Search (Ctrl+F). The toolbar has icons for Undo, Redo, Cut, Copy, Paste, Find, Replace, and others. The title bar says "EventEasePOE".

The left sidebar contains the Toolbox, Error List, and SQL Server Object Explorer.

The main area shows the code editor with the file "Index.cshtml" open. The code is an ASP.NET MVC view for displaying a list of events:

```
<thead>
    <tr>
        <th>@Html.DisplayNameFor(model => model.EventName)</th>
        <th>@Html.DisplayNameFor(model => model.EventDate)</th>
        <th>@Html.DisplayNameFor(model => model.Description)</th>
        <th>@Html.DisplayNameFor(model => model.VenueId)</th>
    </tr>
</thead>
<tbody>
@foreach (var item in Model) {
    <tr>
        <td>@Html.DisplayFor(modelItem => item.EventName)</td>
        <td>@Html.DisplayFor(modelItem => item.EventDate)</td>
        <td>@Html.DisplayFor(modelItem => item.Description)</td>
        <td>@Html.DisplayFor(modelItem => item.VenueId)</td>
        <td>
            <a href="#" asp-action="Edit" asp-route-id="@item.EventId">Edit</a> | 
            <a href="#" asp-action="Details" asp-route-id="@item.EventId">Details</a> | 
            <a href="#" asp-action="Delete" asp-route-id="@item.EventId">Delete</a>
        </td>
    </tr>
}
</tbody>
</table>
```

The Solution Explorer on the right lists the project structure:

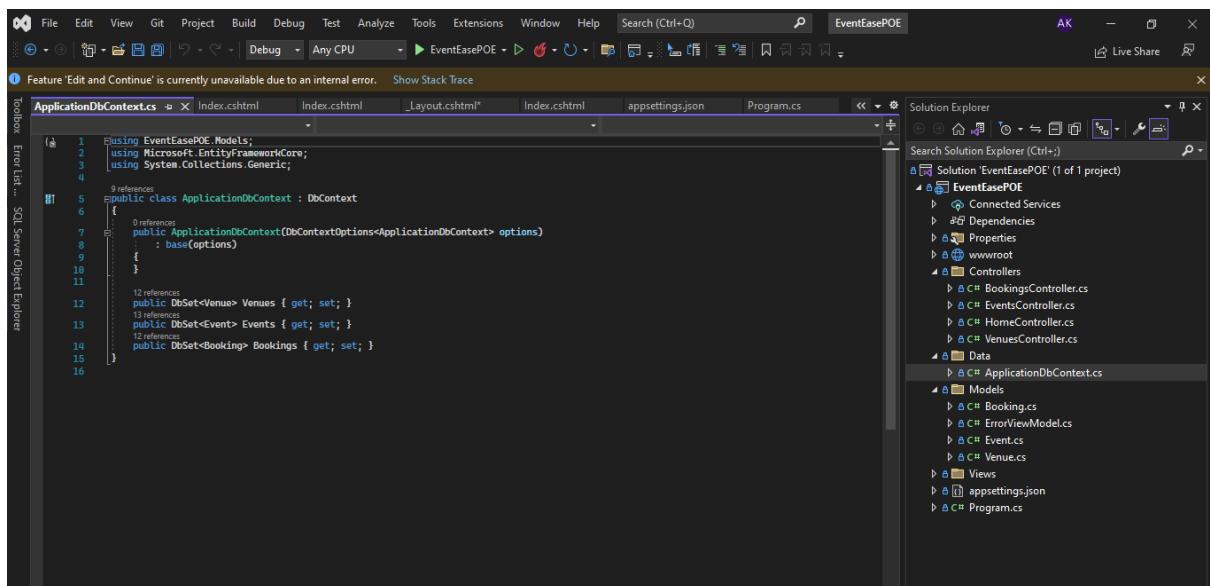
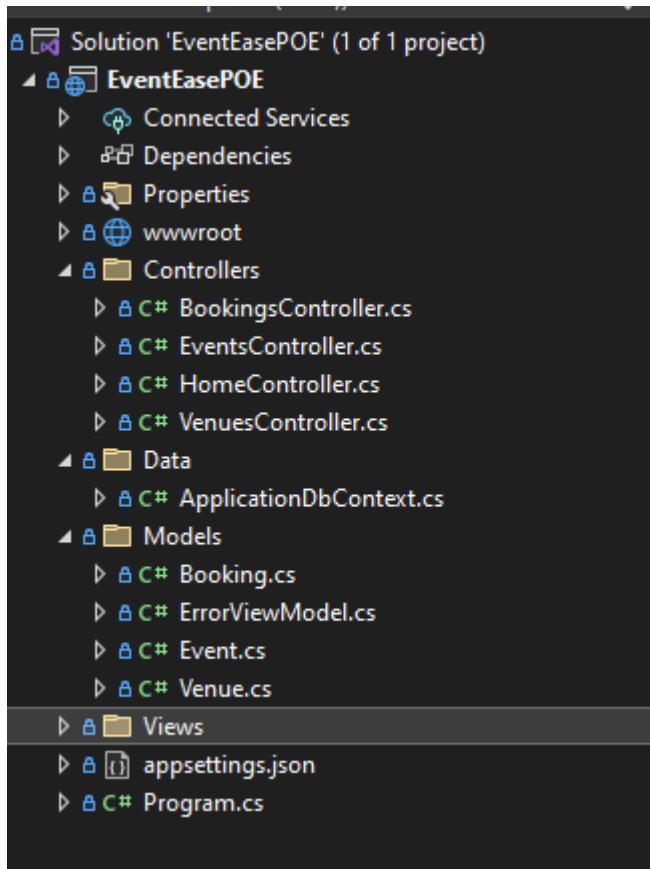
- Views
 - Venue.cs
 - Bookings
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml
 - Events
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml
 - Home
 - Index.cshtml
 - Privacy.cshtml
 - Shared
 - _Layout.cshtml
 - ValidationScriptsPartial.cshtml
 - Error.cshtml
 - Venues
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml

The screenshot shows the Visual Studio IDE interface with the following details:

