

#### UserController

- readonly UserManager<IdentityUser> \_userManager;
- readonly SignInManager<IdentityUser> signInManager;
- $\hbox{- readonly Application DbContext} \_ application DbContext; \\$
- + UserController(UserManager<IdentityUser> userManager, SignInManager<IdentityUser> signInManager, ApplicationDbContext applicationDbContext)
- + IActionResult Index()
- + async Task<IActionResult> Create()

#### [HttpPost]

- + async Task<IActionResult> Create(AppUser user)
- + async Task<IActionResult> Details(string id)
- + async Task<IActionResult> Delete(string id)

#### [HttpPost]

+ async Task<IActionResult> Delete(AppUser appUser)

#### AdvertisementController

- ApplicationDbContext db;
- readonly UserManager<IdentityUser> userManager;
- readonly SignInManager<IdentityUser> \_signInManager;
- + AdvertisementController(ApplicationDbContext db, SignInManager<IdentityUser> signInManager, UserManager<IdentityUser> userManager)
- + IActionResult Index()

## [HttpPost]

public IActionResult Index(decimal? price, string? carName,int? manufacturingYear,int? buldingNumber,string? street,string? area, string? city,string? governorate)

+ IActionResult Create()

#### [HttpPost]

- + async Task<IActionResult> Create(AdvertisementtViewModel advertisement)
- + async Task<IActionResult> DetailsAsync(int? id)
- + async Task<IActionResult> ReserveAsync(string? reserverId, int? id)
- + async Task<IActionResult> GetReservations()
- + async Task<IActionResult> Delete(string? userId, int? id)

#### Login

- readonly SignInManager<IdentityUser> \_signInManager;
- readonly ApplicationDbContext context;
- readonly UserManager<IdentityUser> \_userManager;

# [BindProperty]

- + InputModel Input { get; set; }
- + IList<AuthenticationScheme> ExternalLogins { get; set; }
- + string ReturnUrl { get; set; }

### [TempData]

- + public string ErrorMessage { get; set; }
- + LoginModel(SignInManager<IdentityUser> signInManager, ApplicationDbContext context, UserManager<IdentityUser> userManager)
- + async Task OnGetAsync(string returnUrl = null)
- + async Task<IActionResult> OnPostAsync(string returnUrl = null)

### Register

- readonly SignInManager<IdentityUser> signInManager
- readonly UserManager<IdentityUser> \_userManager
- readonly IEmailSender emailSender
- + [BindProperty]
- + InputModel Input { get; set; }
- + string ReturnUrl { get; set; }
- + IList<AuthenticationScheme> ExternalLogins { get; set; }
- + RegisterModel(UserManager<IdentityUser> userManager,SignInManager<IdentityUser> signInManager, IEmailSender emailSender)
- + public async Task OnGetAsync(string returnUrl = null)
- + public async Task<IActionResult> OnPostAsync(string returnUrl = null)
- IdentityUser CreateUser()

# ApplicationDbContext

- + DbSet<Advertisement> Advertisements { get; set; }
- + DbSet<AppUser> AppUsers { get; set; }
- + DbSet<IdentityUserRole<string>> UserRoles { get; set; }
- + public ApplicationDbContext(DbContextOptions<ApplicationDbContext> options)
  - : base(options)
- + protected override void OnModelCreating(ModelBuilder builder)

```
AppUser
[Required(ErrorMessage = "Invalid Input")]
[StringLength(8, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z]+$", ErrorMessage = "Invalid Input")]
+ string FirstName { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(8, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z]+$", ErrorMessage = "Invalid Input")]
+ string LastName { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(30, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z0-9\s.,]+$", ErrorMessage = "Invalid Input")]
+ string Address { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[Range(18, 120, ErrorMessage = "Invalid Input")]
[RegularExpression("^[0-9]+$", ErrorMessage = "Invalid Input")]
+ int Age { get; set; }
```

```
[Required]
[EmailAddress]
public string Email { get; set; }

[Required(ErrorMessage = "Invalid Input")]
[StringLength(20, MinimumLength = 8, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^(?=.*[a-zA-Z])(?=.*\d)(?=.*[^\da-zA-Z]).{8,20}$",ErrorMessage = "Invalid Input")]
[DataType(DataType.Password)]
public string Password { get; set; }

[Display(Name = "Remember me?")]
public bool RememberMe { get; set; }
```

