


SIA: Stale data? Refresh it!

 Deborah Kurata
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Has your data gone stale? Refresh it easily with the resource() API!

In this video, we explore how data gets stale and demonstrate how to refresh it using the new experimental resource API. We first add a refresh button. Then leverage linkedSignal and setTimeout to keep users informed when their data needs refreshing.

Content

00:00 Refreshing stale data

00:28 How does data get stale?

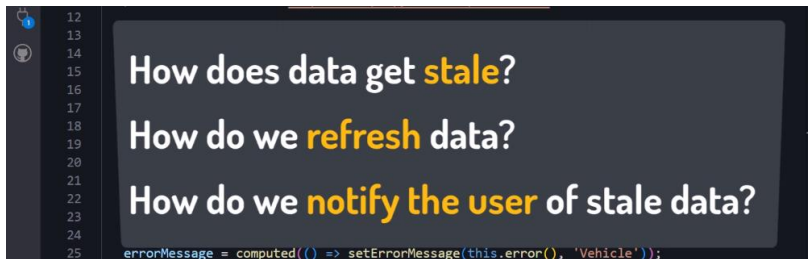
01:57 Refresh strategy

02:50 Refresh stale data with the resource() API

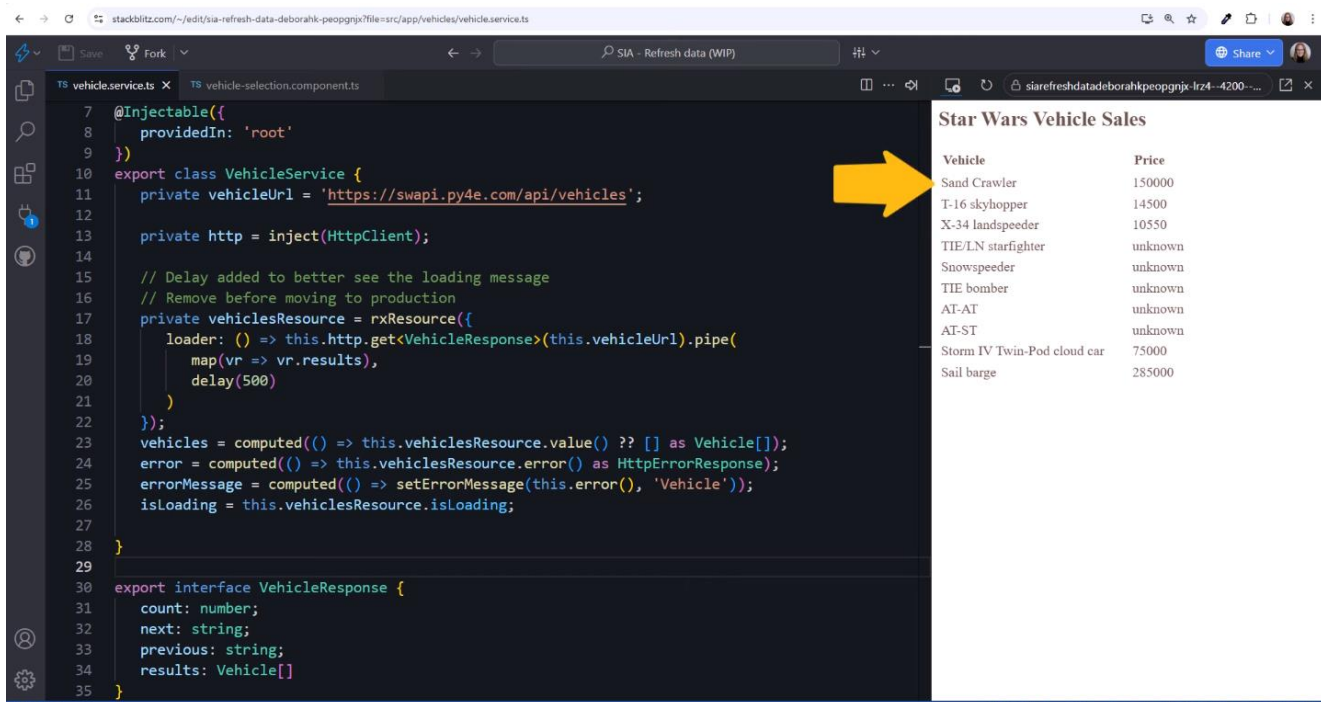
04:26 Refresh notification using a linkedSignal and a timer