- File Menu:** File, Edit, View, Git, Project, Build, Debug, Test, Analyze, Tools, Extensions, Window, Help.
- Search Bar:** Search (Ctrl+Q).
- Current Project:** EventEasePOE.
- Toolbars:** Standard, Debug, Live Share.
- Solution Explorer:** Shows the project structure:
 - Data
 - Models
 - Booking.cs
 - ErrorViewModel.cs
 - Event.cs
 - Venue.cs
 - Views
 - Bookings
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml
 - Events
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml
 - Home
 - Index.cshtml
 - Privacy.cshtml
 - Shared
 - _Layout.cshtml
 - _ValidationScriptsPartial.cshtml
 - Error.cshtml
 - Venues
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml
- Code Editor:** Displays the content of Index.cshtml.

```
1  @model IEnumerable<EventEasePOE.Models.Booking>
2
3  @{
4      ViewData["Title"] = "Bookings";
5  }
6
7  <h1>Index</h1>
8
9  <p>
10    <a href="#" asp-action="Create">Create New</a>
11  </p>
12  <table class="table">
13      <thead>
14          <tr>
15              <th>
16                  @Html.DisplayNameFor(model => model.EventId)
17              </th>
18              <th>
19                  @Html.DisplayNameFor(model => model.VenueId)
20              </th>
21              <th>
22                  @Html.DisplayNameFor(model => model.BookingDate)
23              </th>
24              <th></th>
25      </tr>
26  </thead>
27  <tbody>
28      &#42;foreach (var item in Model) {
29          <tr>
30              <td>
31                  @Html.DisplayFor(modelItem => item.EventId)
32              </td>
33              <td>
34                  @Html.DisplayFor(modelItem => item.VenueId)
35              </td>
36              <td>
37                  @Html.DisplayFor(modelItem => item.BookingDate)
38              </td>
39              <td>
40                  <a href="#" asp-action="Edit" asp-route-id="@item.BookingId">Edit</a> |
41                  <a href="#" asp-action="Details" asp-route-id="@item.BookingId">Details</a> |
42                  <a href="#" asp-action="Delete" asp-route-id="@item.BookingId">Delete</a>
43              </td>
44          </tr>
45      &#42;foreach (var item in Model) {
46          <tr>
47              <td>
48                  @Html.DisplayFor(modelItem => item.EventId)
49              </td>
50              <td>
51                  @Html.DisplayFor(modelItem => item.VenueId)
52              </td>
53              <td>
54                  @Html.DisplayFor(modelItem => item.BookingDate)
55              </td>
56              <td>
57                  <a href="#" asp-action="Edit" asp-route-id="@item.BookingId">Edit</a> |
58                  <a href="#" asp-action="Details" asp-route-id="@item.BookingId">Details</a> |
59                  <a href="#" asp-action="Delete" asp-route-id="@item.BookingId">Delete</a>
60              </td>
61          </tr>
62      &#42;foreach (var item in Model) {
63          <tr>
64              <td>
65                  @Html.DisplayFor(modelItem => item.EventId)
66              </td>
67              <td>
68                  @Html.DisplayFor(modelItem => item.VenueId)
69              </td>
70              <td>
71                  @Html.DisplayFor(modelItem => item.BookingDate)
72              </td>
73              <td>
74                  <a href="#" asp-action="Edit" asp-route-id="@item.BookingId">Edit</a> |
75                  <a href="#" asp-action="Details" asp-route-id="@item.BookingId">Details</a> |
76                  <a href="#" asp-action="Delete" asp-route-id="@item.BookingId">Delete</a>
77              </td>
78          </tr>
79      &#42;foreach (var item in Model) {
80          <tr>
81              <td>
82                  @Html.DisplayFor(modelItem => item.EventId)
83              </td>
84              <td>
85                  @Html.DisplayFor(modelItem => item.VenueId)
86              </td>
87              <td>
88                  @Html.DisplayFor(modelItem => item.BookingDate)
89              </td>
90              <td>
91                  <a href="#" asp-action="Edit" asp-route-id="@item.BookingId">Edit</a> |
92                  <a href="#" asp-action="Details" asp-route-id="@item.BookingId">Details</a> |
93                  <a href="#" asp-action="Delete" asp-route-id="@item.BookingId">Delete</a>
94              </td>
95          </tr>
96      &#42;foreach (var item in Model) {
97          <tr>
98              <td>
99                  @Html.DisplayFor(modelItem => item.EventId)
100                 ...
101             </td>
102             <td>
103                 ...
104             </td>
105             <td>
106                 ...
107             </td>
108             <td>
109                 ...
110             </td>
111         </tr>
112     &#42;foreach (var item in Model) {
113         <tr>
114             <td>
115                 ...
116             </td>
117             <td>
118                 ...
119             </td>
120             <td>
121                 ...
122             </td>
123             <td>
124                 ...
125             </td>
126         </tr>
127     &#42;foreach (var item in Model) {
128         <tr>
129             <td>
130                 ...
131             </td>
132             <td>
133                 ...
134             </td>
135             <td>
136                 ...
137             </td>
138             <td>
139                 ...
140             </td>
141         </tr>
142     &#42;foreach (var item in Model) {
143         <tr>
144             <td>
145                 ...
146             </td>
147             <td>
148                 ...
149             </td>
150             <td>
151                 ...
152             </td>
153             <td>
154                 ...
155             </td>
156         </tr>
157     &#42;foreach (var item in Model) {
158         <tr>
159             <td>
160                 ...
161             </td>
162             <td>
163                 ...
164             </td>
165             <td>
166                 ...
167             </td>
168             <td>
169                 ...
170             </td>
171         </tr>
172     &#42;foreach (var item in Model) {
173         <tr>
174             <td>
175                 ...
176             </td>
177             <td>
178                 ...
179             </td>
180             <td>
181                 ...
182             </td>
183             <td>
184                 ...
185             </td>
186         </tr>
187     &#42;foreach (var item in Model) {
188         <tr>
189             <td>
190                 ...
191             </td>
192             <td>
193                 ...
194             </td>
195             <td>
196                 ...
197             </td>
198             <td>
199                 ...
200             </td>
201         </tr>
202     &#42;foreach (var item in Model) {
203         <tr>
204             <td>
205                 ...
206             </td>
207             <td>
208                 ...
209             </td>
210             <td>
211                 ...
212             </td>
213             <td>
214                 ...
215             </td>
216         </tr>
217     &#42;foreach (var item in Model) {
218         <tr>
219             <td>
220                 ...
221             </td>
222             <td>
223                 ...
224             </td>
225             <td>
226                 ...
227             </td>
228             <td>
229                 ...
230             </td>
231         </tr>
232     &#42;foreach (var item in Model) {
233         <tr>
234             <td>
235                 ...
236             </td>
237             <td>
238                 ...
239             </td>
240             <td>
241                 ...
242             </td>
243             <td>
244                 ...
245             </td>
246         </tr>
247     &#42;foreach (var item in Model) {
248         <tr>
249             <td>
250                 ...
251             </td>
252             <td>
253                 ...
254             </td>
255             <td>
256                 ...
257             </td>
258             <td>
259                 ...
260             </td>
261         </tr>
262     &#42;foreach (var item in Model) {
263         <tr>
264             <td>
265                 ...
266             </td>
267             <td>
268                 ...
269             </td>
270             <td>
271                 ...
272             </td>
273             <td>
274                 ...
275             </td>
276         </tr>
277     &#42;foreach (var item in Model) {
278         <tr>
279             <td>
280                 ...
281             </td>
282             <td>
283                 ...
284             </td>
285             <td>
286                 ...
287             </td>
288             <td>
289                 ...
290             </td>
291         </tr>
292     &#42;foreach (var item in Model) {
293         <tr>
294             <td>
295                 ...
296             </td>
297             <td>
298                 ...
299             </td>
300             <td>
301                 ...
302             </td>
303             <td>
304                 ...
305             </td>
306         </tr>
307     &#42;foreach (var item in Model) {
308         <tr>
309             <td>
310                 ...
311             </td>
312             <td>
313                 ...
314             </td>
315             <td>
316                 ...
317             </td>
318             <td>
319                 ...
320             </td>
321         </tr>
322     &#42;foreach (var item in Model) {
323         <tr>
324             <td>
325                 ...
326             </td>
327             <td>
328                 ...
329             </td>
330             <td>
331                 ...
332             </td>
333             <td>
334                 ...
335             </td>
336         </tr>
337     &#42;foreach (var item in Model) {
338         <tr>
339             <td>
340                 ...
341             </td>
342             <td>
343                 ...
344             </td>
345             <td>
346                 ...
347             </td>
348             <td>
349                 ...
350             </td>
351         </tr>
352     &#42;foreach (var item in Model) {
353         <tr>
354             <td>
355                 ...
356             </td>
357             <td>
358                 ...
359             </td>
360             <td>
361                 ...
362             </td>
363             <td>
364                 ...
365             </td>
366         </tr>
367     &#42;foreach (var item in Model) {
368         <tr>
369             <td>
370                 ...
371             </td>
372             <td>
373                 ...
374             </td>
375             <td>
376                 ...
377             </td>
378             <td>
379                 ...
380             </td>
381         </tr>
382     &#42;foreach (var item in Model) {
383         <tr>
384             <td>
385                 ...
386             </td>
387             <td>
388                 ...
389             </td>
390             <td>
391                 ...
392             </td>
393             <td>
394                 ...
395             </td>
396         </tr>
397     &#42;foreach (var item in Model) {
398         <tr>
399             <td>
400                 ...
401             </td>
402             <td>
403                 ...
404             </td>
405             <td>
406                 ...
407             </td>
408             <td>
409                 ...
410             </td>
411         </tr>
412     &#42;foreach (var item in Model) {
413         <tr>
414             <td>
415                 ...
416             </td>
417             <td>
418                 ...
419             </td>
420             <td>
421                 ...
422             </td>
423             <td>
424                 ...
425             </td>
426         </tr>
427     &#42;foreach (var item in Model) {
428         <tr>
429             <td>
430                 ...
431             </td>
432             <td>
433                 ...
434             </td>
435             <td>
436                 ...
437             </td>
438             <td>
439                 ...
440             </td>
441         </tr>
442     &#42;foreach (var item in Model) {
443         <tr>
444             <td>
445                 ...
446             </td>
447             <td>
448                 ...
449             </td>
450             <td>
451                 ...
452             </td>
453             <td>
454                 ...
455             </td>
456         </tr>
457     &#42;foreach (var item in Model) {
458         <tr>
459             <td>
460                 ...
461             </td>
462             <td>
463                 ...
464             </td>
465             <td>
466                 ...
467             </td>
468             <td>
469                 ...
470             </td>
471         </tr>
472     &#42;foreach (var item in Model) {
473         <tr>
474             <td>
475                 ...
476             </td>
477             <td>
478                 ...
479             </td>
480             <td>
481                 ...
482             </td>
483             <td>
484                 ...
485             </td>
486         </tr>
487     &#42;foreach (var item in Model) {
488         <tr>
489             <td>
490                 ...
491             </td>
492             <td>
493                 ...
494             </td>
495             <td>
496                 ...
497             </td>
498             <td>
499                 ...
500             </td>
501         </tr>
502     &#42;foreach (var item in Model) {
503         <tr>
504             <td>
505                 ...
506             </td>
507             <td>
508                 ...
509             </td>
510             <td>
511                 ...
512             </td>
513             <td>
514                 ...
515             </td>
516         </tr>
517     &#42;foreach (var item in Model) {
518         <tr>
519             <td>
520                 ...
521             </td>
522             <td>
523                 ...
524             </td>
525             <td>
526                 ...
527             </td>
528             <td>
529                 ...
530             </td>
531         </tr>
532     &#42;foreach (var item in Model) {
533         <tr>
534             <td>
535                 ...
536             </td>
537             <td>
538                 ...
539             </td>
540             <td>
541                 ...
542             </td>
543             <td>
544                 ...
545             </td>
546         </tr>
547     &#42;foreach (var item in Model) {
548         <tr>
549             <td>
550                 ...
551             </td>
552             <td>
553                 ...
554             </td>
555             <td>
556                 ...
557             </td>
558             <td>
559                 ...
560             </td>
561         </tr>
562     &#42;foreach (var item in Model) {
563         <tr>
564             <td>
565                 ...
566             </td>
567             <td>
568                 ...
569             </td>
570             <td>
571                 ...
572             </td>
573             <td>
574                 ...
575             </td>
576         </tr>
577     &#42;foreach (var item in Model) {
578         <tr>
579             <td>
580                 ...
581             </td>
582             <td>
583                 ...
584             </td>
585             <td>
586                 ...
587             </td>
588             <td>
589                 ...
590             </td>
591         </tr>
592     &#42;foreach (var item in Model) {
593         <tr>
594             <td>
595                 ...
596             </td>
597             <td>
598                 ...
599             </td>
600             <td>
601                 ...
602             </td>
603             <td>
604                 ...
605             </td>
606         </tr>
607     &#42;foreach (var item in Model) {
608         <tr>
609             <td>
610                 ...
611             </td>
612             <td>
613                 ...
614             </td>
615             <td>
616                 ...
617             </td>
618             <td>
619                 ...
620             </td>
621         </tr>
622     &#42;foreach (var item in Model) {
623         <tr>
624             <td>
625                 ...
626             </td>
627             <td>
628                 ...
629             </td>
630             <td>
631                 ...
632             </td>
633             <td>
634                 ...
635             </td>
636         </tr>
637     &#42;foreach (var item in Model) {
638         <tr>
639             <td>
640                 ...
641             </td>
642             <td>
643                 ...
644             </td>
645             <td>
646                 ...
647             </td>
648             <td>
649                 ...
650             </td>
651         </tr>
652     &#42;foreach (var item in Model) {
653         <tr>
654             <td>
655                 ...
656             </td>
657             <td>
658                 ...
659             </td>
660             <td>
661                 ...
662             </td>
663             <td>
664                 ...
665             </td>
666         </tr>
667     &#42;foreach (var item in Model) {
668         <tr>
669             <td>
670                 ...
671             </td>
672             <td>
673                 ...
674             </td>
675             <td>
676                 ...
677             </td>
678             <td>
679                 ...
680             </td>
681         </tr>
682     &#42;foreach (var item in Model) {
683         <tr>
684             <td>
685                 ...
686             </td>
687             <td>
688                 ...
689             </td>
690             <td>
691                 ...
692             </td>
693             <td>
694                 ...
695             </td>
696         </tr>
697     &#42;foreach (var item in Model) {
698         <tr>
699             <td>
700                 ...
701             </td>
702             <td>
703                 ...
704             </td>
705             <td>
706                 ...
707             </td>
708             <td>
709                 ...
710             </td>
711         </tr>
712     &#42;foreach (var item in Model) {
713         <tr>
714             <td>
715                 ...
716             </td>
717             <td>
718                 ...
719             </td>
720             <td>
721                 ...
722             </td>
723             <td>
724                 ...
725             </td>
726         </tr>
727     &#42;foreach (var item in Model) {
728         <tr>
729             <td>
730                 ...
731             </td>
732             <td>
733                 ...
734             </td>
735             <td>
736                 ...
737             </td>
738             <td>
739                 ...
740             </td>
741         </tr>
742     &#42;foreach (var item in Model) {
743         <tr>
744             <td>
745                 ...
746             </td>
747             <td>
748                 ...
749             </td>
750             <td>
751                 ...
752             </td>
753             <td>
754                 ...
755             </td>
756         </tr>
757     &#42;foreach (var item in Model) {
758         <tr>
759             <td>
760                 ...
761             </td>
762             <td>
763                 ...
764             </td>
765             <td>
766                 ...
767             </td>
768             <td>
769                 ...
770             </td>
771         </tr>
772     &#42;foreach (var item in Model) {
773         <tr>
774             <td>
775                 ...
776             </td>
777             <td>
778                 ...
779             </td>
780             <td>
781                 ...
782             </td>
783             <td>
784                 ...
785             </td>
786         </tr>
787     &#42;foreach (var item in Model) {
788         <tr>
789             <td>
790                 ...
791             </td>
792             <td>
793                 ...
794             </td>
795             <td>
796                 ...
797             </td>
798             <td>
799                 ...
800             </td>
801         </tr>
802     &#42;foreach (var item in Model) {
803         <tr>
804             <td>
805                 ...
806             </td>
807             <td>
808                 ...
809             </td>
810             <td>
811                 ...
812             </td>
813             <td>
814                 ...
815             </td>
816         </tr>
817     &#42;foreach (var item in Model) {
818         <tr>
819             <td>
820                 ...
821             </td>
822             <td>
823                 ...
824             </td>
825             <td>
826                 ...
827             </td>
828             <td>
829                 ...
830             </td>
831         </tr>
832     &#42;foreach (var item in Model) {
833         <tr>
834             <td>
835                 ...
836             </td>
837             <td>
838                 ...
839             </td>
840             <td>
841                 ...
842             </td>
843             <td>
844                 ...
845             </td>
846         </tr>
847     &#42;foreach (var item in Model) {
848         <tr>
849             <td>
850                 ...
851             </td>
852             <td>
853                 ...
854             </td>
855             <td>
856                 ...
857             </td>
858             <td>
859                 ...
860             </td>
861         </tr>
862     &#42;foreach (var item in Model) {
863         <tr>
864             <td>
865                 ...
866             </td>
867             <td>
868                 ...
869             </td>
870             <td>
871                 ...
872             </td>
873             <td>
874                 ...
875             </td>
876         </tr>
877     &#42;foreach (var item in Model) {
878         <tr>
879             <td>
880                 ...
881             </td>
882             <td>
883                 ...
884             </td>
885             <td>
886                 ...
887             </td>
888             <td>
889                 ...
890             </td>
891         </tr>
892     &#42;foreach (var item in Model) {
893         <tr>
894             <td>
895                 ...
896             </td>
897             <td>
898                 ...
899             </td>
900             <td>
901                 ...
902             </td>
903             <td>
904                 ...
905             </td>
906         </tr>
907     &#42;foreach (var item in Model) {
908         <tr>
909             <td>
910                 ...
911             </td>
912             <td>
913                 ...
914             </td>
915             <td>
916                 ...
917             </td>
918             <td>
919                 ...
920             </td>
921         </tr>
922     &#42;foreach (var item in Model) {
923         <tr>
924             <td>
925                 ...
926             </td>
927             <td>
928                 ...
929             </td>
930             <td>
931                 ...
932             </td>
933             <td>
934                 ...
935             </td>
936         </tr>
937     &#42;foreach (var item in Model) {
938         <tr>
939             <td>
940                 ...
941             </td>
942             <td>
943                 ...
944             </td>
945             <td>
946                 ...
947             </td>
948             <td>
949                 ...
950             </td>
951         </tr>
952     &#42;foreach (var item in Model) {
953         <tr>
954             <td>
955                 ...
956             </td>
957             <td>
958                 ...
959             </td>
960             <td>
961                 ...
962             </td>
963             <td>
964                 ...
965             </td>
966         </tr>
967     &#42;foreach (var item in Model) {
968         <tr>
969             <td>
970                 ...
971             </td>
972             <td>
973                 ...
974             </td>
975             <td>
976                 ...
977             </td>
978             <td>
979                 ...
980             </td>
981         </tr>
982     &#42;foreach (var item in Model) {
983         <tr>
984             <td>
985                 ...
986             </td>
987             <td>
988                 ...
989             </td>
990             <td>
991                 ...
992             </td>
993             <td>
994                 ...
995             </td>
996         </tr>
997     &#42;foreach (var item in Model) {
998         <tr>
999             <td>
1000                ...
1001               ...
1002               ...
1003               ...
1004               ...
1005               ...
1006               ...
1007               ...
1008               ...
1009               ...
1010               ...
1011               ...
1012               ...
1013               ...
1014               ...
1015               ...
1016               ...
1017               ...
1018               ...
1019               ...
1020               ...
1021               ...
1022               ...
1023               ...
1024               ...
1025               ...
1026               ...
1027               ...
1028               ...
1029               ...
1030               ...
1031               ...
1032               ...
1033               ...
1034               ...
1035               ...
1036               ...
1037               ...
1038               ...
1039               ...
1040               ...
1041               ...
1042               ...
1043               ...
1044               ...
1045               ...
1046               ...
1047               ...
1048               ...
1049               ...
1050               ...
1051               ...
1052               ...
1053               ...
1054               ...
1055               ...
1056               ...
1057               ...
1058               ...
1059               ...
1060               ...
1061               ...
1062               ...
1063               ...
1064               ...
1065               ...
1066               ...
1067               ...
1068               ...
1069               ...
1070               ...
1071               ...
1072               ...
1073               ...
1074               ...
1075               ...
1076               ...
1077               ...
1078               ...
1079               ...
1080               ...
1081               ...
1082               ...
1083               ...
1084               ...
1085               ...
1086               ...
1087               ...
1088               ...
1089               ...
1090               ...
1091               ...
1092               ...
1093               ...
1094               ...
1095               ...
1096               ...
1097               ...
1098               ...
1099               ...
1100               ...
1101               ...
1102               ...
1103               ...
1104               ...
1105               ...
1106               ...
1107               ...
1108               ...
1109               ...
1110               ...
1111               ...
1112               ...
1113               ...
1114               ...
1115               ...
1116               ...
1117               ...
1118               ...
1119               ...
1120               ...
1121               ...
1122               ...
1123               ...
1124               ...
1125               ...
1126               ...
1127               ...
1128               ...
1129               ...
1130               ...
1131               ...
1132               ...
1133               ...
1134               ...
1135               ...
1136               ...
1137               ...
1138               ...
1139               ...
1140               ...
1141               ...
1142               ...
1143               ...
1144               ...
1145               ...
1146               ...
1147               ...
1148               ...
1149               ...
1150               ...
1151               ...
1152               ...
1153               ...
1154               ...
1155               ...
1156               ...
1157               ...
1158               ...
1159               ...
1160               ...
1161               ...
1162               ...
1163               ...
1164               ...
1165               ...
1166               ...
1167               ...
1168               ...
1169               ...
1170               ...
1171               ...
1172               ...
1173               ...
1174               ...

