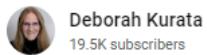


Signals in Action: Providing a Service in root vs Component



Deborah Kurata
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4,492 views Jan 8, 2025 #angular #resource #angularsignals

We often declare signals and retrieve data within a service.

In this video, we examine how signals in a service are handled differently if the service is provided in "root" vs in a component.

Content

00:00 How services handle signals
00:20 Sample application
00:46 Signals and resources in the service
01:37 Injecting a Service

02:13 Demo: Signals provided in a root service
04:01 Signals provided in a root service
04:55 Signals provided in a component
05:39 Demo: Signals provided in a component
07:04 Provided in root vs component

The screenshot shows a browser window with the URL stackblitz.com/edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle.service.ts. The left side of the screen displays two code files: `vehicle.service.ts` and `vehicle-selection.component.ts`. The `vehicle.service.ts` file contains code for a `VehicleService` that uses RxJS signals and providers. The `vehicle-selection.component.ts` file contains code for a component that injects the `VehicleService` and uses its signals. The right side of the screen shows a web application titled "Star Wars Vehicle Sales". The header includes "Home" and "Vehicle List" links. The main content area features a large image of a X-wing fighter with the text "Welcome to Star Wars Vehicle Sales". Below the image is a link to "YouTube Channel".

We often declare signals and retrieve data within a service, just like this `VehicleService`. We will examine how signals in a service are handled differently.

The screenshot shows a browser window with two tabs: "Service" and "Component". Both tabs display code for a `VehicleService`. In the "Service" tab, the provider is specified as `'root'`. In the "Component" tab, the provider is specified as the `VehicleService` itself. Both snippets include imports for `@Injectable`, `VehicleService`, and `VehicleResponse`.

A service can be provided in root or in a component

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyyy?file=src/app/vehicles/vehicle.service.ts

SIA - Providing Services (WIP)

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vehicle.service.ts

```

13 selectedVehicle = signal<Vehicle | undefined>(undefined);
14
15 // Reset the quantity when the vehicle changes
16 quantity = linkedSignal({
17   source: this.selectedVehicle,
18   computation: (v) => {
19     if (v) {
20       return 1;
21     }
22     return 0;
23   }
24 });
25
26
27 total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
28 color = computed(() => this.total() > 50000 ? 'green' : 'blue');
29
30 private vehiclesResource = rxResource({
31   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
32     map(vr => vr.results),
33     delay(2000)
34   )
35 );
36 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
37 isLoading = this.vehiclesResource.isLoading;
38
39 }
40

```

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

[YouTube Channel](#)

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyyy?file=src/app/vehicles/vehicle.service.ts

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EXPLORER

INFO

SIA - PROVIDING SERVICES (WIP)

- node_modules
- src
 - app
 - home
 - # home.component.css
 - home.component.html
 - home.component.ts
 - vehicles
 - vehicle-selection
 - # vehicle-selection.component.css
 - vehicle-selection.component.html
 - vehicle-selection.component.ts

vehicle.service.ts

```

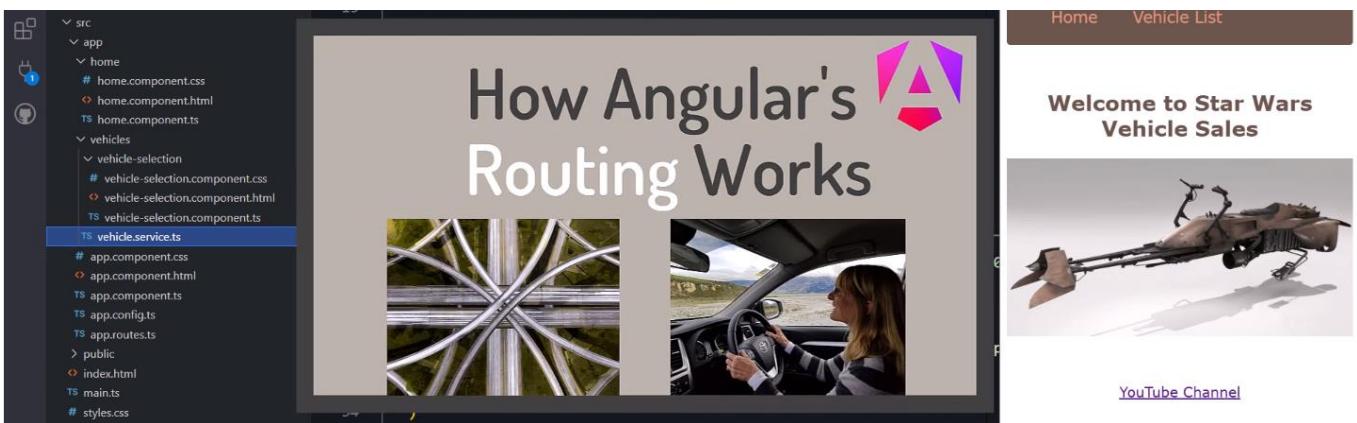
13 selectedVehicle = signal<Vehicle | undefined>(undefined);
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35 );
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37 isLoading = this.vehiclesResource.isLoading;
38
39 }
40

```

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

[YouTube Channel](#)



stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle.service.ts

SIA - Providing Services (WIP)

Share

vehicle.service.ts

```

13 selectedVehicle = signal<Vehicle | undefined>(undefined);
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15
16 // Reset the quantity when the vehicle changes
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18   source: this.selectedVehicle,
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32     map(vr => vr.results),
33     delay(2000)
34   )
35 });
36 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
37 isLoading = this.vehiclesResource.isLoading;
38
39 }

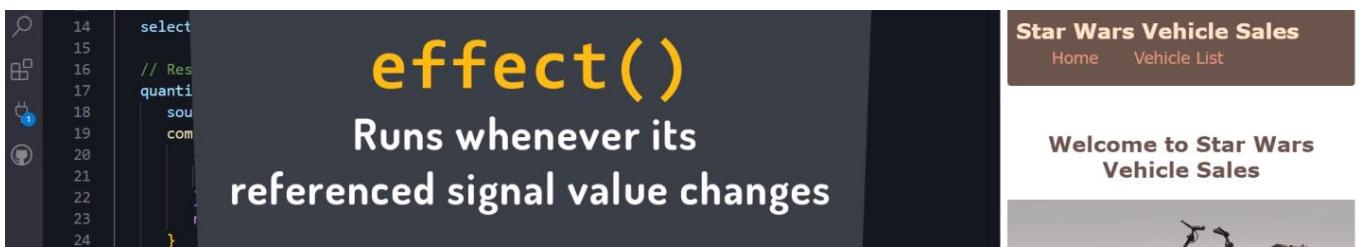
```

