

Carousel

<https://playdocs1.orangeriver-ad055946.westus2.azurecontainerapps.io/play-docs/docs/ui-recipes/Carousel>

Carousel

The Carousel component is a modern, interactive image gallery component that provides an engaging way to display collections of images or content. Built with accessibility in mind, it features touch/swipe support, keyboard navigation, and intelligent card positioning that creates a stacked, 3D-like effect.

The component automatically handles responsive behavior, touch interactions, and provides smooth transitions between items while maintaining excellent performance through smart rendering strategies.

```
<aava-carousel>
```

How to use

```
import { AavaCarouselComponent, CarouselItem } from "@aava/play-core";
```

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```

Explore different carousel configurations and sizes with interactive demos.

Basic Usage

```
<aava-carousel [items]="carouselItems"> </aava-carousel>
```

```
<aava-carousel [items]="carouselItems"> </aava-carousel>
```

```
carouselItems: CarouselItem[] = [ { id: '1', imageUrl: 'assets/center.jpg', imageAlt: 'Image 1', routeUrl: '' }, { id: '2', imageUrl: 'assets/right-1.jpg', imageAlt: 'Image 2', routeUrl: '' }, { id: '3', imageUrl: 'assets/right-2.jpg', imageAlt: 'Image 3', routeUrl: '' }, { id: '4', imageUrl: 'assets/left-2.jpg', imageAlt: 'Image 4', routeUrl: '' }, { id: '5', imageUrl: 'assets/left-1.jpg', imageAlt: 'Image 5', routeUrl: '' }, ];
```

```
carouselItems: CarouselItem[] = [ { id: '1', imageUrl: 'assets/center.jpg', imageAlt: 'Image 1', routeUrl: '' }, { id: '2', imageUrl: 'assets/right-1.jpg', imageAlt: 'Image 2', routeUrl: '' }, { id: '3', imageUrl: 'assets/right-2.jpg', imageAlt: 'Image 3', routeUrl: '' }, { id: '4', imageUrl: 'assets/left-2.jpg', imageAlt: 'Image 4', routeUrl: '' }, { id: '5', imageUrl: 'assets/left-1.jpg', imageAlt: 'Image 5', routeUrl: '' }, ];
```

The basic carouseldemonstrates the default configuration with a set of items. It shows how items are displayed in a 3D stacked layout with smooth transitions. This is a great starting point for integrating a carousel in your application.

Sizes

```
<aava-carousel [items]="carouselItems" size="xs"> </aava-carousel><aava-carousel [items]="carouselItems" size="sm"> </aava-carousel><aava-carousel [items]="carouselItems" size="md"> </aava-carousel><aava-carousel [items]="carouselItems" size="lg"> </aava-carousel>
```

```
<aava-carousel [items]="carouselItems" size="xs"> </aava-carousel><aava-carousel [items]="carouselItems" size="sm"> </aava-carousel><aava-carousel [items]="carouselItems" size="md"> </aava-carousel><aava-carousel [items]="carouselItems" size="lg"> </aava-carousel>
```

```
carouselItems: CarouselItem[] = [ { id: '1', imageUrl: 'assets/center.jpg', imageAlt: 'Image 1', routeUrl: '' }, { id: '2', imageUrl: 'assets/right-1.jpg', imageAlt: 'Image 2', routeUrl: '' }, { id: '3', imageUrl: 'assets/right-2.jpg', imageAlt: 'Image 3', routeUrl: '' }, { id: '4', imageUrl: 'assets/left-2.jpg', imageAlt: 'Image 4', routeUrl: '' }, { id: '5', imageUrl: 'assets/left-1.jpg', imageAlt: 'Image 5', routeUrl: '' }, ];
```

```

routeUrl: '',    },  ];

```

```

carouselItems: CarouselItem[] = [    {    id: '1',      imageUrl: 'assets/center.jpg',      imageAlt: 'Image
1',      routeUrl: '',    },    {    id: '2',      imageUrl: 'assets/right-1.jpg',      imageAlt: 'Image 2',
routeUrl: '',    },    {    id: '3',      imageUrl: 'assets/right-2.jpg',      imageAlt: 'Image 3',
routeUrl: '',    },    {    id: '4',      imageUrl: 'assets/left-2.jpg',      imageAlt: 'Image 4',
routeUrl: '',    },    {    id: '5',      imageUrl: 'assets/left-1.jpg',      imageAlt: 'Image 5',
routeUrl: '',    },  ];

```

Available Sizes

Carousels come in four size variants to fit different interface needs. The size affects the card dimensions and spacing. Use smaller sizes for compact layouts and larger sizes for prominent sections.