```



The screenshot shows the Visual Studio IDE with the 'Booking.cs' file open in the code editor. The code defines a 'Booking' class with properties: BookingId, EventId, VenueId, and BookingDate. The 'BookingId' property is annotated with a 'BookId' attribute. The code editor interface includes tabs for 'ApplicationDbContext.cs', 'Index.cshtml', 'Index.cshtml', '_Layout.cshtml*', 'Index.cshtml', and 'appsettings.json'. The status bar at the bottom indicates 'Any CPU' and 'EventEasePOE'. A message bar at the top left says 'Feature 'Edit and Continue' is currently unavailable due to an internal error.'

```
1  namespace EventEasePOE.Models
2  {
3      public class Booking
4      {
5          public int BookId { get; set; }
6          public int EventId { get; set; }
7          public int VenueId { get; set; }
8          public DateTime BookingDate { get; set; }
9      }
10 }
11 
```

The screenshot shows the Visual Studio IDE with the 'Event.cs' file open in the code editor. The code defines an 'Event' class with properties: EventId, EventName, EventDate, Description, and VenueId. The 'EventId' property is annotated with an 'EventId' attribute. The code editor interface includes tabs for 'Booking.cs', 'ApplicationDbContext.cs', 'Index.cshtml', 'Index.cshtml', '_Layout.cshtml*', 'Index.cshtml', and 'appsettings.json'. The status bar at the bottom indicates 'Any CPU' and 'EventEasePOE'. A message bar at the top left says 'Feature 'Edit and Continue' is currently unavailable due to an internal error.' The Solution Explorer on the right shows the project structure with files like 'BookingController.cs', 'EventsController.cs', 'HomeController.cs', 'VenuesController.cs', 'ApplicationDbContext.cs', 'Booking.cs', 'ErrorViewModel.cs', 'Event.cs', and 'Venue.cs'.

```
1  namespace EventEasePOE.Models
2  {
3      public class Event
4      {
5          public int EventId { get; set; }
6          public string EventName { get; set; }
7          public DateTime EventDate { get; set; }
8          public string Description { get; set; }
9          public int VenueId { get; set; }
10     }
11 }
12 
```

The screenshot shows the Visual Studio IDE with the 'Venue.cs' file open in the code editor. The code defines a 'Venue' class with properties: VenueId, VenueName, Location, Capacity, and ImageUrl. The 'VenueId' property is annotated with a 'VenueId' attribute. The code editor interface includes tabs for 'Event.cs', 'Booking.cs', 'ApplicationDbContext.cs', 'Index.cshtml', 'Index.cshtml', 'Layout.cshtml*', and 'appsettings.json'. The status bar at the bottom indicates 'Any CPU' and 'EventEasePOE'. A message bar at the top left says 'Feature 'Edit and Continue' is currently unavailable due to an internal error.' The Solution Explorer on the right shows the project structure with files like 'BookingController.cs', 'EventsController.cs', 'HomeController.cs', 'VenuesController.cs', 'ApplicationDbContext.cs', 'Booking.cs', 'ErrorViewModel.cs', 'Event.cs', 'Venue.cs', and 'appsettings.json'.

```
1  namespace EventEasePOE.Models
2  {
3      public class Venue
4      {
5          public int VenueId { get; set; }
6          public string VenueName { get; set; }
7          public string Location { get; set; }
8          public int Capacity { get; set; }
9          public string ImageUrl { get; set; }
10     }
11 }
12 
```

The screenshot shows the Visual Studio IDE with the VenuesController.cs file open in the code editor. The code defines a controller for managing venues. It includes methods for listing all venues and retrieving a specific venue by ID. The controller uses an ApplicationDbContext context to interact with the database.

```
10  namespace EventEasePOE.Controllers
11  {
12      [ApiController]
13      public class VenuesController : Controller
14      {
15          private readonly ApplicationDbContext _context;
16
17          public VenuesController(ApplicationDbContext context)
18          {
19              _context = context;
20          }
21
22          // GET: Venues
23          public async Task<IActionResult> Index()
24          {
25              return _context.Venues != null ?
26                  View(await _context.Venues.ToListAsync()) :
27                  Problem("Entity set 'ApplicationDbContext.Venues' is null.");
28          }
29
30          // GET: Venues/Details/5
31          public async Task<IActionResult> Details(int? id)
32          {
33              if (id == null || _context.Venues == null)
34              {
35                  return NotFound();
36              }
37
38              var venue = await _context.Venues
39                  .FirstOrDefaultAsync(m => m.VenueId == id);
40              if (venue == null)
41              {
42                  return NotFound();
43              }
44
45              return View(venue);
46          }
47      }
48  }
```

The screenshot shows the Visual Studio IDE with the EventsController.cs file open in the code editor. The code defines a controller for managing events. It includes methods for listing all events and retrieving a specific event by ID. The controller uses an ApplicationDbContext context to interact with the database.

```
10  namespace EventEasePOE.Controllers
11  {
12      [ApiController]
13      public class EventsController : Controller
14      {
15          private readonly ApplicationDbContext _context;
16
17          public EventsController(ApplicationDbContext context)
18          {
19              _context = context;
20          }
21
22          // GET: Events
23          public async Task<IActionResult> Index()
24          {
25              return _context.Events != null ?
26                  View(await _context.Events.ToListAsync()) :
27                  Problem("Entity set 'ApplicationDbContext.Events' is null.");
28          }
29
30          // GET: Events/Details/5
31          public async Task<IActionResult> Details(int? id)
32          {
33              if (id == null || _context.Events == null)
34              {
35                  return NotFound();
36              }
37
38              var @event = await _context.Events
39                  .FirstOrDefaultAsync(m => m.EventId == id);
40              if (@event == null)
41              {
42                  return NotFound();
43              }
44
45              return View(@event);
46          }
47      }
48  }
```

The screenshot shows the Visual Studio IDE with the BookingsController.cs file open in the code editor. The code defines a controller for managing bookings. It includes methods for listing all bookings and retrieving a specific booking by ID. The controller uses an ApplicationDbContext context to interact with the database.

```
10  namespace EventEasePOE.Controllers
11  {
12      [ApiController]
13      public class BookingsController : Controller
14      {
15          private readonly ApplicationDbContext _context;
16
17          public BookingsController(ApplicationDbContext context)
18          {
19              _context = context;
20          }
21
22          // GET: Bookings
23          public async Task<IActionResult> Index()
24          {
25              return _context.Bookings != null ?
26                  View(await _context.Bookings.ToListAsync()) :
27                  Problem("Entity set 'ApplicationDbContext.Bookings' is null.");
28          }
29
30          // GET: Bookings/Details/5
31          public async Task<IActionResult> Details(int? id)
32          {
33              if (id == null || _context.Bookings == null)
34              {
35                  return NotFound();
36              }
37
38              var booking = await _context.Bookings
39                  .FirstOrDefaultAsync(m => m.BookingId == id);
40              if (booking == null)
41              {
42                  return NotFound();
43              }
44
45              return View(booking);
46          }
47      }
48  }
```

Screenshots of ssms

The image displays three separate windows of Microsoft SQL Server Management Studio (SSMS) showing the design of three different tables:

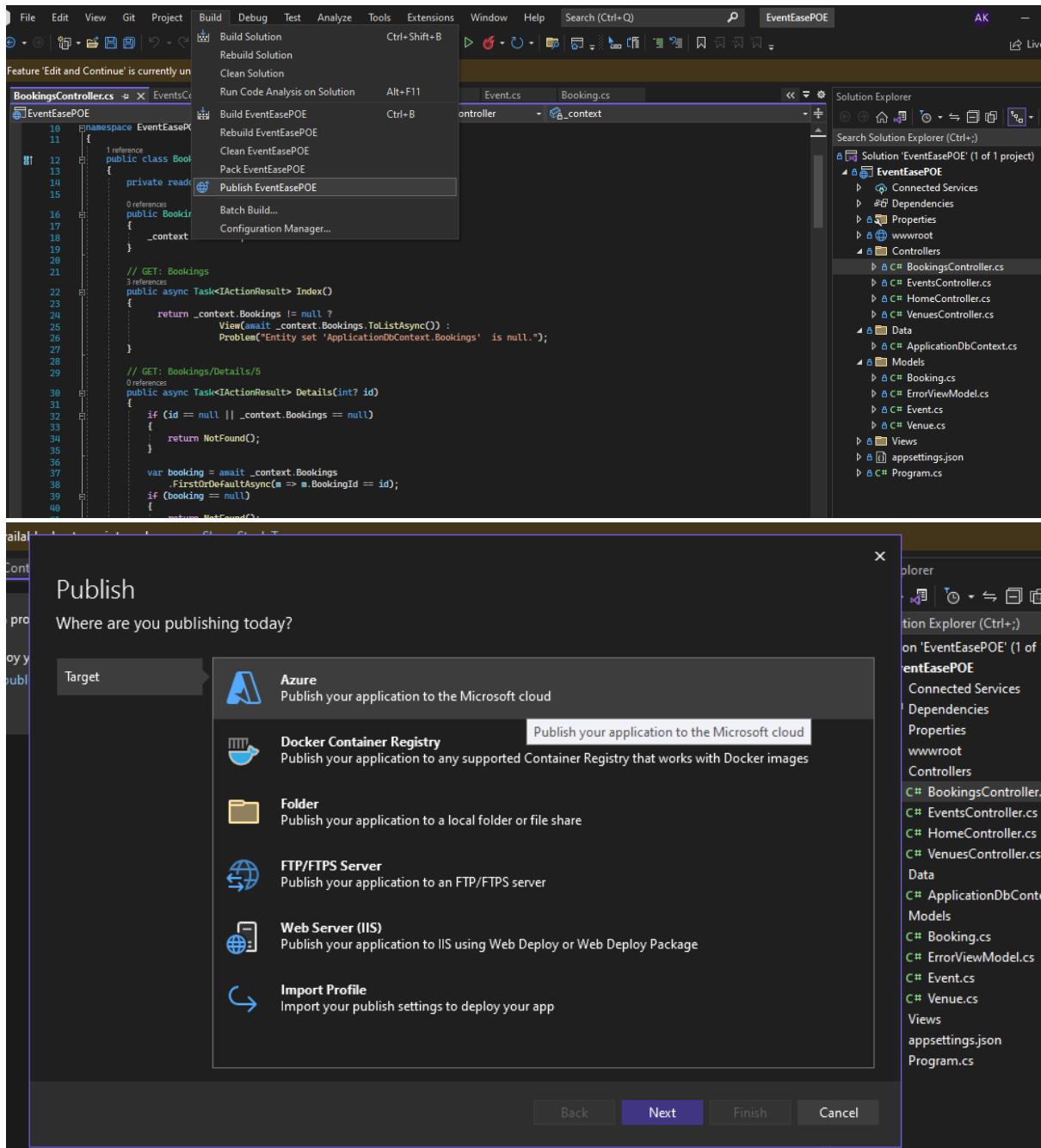
- Top Window (LAPTOP-TKTPFF6\S\sqlexpress.EventEasedata - dbo.Bookings):** This window shows the structure of the `dbo.Bookings` table. It has four columns: `BookingId` (int, Allow Nulls), `EventId` (int, Allow Nulls), `VenuelId` (int, Allow Nulls), and `BookingDate` (datetime, Allow Nulls).
- Middle Window (LAPTOP-TKTPFF6\S\sqlexpress.eventEasedata - dbo.Events):** This window shows the structure of the `dbo.Events` table. It has five columns: `EventId` (int, Allow Nulls), `EventName` (nvarchar(100), Allow Nulls), `EventDate` (datetime, Allow Nulls), `Description` (nvarchar(255), Allow Nulls), and `VenuelId` (int, Allow Nulls). The `EventId` column is highlighted.
- Bottom Window (LAPTOP-TKTPFF6\S\sqlexpress.EventEasedata - dbo.Venue):** This window shows the structure of the `dbo.Venue` table. It has five columns: `VenuelId` (int, Allow Nulls), `VenueName` (nvarchar(100), Allow Nulls), `Location` (nvarchar(100), Allow Nulls), `Capacity` (int, Allow Nulls), and `ImageUrl` (nvarchar(255), Allow Nulls). The `VenuelId` column is highlighted.