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

[YouTube Channel](#)

We declared a linked signal and several computed signals in our service. The HTTP GET request will be made when the service is initialized.



stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle.service.ts

SIA - Providing Services (WIP)

Share

vehicle.service.ts

```

13 selectedVehicle = signal<Vehicle | undefined>(undefined);
14
15
16 // Reset the quantity when the vehicle changes
17 quantity = linkedSignal({
18   source: this.selectedVehicle,
19   computation: (v) => {
20     if (v) {
21       return 1;
22     }
23     return 0;
24   }
25 });
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31   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
32     map(vr => vr.results),
33     delay(2000)
34   )
35 });
36 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
37 isLoading = this.vehiclesResource.isLoading;
38
39 vEff = effect(() => console.log('Selection:', this.selectedVehicle));

```

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

[YouTube Channel](#)

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle.service.ts

SIA - Providing Services (WIP)

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vehicle.service.ts

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15 // Reset the quantity when the vehicle changes
16 quantity = linkedSignal({
17   source: this.selectedVehicle,
18   computation: (v) => {
19     if (v) {
20       return 1;
21     }
22     return 0;
23   }
24 });
25 );
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32     map(vr => vr.results),
33     delay(2000)
34   )
35 });
36 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
37 isLoading = this.vehiclesResource.isLoading;
38
39 vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
40 vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
41
42

```

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

[YouTube Channel](#)

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle.service.ts

SIA - Providing Services (WIP)

Share

vehicle.service.ts

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31   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
32     map(vr => vr.results),
33     delay(2000)
34   )
35 });
36 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
37 isLoading = this.vehiclesResource.isLoading;
38
39 vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
40 vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
41
42

```

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

[YouTube Channel](#)

Our components use services to manage their data or state

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyw?file=src/app/vehicles/vehicle.service.ts

Save Fork

vehicle.service.ts

```
15 // Reset the quantity when the vehicle changes
16 quantity = linkedSignal({
17   source: this.selectedVehicle,
18   computation: (v) => {
19     if (v) {
20       return 1;
21     }
22     return 0;
23   }
24 });
25
26 total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
27 color = computed(() => this.total() > 50000 ? 'green' : 'blue');
28
29 private vehiclesResource = rxResource({
30   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
31     map(vr => vr.results),
32     delay(2000)
33   )
34 );
35
36 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
37 isLoading = this.vehiclesResource.isLoading;
38
39 vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
40 vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
41
42 }
```

SIA - Providing Services (WIP)

Share

siaprovidingservicesdeborahk-pzn1yyw

Star Wars Vehicle Sales

Home Vehicle List

Welcome to Star Wars Vehicle Sales



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stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyw?file=src/app/vehicles/vehicle-selection/vehicle-selection.component.ts

Save Fork

vehicle.service.ts

```
1 import { Component, inject } from '@angular/core';
2 import { FormsModule } from '@angular/forms';
3 import { VehicleService } from '../vehicle.service';
4
5 @Component({
6   selector: 'app-vehicle-selection',
7   imports: [FormsModule],
8   templateUrl: './vehicle-selection.component.html',
9   styleUrls: ['./vehicle-selection.component.css'
10 })
11 export class VehicleSelectionComponent {
12   pageTitle = "Select a Vehicle";
13
14   // Injected services
15   constructor(private vehicleService: VehicleService) { }
16
17   // Signals to support the template
18   vehicles = this.vehicleService.vehicles;
19   isLoading = this.vehicleService.isLoading;
20   selectedVehicle = this.vehicleService.selectedVehicle;
21   quantity = this.vehicleService.quantity;
22   total = this.vehicleService.total;
23   color = this.vehicleService.color;
24 }
25
```

SIA - Providing Services (WIP)

Share

siaprovidingservicesdeborahk-pzn1yyw

Star Wars Vehicle Sales

Home Vehicle List

Welcome to Star Wars Vehicle Sales



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stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle-selection/vehicle-selection.component.ts

SIA - Providing Services (WIP)

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

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```

1 import { Component, inject } from '@angular/core';
2 import { FormsModule } from '@angular/forms';
3 import { VehicleService } from '../vehicle.service';
4
5 @Component({
6   selector: 'app-vehicle-selection',
7   imports: [FormsModule],
8   templateUrl: './vehicle-selection.component.html',
9   styleUrls: ['./vehicle-selection.component.css']
10})
11 export class VehicleSelectionComponent {
12   pageTitle = "Select a Vehicle";
13
14   // Injected services
15   constructor(private vehicleService: VehicleService) { }
16
17   // Signals to support the template
18   vehicles = this.vehicleService.vehicles;
19   isLoading = this.vehicleService.isLoading;
20   selectedVehicle = this.vehicleService.selectedVehicle;
21   quantity = this.vehicleService.quantity;
22   total = this.vehicleService.total;
23   color = this.vehicleService.color;
24 }
25

```

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle-selection/vehicle-selection.component.ts

SIA - Providing Services (WIP)

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

[YouTube Channel](#)

```

1 import { Component, inject } from '@angular/core';
2 import { FormsModule } from '@angular/forms';
3 import { VehicleService } from '../vehicle.service';
4
5 @Component({
6   selector: 'app-vehicle-selection',
7   imports: [FormsModule],
8   templateUrl: './vehicle-selection.component.html',
9   styleUrls: ['./vehicle-selection.component.css']
10})
11 export class VehicleSelectionComponent {
12   pageTitle = "Select a Vehicle";
13
14   // Injected services
15   private vehicleService = inject(VehicleService);
16
17   // Signals to support the template
18   vehicles = this.vehicleService.vehicles;
19   isLoading = this.vehicleService.isLoading;
20   selectedVehicle = this.vehicleService.selectedVehicle;
21   quantity = this.vehicleService.quantity;
22   total = this.vehicleService.total;
23   color = this.vehicleService.color;
24 }
25

```

Service

