Exposing and Consuming Services

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The limits of encapsulation

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Introducing services

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Adding services to EasyText

Remember: Encapsulation

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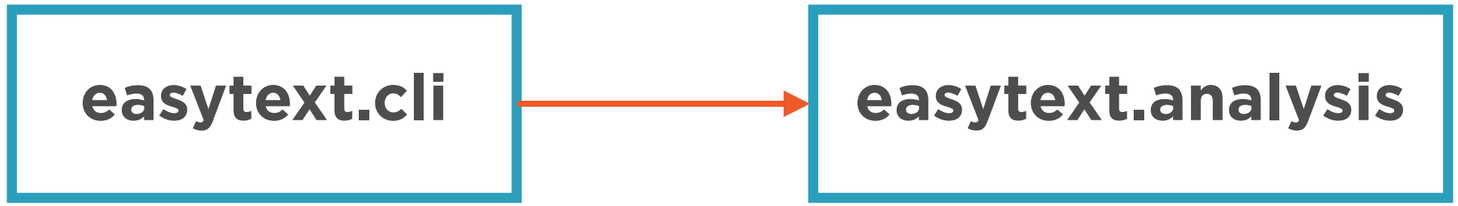
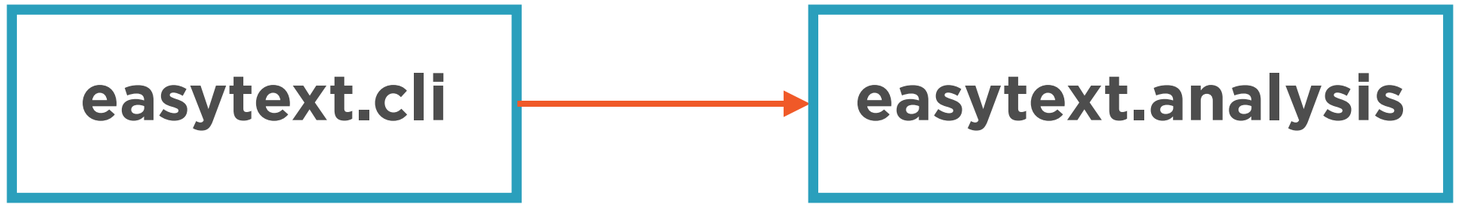


Remember: Encapsulation

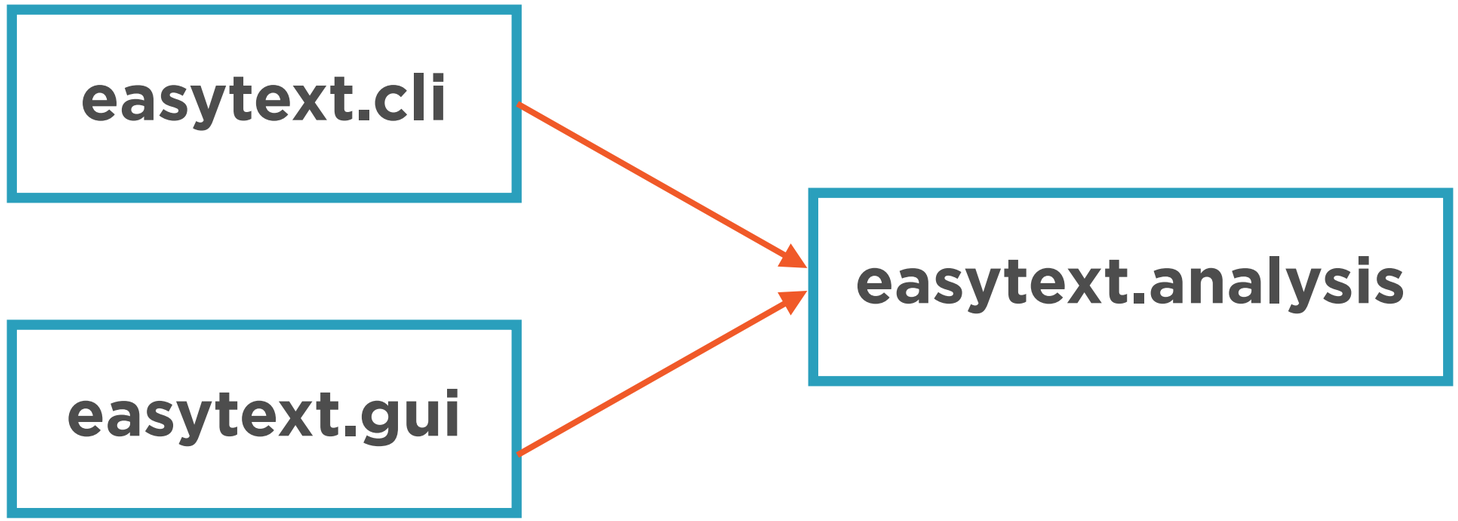


Do you read the module?

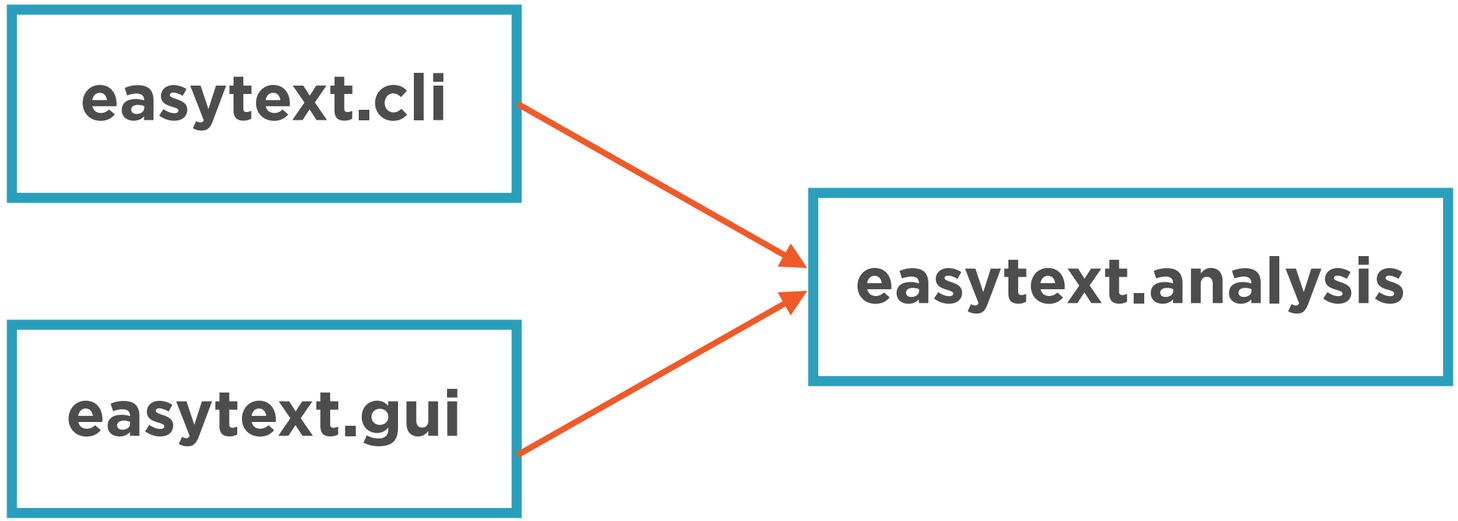
Is the package exported?

Is the type public?