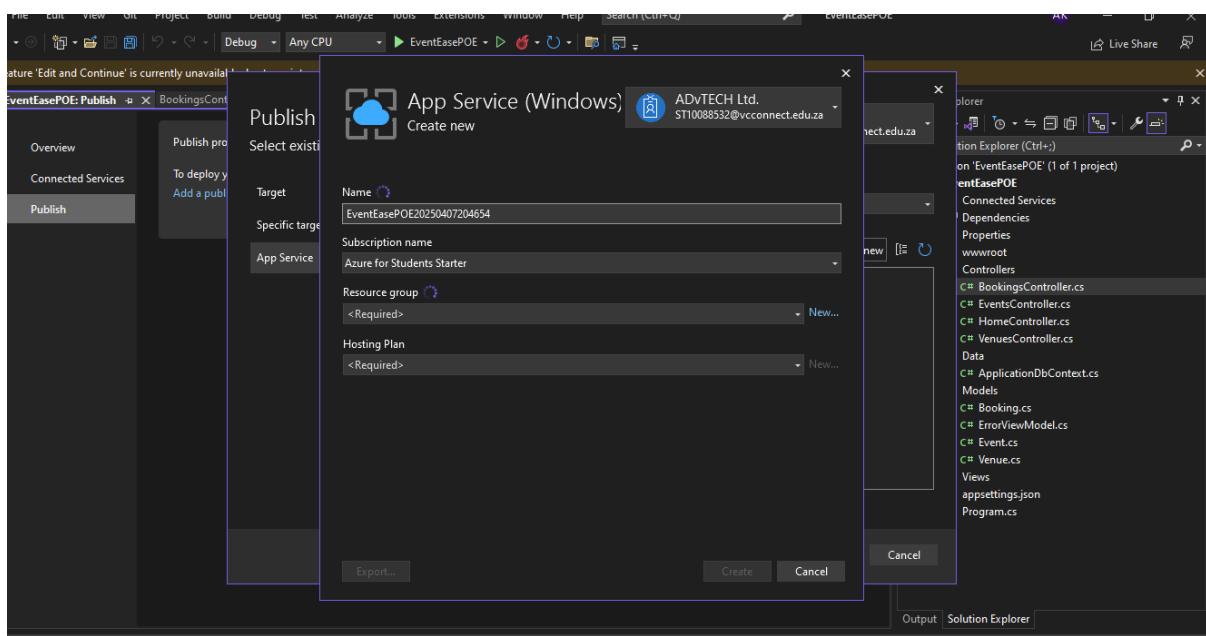
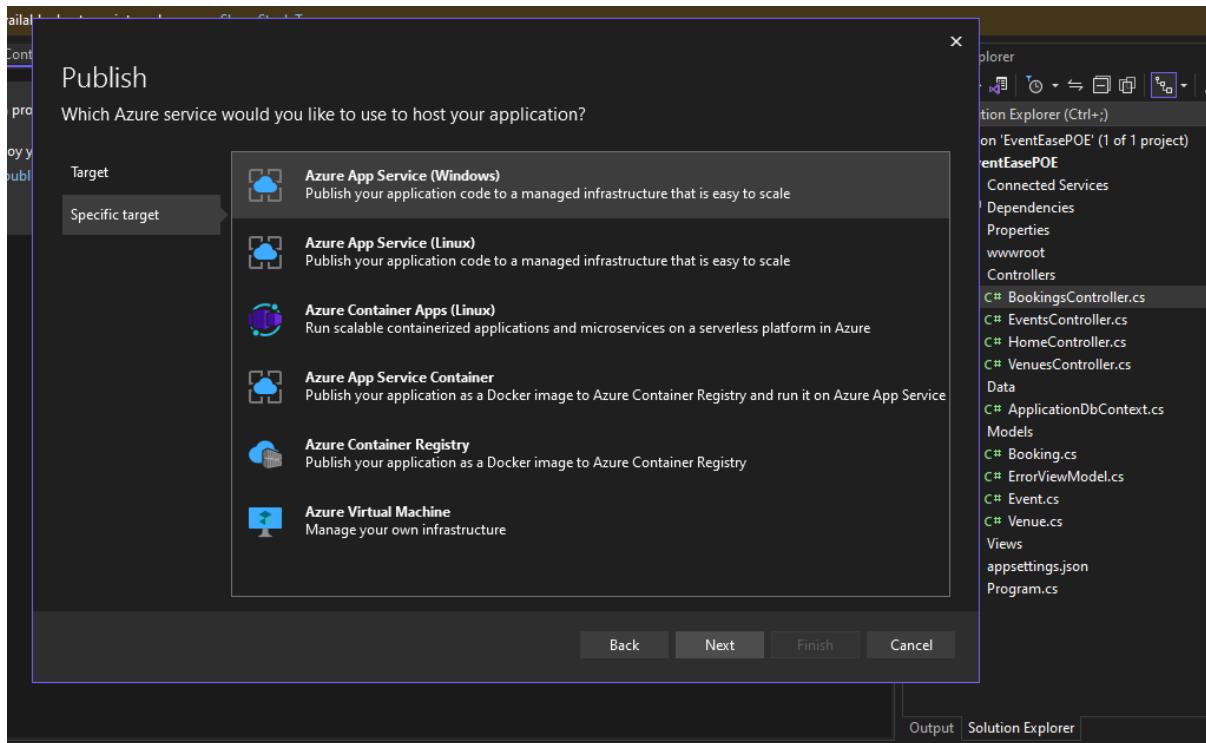
In all three windows, the `EventId` and `VenuelId` columns are defined as integers that allow null values. The `BookingDate` column in the `Bookings` table is defined as a datetime type that also allows null values.

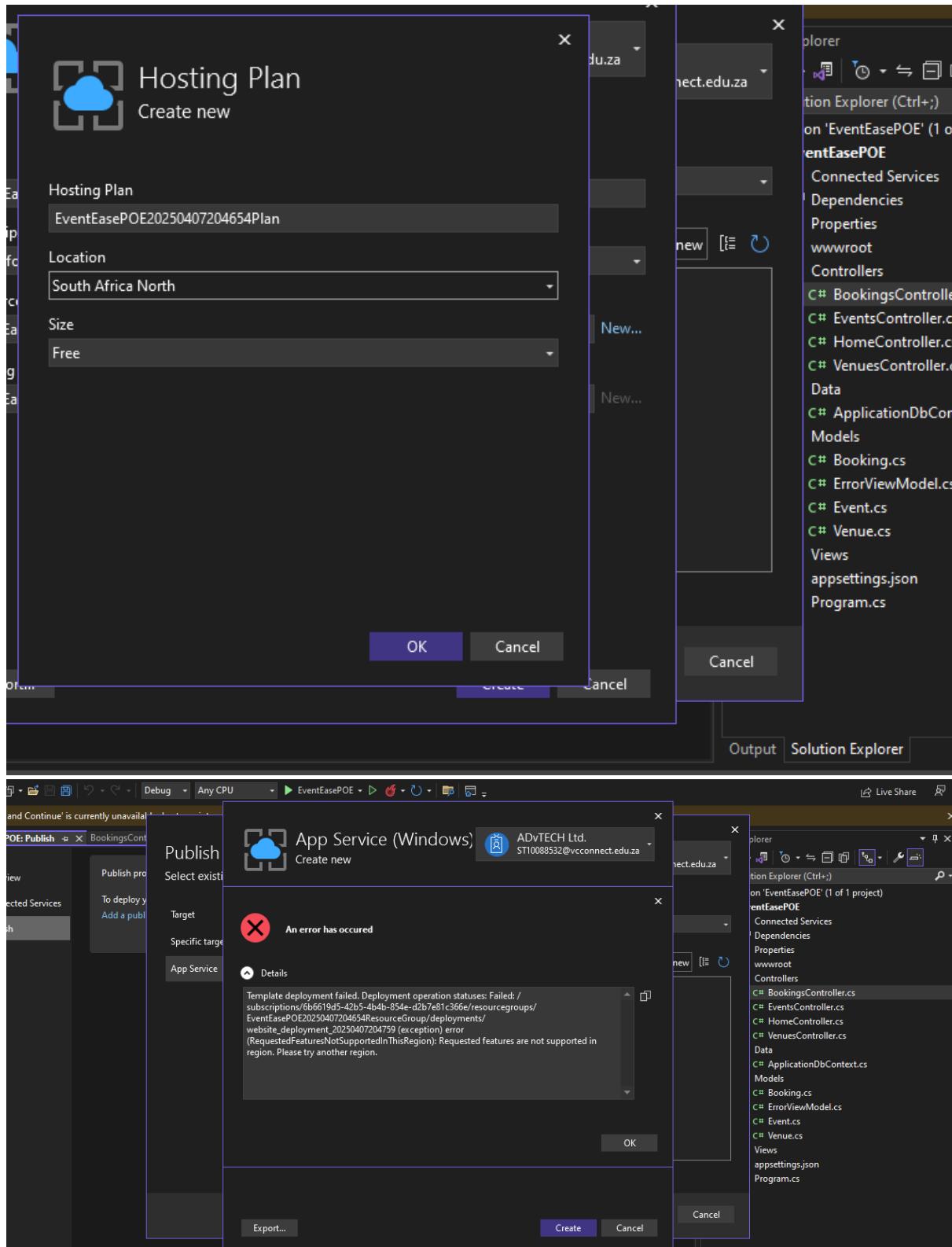
The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar indicates the connection is to 'LAPTOP-TKTPFF6S\SQLEXPRESS.EventEasedata - dbo.Venues'. The main area displays the 'Table Designer' for the 'Venues' table. The 'Columns' pane lists five columns: 'VenueId' (int, Allow Nulls checked), 'VenueName' (nvarchar(100), Allow Nulls checked), 'Location' (nvarchar(100), Allow Nulls checked), 'Capacity' (int, Allow Nulls checked), and 'ImageUrl' (nvarchar(255), Allow Nulls checked). Below the table definition, the 'Column Properties' pane shows the properties for 'VenueId': Name is 'VenueId', Allow Nulls is 'No', Data Type is 'int', and Default Value or Binding is empty. The 'Table Designer' pane shows '(General)' under 'Table Designer'.

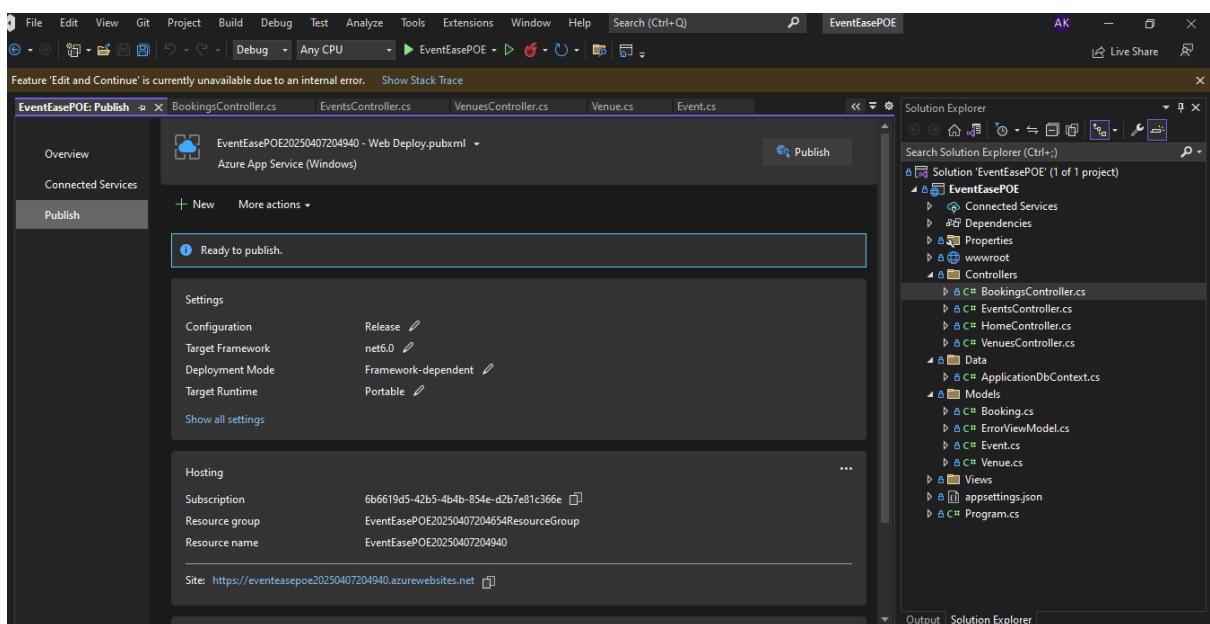
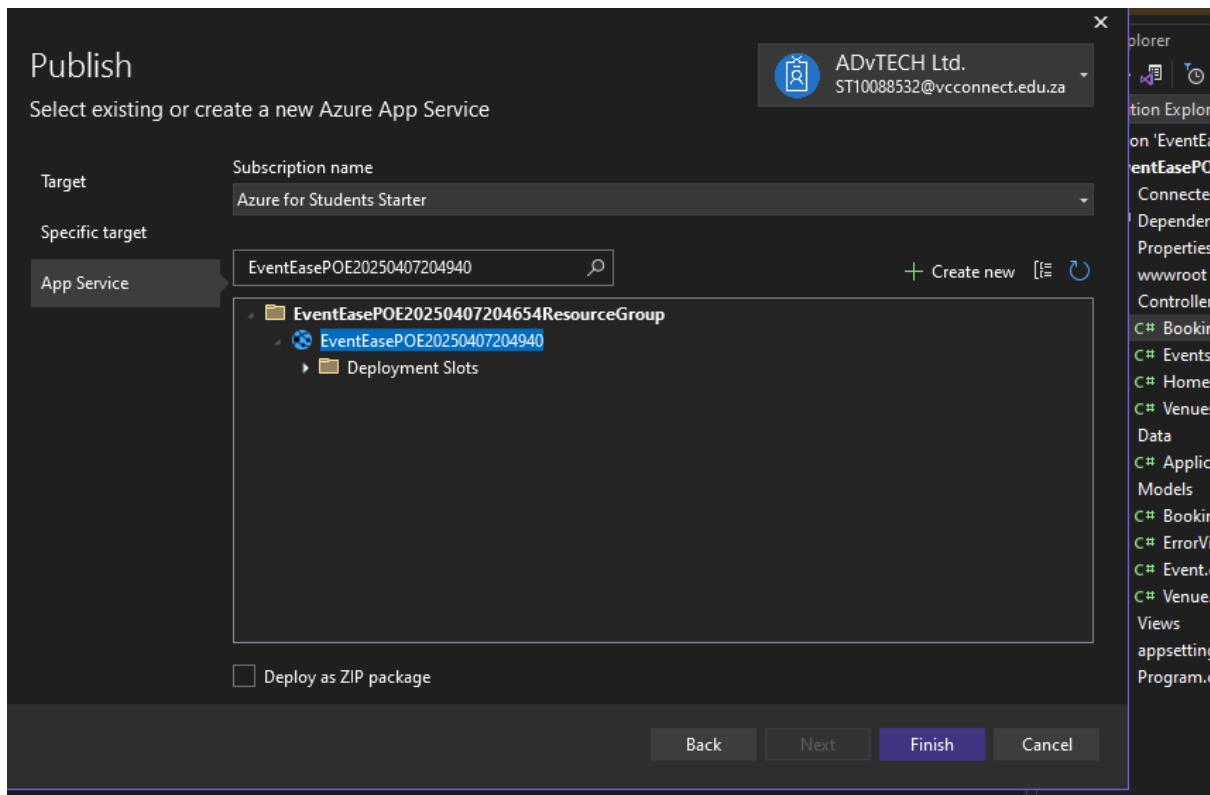
The screenshot shows the Microsoft SQL Server Management Studio interface. The title bar indicates the connection is to 'LAPTOP-TKTPFF6S\SQLEXPRESS'. The main area displays the 'Object Explorer' pane. Under the 'EventEasedata' database, the 'Tables' node is expanded, showing 'Tables (expanding...)'. Other nodes visible include 'Databases', 'Views', 'External Resources', 'Synonyms', 'Programmability', 'Service Broker', 'Storage', and 'Security'. The 'past paper 2021' and 'scholarship.db' databases are also listed at the bottom.