```

@ Injectable({
  providedIn: 'root'
})
export class VehicleService { }

```

Component

```

@Component({
  selector: 'app-vehicle-selection',
  imports: [FormsModule],
  providers: [VehicleService],
  templateUrl: './vehicle-selection.component.html',
  styleUrls: ['./vehicle-selection.component.css']
})
export class VehicleSelectionComponent { }

```

isLoading = this.vehicleService.isLoading;

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle.service.ts

```

  @Injectable({
    providedIn: 'root'
  })
  export class VehicleService {
    private vehicleUrl = 'https://swapi.py4e.com/api/vehicles';
    private http = inject(HttpClient);
    selectedVehicle = signal<Vehicle | undefined>(undefined);

    // Reset the quantity when the vehicle changes
    quantity = linkedSignal({
      source: this.selectedVehicle,
      computation: (v) => {
        if (v) {
          return 1;
        }
        return 0;
      }
    });

    total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
    color = computed(() => this.total() > 50000 ? 'green' : 'blue');

    private vehiclesResource = rxResource({
      loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
        map(vr => vr.results),
        delay(2000)
      )
    });
  }
}

```

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

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stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle.service.ts

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  selectedVehicle = signal<Vehicle | undefined>(undefined);

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    computation: (v) => {
      if (v) {
        return 1;
      }
      return 0;
    }
  });

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  color = computed(() => this.total() > 50000 ? 'green' : 'blue');

  private vehiclesResource = rxResource({
    loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
      map(vr => vr.results),
      delay(2000)
    )
  });
  vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
  isLoading = this.vehiclesResource.isLoading;

  vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
  vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
}

```

Star Wars Vehicle Sales

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stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyyy?file=src/app/vehicles/vehicle.service.ts

Save Fork SIA - Providing Services (WIP) Share All Bookmarks

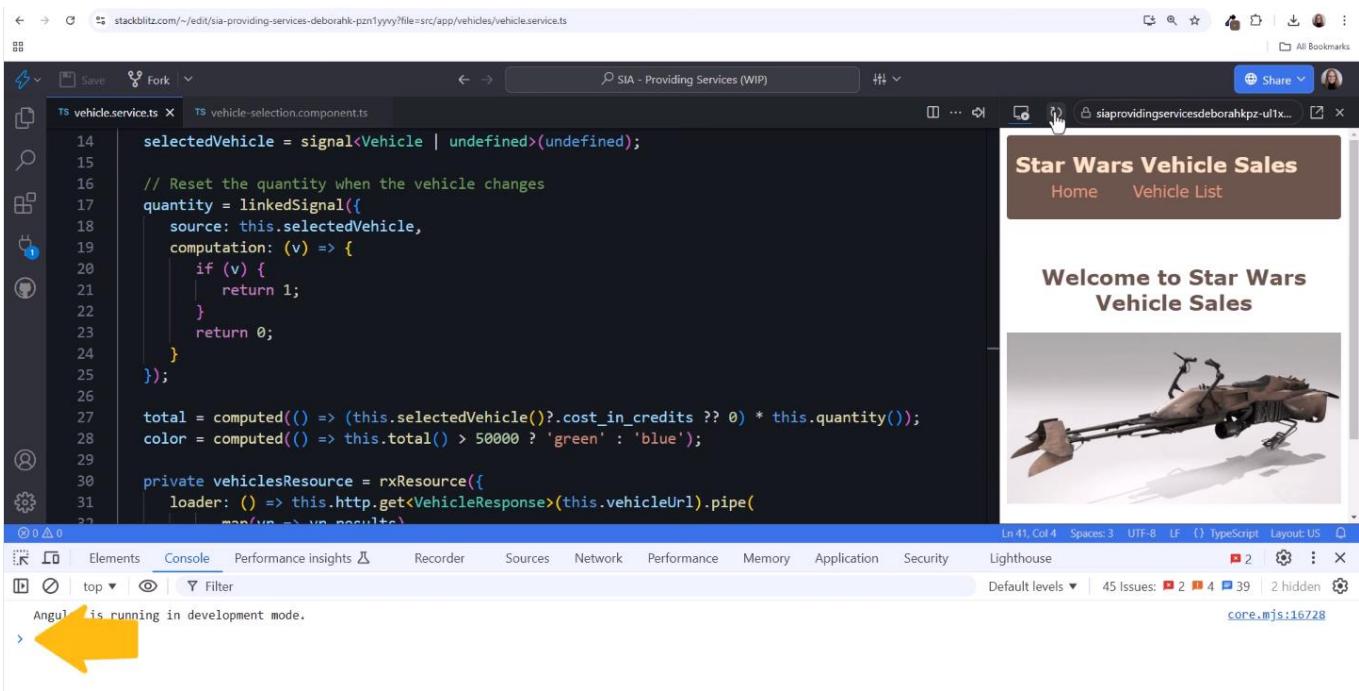
vehicle.service.ts

```
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15
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21       return 1;
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23     return 0;
24   }
25 );
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29
30 private vehiclesResource = rxResource({
31   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
32     map((res) => res.results)
33   )
34 });
35
36 export class VehicleSelectionComponent implements OnInit {
37   constructor(private service: VehicleService) { }
38
39   ngOnInit(): void {
40     this.service.selectedVehicle.subscribe((v) => {
41       this.selectedVehicle.set(v);
42     });
43   }
44 }
```

Elements Console Performance insights Recorder Sources Network Performance Memory Application Security Lighthouse

Default levels 45 Issues: 2 4 39 2 hidden core.mjs:16728

Angular is running in development mode.



stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyyy?file=src/app/vehicles/vehicle.service.ts

Save Fork SIA - Providing Services (WIP) Share All Bookmarks

vehicle.service.ts

```
14 selectedVehicle = signal<Vehicle | undefined>(undefined);
15
16 // Reset the quantity when the vehicle changes
17 quantity = linkedSignal({
18   source: this.selectedVehicle,
19   computation: (v) => {
20     if (v) {
21       return 1;
22     }
23     return 0;
24   }
25 );
26
27 total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
28 color = computed(() => this.total() > 50000 ? 'green' : 'blue');
29
30 private vehicleResource = rxResource({
31   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
32     map((res) => res.results)
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36 export class VehicleSelectionComponent implements OnInit {
37   constructor(private service: VehicleService) { }
38
39   ngOnInit(): void {
40     this.service.selectedVehicle.subscribe((v) => {
41       this.selectedVehicle.set(v);
42     });
43   }
44 }
```

