



Web Application Programming Interface (API)

Tahaluf Training Center 2022



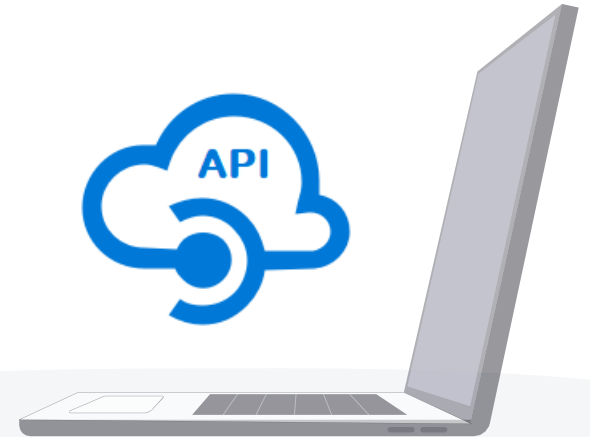


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Overview Of Service

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Create Service





Overview Of Service



Services layer is used communicate between Repository layer and UI.
Users can call it as a business or domain layer since it holds the business logic for an entity.





Service classes in the service layer are designed to do two things:

1. Query one or more Repositories.
2. Implement their own functionality, which is useful when functionality deals with more than one business object.



A decorative graphic consisting of a green rounded rectangle with a red outline, a red circle to the right, and two black dots below. The text "Create Service" is centered in white.

Create Service



Right Click on LearnTahaluf.Infra => Add => New Folder => Service.

Right Click on LearnTahaluf.Core => Add => New Folder => Service.

Right Click on Services in LearnTahaluf.Core => Add => Class => ICourseService.

Right Click on Services in LearnTahaluf.Infra => Add => Class => CourseService.

Note:

Make sure all created classes and interfaces are public.



In TahalufLearn.Core => Service => ICourseService add the following abstract methods:

```
List<Course> GetAllCourse();  
void CreateCourse(Course course);  
void DeleteCourse(int id);  
public void UpdateCourse(Course course);  
Course GetByCourseId(int id);
```




In TahalufLearn.Infra => Service => Course Service => make the class inherit the interface ICourseService:

```
public class CourseService : ICourseService
```

2 references

```
public class CourseService : ICourseService  
{
```



In TahalufLearn.Infra => Service => Course Service add the following :

```
private readonly ICourseRepository courseRepository;  
  
public CourseService(ICourseRepository courseRepository)  
{  
    this.courseRepository = courseRepository;  
}
```



In TahalufLearn.Infra => Service => Course Service add the following :

```
public List<Course> GetAllCourse()  
{  
    return courseRepository.GetAllCourse();  
}
```



In TahalufLearn.Infra => Service => Course Service add the following :

```
public void CreateCourse(Course course)
{
    courseRepository.CreateCourse(course);
}
```



In TahalufLearn.Infra => Service => Course Service add the following :

```
public void UpdateCourse(Course course)
{
    courseRepository.UpdateCourse(course);
}
```



In TahalufLearn.Infra => Service => Course Service add the following :

```
public void DeleteCourse(int id)
{
    courseRepository.DeleteCourse(id);
}
```



In TahalufLearn.Infra => Service => Course Service add the following :

```
public Course GetByCourseId(int id)
{
    return courseRepository.GetByCourseId(id);
}
```



Add Services in Startup

Write the following code in Configure services:

```
services.AddScoped<ICourseService, CourseService>();
```




Exercise:

Add a new service called StudentService for the Students Repository.



- Right Click on Repository Folder in TahalufLearn.Core => Add => Class => Interface => IStudentService.
- Right Click on Repository Folder in TahalufLearn.Infra => Add => Class => StudentService.

Note:

Make sure all created classes and interfaces are public.



In TahalufLearn.Core => Service => IStudentService add the following abstract methods:

```
List<Student> GetAllStudent();  
    void CreateStudent(Student Student);  
    void UpdateStudent(Student Student);  
    void DeleteStudent(int id);  
    Student GetStudentById(int id);
```



In TahalufLearn.Infra => Service => StudentService => make the class inherit the interface IStudentService:

```
public class StudentService : IStudentService
```

2 references

```
public class StudentService : IStudentService  
{
```



In TahalufLearn.Infra => Service => StudentService add the following :

```
private readonly IStudentRepository _studentRepository;  
  
public StudentService(IStudentRepository studentRepository)  
{  
    _studentRepository = studentRepository;  
}
```



In TahalufLearn.Infra => Service => StudentService add the following :

```
public List<Student> GetAllStudent()  
{  
    return _studentRepository.GetAllStudent();  
}
```



In TahalufLearn.Infra => Service => StudentService add the following :

```
public void CreateStudent(Student Student)
{
    _studentRepository.CreateStudent(Student);
}
```