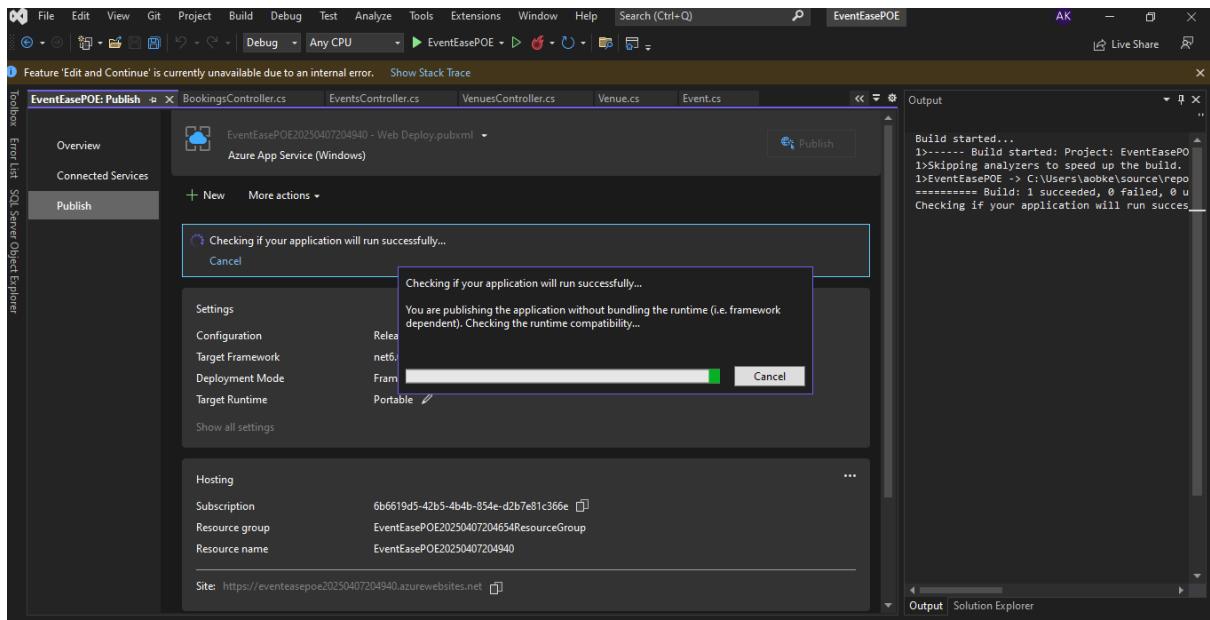
Screenshots of deployment









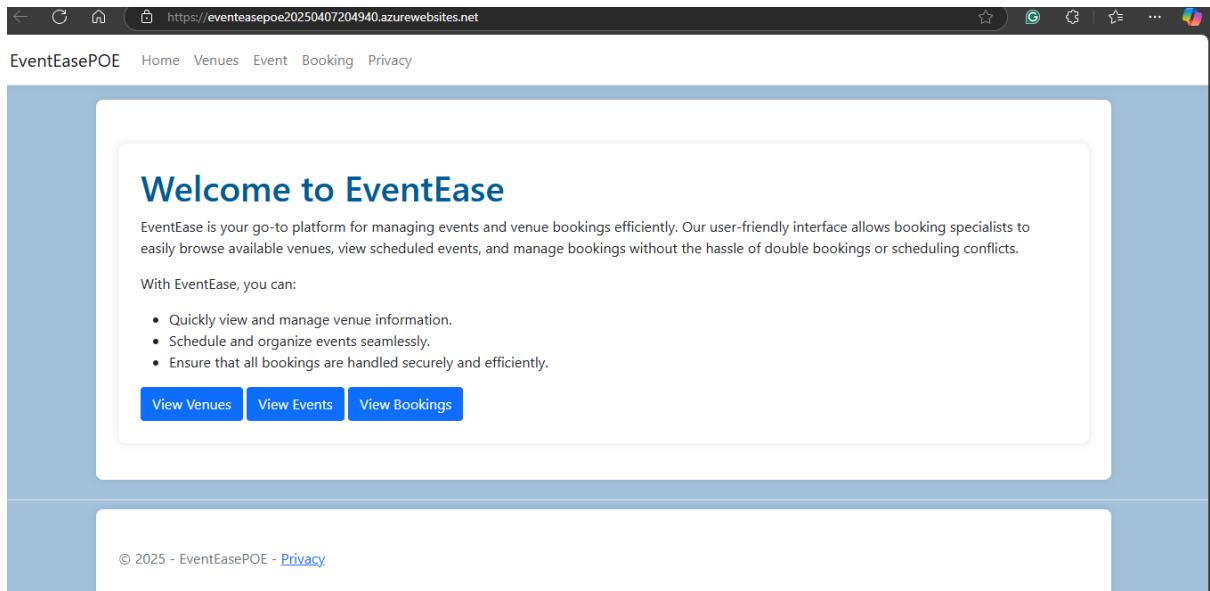


GITHub repository link

<https://github.com/ST10088532/VCSANDTON-CLDV6211-ST10088532.git>

Web app url

<https://eventeasepoe20250407204940.azurewebsites.net>



Part D

1. On-premise software is installed on a company's network/infrastructure.
Cloud software relies on a provider's servers and is accessed using the web.
While cloud computing offers flexibility and cost-efficiency, on-premise

options offer dependability, security, and control. Mostly a blend of on-premise, cloud and SaaS applications is necessary for continued business growth.

Example, If EventEase decided to deploy on-premises they would need to hire cybersecurity employees/workers to setup firewalls, check the network and system for any threats and make sure the physical server secure.

2. IaaS is an on-demand access to cloud-hosted physical and virtual servers, storage and networking—the backend IT infrastructure for running applications and workloads in the cloud. PaaS is on-demand access to a complete, ready-to-use, cloud-hosted platform for developing, running, maintaining and managing applications.

SaaS, or software as a service, is on-demand access to ready-to-use cloud-hosted application software. (Mrzyglod, 2022) (Ron Karjian, 2024) (S., n.d.)

Example EventEase use IaaS so they need to configure virtual machines, install web servers and manage Operating system patches/updates. With SaaS they would have to adapt their business processes to fit available software. With PaaS comes the perfect balance by using Azure App Service and Azure SQL Database, EventEase can deploy their event booking app, while maintaining control over their application's functionality and user experience. (Mrzyglod, 2022) (Ron Karjian, 2024) (S., n.d.)

Part 2

Azure database creation:

Create SQL Database Server

Microsoft

⚠️ Changing Basic options may reset selections you have made. Review all options prior to creating the resource.

Azure Active Directory (Azure AD) is now Microsoft Entra ID. [Learn more](#)

Select your preferred authentication methods for accessing this server. Create a server admin login and password to access your server with SQL authentication, select only Microsoft Entra authentication [Learn more](#) using an existing Microsoft Entra user, group, or application as Microsoft Entra admin [Learn more](#), or select both SQL and Microsoft Entra authentication.

Authentication method: Use SQL authentication

Server admin login *: easeevent_data

Password *:
Confirm password *:

Review + create **Next : Networking >**

Create SQL Database Server

Microsoft

SQL Database Server by Microsoft

Estimated cost per month
No additional charges

Terms
By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see [Azure Marketplace Terms](#).

Basics

Subscription	ADVTECH-Tertiary Vega School
Resource group	AZ-JHB-RSG-VCGPSD-ST10088532-TER
Server name	easeevents
Authentication method	SQL authentication
Server admin login	easeevent_data
Location	South Africa North

Create **< Previous** **Download a template for automation**

Microsoft.SQLServer.createServer_a8171998f07748fcfaf39955b340a0c | Overview

Deployment

Overview

Deployment is in progress

Deployment name : Microsoft.SQLServer.createServer_a81... Start time : 5/13/2025, 12:36:32 AM
Subscription : ADVTECH-Tertiary Vega School Correlation ID : f62ac2d1-0f31-434a-897d-0cd596eb7...
Resource group : AZ-JHB-RSG-VCGPSD-ST10088532-TER

Deployment details

Resource	Type	Status	Operation details
There are no resources to display.			

Microsoft Defender for Cloud
Secure your apps and infrastructure
[Go to Microsoft Defender for Cloud >](#)

Free Microsoft tutorials
[Start learning today >](#)

Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.
[Find an Azure expert >](#)

Microsoft Azure easeevent_data Copilot Home > SQL databases Create SQL Database Microsoft

Basics Networking Security Additional settings Tags Review + create

Product details

SQL database by Microsoft Terms of use | Privacy policy

Estimated cost

Storage cost 0.00 USD / month + Compute cost 0.000000 USD / vCore second

Terms

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see [Azure Marketplace Terms](#).

Cost summary

General Purpose (GP_S_Gen5_2)	0.00
Cost per GB (in USD)	0.00
Max storage selected (in GB)	x 41.6
First 32 GB storage free	
First 100,000 vCore seconds free	
Overage billing ¹	Disabled
ESTIMATED STORAGE COST / MONTH	0.00 USD
COMPUTE COST / VCORE SECOND ²	0.000000 USD

Create < Previous Download a template for automation

ST10088532@vcconnect... ADVTECH LTD. (ADVTECHONLINE)

Microsoft Azure easeevent_data Copilot Home > SQL databases Create SQL Database Microsoft

Basics Networking Security Additional settings Tags Review + create

Product details

SQL database by Microsoft Terms of use | Privacy policy

Estimated cost per month

7.51 USD

Terms

By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. For additional details see [Azure Marketplace Terms](#).

Cost summary

Basic (Basic)	1.50
Cost per DTU (in USD)	1.50
DTUs selected	x 5
ESTIMATED COST / MONTH	7.51 USD

Create < Previous Download a template for automation

ST10088532@vcconnect... ADVTECH LTD. (ADVTECHONLINE)

Microsoft.SQLDatabase.newDatabaseNewServer_4fb38a5c134d49aca2491 | Overview

Deployment is in progress

Deployment name : Microsoft.SQLDatabase.newDatabase... Start time : 5/13/2025, 12:50:24 AM

Subscription : ADVTECH-Tertiary Vega School Correlation ID : 4dc9b480-fa66-4eee-8e7c-a385095c3...

Resource group : AZ-JHB-RSG-VCGPSD-ST10088532-TER

Deployment details

Resource	Type	Status	Operation details
eventeasedat	Microsoft.Sql/servers	Accepted	Operation details

Microsoft.SQLDatabase.newDatabaseExistingServer_beda964bd6894d9d | Overview

Your deployment is complete

Deployment name : Microsoft.SQLDatabase.newDatabase... Start time : 5/13/2025, 12:53:39 AM

Subscription : Azure for Students Starter Correlation ID : 467796d1-87fc-4301-ad4a-9f96b0a5d...

Resource group : EventEasePOE20250407204654Resour...

Deployment details

Next steps

[Go to resource](#)

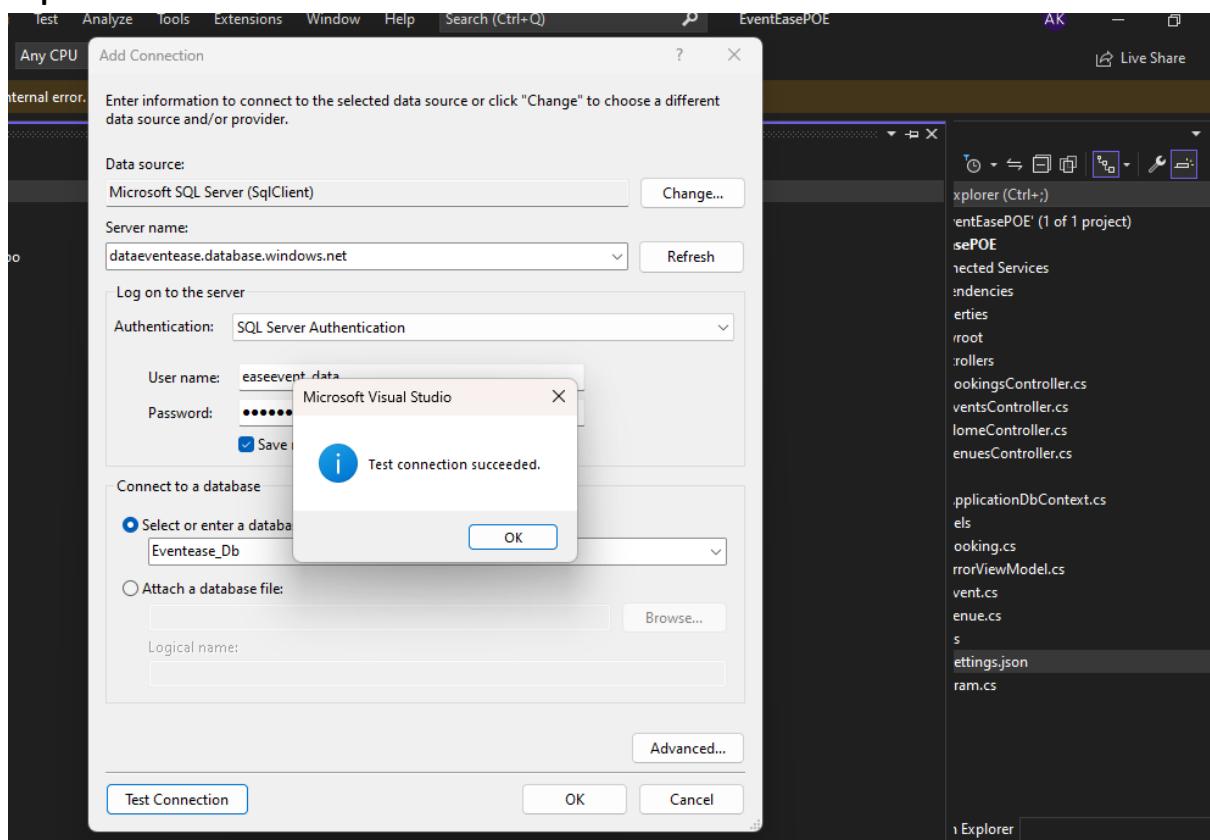
Code Corrections:

Updated json file with azure connection string.

```

{
  "Logging": {
    "LogLevel": {
      "Default": "Information",
      "Microsoft.AspNetCore": "Warning"
    }
  },
  "AllowedHosts": "*",
  "ConnectionStrings": {
    "DefaultConnection": "Server=tcp:datanease.eventease.database.windows.net,1433;Initial Catalog=EventEase_Db;Persist Security Info=False;User ID=EventEase;Password=EventEase@123;MultipleActiveResultSets=true"
  }
}
  
```

Updated connection to azure:



Adding Migrations and Updating Database:

The screenshot shows the Visual Studio interface with the Package Manager Console window open. The console displays the output of a command to add a migration named 'SecondCreate'. The output includes the command entered ('PM> Add-Migration SecondCreate'), the build status ('Build started...', 'Build succeeded.'), and the generated migration code. The migration code creates a new table 'Bookings' with columns for BookingId (int, primary key, identity), EventId (int, foreign key), and BookingDate (datetime). It also creates a table 'Events' with columns for EventId (int, primary key, identity), EventName (nvarchar(max)), and EventDescription (text). The Solution Explorer on the right shows the project structure for 'EventEasePOE', including files like ApplicationDbContext.cs, Booking.cs, ErrorViewModel.cs, Event.cs, Venue.cs, and appsettings.json.

```
PM> Add-Migration SecondCreate
Build started...
Build succeeded.

PM> Update-Database
Build started...
Build succeeded.
Microsoft.EntityFrameworkCore.Infrastructure[10403]
  Entity Framework Core 6.0.36 initialized 'ApplicationDbContext' using provider 'Microsoft.EntityFrameworkCore.SqlServer:6.0.36' with options: None
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (26ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
    SELECT 1
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (34ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
    SELECT OBJECT_ID('[_EFMigrationsHistory']');
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (13ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
    SELECT 1
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (147ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
    CREATE TABLE [_EFMigrationsHistory] (
      [MigrationId] nvarchar(128) NOT NULL,
      [ProductVersion] nvarchar(32) NOT NULL,
      CONSTRAINT [PK__EFMigrationsHistory] PRIMARY KEY ([MigrationId])
    );
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (8ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
    SELECT 1
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (14ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
    SELECT OBJECT_ID('[_EFMigrationsHistory']");
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (13ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
    SELECT [MigrationId], [ProductVersion]
    FROM [_EFMigrationsHistory]
    ORDER BY [MigrationId];
Microsoft.EntityFrameworkCore.Migrations[20402]
  Applying migration '202305121208_SecondCreate'.
  Applying migration '202305121208_SecondCreate'.
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (9ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
    CREATE TABLE [Bookings] (
      [BookingId] int NOT NULL IDENTITY,
      [EventId] int NOT NULL,
      [VenueId] int NOT NULL,
      [BookingDate] datetime2 NOT NULL,
      CONSTRAINT [PK_Bookings] PRIMARY KEY ([BookingId])
    );
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (9ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
    CREATE TABLE [Events] (
      [EventId] int NOT NULL IDENTITY,
      [EventName] nvarchar(max) NOT NULL,
```

A. Creating Azure Storage Account

The screenshot shows the Microsoft Azure 'Create a resource' interface. On the left, there's a sidebar with 'Get Started' and 'Recently created' sections, followed by a 'Categories' section listing various service types such as AI + Machine Learning, Analytics, Blockchain, Compute, Containers, Databases, Developer Tools, DevOps, Identity, Integration, and Internet of Things. The main area displays 'Popular Azure services' and 'Popular Marketplace products'. Services shown include Storage account, Azure Cosmos DB, Azure Cosmos DB for MongoDB, Azure File Sync, Storage task - Azure Storage Actions, and Azure NetApp Files. Marketplace products include SUSE Linux Enterprise Server for SAP Applications 12 SP5 - BYOS, Standard - Full Access, Veeam Backup for Microsoft Azure Free Edition v6, Flex 1-50 users — Annual Subscription, ARM - Azure Storage Account, and Standard.

The screenshot shows the 'Create a storage account' configuration page. It has tabs for Basics, Advanced, Networking, Data protection, Encryption, Tags, and Review + create. The Basics tab is selected, showing fields for Subscription (ADvTECH-Tertiary Vega School), Resource group (AZ-JHB-RSG-VCGPSD-ST10088532-TER), Location (Central US), Storage account name (easeimages), Primary service (Standard), Performance (Standard), and Replication (Locally-redundant storage (LRS)).

The screenshot shows the 'Deployment' overview page for a deployment named 'easeimages_1747128964596'. The status is 'Deployment succeeded'. Deployment details include deployment name: easeimages_1747128964596, subscription: ADvTECH-Tertiary Vega School, and resource group: AZ-JHB-RSG-VCGPSD-ST10088532-TER. The deployment started at 5/13/2025, 11:36:31 AM with a correlation ID of 0283a95c-2dfd-4a26-be93-fe35156fb42c. A 'Go to resource' button is available. To the right, there are sections for Cost Management (with a link to set up cost alerts), Microsoft Defender for Cloud (with a link to go to Microsoft Defender for Cloud), and Free Microsoft tutorials (with a link to start learning today). There's also a 'Work with an expert' section.

Integration of Azure Storage:

Process: [21500] EventEasePOE.exe

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

Server Explorer

Schemas: https://json.schemastore.org/appsettings.json

```

1  {
2     "Logging": {
3         "LogLevel": {
4             "Default": "Information",
5             "Microsoft.AspNetCore": "Warning"
6         }
7     },
8     "AllowedHosts": "*",
9     "ConnectionStrings": {
10        "DefaultConnection": "Server=tcp:dataeventease.database.windows.net,1433;Initial Catalog=EventEase_DB;Persist Security I"
11    },
12    "AzureStorage": {
13        "ConnectionString": "DefaultEndpointsProtocol=https;AccountName=easeimages;AccountKey=g5J4Jg3D+ApVQoYzMiLEkTkFbVg3oyd",
14        "ContainerName": "venue-images"
15    }
16 }
17

```

Error List

Entire Solution

No issues found

Code Description Project File Line Suppres

Non-nullable property 'Venues' must contain a non-null value when exiting

Solution Explorer

Search Solution Explorer (Ctrl+.)

- Events
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml
- Home
- Shared
 - _Layout.cshtml
 - ValidationScriptsPartial.cs
 - Error.cshtml
- Venues
 - Create.cshtml
 - Delete.cshtml
 - Details.cshtml
 - Edit.cshtml
 - Index.cshtml
 - ViewImports.cshtml
 - ViewStart.cshtml

appsettings.json

Program.cs

Process: [21500] EventEasePOE.exe

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

Server Explorer

EventEasePOE

Blobstorage.cs

EventEasePOE.Functions.Blobstorage

```

1  using Azure.Storage.Blobs;
2  using Azure.Storage.Blobs.Models;
3  using Microsoft.AspNetCore.Http;
4
5  namespace EventEasePOE.Functions
6  {
7      public class Blobstorage
8      {
9          private readonly BlobServiceClient _blobServiceClient;
10         private readonly string _containerName;
11
12         public Blobstorage(string connectionString, string containerName)
13         {
14             _blobServiceClient = new BlobServiceClient(connectionString);
15             _containerName = containerName;
16         }
17
18         public async Task<string> UploadImageAsync(IFormFile file)
19         {
20             if (file == null || file.Length == 0)
21                 return null;
22
23             var containerClient = _blobServiceClient.GetBlobContainerClient(_containerName);
24             await containerClient.CreateIfNotExistsAsync();
25
26             // Create a unique name for the blob
27             var blobName = $"{Guid.NewGuid()}{Path.GetExtension(file.FileName)}";
28             var blobClient = containerClient.GetBlobClient(blobName);
29
30             // Upload the file
31             using (var stream = file.OpenReadStream())
32             {
33                 await blobClient.UploadAsync(stream, new BlobHttpHeaders { ContentType = file.ContentType });
34             }
35
36             return blobClient.Uri.ToString();
37         }
38
39         public async Task DeleteImageAsync(string blobUrl)
40         {
41             if (string.IsNullOrEmpty(blobUrl))
42                 return;
43
44             var containerClient = _blobServiceClient.GetBlobContainerClient(_containerName);
45             var blobName = Path.GetFileName(new Uri(blobUrl).LocalPath);
46             var blobClient = containerClient.GetBlobClient(blobName);
47
48             await blobClient.DeleteIfExistsAsync();
49         }
50     }
51 }

```

Error List

Entire Solution

Code Description Project File Line Suppres

Solution Explorer

Search Solution Explorer (Ctrl+.)

EventEasePOE (1 of 1 project)

- External Sources
- Script Documents
- EventEasePOE
 - Connected Services
 - Dependencies
 - Properties
 - wwwroot
 - Controllers
 - BookingsController.cs
 - EventsController.cs
 - HomeController.cs
 - VenuesController.cs
 - Data
 - ApplicationDbContext.cs
 - Functions
 - Blobstorage.cs
 - Migrations
 - Models
 - Booking.cs
 - ErrorViewModel.cs
 - Event.cs
 - Venue.cs
 - Views

AK

Live Share

Process: [21500] EventEasePOE.exe

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

Server Explorer

EventEasePOE

Blobstorage.cs

EventEasePOE.Functions.Blobstorage

```

20         if (file == null || file.Length == 0)
21             return null;
22
23         var containerClient = _blobServiceClient.GetBlobContainerClient(_containerName);
24         await containerClient.CreateIfNotExistsAsync();
25
26         // Create a unique name for the blob
27         var blobName = $"{Guid.NewGuid()}{Path.GetExtension(file.FileName)}";
28         var blobClient = containerClient.GetBlobClient(blobName);
29
30         // Upload the file
31         using (var stream = file.OpenReadStream())
32         {
33             await blobClient.UploadAsync(stream, new BlobHttpHeaders { ContentType = file.ContentType });
34         }
35
36         return blobClient.Uri.ToString();
37     }
38
39     public async Task DeleteImageAsync(string blobUrl)
40     {
41         if (string.IsNullOrEmpty(blobUrl))
42             return;
43
44         var containerClient = _blobServiceClient.GetBlobContainerClient(_containerName);
45         var blobName = Path.GetFileName(new Uri(blobUrl).LocalPath);
46         var blobClient = containerClient.GetBlobClient(blobName);
47
48         await blobClient.DeleteIfExistsAsync();
49     }
50 }

```

Error List

Entire Solution

Code Description Project File Line Suppres

Solution Explorer

Search Solution Explorer (Ctrl+.)

EventEasePOE (1 of 1 project)

- External Sources
- Script Documents
- EventEasePOE
 - Connected Services
 - Dependencies
 - Properties
 - wwwroot
 - Controllers
 - BookingsController.cs
 - EventsController.cs
 - HomeController.cs
 - VenuesController.cs
 - Data
 - ApplicationDbContext.cs
 - Functions
 - Blobstorage.cs
 - Migrations
 - Models
 - Booking.cs
 - ErrorViewModel.cs
 - Event.cs
 - Venue.cs
 - Views

Solution Explorer Properties Notifications

Select Repository

B. Implementing error handling and validations

```
using System.ComponentModel.DataAnnotations;
using System.ComponentModel.DataAnnotations.Schema;

namespace EventEasePOE.Models
{
    public class Venue
    {
        [Required(ErrorMessage = "Venue Name is required.")]
        public int VenueId { get; set; }

        [Required(ErrorMessage = "Location is required.")]
        public string VenueName { get; set; }

        [Required(ErrorMessage = "Capacity is required.")]
        public int Capacity { get; set; }

        [NotMapped]
        public IFormFile ImageFile { get; set; }
    }
}
```

```
using System.ComponentModel.DataAnnotations;
using System.ComponentModel.DataAnnotations.Schema;

namespace EventEasePOE.Models
{
    public class Booking
    {
        [Required(ErrorMessage = "Booking Date is required.")]
        public DateTime BookingDate { get; set; }
    }
}
```

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

```
154     return View(venue);
155   }
156 
157   // POST: Venues/Delete/9
158   [HttpPost, ActionName("Delete")]
159   [ValidateAntiForgeryToken]
160   public async Task<ActionResult> DeleteConfirmed(int id)
161   {
162     if (_context.Venues == null)
163     {
164       return Problem("Entity set 'ApplicationDbContext.Venues' is null.");
165     }
166     var venue = await _context.Venues.FindAsync(id);
167     if (venue != null)
168     {
169       // Delete image from blob storage if it exists
170       if (!string.IsNullOrEmpty(venue.ImageUrl))
171       {
172         await _blobStorage.DeleteImageAsync(venue.ImageUrl);
173       }
174       _context.Venues.Remove(venue);
175     }
176     await _context.SaveChangesAsync();
177     return RedirectToAction(nameof(Index));
178   }
179 
180   [Reference]
181   private bool VenueExists(int id)
182   {
183     return false;
184   }

```

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

```
122     } await _context.SaveChangesAsync();
123   }
124   catch (DbUpdateConcurrencyException)
125   {
126     if (!VenueExists(venue.VenueId))
127     {
128       return NotFound();
129     }
130     else
131     {
132       throw;
133     }
134   }
135   return RedirectToAction(nameof(Index));
136 }
137 return View(venue); // Return the view with validation errors
138 }
139 
140 // GET: Venues/Delete/5
141 [HttpGet]
142 public async Task<ActionResult> Delete(int? id)
143 {
144   if (id == null || _context.Venues == null)
145   {
146     return NotFound();
147   }
148 
149   var venue = await _context.Venues.FirstOrDefaultAsync(m => m.VenueId == id);
150   if (venue == null)
151   {
152     return NotFound();
153   }
154 
155   return View(venue);
156 }
```

Process: [12152] EventEasePOE.exe | Lifecycle Events | Thread: [41436].NET ThreadPool Worker | Stack Frame: Program.<Main>\$AnonymousMethod_1

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

Solution Explorer

VenuesController.cs BookingController.cs Booking.cs Venue.cs

```

EventEasePOE.Controllers.VenuesController
    -> VenuesController(ApplicationDbContext context)
        -> Edit(int id, [Bind("VenueId, VenueName, Location, Capacity, ImageUrl")] Venue venue, IFormFile imageFile)
            -> if (id != venue.VenueId)
                -> return NotFound();
            -> if (ModelState.IsValid)
                -> try
                    -> if (imageFile != null && imageFile.Length > 0)
                        -> // Delete old image if it exists
                        -> if (!string.IsNullOrEmpty(venue.ImageUrl))
                            -> await _blobStorage.DeleteImageAsync(venue.ImageUrl);
                        -> // Upload new image
                        -> venue.ImageUrl = await _blobStorage.UploadImageAsync(imageFile);
                    -> _context.Update(venue);
                    -> await _context.SaveChangesAsync();
                -> catch (DbUpdateConcurrencyException)
                    -> if (!VenueExists(venue.VenueId))
                        -> return NotFound();
                -> catch (Exception ex)
                    -> ModelState.AddModelError("", "Error uploading image: " + ex.Message);
                -> return View(venue); // Return the view with validation errors
            -> finally
                -> _context.SaveChanges();
        -> finally
            -> _context.SaveChanges();
    -> finally
        -> _context.SaveChanges();