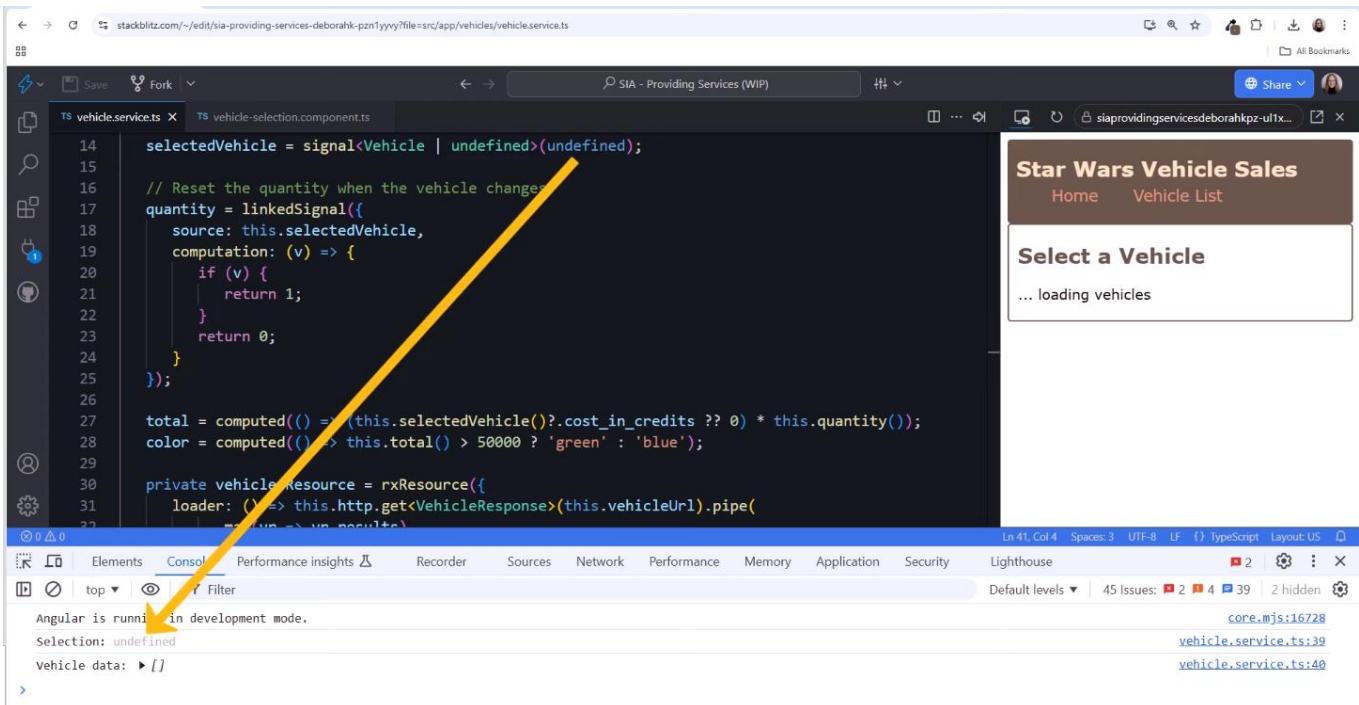
Elements Console Performance insights Recorder Sources Network Performance Memory Application Security Lighthouse

Default levels 45 Issues: 2 4 39 2 hidden core.mjs:16728

Angular is running in development mode.

Selection: undefined

Vehicle data: []



Stackblitz URL: <https://stackblitz.com/edit/sia-providing-services-deborahk-pzn1yy?file=src/app/vehicles/vehicle.service.ts>

Code Editor:

```
24 }
25 );
26
27 total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
28 color = computed(() => this.total() > 50000 ? 'green' : 'blue');
29
30 private vehiclesResource = rxResource({
31   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
32     map(vr => vr.results),
33     delay(2000)
34   );
35 });
36 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
37 isLoading = this.vehiclesResource.isLoading;
38
39 vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
40 vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
41
42 }
```

Console Output:

```
Angular is running in development mode.
Selection: undefined
Vehicle data: []
Vehicle data: ▶ (10) [{}]
Vehicle data: ▶ (10) [{}]
```

Browser Preview:

Star Wars Vehicle Sales

Home Vehicle List

Select a Vehicle

--Select a vehicle--

Quantity: 0

Vehicle:

Price:

Total: 0

Stackblitz URL: <https://stackblitz.com/edit/sia-providing-services-deborahk-pzn1yy?file=src/app/vehicles/vehicle.service.ts>

Code Editor:

```
24 }
25 );
26
27 total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
28 color = computed(() => this.total() > 50000 ? 'green' : 'blue');
29
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32     map(vr => vr.results),
33     delay(2000)
34   );
35 });
36 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
37 isLoading = this.vehiclesResource.isLoading;
38
39 vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
40 vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
41
42 }
```

Console Output:

```
Angular is running in development mode.
Selection: undefined
Vehicle data: []
Vehicle data: ▶ (10) [{}]
```

Browser Preview:

Star Wars Vehicle Sales

Home Vehicle List

Select a Vehicle

--Select a vehicle--

Quantity: 0

Vehicle:

Price:

Total: 0

The screenshot shows a browser window with the URL stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyvy?file=src/app/vehicles/vehicle.service.ts. On the right, a modal titled "Select a Vehicle" is open, displaying a dropdown menu with the following options: "Sand Crawler", "T-16 skyhopper", "X-34 landspeeder", "TIE/LN starfighter", "Snowspeeder", "TIE bomber", "AT-AT", "AT-ST", "Storm IV Twin-Pod cloud car", and "Sail barge". The "Sand Crawler" option is highlighted. On the left, the code editor shows the `vehicle.service.ts` file with some TypeScript code. The browser's developer tools are visible at the bottom.