07:05 Display a message to the user

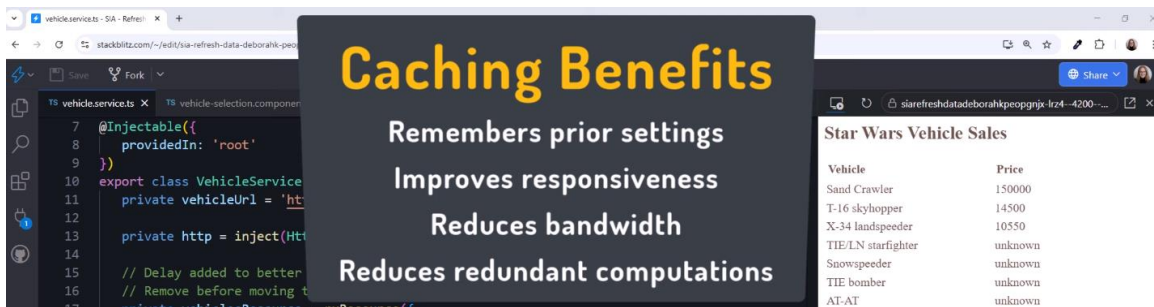
07:44 The resource API + linkedSignal



T-16 skyhopper	14500
X-34 landspeeder	10550
TIE/LN starfighter	unknown
Snowspeeder	unknown
TIE bomber	unknown
AT-AT	unknown
AT-ST	unknown
Storm IV Twin-Pod cloud car	75000
Sail barge	285000



We first add a refresh button, then leverage **LinkedSignal** and **setTimeout()** to keep users informed when their data needs refreshing.



Refresh Strategy

Always get fresh data before an update
Allow the user to control the refresh
Notify the user when data is stale

Star Wars Vehicle Sales

Vehicle	Price
Sand Crawler	150000
T-16 skyhopper	14500
X-34 landspeeder	10550
TIE/LN starfighter	unknown
Snwoospeeder	unknown
TIE bomber	unknown
AT-AT	unknown

Star Wars Vehicle Sales

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NG9: Property 'refreshData' does not exist on type 'VehicleSelectionComponent'.

[src/app/vehicles/vehicle-selection/vehicle-selection.component.ts:19:50](#)

Click outside, press **Esc** key, or fix the code to dismiss.

stackblitz.com/~edit/sia-refresh-data-deborahk-peopgnjx?file=src/app/vehicles/vehicle-selection/vehicle-selection.component.ts

SIA - Refresh data (WIP)

Share

Refresh

```
25      <div>No vehicles found</div>
26    }
27  }
28  </div>
29  </div>
30  </div>
31  ,
32  styleUrls: ['vehicle-selection.component.css']
33  })
34  export class VehicleSelectionComponent {
35    pageTitle = 'Star Wars Vehicle Sales';
36
37    // Injected services
38    private vehicleService = inject(VehicleService);
39
40    // Signals to support the template
41    vehicles = this.vehicleService.vehicles;
42    isLoading = this.vehicleService.isLoading;
43    errorMessage = this.vehicleService.errorMessage;
44
45    refreshData() {
46
47    }
48  }
49
```

Star Wars Vehicle Sales

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SIA - Refresh data (WIP)

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TS2339: Property 'reloadData' does not exist on type 'VehicleService'.
src/app/vehicles/vehicle-selection/vehicle-selection.component.ts:46:26

Click outside, press **Esc** key, or fix the code to dismiss.

stackblitz.com/~edit/sia-refresh-data-deborahk-peopgnjx?file=src/app/vehicles/vehicle.service.ts

SIA - Refresh data (WIP)

