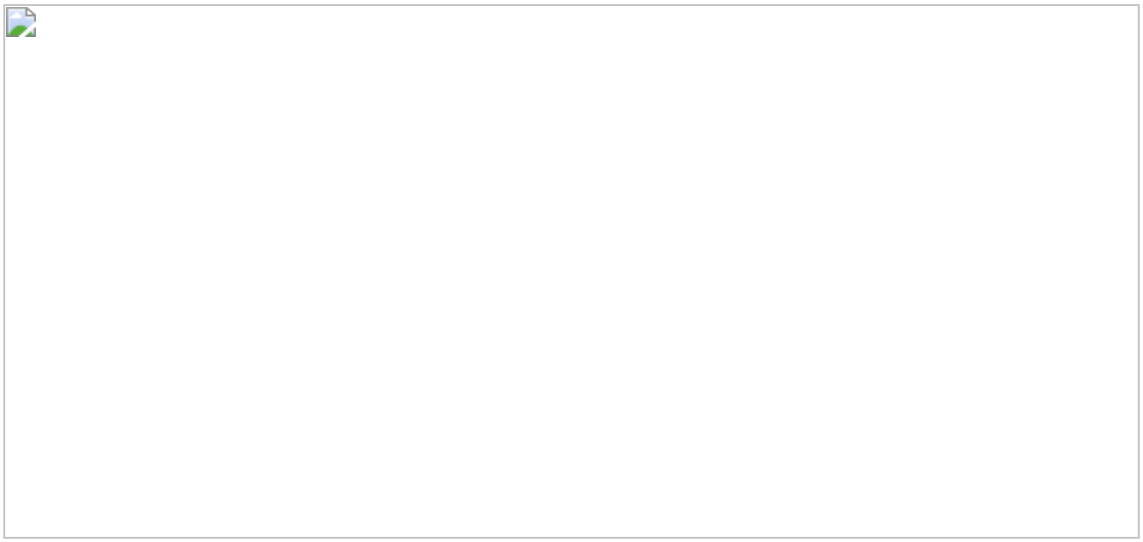
This section explains the `BlockingObservable` subclass. A Blocking Observable extends the ordinary Observable class by providing a set of operators on the items emitted by the Observable that block.

To transform an `Observable` into a `BlockingObservable`, use the `Observable.toBlocking()` method or the `BlockingObservable.from()` method.

- **`forEach()`** — invoke a function on each item emitted by the Observable; block until the Observable completes
- **`first()`** — block until the Observable emits an item, then return the first item emitted by the Observable
- **`firstOrDefault()`** — block until the Observable emits an item or completes, then return the first item emitted by the Observable or a default item if the Observable did not emit an item
- **`last()`** — block until the Observable completes, then return the last item emitted by the Observable
- **`lastOrDefault()`** — block until the Observable completes, then return the last item emitted by the Observable or a default item if there is no last item
- **`mostRecent()`** — returns an iterable that always returns the item most recently emitted by the Observable
- **`next()`** — returns an iterable that blocks until the Observable emits another item, then returns that item
- **`latest()`** — returns an iterable that blocks until or unless the Observable emits an item that has not been returned by the iterable, then returns that item
- **`single()`** — if the Observable completes after emitting a single item, return that item, otherwise throw an exception
- **`singleOrDefault()`** — if the Observable completes after emitting a single item, return that item, otherwise return a default item
- **`toFuture()`** — convert the Observable into a Future
- **`toIterable()`** — convert the sequence emitted by the Observable into an Iterable
- **`getIterator()`** — convert the sequence emitted by the Observable into an Iterator

> *This documentation accompanies its explanations with a modified form of "marble diagrams." Here is how these marble diagrams represent Blocking Observables:*



see also:

- javadoc: `BlockingObservable`
- javadoc: `toBlocking()`
- javadoc: `BlockingObservable.from()`

Appendix: similar blocking and non-blocking operators

operator	result when it acts on			equivalent in Rx.NET
	Observable that emits	Observable that emits	Observable that emits no items	

	multiple items	one item		
`Observable.first`	the first item	the single item	*NoSuchElement*	`firstAsync`
`BlockingObservable.first`	the first item	the single item	*NoSuchElement*	`first`
`Observable.firstOrDefault`	the first item	the single item	the default item	`firstOrDefaultAsync`
`BlockingObservable.firstOrDefault`	the first item	the single item	the default item	`firstOrDefault`
`Observable.last`	the last item	the single item	*NoSuchElement*	`lastAsync`
`BlockingObservable.last`	the last item	the single item	*NoSuchElement*	`last`
`Observable.lastOrDefault`	the last item	the single item	the default item	`lastOrDefaultAsync`
`BlockingObservable.lastOrDefault`	the last item	the single item	the default item	`lastOrDefault`
`Observable.single`	*Illegal Argument*	the single item	*NoSuchElement*	`singleAsync`
`BlockingObservable.single`	*Illegal Argument*	the single item	*NoSuchElement*	`single`
`Observable.singleOrDefault`	*Illegal Argument*	the single item	the default item	`singleOrDefaultAsync`
`BlockingObservable.singleOrDefault`	*Illegal Argument*	the single item	the default item	`singleOrDefault`