Modular and Extensible

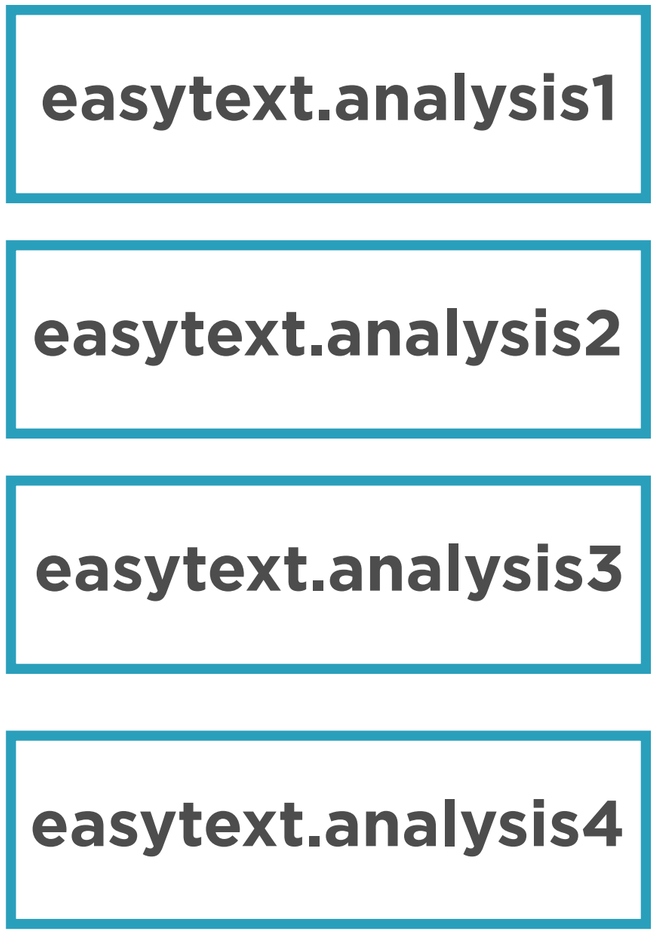


Modular and Extensible

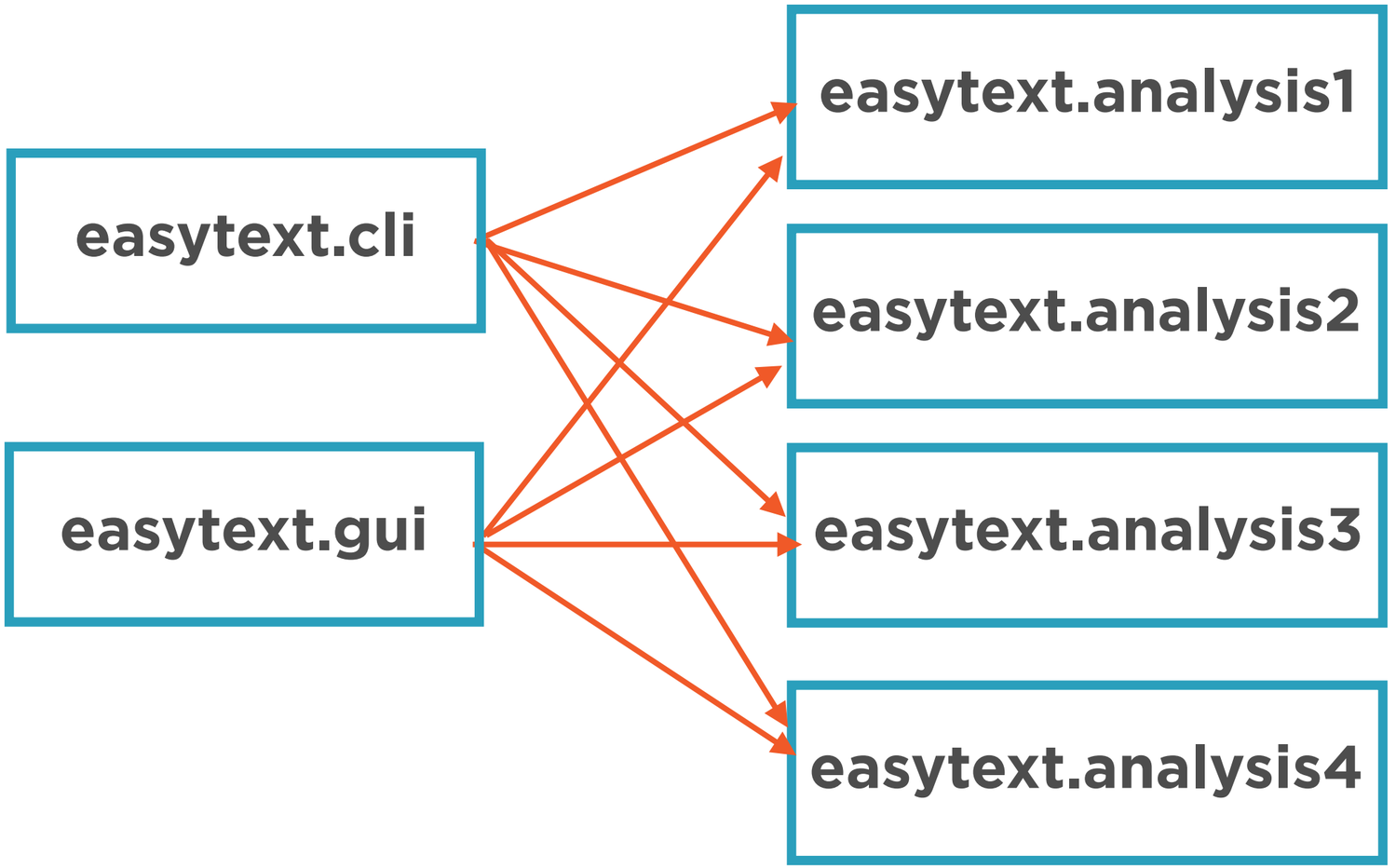


What if we want to add more analyses?

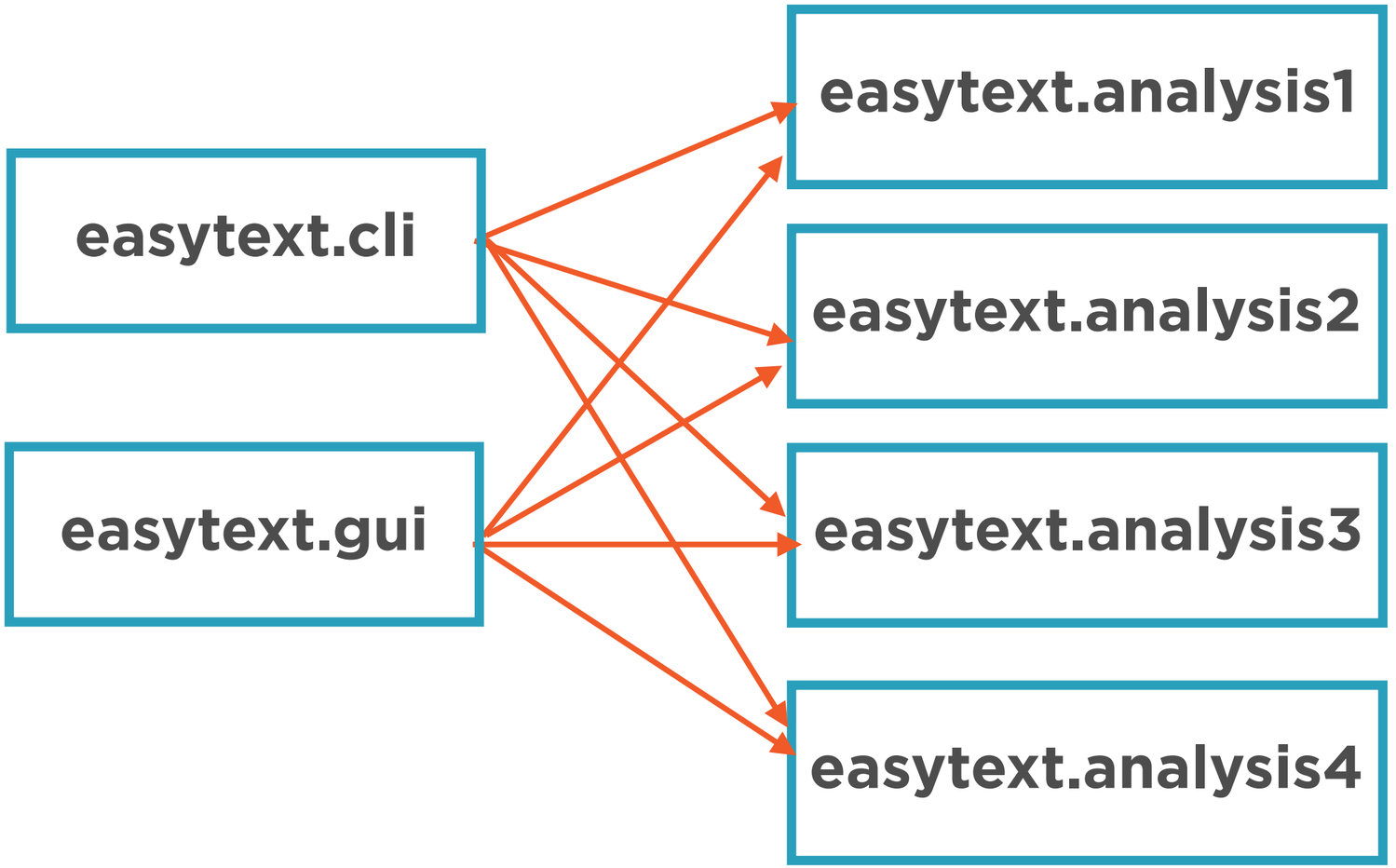
Modular and Extensible



Modular and Extensible



Modular and Extensible



Every front-end needs to know every analysis *implementation*.