Share

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

```
7 @Injectable({
8   providedIn: 'root'
9 })
10 export class VehicleService {
11   private vehicleUrl = 'https://swapi.py4e.com/api/vehicles';
12
13   private http = inject(HttpClient);
14
15   // Delay added to better see the loading message
16   // Remove before moving to production
17   private vehiclesResource = rxResource({
18     loader: () => this.http.get<VehicleResponse>(this.vehicleUrl).pipe(
19       map(vr => vr.results),
20       delay(500)
21     )
22   });
23   vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
24   error = computed(() => this.vehiclesResource.error() as HttpErrorResponse);
25   errorMessage = computed(() => setErrorMessage(this.error(), 'Vehicle'));
26   isLoading = this.vehiclesResource.isLoading;
27
28 }
29
30 export interface VehicleResponse {
31   count: number;
32   next: string;
33   previous: string;
34   results: Vehicle[]
35 }
```

TS2339: Property 'reloadData' does not exist on type 'VehicleService'.

src/app/vehicles/vehicle-selection/vehicle-selection.component.ts:46:26

Click outside, press **Esc** key, or fix the code to dismiss.

Star Wars Vehicle Sales

Storm IV Twin-Pod cloud car	75000
Sail barge	285000

stackblitz.com/~edit/sia-refresh-data-deborahk-peopgnjx?file=src/app/vehicles/vehicle.service.ts

SIA - Refresh data (WIP)

Share

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28 reloadData() {
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31 }
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36   previous: string;
37   results: Vehicle[]
38 }
39
40 export interface Vehicle {
41   name: string;
42   cost_in_credits: number;
43 }
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Star Wars Vehicle Sales

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TIE/LN starfighter	unknown
Snowspeeder	unknown
TIE bomber	unknown
AT-AT	unknown
AT-ST	unknown
Storm IV Twin-Pod cloud car	75000
Sail barge	285000

Refresh

stackblitz.com/~edit/sia-refresh-data-deborahk-peopgnjx?file=src/app/vehicles/vehicle.service.ts

SIA - Refresh data (WIP)

Share

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

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25 errorMessage = computed(() => setErrorMessage(this.error(), 'Vehicle'));
26 isLoading = this.vehiclesResource.isLoading;
27
28 reloadData() {
29   this.vehiclesResource.reload();
30 }
31
32
33 export interface VehicleResponse {
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SIA - Refresh data (WIP)