```

Error List

No issues found

Ln: 187 Ch: 2 SPC: CRLF

Process: [12152] EventEasePOE.exe | Lifecycle Events | Thread: [41436].NET ThreadPool Worker | Stack Frame: Program.<Main>\$AnonymousMethod_1

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

Solution Explorer

VenuesController.cs BookingController.cs Booking.cs Venue.cs

```

EventEasePOE.Controllers.VenuesController
    -> Create([Bind("VenueId, VenueName, Location, Capacity")]
        -> Venue venue, IFormFile imageFile)
            -> if (ModelState.IsValid)
                -> try
                    -> if (imageFile != null && imageFile.Length > 0)
                        -> venue.ImageUrl = await _blobStorage.UploadImageAsync(imageFile);
                    -> _context.Add(venue);
                    -> await _context.SaveChangesAsync();
                    -> return RedirectToAction(nameof(Index));
                -> catch (Exception ex)
                    -> ModelState.AddModelError("", "Error uploading image: " + ex.Message);
                -> return View(venue); // Return the view with validation errors
            -> finally
                -> _context.SaveChanges();

```

Error List

No issues found

Ln: 187 Ch: 2 SPC: CRLF

Process: [12152] EventEasePOE.exe | Lifecycle Events | Thread: [41436].NET ThreadPool Worker | Stack Frame: Program.<Main>\$AnonymousMethod_1

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

Solution Explorer

VenuesController.cs BookingController.cs Booking.cs Venue.cs

```

EventEasePOE.Controllers.BookingController
    -> Index()
        -> Create([Bind("BookingId, EventId, VenueId, BookingDate")]
            -> Booking booking)
                -> if (ModelState.IsValid)
                    -> var existingBooking = await _context.Bookings
                        -> AnyAsync(b => b.VenueId == booking.VenueId && b.BookingDate == booking.BookingDate);
                    -> if (existingBooking)
                        -> ModelState.AddModelError("", "This venue is already booked for the selected date and time.");
                    -> else
                        -> _context.Add(booking);
                        -> await _context.SaveChangesAsync();
                    -> return RedirectToAction(nameof(Index));
                -> finally
                    -> _context.SaveChanges();
            -> finally
                -> _context.SaveChanges();
        -> finally
            -> _context.SaveChanges();

```

Output

The thread 0xale8 has exited with code 0
The thread 0xd37c has exited with code 0
The thread 0xb520 has exited with code 0
The thread 0x8a4c has exited with code 0
The thread 0x47c4 has exited with code 0
The thread 0x7780 has exited with code 0
The thread 0x8464 has exited with code 0
The thread 0x9990 has exited with code 0
The thread 0x5a18 has exited with code 0
The thread 0x1170 has exited with code 0
The thread 0x612c has exited with code 0
The thread 0x9140 has exited with code 0
The thread 0x7768 has exited with code 0
The thread 0x823d has exited with code 0
The thread 0x79cc has exited with code 0
The thread 0x5f64 has exited with code 0
The thread 0x6338 has exited with code 0
The thread 0x2b5c has exited with code 0
The thread 0x9c2c has exited with code 0
ie thread 0x58dc has exited with code 0
ie thread 0xa490 has exited with code 0
ie thread 0x9030 has exited with code 0
The thread 0x7124 has exited with code 0
The thread 0x97c4 has exited with code 0
The thread 0x4f8c has exited with code 0
The thread 0x5b0c has exited with code 0
The thread 0x7584 has exited with code 0
The thread 0x4d74 has exited with code 0
The thread 0x6a24 has exited with code 0
The program '[12152] EventEasePOE.exe' has terminated with code 0 (0x0).

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

VenuesController.cs BookingsController.cs Booking.cs Venue.cs

EventEasePOE EventEasePOE.Controllers.BookingController Edit(int id, Booking booking)

```

103     {
104         try
105         {
106             // Check for double booking
107             var existingBooking = await _context.Bookings
108                 .AnyAsync(b => b.VenueId == booking.VenueId && b.BookingDate == booking.BookingDate && b.BookingId != booking.BookingId);
109
110             if (existingBooking)
111             {
112                 ModelState.AddModelError("", "This venue is already booked for the selected date and time.");
113                 return View(booking);
114             }
115
116             _context.Update(booking);
117             await _context.SaveChangesAsync();
118         }
119         catch (DbUpdateConcurrencyException)
120         {
121             if (!BookingExists(booking.BookingId))
122             {
123                 return NotFound();
124             }
125             else
126             {
127                 throw;
128             }
129         }
130         return RedirectToAction(nameof(Index));
131     }
132
133     return View(booking);
134 }
135
136 // GET: Bookings/Delete/5
137 public async Task<ActionResult> Delete(int? id)
138 {
139     if (id == null || _context.Bookings == null)
140     {
141         return NotFound();
142     }

```

Output

```

The thread 0x1e8 has exited with code 0
The thread 0x3d7c has exited with code 0
The thread 0xb20 has exited with code 0
The thread 0x84c has exited with code 0
The thread 0x47c4 has exited with code 0
The thread 0x7780 has exited with code 0
The thread 0x8464 has exited with code 0
The thread 0x9990 has exited with code 0
The thread 0x5a18 has exited with code 0
The thread 0x1170 has exited with code 0
The thread 0x712c has exited with code 0
The thread 0x91e4 has exited with code 0
The thread 0x77c8 has exited with code 0
The thread 0x824 has exited with code 0
The thread 0x79cc has exited with code 0
The thread 0x5f64 has exited with code 0
The thread 0x2b5c has exited with code 0
The thread 0x9c2c has exited with code 0
The thread 0x58dc has exited with code 0
The thread 0x4a98 has exited with code 0
The thread 0x9030 has exited with code 0
The thread 0x7124 has exited with code 0
The thread 0x97c4 has exited with code 0
The thread 0x4f8c has exited with code 0
The thread 0x5b0c has exited with code 0
The thread 0x75a4 has exited with code 0
The thread 0xd474 has exited with code 0
The thread 0x6a24 has exited with code 0
The program '[12152] EventEasePOE.exe' has exited with code 0 (0x0)
The thread 0x0 has exited with code 0 (0x0)
The program 'JavaScript debug adapter: lc' has exited with code 42945
The program '' has exited with code 42945

```

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

VenuesController.cs BookingsController.cs Booking.cs Venue.cs

EventEasePOE EventEasePOE.Controllers.BookingController Edit(int id, Booking booking)

```

153 // POST: Bookings/Delete/b
154 [HttpPost, ActionName("Delete")]
155 [ValidateAntiForgeryToken]
156 public async Task<ActionResult> DeleteConfirmed(int id)
157 {
158     if (_context.Bookings == null)
159     {
160         return Problem("Entity set 'ApplicationDbContext.Bookings' is null.");
161     }
162     var booking = await _context.Bookings.FindAsync(id);
163     if (booking != null)
164     {
165         _context.Bookings.Remove(booking);
166     }
167
168     await _context.SaveChangesAsync();
169     return RedirectToAction(nameof(Index));
170 }
171
172 private bool BookingExists(int id)
173 {
174     return (_context.Bookings?.Any(e => e.BookingId == id)).GetValueOrDefault();
175 }
176 }
177

```

Output

```

The thread 0x1e8 has exited with code 0
The thread 0x3d7c has exited with code 0
The thread 0xb20 has exited with code 0
The thread 0x84c has exited with code 0
The thread 0x47c4 has exited with code 0
The thread 0x7780 has exited with code 0
The thread 0x8464 has exited with code 0
The thread 0x9990 has exited with code 0
The thread 0x5a18 has exited with code 0
The thread 0x1170 has exited with code 0
The thread 0x712c has exited with code 0
The thread 0x91e4 has exited with code 0
The thread 0x77c8 has exited with code 0
The thread 0x824 has exited with code 0
The thread 0x79cc has exited with code 0
The thread 0x5f64 has exited with code 0
The thread 0x2b5c has exited with code 0
The thread 0x9c2c has exited with code 0
The thread 0x58dc has exited with code 0
The thread 0x4a98 has exited with code 0
The thread 0x9030 has exited with code 0
The thread 0x0 has exited with code 0
The thread 0x7124 has exited with code 0
The thread 0x97c4 has exited with code 0
The thread 0x4f8c has exited with code 0
The thread 0x5b0c has exited with code 0
The thread 0x75a4 has exited with code 0
The thread 0xd474 has exited with code 0
The thread 0x6a24 has exited with code 0
The program '[12152] EventEasePOE.exe' has exited with code 0 (0x0)
The thread 0x0 has exited with code 0 (0x0)

```

C. Enhanced Display and Search: Booking view class:

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

BookingViewing.cs VenuesController.cs BookingsController.cs Booking.cs Venue.cs

EventEasePOE EventEasePOE.Models.BookingViewing Edit(int id, BookingViewing bookingViewing)

```

1 namespace EventEasePOE.Models
2 {
3     public class BookingViewing
4     {
5         public int BookingId { get; set; }
6         public string VenueName { get; set; }
7         public int BookingDate { get; set; }
8         public DateTime BookingDate { get; set; }
9     }
10 }
11

```

Solution Explorer

- Controllers
 - BookingsController.cs
 - EventsController.cs
 - HomeController.cs
 - VenuesController.cs
- Data
 - ApplicationDbContext.cs
 - Blobstorage.cs
- Functions
- Migrations
 - 20250513081203_SecondCreate.cs
 - 20250513174235_InitialMig.cs
 - ApplicationContextModelSnapshot.cs
- Models
 - Booking.cs
 - BookingViewing.cs
 - ErrorViewModel.cs

Improved index class/cshtml:

```

1 <?*>
2     For more information on enabling MVC for empty projects, visit https://go.microsoft.com/fwlink/?LinkID=39860
3     @{
4         ViewData["Title"] = "Improved Bookings";
5     }
6     <h1>Improved Bookings</h1>
7     <form asp-action="ImprovedIndex" method="get">
8         <p>
9             <input type="text" name="searchString" placeholder="Search by Booking ID or Event Name" />
10            <input type="submit" value="Search" />
11        </p>
12    </form>
13    <table class="table">
14        <thead>
15            <tr>
16                <th>Booking ID</th>
17                <th>Venue Name</th>
18                <th>Event Name</th>
19                <th>Booking Date</th>
20            </tr>
21        </thead>
22        <tbody>
23            <@foreach (var booking in Model)>
24            <tr>
25                <td>@booking.BookingId</td>
26                <td>@booking.VenueName</td>
27                <td>@booking.EventName</td>
28                <td>@booking.BookingDate.ToShortDateString()</td>
29            </tr>
30        </tbody>
31    </table>
32 
```

Improved index added to bookings controller:

```

1 <?*>
2     Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace
3     ImprovedIndex.cshtml BookingViewing.cs VenuesController.cs BookingsController.cs Booking.cs Venue.cs
4     EventEasePOE.Controllers.BookingsController ImprovedIndex(string searchString)
5     {
6         var bookings = from b in _context.Bookings
7                         join v in _context.Venues on b.VenueId equals v.VenueId
8                         join e in _context.Events on b.EventId equals e.EventId
9                         select new BookingViewing
10                         {
11                             BookingId = b.BookingId,
12                             VenueName = v.VenueName,
13                             EventName = e.EventName,
14                             BookingDate = b.BookingDate
15                         };
16
17         if (!string.IsNullOrEmpty(searchString))
18         {
19             bookings = bookings.Where(b => b.BookingId.ToString().Contains(searchString) ||
20                                 b.EventName.Contains(searchString));
21         }
22
23         return View(await bookings.ToListAsync());
24     }
25
26     private bool BookingExists(int id)
27     {
28         return (_context.Bookings?.Any(e => e.BookingId == id)).GetValueOrDefault();
29     }
30 
```

(BillWagner, 2024)

Database Update:

```

Done.
PM> Update-Database
Build started...
Build succeeded.
Microsoft.EntityFrameworkCore.Infrastructure[10400]
  Entity Framework Core 6.0.36 initialized 'ApplicationDbContext' using provider 'Microsoft.EntityFrameworkCore.SqlServer:6.0.36' with options: None
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (26ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
  SELECT 1
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (0ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
  SELECT 0SELECT [__EFMigrationsHistory]
Microsoft.EntityFrameworkCore.Database.Command[20101]
  Executed DbCommand (0ms) [Parameters=[], CommandType='Text', CommandTimeout='30']
  SELECT [MigrationId], [ProductVersion]
  FROM [__EFMigrationsHistory]
  ORDER BY [MigrationId];
Microsoft.EntityFrameworkCore.Migrations[20405]
  No migrations were applied. The database is already up to date.
  No migrations were applied. The database is already up to date.
Done.
PM> 
```

Home > Eventease_Db (dataeventease/Eventease_Db)

Eventease_Db (dataeventease/Eventease_Db) | Query editor (preview)

SQL database

Search

- Overview
- Activity log
- Tags
- Diagnose and solve problems
- Query editor (preview)**
- Mirror database in Fabric (preview)
- Resource visualizer
- Settings
- Data management
- Integrations
- Power Platform
- Security
- Intelligent performance

Eventease_Db (ST10088532@vcconnect...) | Overview

Showing limited object explorer here. For full capability please click here to open Azure Data Studio.

Tables

Views

Stored Procedures

Query 1

Run Cancel query Save query Export data as Show only Editor

```
1 SELECT * FROM [dbo].[Bookings];
```

Results Messages

BookingId	EventId	Venuelid	BookingDate
1	1	1	2025-08-20T13:13:00.00000...

D.Azure deployment Updates:

File Edit View Git Project Build Debug Test Analyze Tools Window Help Search (Ctrl+Q) EventEasePOE AK Live Share

Feature 'Symbol search' is currently unavailable due to an internal error. Show Stack Trace

EventEasePOE Publish Index.cshtml Improved Index.cshtml BookingViewing.cs

Overview Connected Services Publish

Publishing to Azure App Service (Windows)...

Checking if your application will run successfully... You are publishing the application without bundling the runtime (i.e. framework dependent). Checking the runtime compatibility...

Settings Configuration Release net6.0 Framework Deployment Mode Target Runtime Target Runtime

Hosting Subscription 6b6619d5-42b5-4b4b-854e-d2b7e81c366e Resource group EventEasePOE20250407204654ResourceGroup Resource name EventEasePOE20250407204940 Site: https://eventeasepoe20250407204940.azurewebsites.net

Output Show output from: Build Checking if your application will run successfully...