What's Wrong With This Code?

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new FleschKincaid().analyze(sentences);
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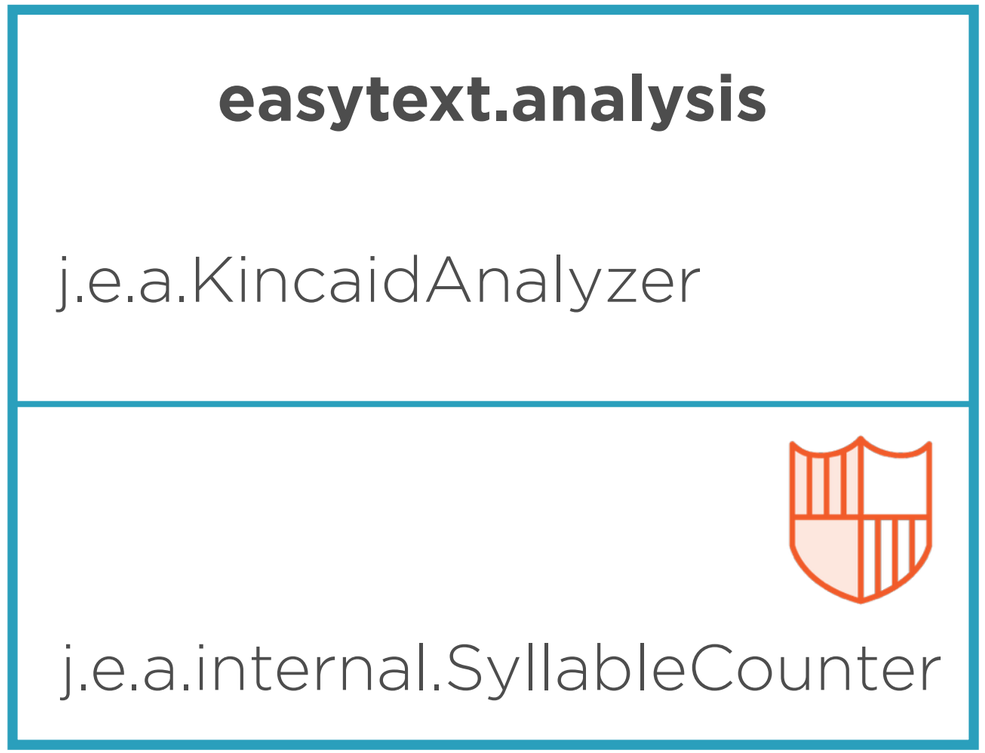
Tight coupling from front-ends to analysis module

Not extensible

The Limits of Encapsulation



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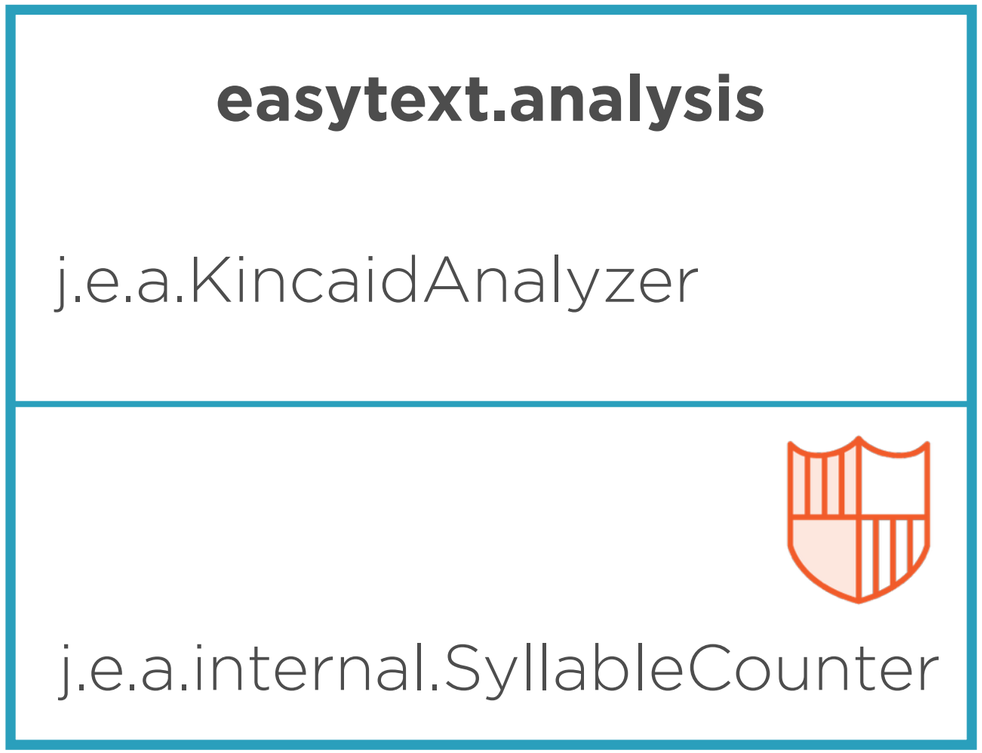
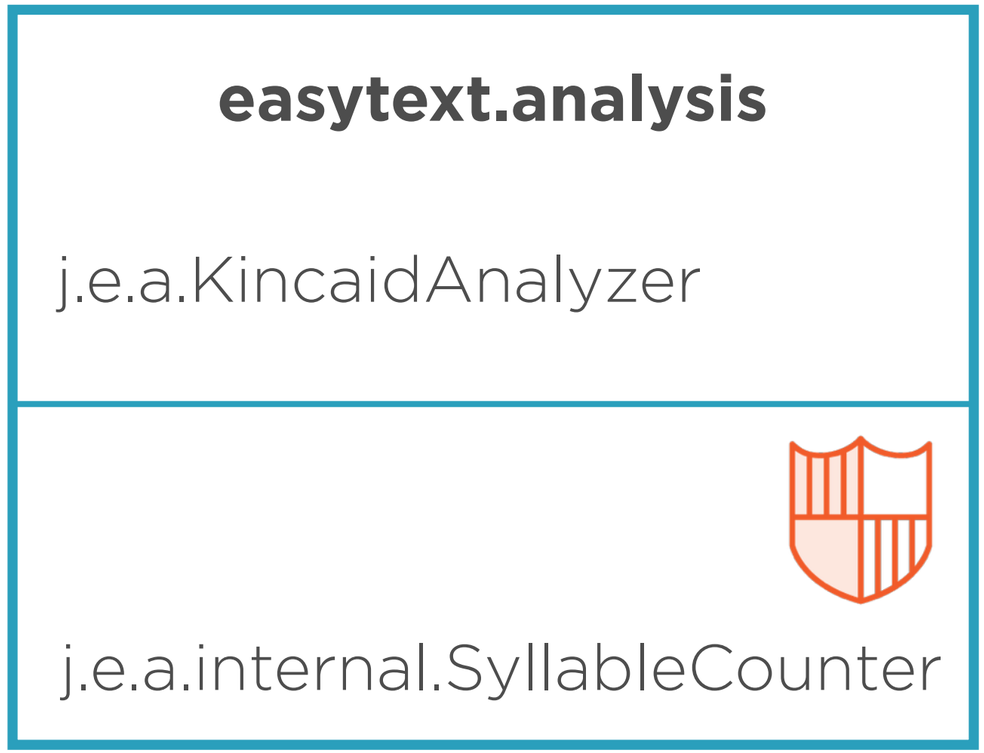
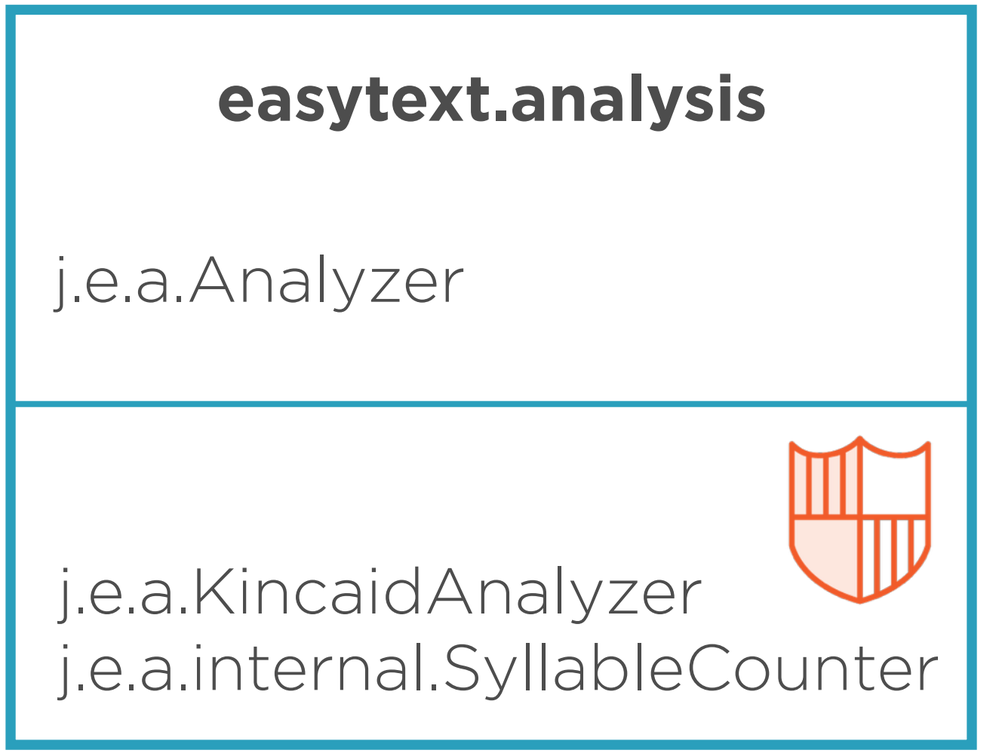



```
interface Analyzer {

    String getName();

    double analyze(List<List<String> sentences);

}
```