This screenshot shows the same browser setup as the previous one, but the modal has been closed. The code editor still displays the `vehicle.service.ts` file. In the browser's developer tools, the "Console" tab is selected, showing the following output:

```
Angular is running in development mode.
Selection: undefined
Vehicle data: []
Vehicle data: ▶ (10) [{}]
Selection: ▶ {name: 'Sand Crawler', model: 'Digger Crawler', manufacturer: 'Corellia Mining Corporation', cost_in_credits: '150000', length: '36.8', ...}
```

A yellow arrow points from the "Sand Crawler" entry in the dropdown menu of the first screenshot to the "Selection" entry in the console log of this screenshot, indicating the selection process.

```
24     }
25   );
26 
27   total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
28   color = computed(() => this.total() > 50000 ? 'green' : 'blue');
29 
30   private vehiclesResource = rxResource({
31     loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
32       map(vr => vr.results),
33       delay(2000)
34     )
35   );
36   vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
37   isLoading = this.vehiclesResource.isLoading;
38 
39   vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
40   vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
41 }
42 }
43 
44 export interface VehicleResponse {
45   count: number;
46   next: string;
47   previous: string;
48   results: Vehicle[]
49 }
50 
51 export interface Vehicle {
```

```
24   }
25 }
26 
27 @Injectable({
28   providedIn: 'root'
29 })
30 export class VehicleService { }
```

Using root, our data will be retained even when the component that injected the service is destroyed

Service Instance

```

selectedVehicle = {name: 'Sand Crawler, ...'}
vehicles = [{...}, {...}, ...]
...

```

Vehicle Selection Component (vehicle-selection.component.ts)

```

export class VehicleSelectionComponent {
  pageTitle = "Select a Vehicle";

  // Injected services
  private vehicleService = inject(VehicleService);

  vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
  vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));

  export class VehicleDetailComponent {
    pageTitle = "Vehicle Details";

    // Injected services
    private vehicleService = inject(VehicleService);
}

```

Vehicle Detail Component (vehicle-detail.component.ts)

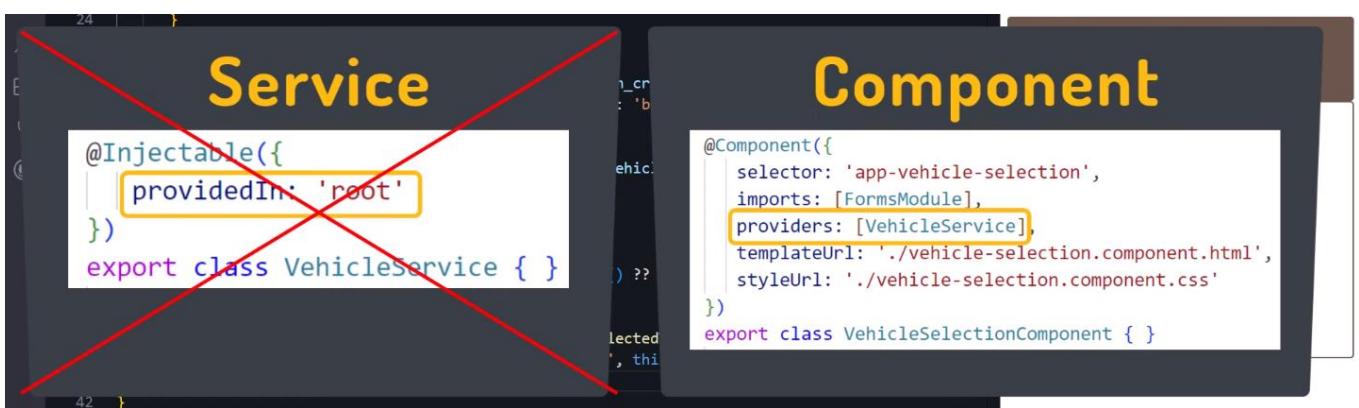
```

export interface Vehicle {
}

```

Select a vehicle

Vehicle	Quantity	Price	Total
Sand Crawler	1	150000	150000



SIA - Providing Services (WIP)

Star Wars Vehicle Sales

Select a Vehicle

Vehicle	Quantity	Price	Total
Sand Crawler	1	150000	150000

Vehicle Service (vehicle.service.ts)

```

@Injectable()
export class VehicleService {
  private vehicleUrl = 'https://swapi.py4e.com/api/vehicles';

  private http = inject(HttpClient);

  selectedVehicle = signal<Vehicle | undefined>(&undefined);

  // Reset the quantity when the vehicle changes
  quantity = linkedSignal({
    source: this.selectedVehicle,
    computation: (v) => {
      if (v) {
        return 1;
      }
      return 0;
    }
  });

  total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
  color = computed(() => this.total() > 50000 ? 'green' : 'blue');

  private vehiclesResource = rxResource({
    loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
      map(vr => vr.results),
      delay(2000)
    )
  });
}

```

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyyy?file=src/app/vehicles/vehicle-selection/vehicle-selection.component.ts

```
1 import { Component, inject } from '@angular/core';
2 import { FormsModule } from '@angular/forms';
3 import { VehicleService } from '../vehicle.service';
4
5 @Component({
6   selector: 'app-vehicle-selection',
7   imports: [FormsModule],
8   templateUrl: './vehicle-selection.component.html',
9   styleUrls: ['./vehicle-selection.component.css'
10 })
11 export class VehicleSelectionComponent {
12   pageTitle = "Select a Vehicle";
13
14   // Injected services
15   private vehicleService = inject(VehicleService);
16
17   // Signals to support the template
18   vehicles = this.vehicleService.vehicles;
19   isLoading = this.vehicleService.isLoading;
20   selectedVehicle = this.vehicleService.selectedVehicle;
21   quantity = this.vehicleService.quantity;
22   total = this.vehicleService.total;
23   color = this.vehicleService.color;
24 }
25
```

Star Wars Vehicle Sales

Home Vehicle List

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyyy?file=src/app/vehicles/vehicle-selection/vehicle-selection.component.ts

```
1 import { Component, inject } from '@angular/core';
2 import { FormsModule } from '@angular/forms';
3 import { VehicleService } from '../vehicle.service';
4
5 @Component({
6   selector: 'app-vehicle-selection',
7   imports: [FormsModule],
8   providers: [VehicleService],
9   templateUrl: './vehicle-selection.component.html',
10   styleUrls: ['./vehicle-selection.component.css'
11 })
12 export class VehicleSelectionComponent {
13   pageTitle = "Select a Vehicle";
14
15   // Injected services
16   private vehicleService = inject(VehicleService);
17
18   // Signals to support the template
19   vehicles = this.vehicleService.vehicles;
20   isLoading = this.vehicleService.isLoading;
21   selectedVehicle = this.vehicleService.selectedVehicle;
22   quantity = this.vehicleService.quantity;
23   total = this.vehicleService.total;
24   color = this.vehicleService.color;
25 }
```