Output Solution Explorer

Feature 'Symbol search' is currently unavailable

EventEasePOE: Publish Index.cshtml

Overview Connected Services Publish New Publish See logs

Target Specific target

Azure App Service (Windows) Publish your application code to a managed infrastructure that is easy to scale

Azure App Service (Linux) Publish your application code to a managed infrastructure that is easy to scale

Azure Container Apps (Linux) Run scalable containerized applications and microservices on a serverless platform in Azure

Azure App Service Container Publish your application as a Docker image to Azure Container Registry and run it on Azure App Service

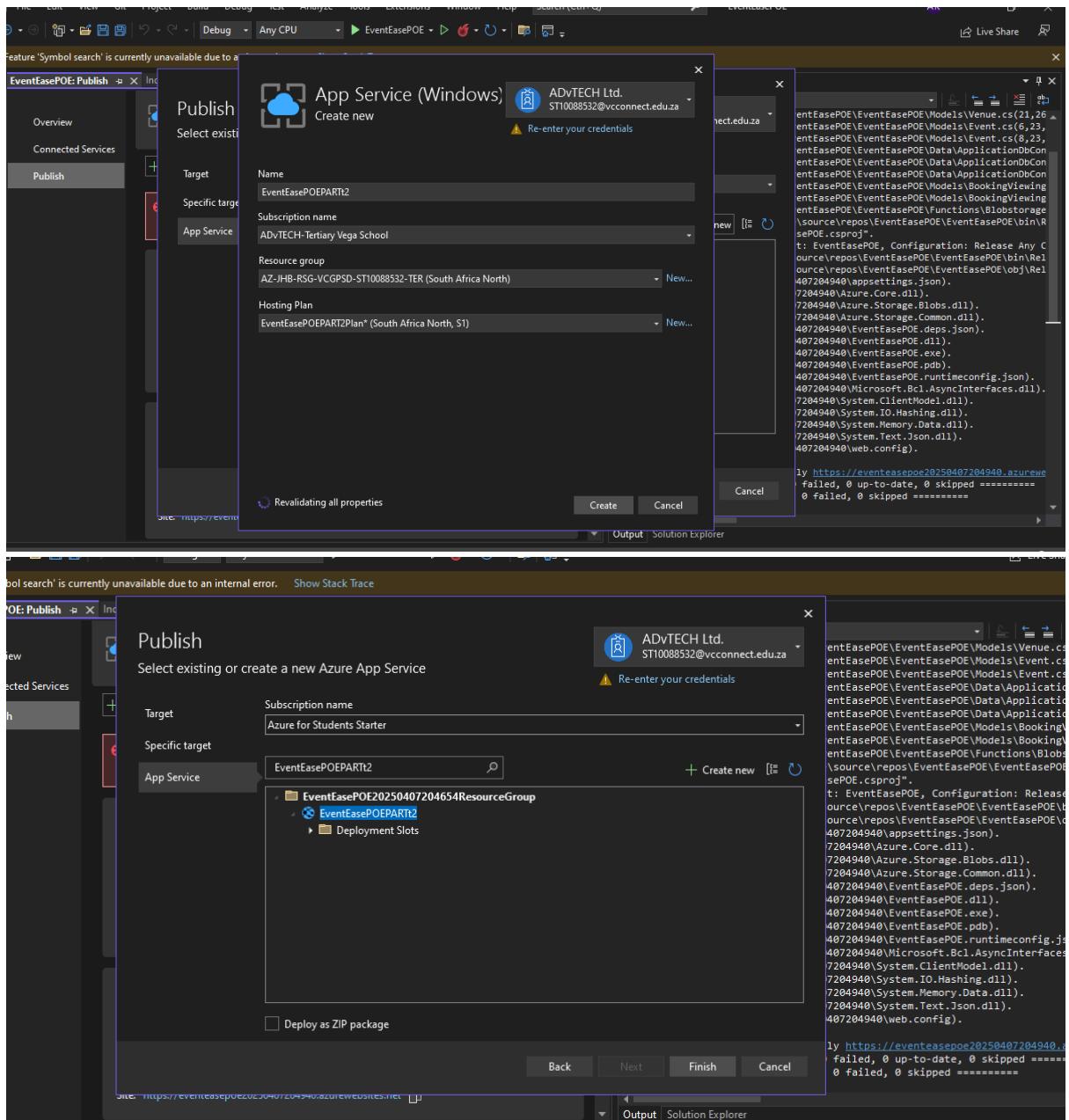
Azure Container Registry Publish your application as a Docker image to Azure Container Registry

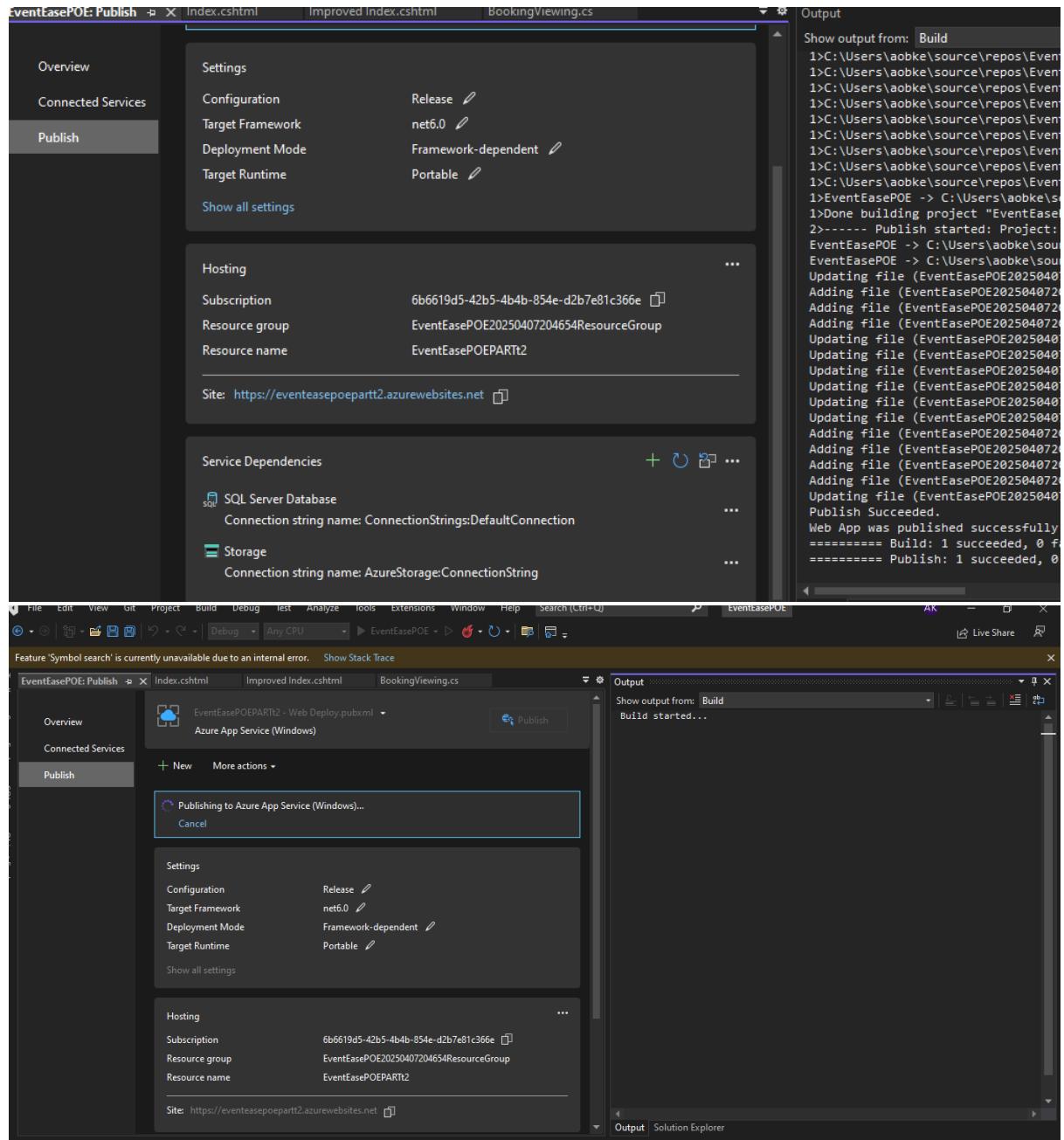
Azure Virtual Machine Manage your own infrastructure

Back Next Finish Cancel

Site: https://eventeasepoe20250407204940.azurewebsites.net

//eventeasepoe20250407204940.azurewebsites.net 0 up-to-date, 0 skipped ====== 0, 0 skipped ======





The screenshot shows the Azure App Service (Windows) blade for the 'EventEasePOEPARTt2' application. At the top, it displays 'EventEasePOEPARTt2 - Web Deploy.pubxml' and 'Azure App Service (Windows)'. A 'Publish' button is visible. Below the header, there's a message box stating 'Publish succeeded on 2025/05/13 at 23:12.' with a green checkmark and a 'Open site' link. The main area contains sections for 'Settings' and 'Hosting'. In the 'Settings' section, configuration details are listed: Release (net6.0), Target Framework (net6.0), Deployment Mode (Framework-dependent), Target Runtime (Portable), and a 'Show all settings' link. In the 'Hosting' section, subscription information is shown: Subscription (6b6619d5-42b5-4b4b-854e-d2b7e81c366e), Resource group (EventEasePOE20250407204654ResourceGroup), and Resource name (EventEasePOEPARTt2). A 'Site' link with the URL 'https://eventeasepoepartt2.azurewebsites.net' is also present.

The screenshot shows the Azure Data Studio Query editor (preview) interface. The left sidebar lists database management options: Overview, Activity log, Tags, Diagnose and solve problems, Query editor (preview) (selected), Mirror database in Fabric (preview), Resource visualizer, Settings, Data management, Integrations, Power Platform, and Security. The main area shows a query titled 'Query 1' with the following content:

```
1 SELECT * FROM [dbo].[Events]
```

The results pane displays a table with one row of data:

EventId	EventName	EventDate	Description	VenueId
1	The Sundae Chronicles	2025-04-09T03:00:00....	Sunday vibes	2

E. Database Design, Cognitive search

1. Azure cognitive search is a cloud-based search service from Microsoft that helps developers build and manage powerful search experiences. It allows users to index and query content from various sources, including websites, databases, and documents. (HeidiSteen, 2025) (Brush, 2023) Traditional search engines, like Google, Bing, and Yahoo, rely on indexing and ranking algorithms to deliver search results. They crawl the web, index content, and then use algorithms to match user queries with relevant information. These engines excel at finding specific web pages or documents based on keyword matching and offer features like advanced query syntax and filters. (Kerner, 2024) The system strongly excels in understanding the sophisticated queries, contextually recommending, and ranking results based on true relevance against the actual query instead of inflating counts of keyword matches.
2. “This process makes your database simpler to navigate while also enhancing the precision and integrity of your data. Data normalization ensures that all of the records in the database of customers have the same appearance, readability, and usability.” By reducing data redundancy, minimizing cloud storage costs and improving elastic scaling capabilities.

The impact on normalised structures, it is organizing your data so you don't repeat the same information everywhere. Instead of having customer names in every order record, you store them once and reference them. It is important because normalized data is much easier to manage across multiple servers when it comes to scaling issues and It keeps cloud data consistent.

The impact on denormalised structures, Combining of data from multiple different tables is done for optimizing data retrieval into one single table or document. It reads faster because joining is less necessary.

Data that is readily available in just a single table simplifies any queries. Updates become more complex with potentially wasting storage space also data redundancy increases. It can compromise data, if one does not manage it carefully. Data's careful management is important for its integrity. (Kordos, 2024)

URL Links:

GITHUB: <https://github.com/ST10088532/VCSANDTON-CLDV6211-POE-PART2.git>

Azure published link:

<https://eventeasepoepart2.azurewebsites.net>

Bibliography

BillWagner, 2024. *Resolve errors and warnings related to assembly references*. [Online]

Available at: [https://learn.microsoft.com/en-us/dotnet/csharp/language-reference/compiler-messages/assembly-references?f1url=%3FappId%3Droslyn%26k%3Dk\(CS0234\)](https://learn.microsoft.com/en-us/dotnet/csharp/language-reference/compiler-messages/assembly-references?f1url=%3FappId%3Droslyn%26k%3Dk(CS0234))

[Accessed 10 May 2025].

Brush, K., 2023. *cognitive search*. [Online]

Available at: <https://www.techtarget.com/searchenterpriseai/definition/cognitive-search>

[Accessed 10 May 2025].

HeidiSteen, e.-u. s.-a., 2025. *What's Azure AI Search?*. [Online]

Available at: <https://learn.microsoft.com/en-us/azure/search/search-what-is-azure-search>

[Accessed 10 May 2025].

Kerner, S. M., 2024. <https://www.techtarget.com/whatis/feature/GenAI-search-vs-traditional-search-engines-How-they-differ#:~:text=Traditional%20search%20engines%20help%20users,an%20brief%20description%20or%20snippet..> [Online]

Available at: <https://www.techtarget.com/whatis/feature/GenAI-search-vs-traditional-search-engines-How-they-differ#:~:text=Traditional%20search%20engines%20help%20users,an%20brief%20description%20or%20snippet..>

[Accessed 10 May 2025].

Kordos, A., 2024. *Normalization vs. Denormalization in databases*. [Online]

Available at: <https://codilime.com/blog/normalization-vs-denormalization-in-databases/>

[Accessed 10 May 2025].

Mrzyglod, K., 2022. *Azure for developers , Implement rich Azure Paas Ecosystems using containers, serverless services, and storage solutions*. 2nd ed. Birmingham: Packt Publishing Ltd..

Ron Karjian, Z. F., 2024. *On premises vs. cloud pros and cons, key differences*. [Online]

Available at: <https://www.techtarget.com/searchcloudcomputing/tip/Evaluate-on-premises-vs-cloud-computing-pros-and-cons>

[Accessed 01 April 2025].

S., N., n.d. *On-Premises vs Cloud: Key Differences, Pros & Cons*. [Online]

Available at: <https://www.cloudpanel.io/blog/on-premises-vs-cloud-computing/>

[Accessed 01 April 2025].