The Limits of Encapsulation





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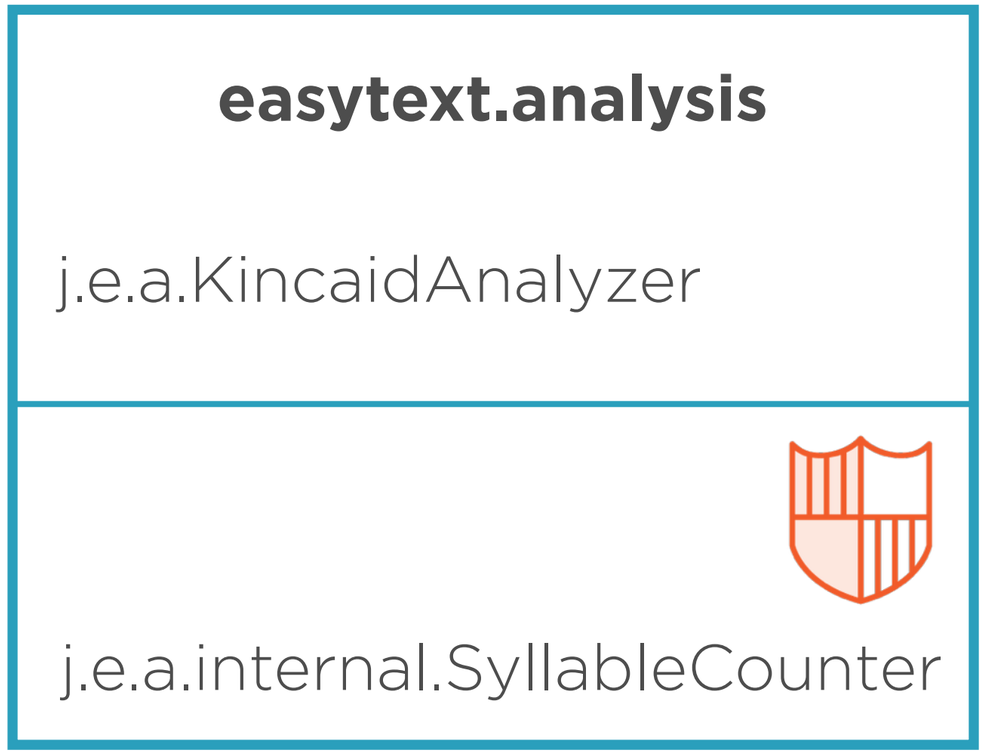
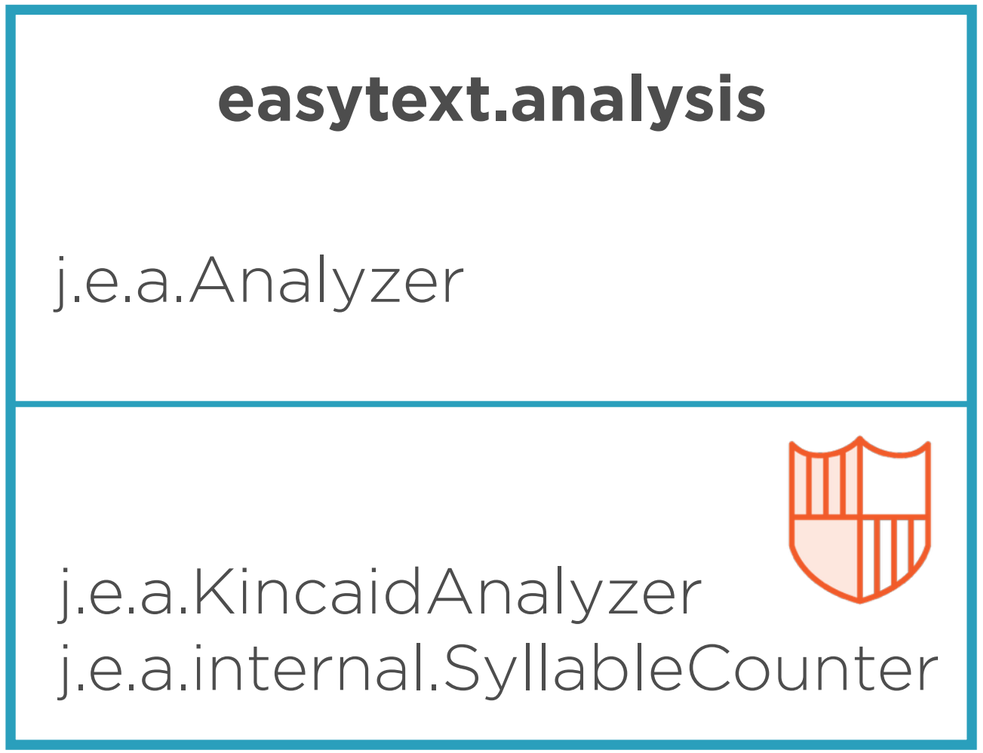
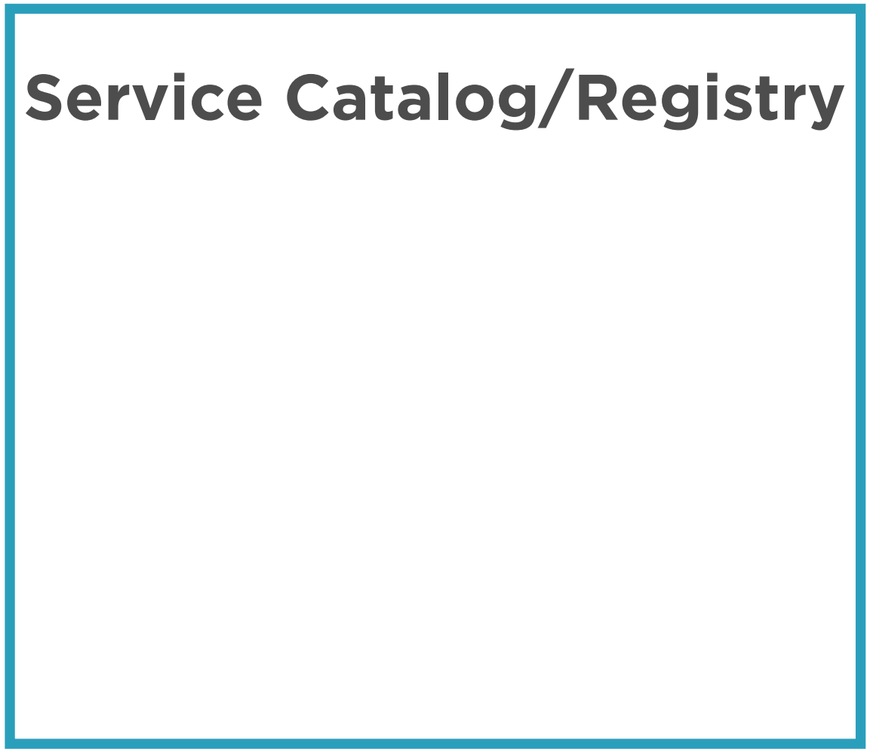