Star Wars Vehicle Sales

Home Vehicle List

Welcome to Star Wars Vehicle Sales



[YouTube Channel](#)

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyv?file=src/app/vehicles/vehicle.service.ts

SIA - Providing Services (WIP)

Share

vehicle.service.ts

```

22
23
24
25   total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
26   color = computed(() => this.total() > 50000 ? 'green' : 'blue');
27
28   private vehiclesResource = rxResource({
29     loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
30       map(vr => vr.results),
31       delay(2000)
32     )
33   );
34   vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
35   isLoading = this.vehiclesResource.isLoading;
36
37   vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
38   vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
39
40 }
41
42 export interface VehicleResponse {
43   count: number;
44   next: string;
45   previous: string;
46   results: Vehicle[]
47 }
48
49 export interface Vehicle {

```

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

[YouTube Channel](#)

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyv?file=src/app/vehicles/vehicle.service.ts

SIA - Providing Services (WIP)

Share

vehicle.service.ts

```

22
23
24
25   total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
26   color = computed(() => this.total() > 50000 ? 'green' : 'blue');
27
28   private vehiclesResource = rxResource({
29     loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
30       map(vr => vr.results),
31       delay(2000)
32     )
33   );
34   vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
35   isLoading = this.vehiclesResource.isLoading;
36
37   vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
38   vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
39
40 }
41
42 export interface VehicleResponse {
43   count: number;
44   next: string;
45   previous: string;
46   results: Vehicle[]
47 }
48
49 export interface Vehicle {

```

Star Wars Vehicle Sales

Welcome to Star Wars Vehicle Sales

Angular is running in development mode.

core.mjs:16728

Star Wars Vehicle Sales

Select a Vehicle

... loading vehicles

```
22 | });
23 | });
24 |
25 |     total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
26 |     color = computed(() => this.total() > 50000 ? 'green' : 'blue');
27 |
28 |     private vehiclesResource = rxResource({
29 |         loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
30 |             map(vr => vr.results),
31 |             delay(2000)
32 |         );
33 |     });
34 |     vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
35 |     isLoading = this.vehiclesResource.isLoading;
36 |
37 |     vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
38 |     vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
39 |
40 | }
```

Angular is running in development mode.

Selection: undefined

Vehicle data: []

Vehicle data: ▶ []

Star Wars Vehicle Sales

Select a Vehicle

--Select a vehicle--

Quantity: 0

Vehicle:

Price:

Total: 0

```
22 | });
23 | });
24 |
25 |     total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
26 |     color = computed(() => this.total() > 50000 ? 'green' : 'blue');
27 |
28 |     private vehiclesResource = rxResource({
29 |         loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
30 |             map(vr => vr.results),
31 |             delay(2000)
32 |         );
33 |     });
34 |     vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
35 |     isLoading = this.vehiclesResource.isLoading;
36 |
37 |     vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
38 |     vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
39 |
40 | }
```

Angular is running in development mode.

Selection: undefined

Vehicle data: []

Vehicle data: ▶ [10] []

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyy?file=src/app/vehicles/vehicle.service.ts

```

22
23
24
25   total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
26   color = computed(() => this.total() > 50000 ? 'green' : 'blue');
27
28   private vehiclesResource = rxResource({
29     loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
30       map(vr => vr.results),
31       delay(2000)
32     )
33   });
34   vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
35   isLoading = this.vehiclesResource.isLoading;
36
37   vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
38   vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
39
40 }

```

Angular is running in development mode.

Selection: undefined

Vehicle data: []

Vehicle data: ▶ (10) [{}]

AT-ST

--Select a vehicle--
--Select a vehicle--
Sand Crawler
T-16 skyhopper
X-34 landspeeder
TIE/LN starfighter
Snowspeeder
TIE bomber
AT-AT
Sail barge

Storm IV Twin-Pod cloud car

core.mjs:16728
vehicle.service.ts:37
vehicle.service.ts:38
vehicle.service.ts:38

stackblitz.com/~edit/sia-providing-services-deborahk-pzn1yyy?file=src/app/vehicles/vehicle.service.ts

```

22
23
24
25   total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
26   color = computed(() => this.total() > 50000 ? 'green' : 'blue');
27
28   private vehiclesResource = rxResource({
29     loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
30       map(vr => vr.results),
31       delay(2000)
32     )
33   });
34   vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
35   isLoading = this.vehiclesResource.isLoading;
36
37   vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
38   vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
39
40 }

```

Vehicle data: []

Vehicle data: ▶ (10) [{}]

Selection:
▶ {name: 'Sail barge', model: 'Modified Luxury Sail Barge', manufacturer: 'Ubrikkian Industries Custom Vehicle Division', cost_in_credits: '285000', length: '30', ...}