- xs (Extra Small)- Extra compact size for very dense interfaces
- sm (Small)- Compact size for dense interfaces
- md (Medium)- Standard size for most use cases (default)
- lg (Large)- Prominent size for primary actions

Autoplay

```
<aava-carousel [items]="carouselItems" [autoplay]="true"> </aava-carousel>
```

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```

```

carouselItems: CarouselItem[] = [    {    id: '1',      imageUrl: 'assets/center.jpg',      imageAlt: 'Image
1',      routeUrl: '',    },    {    id: '2',      imageUrl: 'assets/right-1.jpg',      imageAlt: 'Image 2',
routeUrl: '',    },    {    id: '3',      imageUrl: 'assets/right-2.jpg',      imageAlt: 'Image 3',
routeUrl: '',    },    {    id: '4',      imageUrl: 'assets/left-2.jpg',      imageAlt: 'Image 4',
routeUrl: '',    },    {    id: '5',      imageUrl: 'assets/left-1.jpg',      imageAlt: 'Image 5',
routeUrl: '',    },  ];

```

```

carouselItems: CarouselItem[] = [    {    id: '1',      imageUrl: 'assets/center.jpg',      imageAlt: 'Image
1',      routeUrl: '',    },    {    id: '2',      imageUrl: 'assets/right-1.jpg',      imageAlt: 'Image 2',
routeUrl: '',    },    {    id: '3',      imageUrl: 'assets/right-2.jpg',      imageAlt: 'Image 3',
routeUrl: '',    },    {    id: '4',      imageUrl: 'assets/left-2.jpg',      imageAlt: 'Image 4',
routeUrl: '',    },    {    id: '5',      imageUrl: 'assets/left-1.jpg',      imageAlt: 'Image 5',
routeUrl: '',    },  ];

```

The autoplay feature automatically transitions slides at the specified interval. It's ideal for galleries or highlight sections where user interaction may be minimal.

With Titles

```
<aava-carousel [items]="carouselItemsWithTitles"> </aava-carousel>
```

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```

carouselItemsWithTitles: CarouselItem[] = [    {    id: '1',      imageUrl: 'assets/center.jpg',      imageAlt:
'Image 1',      title: 'Image-1',    },    {    id: '2',      imageUrl: 'assets/right-1.jpg',      imageAlt:
'Image 2',      title: 'Image-2',    },    {    id: '3',      imageUrl: 'assets/right-2.jpg',      imageAlt:
'Image 3',      title: 'Image-3',    },    {    id: '4',      imageUrl: 'assets/left-2.jpg',      imageAlt:
'Image 4',      title: 'Image-4',    },    {    id: '5',      imageUrl: 'assets/left-1.jpg',      imageAlt:
'Image 5',      title: 'Image-5',    },  ];

```

