

Angular Ivy geek-out



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Dev @ NativeScript

Angular integration

Code-sharing with web

Performance stuff

Webpack builds

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Disclaimer:
Ivy is not finished yet!

Angular 2 Renderer

Angular 4 View Engine

Ivy

```
(function anonymous(jit_StaticNodeDebugInfo0,jit_createRenderComponentType1,  
    jit_22,jit_DebugAppView3,jit_14,jit_CD_INIT_VALUES,  
    jit_createRenderElement6,jit__object_Object_7,jit_inlineInterpolate8,jit_checkBinding9  
) {  
    var styles_App = [];  
    var nodeDebugInfos_App0 = [  
        new jit_StaticNodeDebugInfo0([],null,{}),  
        new jit_StaticNodeDebugInfo0([],null,{}),  
        new jit_StaticNodeDebugInfo0([],null,{}),  
        new jit_StaticNodeDebugInfo0([],null,{}),  
        new jit_StaticNodeDebugInfo0([],null,{}),  
        new jit_StaticNodeDebugInfo0([],null,{}),  
        new jit_StaticNodeDebugInfo0([],null,{})  
    ]  
    ;  
    var renderType_App = jit_createRenderComponentType1('./App class App - inline template',0,jit_22,styles_App,{});  
    function View_App0(viewUtils,parentView,parentIndex,parentElement) {  
        var self = this;  
        jit_DebugAppView3.call(this, View_App0,renderType_App,jit_14,viewUtils,  
            parentView,parentIndex,parentElement,jit_22,nodeDebugInfos_App0);  
        self._expr_7 = jit_CD_INIT_VALUES;  
    }  
    View_App0.prototype = Object.create(jit_DebugAppView3.prototype);  
    View_App0.prototype.createInternal = function(rootSelector) {  
        var self = this;  
        var parentRenderNode = self.rendererer.createViewRoot(self.parentElement);  
        self._text_0 = self.rendererer.createText(parentRenderNode,'\n ',self.debug(0,0,0));  
        self._el_1 = jit_createRenderElement6(self.rendererer,parentRenderNode,'div',jit__object_Object_7,self.debug(1,1,4));  
        self._text_2 = self.rendererer.createText(self._el_1,'\n ',self.debug(2,1,9));  
        self._el_3 = jit_createRenderElement6(self.rendererer,self._el_1,'h2',jit__object_Object_7,self.debug(3,2,6));  
        self._text_4 = self.rendererer.createText(self._el_3','',self.debug(4,2,10));  
        self._text_5 = self.rendererer.createText(self._el_1,'\n ',self.debug(5,2,29));  
        self._text_6 = self.rendererer.createText(parentRenderNode,'\n ',self.debug(6,3,10));  
        self.init(null,(self.rendererer.directRenderer? null: [  
            self._text_0,  
            self._el_1,  
            self._text_2,  
            self._el_3,  
            self._text_4,  
            self._text_5,  
            self._text_6  
        ],null));  
        return null;  
    };  
    View_App0.prototype.detectChangesInternal = function(throwOnChange) {  
        var self = this;  
        self.debug(4,2,10);  
        var currVal_7 = jit_inlineInterpolate8(1,'Hello ',self.context.name,'');  
        if (jit_checkBinding9(throwOnChange,self._expr_7,currVal_7)) {  
            self.rendererer.setText(self._text_4,currVal_7);  
            self._expr_7 = currVal_7;  
        }  
    };  
    return View_App0  
}  
})
```

```
(function anonymous(jit_createRendererType2_0,jit_viewDef_1,jit_textDef_2,jit_elementDef_3) {
  var styles_App = [];
  var RenderType_App = jit_createRendererType2_0({encapsulation:2,styles:styles_App,
    data:{}});
  function View_App_0(_l) {
    return jit_viewDef_1(0,[
      (1)(),jit_textDef_2(-1,null,['\n '])),
      (1)(),jit_elementDef_3(1,0,null,null,4,'div',[],null,null,null,null,null)),
      (1)(),jit_textDef_2(-1,null,['\n '])),
      (1)(),jit_elementDef_3(3,0,null,null,1,'h2',[],null,null,null,null,null)),
      (1)(),jit_textDef_2(4,null,['Hello ', '])),
      (1)(),jit_textDef_2(-1,null,['\n '])),
      (1)(),jit_textDef_2(-1,null,['\n ']))
    ],
    null,
    function(_ck, _v) {
      var _co = _v.component;
      var currVal_0 = _co.name;
      _ck(_v,4,0,currVal_0);
    });
  }
  return {RenderType_App:RenderType_App,View_App_0:View_App_0};
})
```

```
(function anonymous(i0) {
  var App = (function () {
    function App() {}
    App.ngComponentDef = i0.ɵdefineComponent({
      type: App,
      selectors: [['my-app']],
      factory: function App_Factory() {
        return new App();
      },
      template: function App_Template(ctx, cm) {
        if (cm) {
          i0.ɵE(0, 'div');
          i0.ɵE(1, 'h2');
          i0.ɵT(2);
          i0.ɵe();
          i0.ɵe();
        }
        i0.ɵt(2, i0.ɵil('Hello ', ctx.name, ''));
      }
    });
    return App;
  })();
  i0.ɵrenderComponent(App);
})
```

Locality

Tree-shaking

Debugging

Locality

Tree-shaking

Debugging

Global analysis

~~Global analysis~~

Local data only

~~Global analysis~~

Local data only

=> faster incremental builds

~~Global analysis~~

Local data only

=> faster incremental builds

=> no **metadata.json** files

~~Global analysis~~

Local data only

=> faster incremental builds

=> no **metadata.json** files

=> Ship compiled libraries

Locality

Tree-shaking

Debugging

Eliminating unused code

```
// first.ts
```

```
export const foo = 15;
```

```
export const bar = 30;
```

```
// second.ts
```

```
import { foo } from "../first";
```

```
console.log(foo);
```

Eliminating unused code

```
// first.ts
```

```
export const foo = 15;
```

```
export const bar = 30;
```

```
// second.ts
```

```
import { foo } from "../first";
```

```
console.log(foo);
```


Doesn't execute
the code!

Doesn't execute
the code!

```
// first.ts
```

```
export const foo = 15;
```

```
// second.ts
```

```
import { foo } from "./first";
```

```
const condition = false;
```

```
if (condition) {
```

```
    console.log(foo);
```

```
}
```

Tree-shakeable components:

Dependency injection

Internationalization

Animations

Queries

+ more

> 5.OKB

'Hello World' app

> 5.0KB
'Hello World' app

So what?

Angular elements

Locality

Tree-shaking

Debugging

Let's summon
some demons!

Epilogue...

I saved the best
for last...

I saved the best
for last...

Ivy is backwards-
compatible!

Play with it!

```
> ng new myIvy --experimentalIvy=true  
> cd myIvy  
> ng serve --aot
```