Sail barge

Quantity: 1

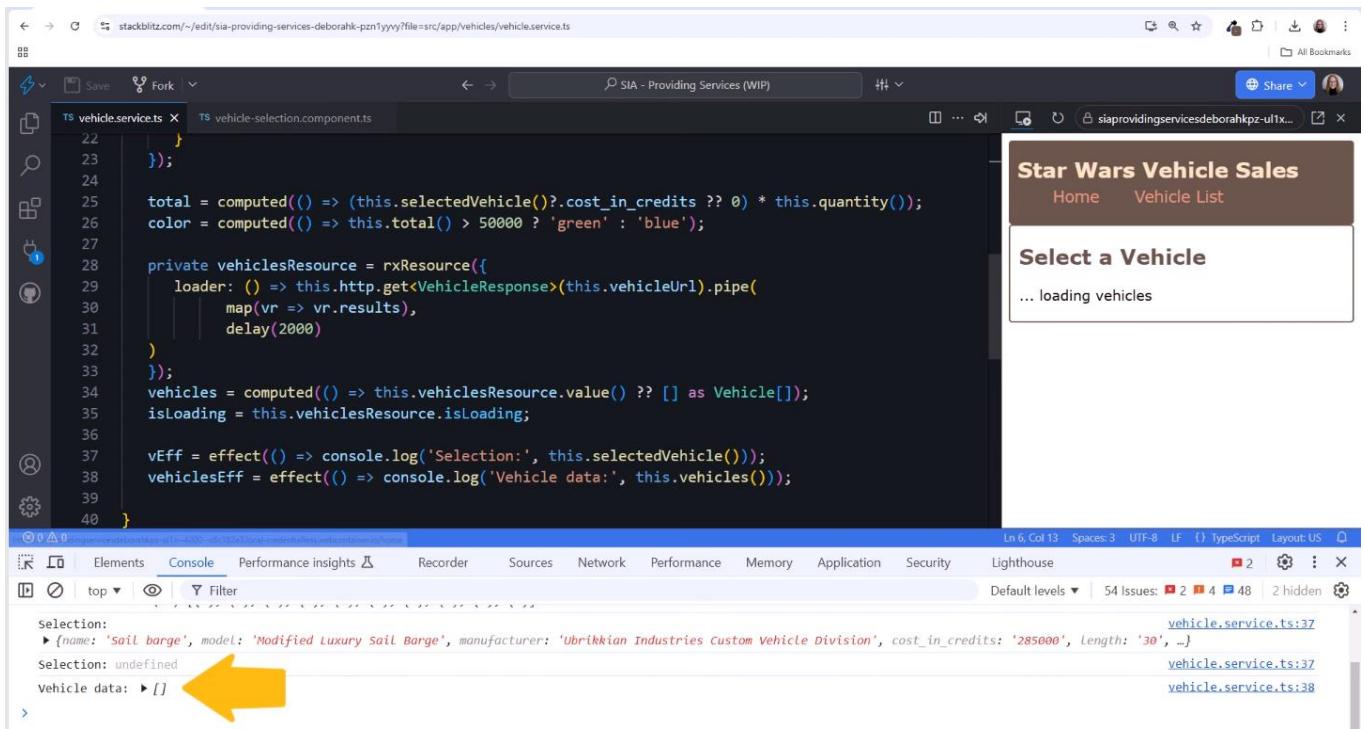
Vehicle: Sail barge

Price: 285000

Total: 285000

AT-ST

core.mjs:16728
vehicle.service.ts:38
vehicle.service.ts:38
vehicle.service.ts:37



vehicle-selection.component.ts

```
22
23
24
25 total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
26 color = computed(() => this.total() > 50000 ? 'green' : 'blue');
27
28 private vehiclesResource = rxResource({
29   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
30     map(vr => vr.results),
31     delay(2000)
32   )
33 });
34 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
35 isLoading = this.vehiclesResource.isLoading;
36
37 vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
38 vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
39
40 }
```

vehicle.service.ts

```
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40 }
```

Star Wars Vehicle Sales

Select a Vehicle

... loading vehicles

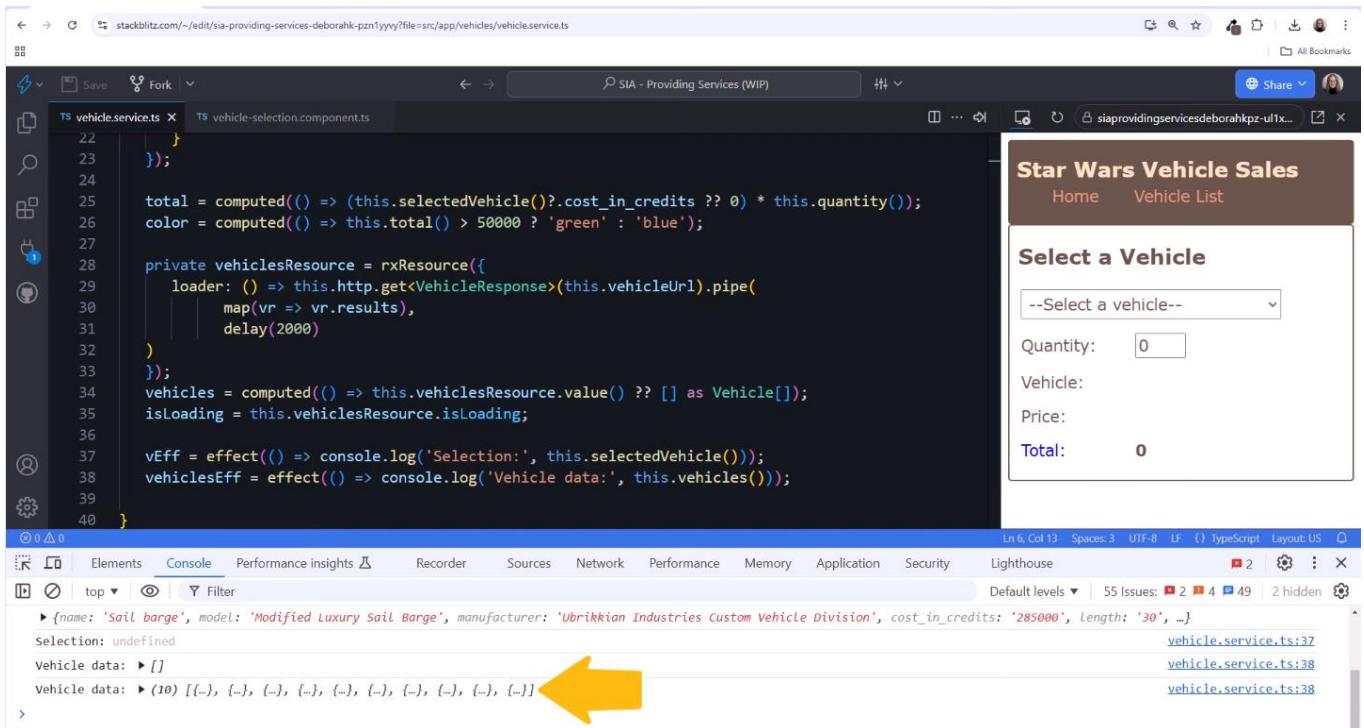
Ln 6, Col 13 Spaces: 3 UTF-8 LF TypeScript Layout: US

Elements Console Performance insights Recorder Sources Network Performance Memory Application Security Lighthouse Default levels 54 Issues: 2 4 48 2 hidden

Selection: > {name: 'Sail barge', model: 'Modified Luxury Sail Barge', manufacturer: 'Ubrikian Industries Custom Vehicle Division', cost_in_credits: '285000', ...}

