

ECMA-402

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[@makoto_kato](#)

ECMA-402 ?

ECMAScript Internationalization API

- Intl.DateTimeFormat
- Intl.NumberFormat
- Intl.Collator
- Number.prototype.toLocaleString
- String.prototype.localeCompare
- etc...

Editors for ECMA-402

1st Edition ... Norbert Lindenberg

2nd Edition ... Rick Waldron (jQuery)

3rd Edition ... Caridy Patiño (ex-Yahoo)

Intl.DateTimeFormat

```
Intl.DateTimeFormat("en-US", { year: 'numeric', month: 'long' }).format(new Date())
```

→ January 2017

```
Intl.DateTimeFormat("zh-TW", { hour: 'numeric', minute: 'numeric' }).format(new Date())
```

→ 下午10:47

```
Intl.DateTimeFormat("ja-JP-u-ca-japanese", { era: 'long' }).format(new Date())
```

→ 平成29年1月15日

Intl.NumberFormat

```
Intl.NumberFormat("de", { style: 'currency', currency: 'EUR' }).format(10000);
```

→ 10.000,00 €

```
Intl.NumberFormat("ja-JP", { style: 'currency', currency: 'JPY' }).format(10000);
```

→ ¥ 10,000

```
Intl.NumberFormat("en", { style: 'percent' }).format(0.5);
```

→ 50%

Intl.Collator

`Intl.Collator('de').compare('ä', 'z')`

→ -1

`Intl.Collator('sv').compare('ä', 'z')`

→ 1

`Intl.Collator('en', { sensitivity: "base" }).compare('a', 'A')`

→ 0

Implementation backend for ECMA-420 feature


Chakra (Edge)

Windows API (Windows version only)

V8 (Blink) / SpiderMonkey (Gecko) / JavaScriptCore (WebKit)

ICU (International Components for Unicode) library

ECMA-402 Next

	Proposal	Champion	Stage	Notes
	Intl.DateTimeFormat.prototype.formatToParts	Zibi Braniecki	4	
	Intl.NumberFormat.prototype.formatToParts	Zibi Braniecki	3	
	Intl.PluralRules	Caridy Patiño, Eric Ferraiuolo	3	
	Exposing Abstract Operations & Locale Info	Zibi Braniecki	2	
	Intl.ListFormat	Zibi Braniecki	1	
	Intl.DurationFormat	Zibi Braniecki	1	
	Intl.UnitFormat	Zibi Braniecki	1	
	Intl.RelativeTimeFormat	Caridy Patiño, Eric Ferraiuolo	1	
	Fix 9.2.3 LookupMatcher algorithm	Rafael Xavier	0	
	Intl.NumberFormat round option	Rafael Xavier	0	

Intl.DateTimeFormat.prototype.formatToParts

```
format = new Intl.DateTimeFormat("ja-JP", { hour: 'numeric', minute: 'numeric' });
```

```
format.format(new Date())
```

→ 17:01

```
format.formatToParts(new Date())
```

→ [{type:"hour", value:"17"}, {type:"literal", value:":"}, {type:"minute", value:"12"}]

Intl.NumberFormat.prototype.formatToParts

```
format = new Intl.NumberFormat("ja-JP", { style: 'currency', currency: 'JPY' });
```

```
format.format(10000)
```

→ ¥ 10,000

```
format.formatToParts(10000)
```

→ [{type:"currency", value:" ¥ "}, {type:"integer", value:"10"}, {type:"group", value:","}, {type:"integer", value:"000"}]

Intl.PluralRules

Implementation of UTS #35

- Unicode Locale Data Markup Language (LDML) Part 3: Numbers
 - Section 5 Language Plural Rules

Intl.PluralRules

```
Intl.PluralRules("en-US").select(1)
```

→ “one”

```
Intl.PluralRules("en-US").select(2)
```

→ “other”

```
Intl.PluralRules("en-US", { type: "ordinal" }).select(2) /* 1st, 2nd ... */
```

→ “two”

Engine support

- Intl.DateTimeFormat.prototype.formatToParts
 - V8 and SpiderMonkey are supported
- Intl.NumberFormat.prototype.formatToParts
 - SpiderMonkey is supported with “**newGlobal({ experimentalNumberFormatFormatToPartsEnabled: true }).Intl**” on js shell only
- Intl.PluralRules
 - SpiderMonekey is supported with “**addIntlExtras(Intl)**” on js shell only

References

- ECMAScript Internationalization API Specification
 - <https://www.ecma-international.org/publications/standards/Ecma-402.htm>
- Status, process, and documents for ECMA 402
 - <https://github.com/tc39/ecma402/>
- Mozilla Developer Network - Intl
 - https://developer.mozilla.org/docs/Web/JavaScript/Reference/Global_Objects/Intl
- ICU - International Components for Unicode ICU - International Components for Unicode
 - <http://site.icu-project.org/>