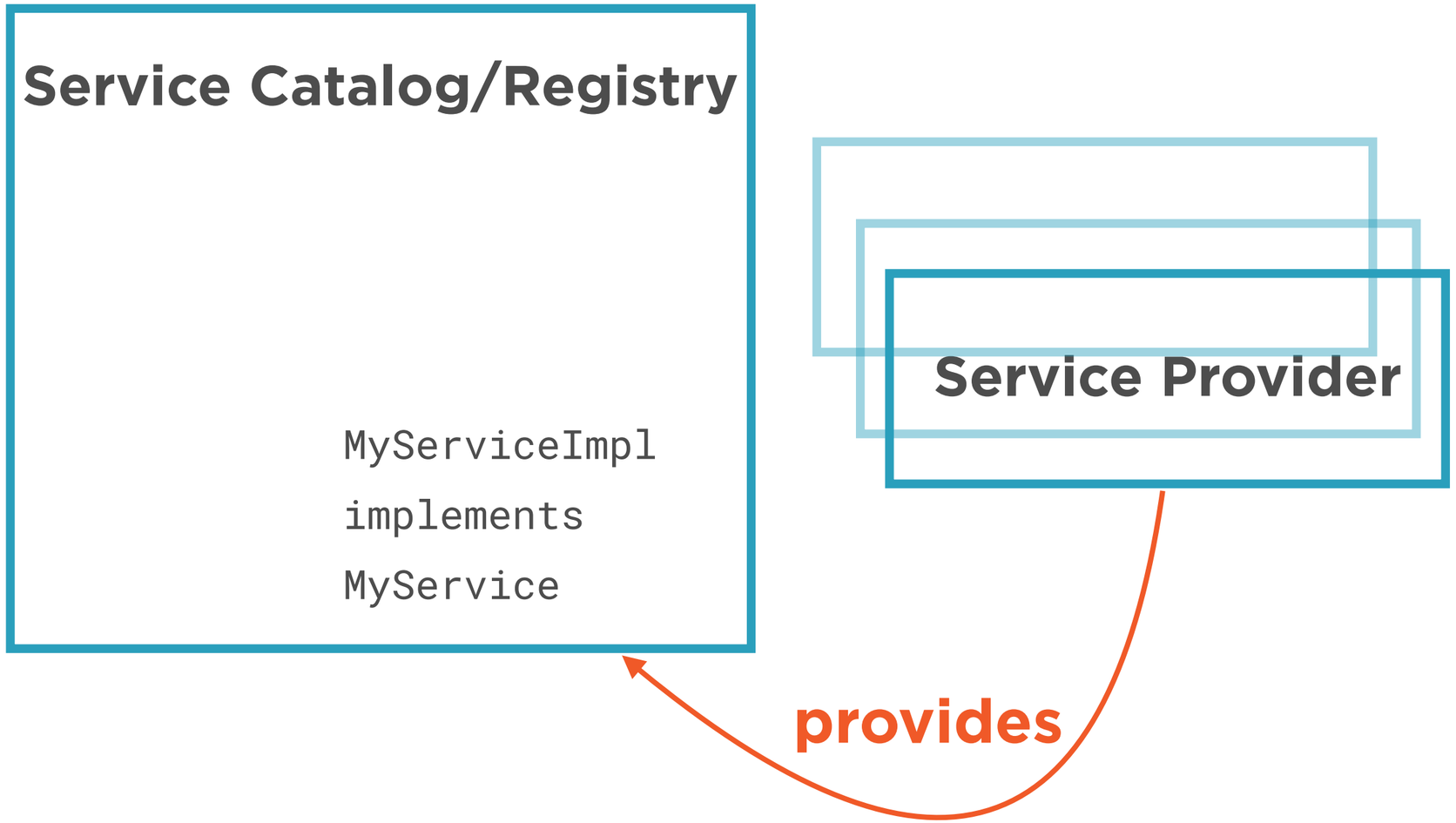
How to instantiate KincaidAnalyzer?!