```

carouselItemsWithTitles: CarouselItem[] = [    {    id: '1',      imageUrl: 'assets/center.jpg',      imageAlt:
'Image 1',      title: 'Image-1',    },    {    id: '2',      imageUrl: 'assets/right-1.jpg',      imageAlt:
'Image 2',      title: 'Image-2',    },    {    id: '3',      imageUrl: 'assets/right-2.jpg',      imageAlt:
'Image 3',      title: 'Image-3',    },    {    id: '4',      imageUrl: 'assets/left-2.jpg',      imageAlt:
'Image 4',      title: 'Image-4',    },    {    id: '5',      imageUrl: 'assets/left-1.jpg',      imageAlt:
'Image 5',      title: 'Image-5',    },  ];

```

Carousels can also display item titles for additional context or labeling. This variant is useful when each slide represents a category, product, or feature that requires a clear textual description.

Carousel Features

- Touch & Swipe Support: Full mobile touch interaction with swipe gestures
- Mouse Navigation: Drag and drop functionality with wheel support
- Keyboard Access: Arrow keys, home, and end key navigation
- Visual Indicators: Navigation dots and arrow controls
- Size Variants: Four size options (xs, sm, md, lg) for different use cases
- Smart Positioning: Intelligent card stacking and positioning
- Accessibility: ARIA support and screen reader compatibility

Features

Touch & Gesture Support

The carousel provides comprehensive touch interaction:

- Swipe Navigation: Left/right swipe to navigate between items
- Touch Sensitivity: Configurable swipe threshold (default: 50px)
- Multi-touch Support: Handles single-finger gestures properly
- Passive Events: Optimized touch event handling for performance

Mouse & Keyboard Navigation

Multiple input methods for desktop users:

- Mouse Drag: Click and drag to navigate through items
- Wheel Support: Trackpad two-finger swipe support
- Keyboard Shortcuts: Arrow Left/Right: Navigate between items Home: Jump to first item End: Jump to last item
- Arrow Left/Right: Navigate between items
- Home: Jump to first item
- End: Jump to last item
- Focus Management: Proper focus trapping and restoration
- Arrow Left/Right: Navigate between items
- Home: Jump to first item
- End: Jump to last item

Arrow Left/Right

Home

End

Smart Card Positioning

Advanced positioning system for visual appeal:

- Stacked Layout: Cards are positioned in 3D space with depth
- Dynamic Scaling: Cards scale based on distance from center
- Optimal Visibility: Shows maximum number of cards without overlap
- Smooth Transitions: CSS transitions for fluid animations
- Responsive Behavior: Adapts positioning based on screen size

API Reference

Input Properties

Property	Type	Description
items	CarouselItem[]	Array of carousel items to display
activeIndex	number	Initial active item index
size	'lg' 'md' 'sm' 'xs' 'md'	Size variant for the carousel
customStyles	Record	Inline CSS custom properties to override defaults
autoplay	boolean	Enables automatic slide transition
autoplayInterval	number	Interval duration (in ms) for autoplay transitions

items

CarouselItem[]

[]

activeIndex

number

0

size

'lg' | 'md' | 'sm' | 'xs'

'md'

customStyles

Record<string, string>

{}

autoplay

boolean

false

autoplayInterval

number

2000

Output Events

Event	Type	Description
itemChange	EventEmitter<{ item: CarouselItem; index: number }>	Emitted whenever the active item changes

itemChange

```
EventEmitter<{ item: CarouselItem; index: number }>
```

Methods

```
goToPrevious(): void
goToNext(): void
goToSlide(index: number): void
toggleAutoplay(): void
startAutoplay(): void
stopAutoplay(): void
```

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goToPrevious(): void
goToNext(): void
goToSlide(index: number): void
toggleAutoplay(): void
startAutoplay(): void
stopAutoplay(): void
```

- `goToPrevious()`— Move to the previous carousel item.
- `goToNext()`— Move to the next carousel item.
- `goToSlide(index)`— Jump directly to a specific slide.
- `toggleAutoplay()`— Toggles autoplay on or off.
- `startAutoplay()`— Starts autoplay manually.
- `stopAutoplay()`— Stops autoplay manually.