Selection: undefined

Vehicle data: > []



vehicle-selection.component.ts

```
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40 }
```

vehicle.service.ts

```
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40 }
```

Star Wars Vehicle Sales

Select a Vehicle

--Select a vehicle--

Quantity: 0

Vehicle:

Price:

Total: 0

Ln 6, Col 13 Spaces: 3 UTF-8 LF TypeScript Layout: US

Elements Console Performance insights Recorder Sources Network Performance Memory Application Security Lighthouse Default levels 55 Issues: 2 4 49 2 hidden

Selection: > {name: 'Sail barge', model: 'Modified Luxury Sail Barge', manufacturer: 'Ubrikian Industries Custom Vehicle Division', cost_in_credits: '285000', ...}

Selection: undefined

Vehicle data: > []

Vehicle data: > (10) [{"..."}]

Service Instance

```
selectedVehicle = {name: 'Sail Barge, ...'}
vehicles = [..., ..., ...]
...
```

Select a Vehicle

- Select a vehicle--
- Quantity: 0
- Vehicle:
- Price:
- Total: 0

```
22 }
23 );
24
25 total = computed(() => (this.selectedVehicle));
26 color = computed(() => this.total());
27
28 private vehicleService = rxResource({
29   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
30     map(vr => vr.results),
31     delay(2000)
32   )
33 );
34 vehicles = computed(() => this.vehicleService.value() ?? [] as Vehicle[]);
35 isLoading = this.vehicleService.isLoading;
36
37 vEff = effect(() => console.log('Selection:', this.selectedVehicle));
38 vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles));
39
40 }
41
```

When a component is destroyed, all the service instances and data attached to it are gone

Service Instance

```
selectedVehicle = undefined
vehicles = []
...
```

Select a Vehicle

- Select a vehicle--
- Quantity: 0
- Vehicle:
- Price:
- Total: 0

```
22 }
23 );
24
25 total = computed(() => (this.selectedVehicle));
26 color = computed(() => this.total());
27
28 export class VehicleSelectionComponent {
29   pageTitle = "Select a Vehicle";
30
31   // Injected services
32   private vehicleService = inject(VehicleService);
33
34   vEff = effect(() => console.log('Selection:', this.selectedVehicle));
35   vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles));
36
37 }
38
39
40 }
41
```

Star Wars Vehicle Sales

Home Vehicle List

```
1 import { Component, inject } from '@angular/core';
2 import { FormsModule } from '@angular/forms';
3 import { VehicleService } from '../vehicle.service';
4
5 @Component({
6   selector: 'app-vehicle-selection',
7   imports: [FormsModule],
8   templateUrl: './vehicle-selection.component.html',
9   styleUrls: ['./vehicle-selection.component.css'
10 })
11 export class VehicleSelectionComponent {
12   pageTitle = "Select a Vehicle";
13
14   // Injected services
15   private vehicleService = inject(VehicleService);
16
17   // Signals to support the template
18   vehicles = this.vehicleService.vehicles;
19   isLoading = this.vehicleService.isLoading;
20   selectedVehicle = this.vehicleService.selectedVehicle;
21   quantity = this.vehicleService.quantity;
22   total = this.vehicleService.total;
23   color = this.vehicleService.color;
24 }
```

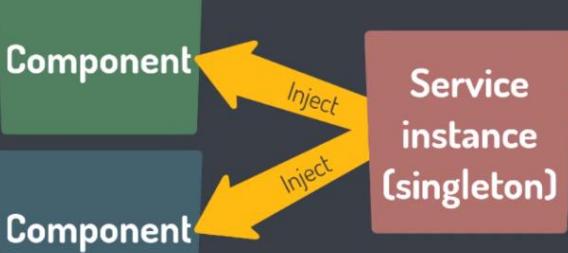
```
6 @Injectable({
7   providedIn: 'root'
8 })
9 export class VehicleService {
10   private vehicleUrl = 'https://swapi.py4e.com/api/vehicles';
11
12   private http = inject(HttpClient);
13
14   selectedVehicle = signal<Vehicle | undefined>(&undefined);
15
16   // Reset the quantity when the vehicle changes
17   quantity = linkedSignal({
18     source: this.selectedVehicle,
19     computation: (v) => {
20       if (v) {
21         return 1;
22       }
23       return 0;
24     }
25   );
26
27   total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
28   color = computed(() => this.total() > 50000 ? 'green' : 'blue');
29
30   private vehiclesResource = rxResource({
31     loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
32       map(vr => vr.results),
33       delay(2000)
34     )
35   );
36 }
```



```
@Injectable({
  providedIn: 'root'
})
export class VehicleService { }
```

```
@Component({
  selector: 'app-vehicle-selection',
  imports: [FormsModule],
  providers: [VehicleService],
  templateUrl: './vehicle-selection.component.html',
  styleUrls: ['./vehicle-selection.component.css'
})
export class VehicleSelectionComponent { }
```

Application



Application



stackblitz.com/~/edit/sia-providing-services-deborahk-pznf1yyv?file=src/app/vehicles/vehicle.service.ts

TS vehicle.service.ts TS vehicle-selection.component.ts

```
14 selectedVehicle = signal<Vehicle | undefined>(<undefined>);
15
16 // Reset the quantity when the vehicle changes
17 quantity = linkedSignal(<number>{
18   source: this.selectedVehicle,
19   computation: (v) => {
20     if (v) {
21       return 1;
22     }
23     return 0;
24   }
25 });
26
27 total = computed(() => (this.selectedVehicle()?.cost_in_credits ?? 0) * this.quantity());
28 color = computed(() => this.total() > 5000 ? 'green' : 'blue');
29
30 private vehiclesResource = rxResource<VehicleResponse[]>({
31   loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
32     map(vr => vr.results),
33     delay(2000)
34   );
35   vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
36   isLoading = this.vehiclesResource.isLoading;
37
38   vEff = effect(() => console.log('Selection:', this.selectedVehicle()));
39   vehiclesEff = effect(() => console.log('Vehicle data:', this.vehicles()));
40
41 })
```

Star Wars Vehicle Sales

Home Vehicle List

Welcome to Star Wars Vehicle Sales

YouTube Channel

What if you want finer control when your resource data is loaded?