Services

Services



Services


Service Catalog/Registry
MyServiceImpl
implements
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Service Provider
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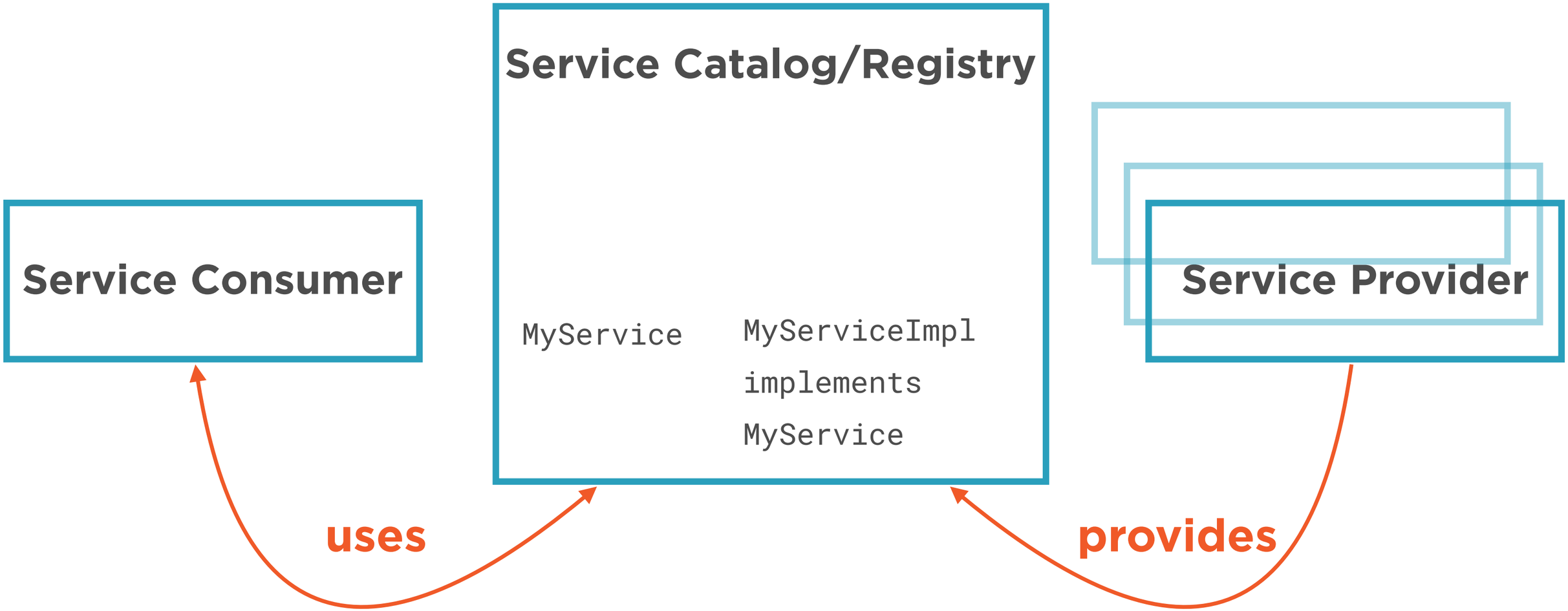
Services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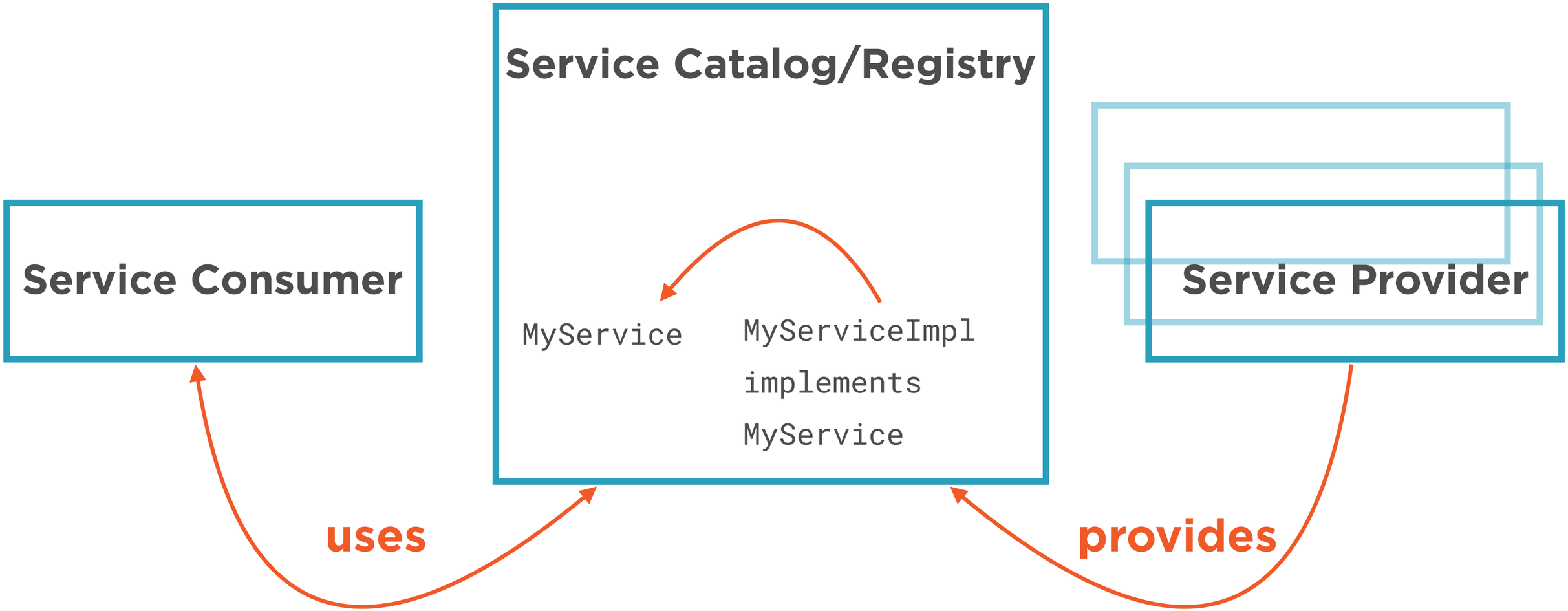
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Services and ServiceLoader

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   exports com.api;
}

interface MyService {
  void doWork();
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module myConsumer {
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}
```

```
module myProvider {
    requires myApi;
    provides com.api.MyService
        with myProvider.MyServiceImpl;
}
```

Services and ServiceLoader

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    exports com.api;
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interface MyService {
  void doWork();
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```

```
module myConsumer {
    requires myApi;
    uses com.api.MyService;
}
```

```
Iterable<MyService> services =
  ServiceLoader.load(MyService.class);