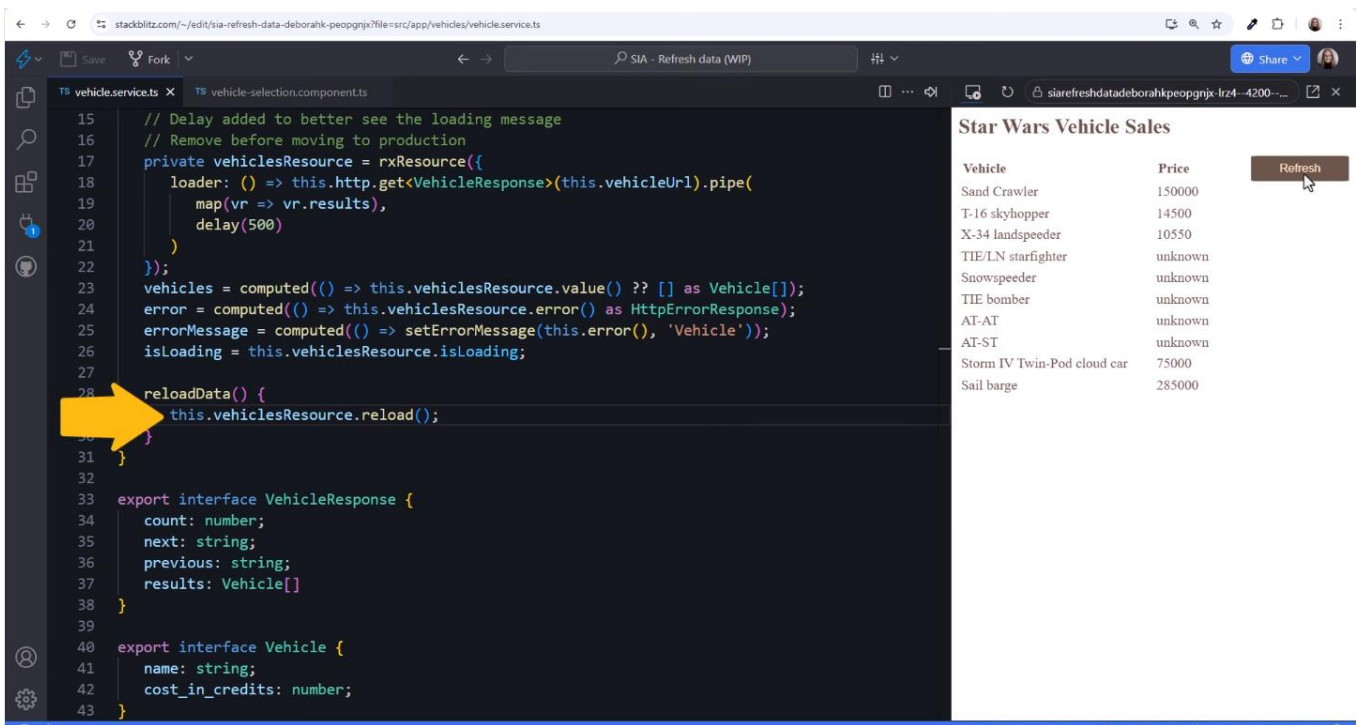
Share

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

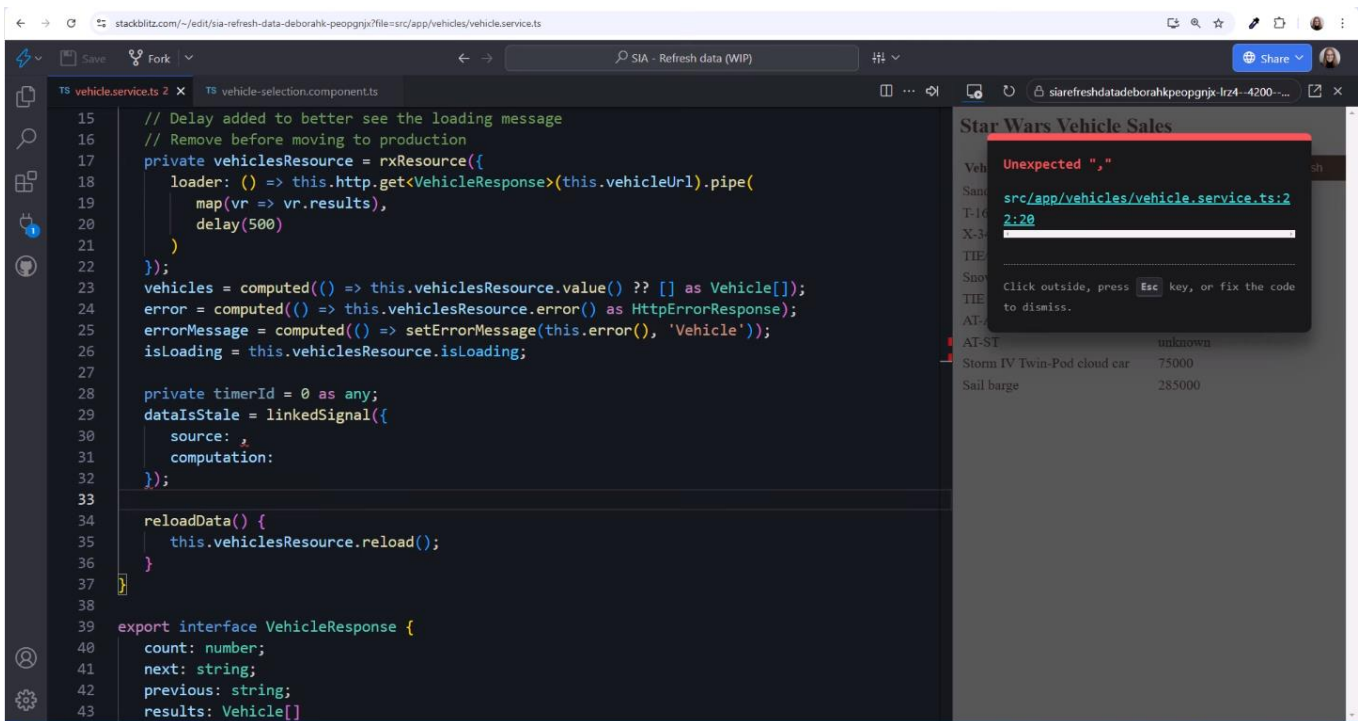
```
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16 // Remove before moving to production
17 private vehiclesResource = rxResource({
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```

Star Wars Vehicle Sales

... loading vehicles



The reloading feature works. Now, let us add a feature to notify the user that their data is stale and they need to refresh via using the `setTimeout()` as below



stackblitz.com/~edit/sia-refresh-data-deborahk-peopgnjx?file=src/app/vehicles/vehicle.service.ts

SIA - Refresh data (WIP)

TS vehicle.service.ts

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22 });
23 vehicles = computed(() => this.vehiclesResource.value() ?? [] as Vehicle[]);
24 error = computed(() => this.vehiclesResource.error() as HttpErrorResponse);
25 errorMessage = computed(() => setErrorMessage(this.error(), 'Vehicle'));
26 isLoading = this.vehiclesResource.isLoading;
27
28 private timerId = 0 as any;
29 dataIsStale = linkedSignal({
30   source: this.vehiclesResource.status,
31   computation: (status) => {
32     if (this.timerId > 0) {
33       clearTimeout(this.timerId);
34     }
35     if (status === ResourceStatus.Resolved) {
36       this.timerId = setTimeout(() => {
37         this.dataIsStale.set(true);
38         this.timerId = 0;
39       }, 5000);
40     }
41     return false;
42   }
43 });
```