In TahalufLearn.Infra => Service => StudentService add the following :

```
public void UpdateStudent(Student Student)
{
    _studentRepository.UpdateStudent(Student);
}
```




In TahalufLearn.Infra => Service => StudentService add the following :

```
public void DeleteStudent(int id)
{
    _studentRepository.DeleteStudent(id);
}
```



In TahalufLearn.Infra => Service => StudentService add the following :

```
public Student GetStudentById(int id)
{
    return _studentRepository.GetStudentById(id);
}
```



Add Services in Startup

Write the following code in Configure services:

```
services.AddScoped<IStudentService, StudentService >();
```



In TahalufLearn.Core => Service => IStudentCourseService add the following abstract methods:

```
List<StdCourse> GetAllStudentCourse();  
void CreateStudentCourse(StdCourse studentCourse);  
void DeleteStudentCourse(int id);  
void UpdateStudentCourse(StdCourse studentCourse);  
StdCourse GetStudentCourseById(int id);
```



In TahalufLearn.Infra => Service => StudentCourseService => make the class inherit the interface IStudentCourseService:

```
public class StudentCourseService: IStudentCourseService
```

2 references

```
public class StudentCourseService: IStudentCourseService  
{
```



In TahalufLearn.Infra => Service => StudentCourseService add the following :

```
private readonly IStudentCourseRepository _studentCourseRepository;  
  
public StudentCourseService(IStudentCourseRepository  
studentCourseRepository)  
{  
    _studentCourseRepository = studentCourseRepository;  
}
```



In TahalufLearn.Infra => Service => StudentCourseService add the following :

```
public void CreateStudentCourse(StdCourse studentCourse)
{
    _studentCourseRepository.CreateStudentCourse(studentCourse);
}
```



In TahalufLearn.Infra => Service => StudentCourseService add the following :

```
public void DeleteStudentCourse(int id)
{
    _studentCourseRepository.DeleteStudentCourse(id);
}
```




In TahalufLearn.Infra => Service => StudentCourseService add the following :

```
public List<StdCourse> GetAllStudentCourse()  
{  
    return _studentCourseRepository.GetAllStudentCourse();  
}
```



In TahalufLearn.Infra => Service => StudentCourseService add the following :

```
public StdCourse GetStudentCourseById(int id)
{
    return _studentCourseRepository.GetStudentCourseById(id);
}
```



In TahalufLearn.Infra => Service => StudentCourseService add the following :

```
public void UpdateStudentCourse(stdCourse studentCourse)
{
    _studentCourseRepository.UpdateStudentCourse(studentCourse);
}
```



Add Services in Startup

Write the following code in Configure services:

```
services.AddScoped<IStudentCourseService, StudentCourseService >();
```



Exercise

- ✓ Create a function to display FirstName and LastName from table student.
- ✓ Create a function to display students by firstName.
- ✓ Create a function to display students by BirthOfDate.
- ✓ Create a function to display a student by BirthOfDate interval.
- ✓ Create a function to display the student name with the highest 3 marks



Exercise Solution

In TahalufLearn.Core => Service => IStudentService add the following :

```
List<Student> GetStudentByFName(string name);  
List<Student> GetStudentFNameAndLName();  
List<Student> GetStudentByBirthdate(DateTime Birth_Date);  
List<Student> GetStudentBetweenDate(DateTime DateFrom, DateTime  
DateTo);  
List<Student> GetStudentsWithHighestMarks(int numOfStudent);
```



Exercise Solution

In TahalufLearn.Infra => Service => StudentService add the following :

```
public List<Student> GetStudentByFName(string name)
{
    return _studentRepository.GetStudentByFName(name);
}
```



Exercise Solution

In TahalufLearn.Infra => Service => StudentService add the following :

```
public List<Student> GetStudentFNameAndLName()  
{  
    return _studentRepository.GetStudentFNameAndLName();  
}
```




Exercise Solution

In TahalufLearn.Infra => Service => StudentService add the following :

```
public List<Student> GetStudentByBirthdate(DateTime Birth_Date)
{
    return _studentRepository.GetStudentByBirthdate(Birth_Date);
}
```



Exercise Solution

In TahalufLearn.Infra => Service => StudentService add the following :

```
public List<Student> GetStudentBetweenDate(DateTime DateFrom, DateTime DateTo)
{
    return _studentRepository.GetStudentBetweenDate(DateFrom, DateTo);
}
```



Exercise Solution

In TahalufLearn.Infra => Service => StudentService add the following :

```
public List<Student> GetStudentsWithHighestMarks(int numOfStudent)
{
    return
    _studentRepository.GetStudentsWithHighestMarks(numOfStudent);
}
```