for (MyService svc: services) {
  svc.doWork();
}
```

```
module myProvider {
    requires myApi;
    provides com.api.MyService
        with myProvider.MyServiceImpl;
}
```

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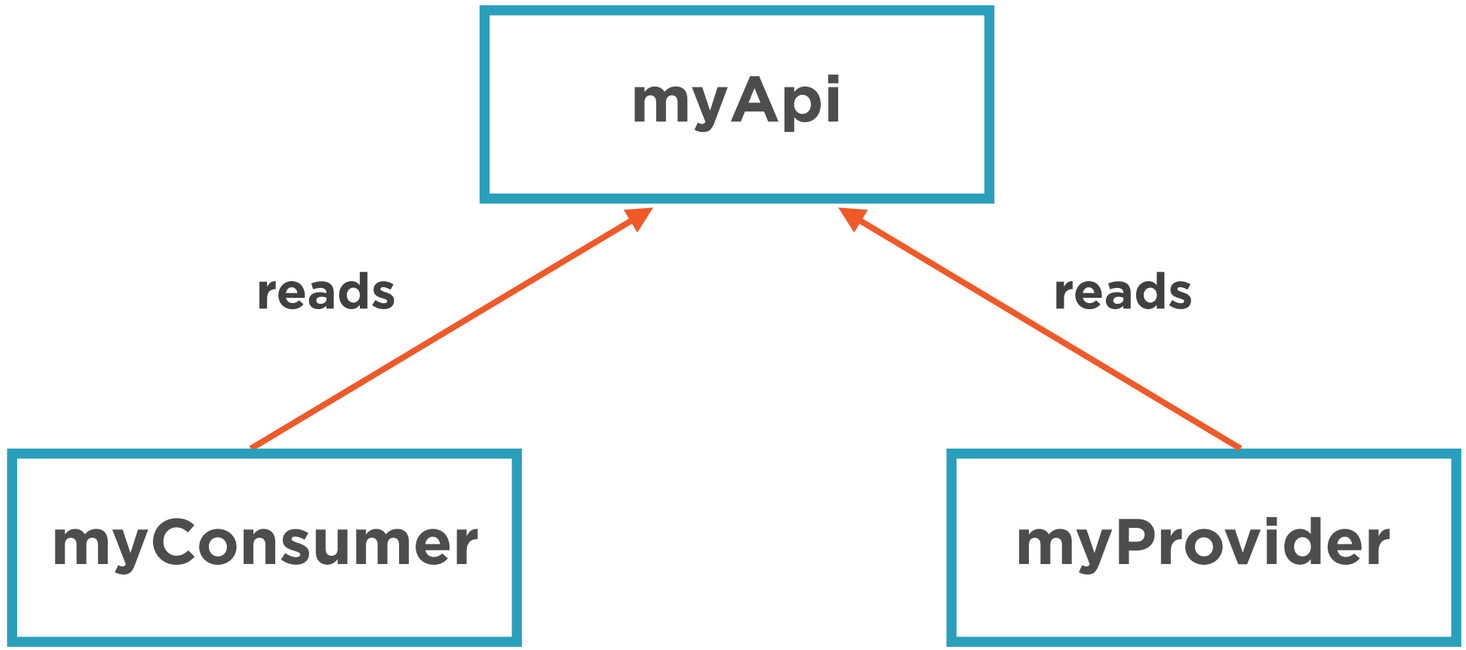

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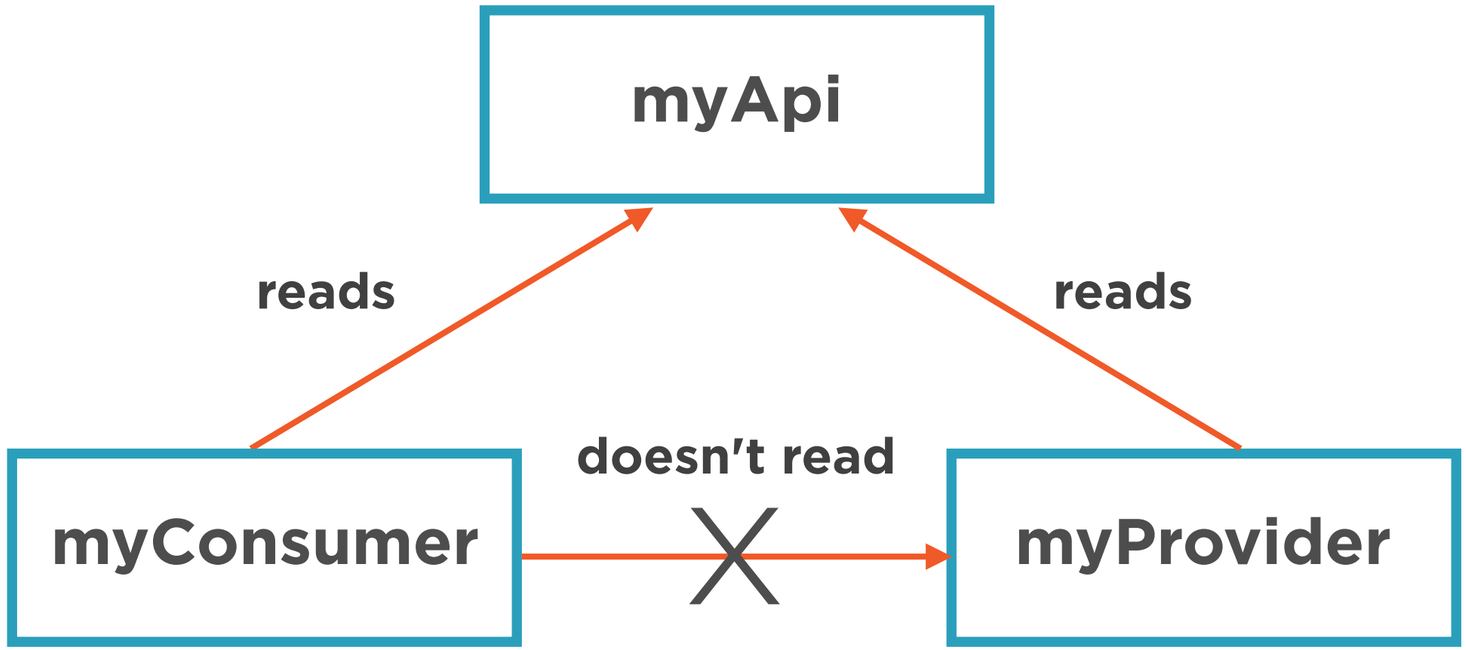

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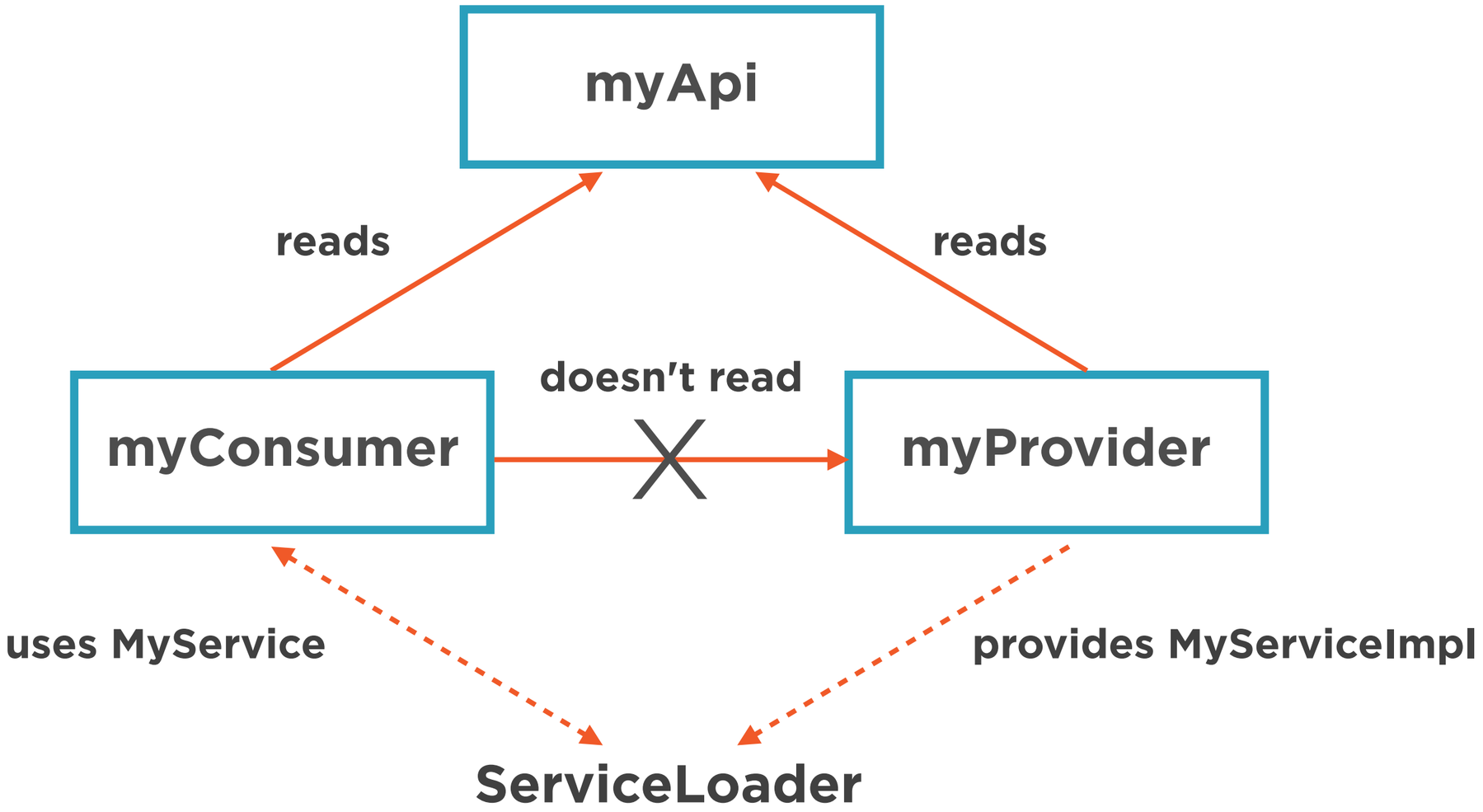