CSS Custom Properties

```
Variable | Description
--carousel-in-duration | Duration for carousel entrance animation
--carousel-out-duration | Duration for carousel exit animation
--carousel-container-width | Width of the carousel container
--carousel-container-display | Display property for the carousel container
--carousel-container-flex-direction | Flex direction of the carousel layout
--carousel-container-align-items | Alignment of items inside the container
--carousel-viewport-height-xs | Viewport height for extra small screens
--carousel-viewport-height-sm | Viewport height for small screens
--carousel-viewport-height-md | Viewport height for medium screens
--carousel-viewport-height-lg | Viewport height for large screens
--carousel-radius-xs | Border radius for extra small size
--carousel-radius-sm | Border radius for small size
--carousel-radius-md | Border radius for medium size
--carousel-radius-lg | Border radius for large size
--carousel-image-radius | Border radius for carousel images
--carousel-bg | Background color of the carousel
--carousel-shadow | Default shadow styling for carousel cards
--carousel-shadow-hover | Shadow styling on hover
--carousel-transition-duration | Transition duration for carousel animations
--carousel-transition-timing | Timing function for transitions
--carousel-shadow-transition | Transition property for shadow changes
--carousel-z-center | Z-index for the center card
--carousel-z-side-1 | Z-index for first side cards
--carousel-z-side-2 | Z-index for second side cards
--carousel-z-hidden | Z-index for hidden cards
--carousel-opacity-center | Opacity for center card
--carousel-opacity-side-1 | Opacity for first side cards
--carousel-opacity-side-2 | Opacity for second side cards
--carousel-opacity-hidden | Opacity for hidden cards
--carousel-scale-center | Scale for center card
--carousel-scale-side-1 | Scale for first side cards
--carousel-scale-side-2 | Scale for second side cards
--carousel-scale-hidden | Scale for hidden cards
--carousel-center-width-md | Width of the center card for medium screens
--carousel-center-height-md | Height of the center card for medium screens
--carousel-side-1-translate-md | Translate distance for first side cards (medium)
--carousel-side-2-translate-md | Translate distance for second side cards (medium)
--carousel-controls-margin-top | Top margin for carousel controls
--carousel-controls-gap | Gap between carousel controls
--carousel-indicators-gap | Gap between carousel indicators
--carousel-indicator-size | Size of the indicator dot
--carousel-indicator-active-size | Size of the active indicator
--carousel-indicator-color | Default indicator color
--carousel-indicator-active-color | Color of the active indicator
--carousel-indicator-border-radius | Border radius for indicator dots
--carousel-icon-color | Color of navigation icons
--carousel-icon-size | Size of navigation icons
--carousel-icon-transition | Transition for icon color changes

--carousel-in-duration
```

--carousel-out-duration
--carousel-container-width
--carousel-container-display
--carousel-container-flex-direction
--carousel-container-align-items
--carousel-viewport-height-xs
--carousel-viewport-height-sm
--carousel-viewport-height-md
--carousel-viewport-height-lg
--carousel-radius-xs
--carousel-radius-sm
--carousel-radius-md
--carousel-radius-lg
--carousel-image-radius
--carousel-bg
--carousel-shadow
--carousel-shadow-hover
--carousel-transition-duration
--carousel-transition-timing
--carousel-shadow-transition
--carousel-z-center
--carousel-z-side-1
--carousel-z-side-2
--carousel-z-hidden
--carousel-opacity-center
--carousel-opacity-side-1

```
--carousel-opacity-side-2
```

```
--carousel-opacity-hidden
```

```
--carousel-scale-center
```

```
--carousel-scale-side-1
```

```
--carousel-scale-side-2
```

```
--carousel-scale-hidden
```

```
--carousel-center-width-md
```

```
--carousel-center-height-md
```

```
--carousel-side-1-translate-md
```

```
--carousel-side-2-translate-md
```

```
--carousel-controls-margin-top
```

```
--carousel-controls-gap
```

```
--carousel-indicators-gap
```

```
--carousel-indicator-size
```

```
--carousel-indicator-active-size
```

```
--carousel-indicator-color
```

```
--carousel-indicator-active-color
```

```
--carousel-indicator-border-radius
```

```
--carousel-icon-color
```

```
--carousel-icon-size
```

```
--carousel-icon-transition
```

Best Practices

Content Organization

- Image Quality: Use appropriately sized images for each carousel size
- Alt Text: Always provide descriptive alt text for accessibility
- Item Count: Limit to 5-10 items for optimal performance
- Consistent Sizing: Use images with similar aspect ratios

User Experience

- Touch Targets: Ensure navigation elements are large enough for touch
- Visual Feedback: Provide clear indication of current active item
- Loading States: Handle image loading gracefully
- Error Handling: Provide fallbacks for failed image loads

Performance

- Image Optimization: Use compressed images and appropriate formats
- Lazy Loading: Consider implementing lazy loading for large galleries
- Change Detection: Component uses OnPush strategy for optimal performance
- Memory Management: Proper cleanup of event listeners

Accessibility

- Keyboard Navigation: Ensure all functionality is keyboard accessible
- Screen Readers: Provide meaningful alt text and ARIA labels
- Focus Management: Maintain proper focus order and visibility
- High Contrast: Ensure sufficient contrast for all text and controls