InputModel [For Register]

```
[Required(ErrorMessage = "Invalid Input")]
[EmailAddress(ErrorMessage = "Invalid Input")]
[Display(Name = "Email")]
+ string Email { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(20, MinimumLength = 8, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^(?=.*[a-zA-Z])(?=.*[^\da-zA-Z]).{8,20}$", ErrorMessage = "Invalid Input")]
[DataType(DataType.Password, ErrorMessage = "Invalid Input")]
+ string Password { get; set; }
[DataType(DataType.Password)]
[Display(Name = "Confirm password")]
[Compare("Password", ErrorMessage = "Invalid Input")]
+ string ConfirmPassword { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(8, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z]+$", ErrorMessage = "Invalid Input")]
+ string FirstName { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(8, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z]+$", ErrorMessage = "Invalid Input")]
+ string LastName { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(30, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z0-9\s.,]+$",ErrorMessage = "Invalid Input")]
+ string Address { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[Range(18, 120, ErrorMessage = "Invalid Input")]
[RegularExpression("^[0-9]+$", ErrorMessage = "Invalid Input")]
+ int Age { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(12, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^20[0-9]{10}$",ErrorMessage = "Invalid Input")]
+ string PhoneNumber { get; set; }
```

```
Advertisemernt
public int Id { get; set; }
public string CreatorId { get; set; }
public string ? ReserverId { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(30, MinimumLength = 3, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z][a-zA-Z0-9\s]*$",ErrorMessage = "Invalid Input")]
[DisplayName("Car Name")]
public String CarName { get; set; }
[DisplayName("Manufacturing Year")]
[Required(ErrorMessage = "Invalid Input")]
[RegularExpression(@"^(19[0-9]{2}|20[0-9]{2})$",ErrorMessage = "Invalid Input")]
[Range(1900, 2023, ErrorMessage = "Invalid Input")]
public int? ManufacturingYear { get; set; }
[DisplayName("Price")]
[Required(ErrorMessage = "Invalid Input")]
[Range(100000, long.MaxValue, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[1-9]\d*$", ErrorMessage = "Invalid Input")]
public int Price { get; set; }
[DisplayName("Phone Number")]
[Required(ErrorMessage = "Invalid Input")]
[StringLength(12, MinimumLength = 12, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^20[1-9]\d{8}$",ErrorMessage = "Invalid Input")]
public String PhoneNumber { get; set; }
[DisplayName("Licence Expiration Date")]
public DateTime LicenceExpirationDate { get; set; }
public string Image { get; set; }
[DisplayName("Bulding Number")]
[Required(ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[1-9]\d{0,3}$",ErrorMessage = "Invalid Input")] public int? BuldingNumber { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(20, MinimumLength = 3, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z][a-zA-Z]*[a-zA-Z]$",ErrorMessage = "Invalid Input")]
public String Street { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(20, MinimumLength = 3, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z][a-zA-Z]*[a-zA-Z]$", ErrorMessage = "Invalid Input")]
public String Area { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(20, MinimumLength = 3, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z][a-zA-Z]*[a-zA-Z]$", ErrorMessage = "Invalid Input")]
public String City { get; set; }
[Required(ErrorMessage = "Invalid Input")]
[StringLength(20, MinimumLength = 3, ErrorMessage = "Invalid Input")]
[RegularExpression(@"^[a-zA-Z][a-zA-Z]*[a-zA-Z]$", ErrorMessage = "Invalid Input")]
public String Governorate { get; set; }
```