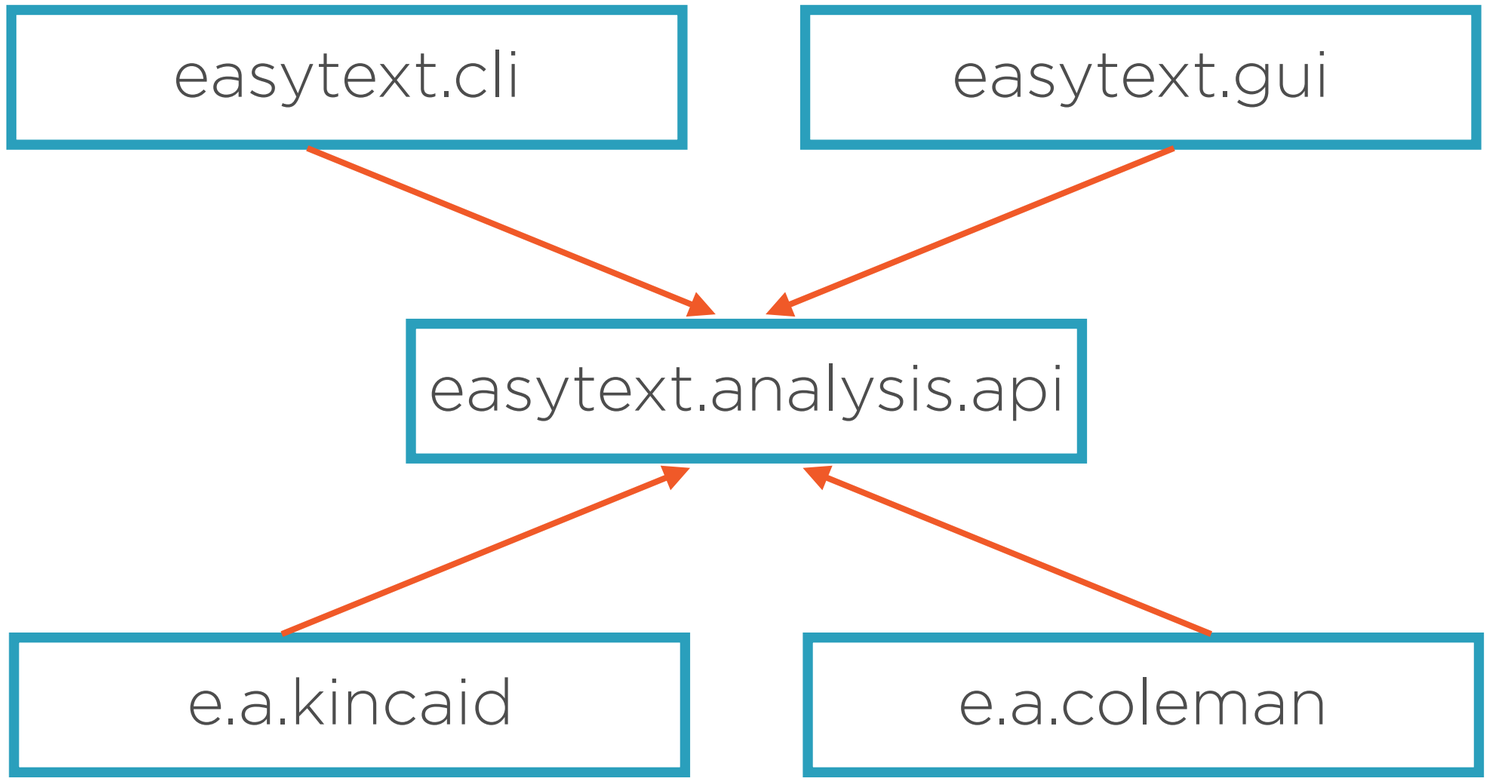


Demo

Adding services to EasyText



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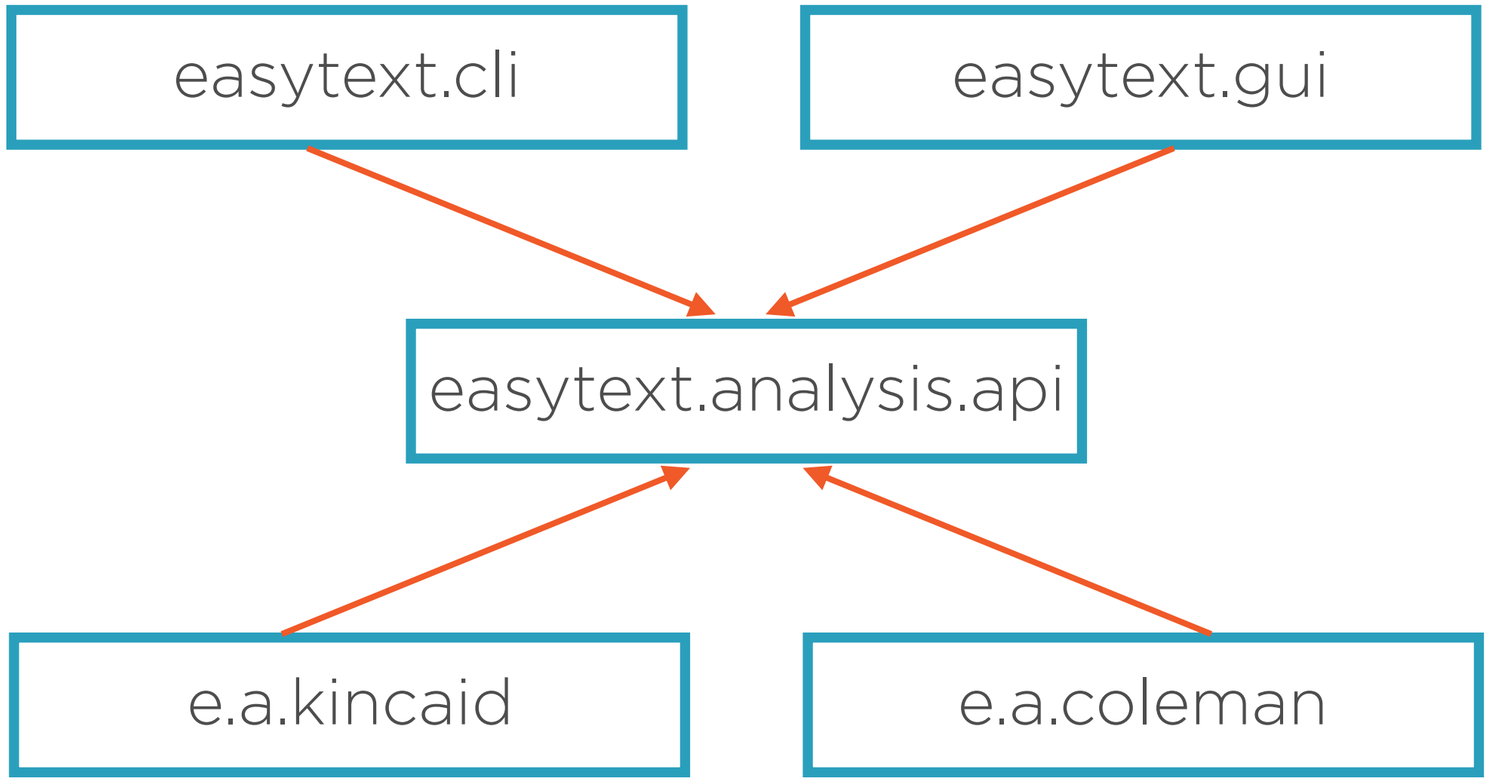

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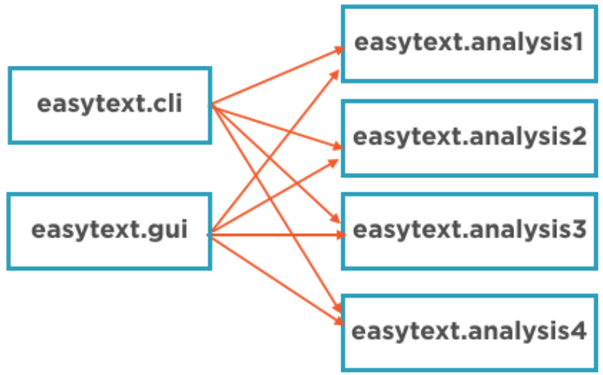
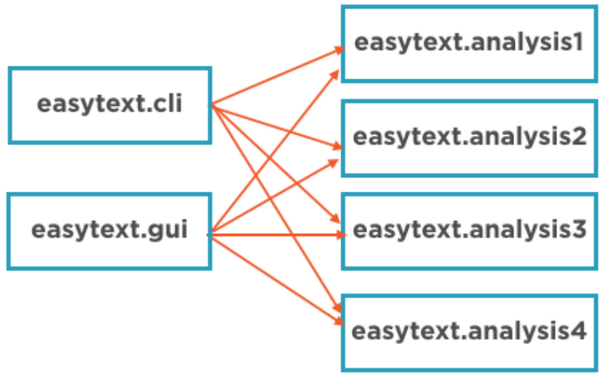


Strong coupling at compile-time

Summary



Strong coupling at compile-time

Weak encapsulation