Star Wars Vehicle Sales

... loading vehicles

stackblitz.com/~edit/sia-refresh-data-deborahk-peopgnjx?file=src/app/vehicles/vehicle-selection/vehicle-selection.component.ts

SIA - Refresh data (WIP)

TS vehicle-selection.component.ts

```
25 <div>No vehicles found</div>
26 }
27 }
28 </div>
29
30 </div>
31
32 styleUrls: ['vehicle-selection.component.css']
33 })
34 export class VehicleSelectionComponent {
35   pageTitle = 'Star Wars Vehicle Sales';
36
37   // Injected services
38   private vehicleService = inject(VehicleService);
39
40   // Signals to support the template
41   vehicles = this.vehicleService.vehicles;
42   isLoading = this.vehicleService.isLoading;
43   errorMessage = this.vehicleService.errorMessage;
44   dataIsStale = this.vehicleService.dataIsStale;
45
46   refreshData() {
47     this.vehicleService.reloadData();
48   }
49 }
50
```

Star Wars Vehicle Sales

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stackblitz.com/~edit/sia-refresh-data-deborahk-peopgnjx?file=src/app/vehicles/vehicle-selection/vehicle-selection.component.ts

SIA - Refresh data (WIP)

Share

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

```
8 template: `
9   <div class="content">
10     <div class="title">{{pageTitle}}</div>
11     @if (isLoading()) {
12       <div>... loading vehicles</div>
13     } @else if (errorMessage()) {
14       <div style="color: red">{{ errorMessage() }}</div>
15     } @else {
16       @if (dataIsStale()) {
17         <div style="color: red">The prices may have changed, please refresh</div>
18       }
19       <div class="grid">
20         <div class="colHeader">Vehicle</div>
21         <div class="colHeader">Price</div>
22         <button class="colButton" (click)="refreshData()">Refresh</button>
23         @for(v of vehicles(); track v) {
24           <div class="col1">{{ v.name}}</div>
25           <div class="col2">{{ v.cost_in_credits }}</div>
26         } @empty {
27           @if(!isLoading()) {
28             <div>No vehicles found</div>
29           }
30         }
31       </div>
32     }
33   </div>
34 `
35 styleUrls: ['vehicle-selection.component.css']
36 `;
```

Star Wars Vehicle Sales

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SIA - Refresh data (WIP)

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vehicle.service.tsvehicle-selection.component.ts

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