



Mobile User Experience Monitoring
Hybrid Apps – Capacitor (Manual)

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Environment

Capacitor CLI	2x
Capacitor/android	2x
Capacitor/core	2x
Capacitor/iOS	2x
NodeJS	v10x
NPM	6x
OS	Windows 10/ iOS

Steps for Bundling eG Mobile Agent with Application

The following steps are required to bundle the 'eG Mobile Agent' into Hybrid apps(Capacitor) to activate user experience monitoring. Capacitor apps monitored using following components.

1. eGCapacitor Plugin
2. eGJS Agent.

The above components need to be installed on the apps to activate mobile user experience.

How to Install eG Capacitor Agent for Ionic Angular Applications - Android

- a. Add 'eG-Hybrid' Apps Component into eG Manager Console.
- b. Open the plugin path in command prompt and run the below code

```
npm install  
npm run build
```

- c. Run the below commands from command prompt from application's root folder to install eG Agent capacitor plugin into the application. <PATH> - Ex: (E:\Hybrid_Capacitor_Agent\@eg...)

```
npm i <PATH>\@eginnovations\eginnovations-capacitor-plugin  
ionic cap sync
```

- d. Open the application in android studio or any IDE and open the MainActivity.java Add the below import statements

```
import com.eginnovations.capacitor.plugin.eGCapacitorPlugin;
import com.eg.agent.android.eGAndroidAgent;
import com.eg.agent.android.AppPlatform;
```

In the same file, inside **onCreate** method, add the below bolded lines and replace the app token and URL values that are obtained from add component page.

```
eGAndroidAgent.withCollectorHost("<APP_TOKEN>", "URL").start(getApplicationContext());
eGAndroidAgent.setAppliactionPlatform(AppPlatform.Capacitor);

// Initializes the Bridge
this.init(savedInstanceState, new ArrayList<Class<? extends Plugin>>() {{
    // Additional plugins you've installed go here
    // Ex: add(TotallyAwesomePlugin.class);
    add(eGCapacitorPlugin.class);
}}});
```

- e. Open build.gradle under android folder and add the below lines at the end of file.

```
buildscript {
    repositories {
        flatDir {
            dirs '../node_modules/@eginnovations/eginnovations-capacitor-plugin/eg-agent'
        }
    }
    dependencies {
        classpath fileTree(include: ['*.jar'], dir: '../node_modules/@eginnovations/eginnovations-capacitor-plugin/eg-agent')
    }
}
```

- f. Open build.gradle under app folder which is under android folder and add the below lines at the end of file.

```
repositories {
    flatDir {
        dirs '../..node_modules/@eginnovations/eginnovations-capacitor-plugin/eg-agent'
    }
}
apply plugin: 'eg'
dependencies {
    implementation fileTree(dir: '../..node_modules/@eginnovations/eginnovations-capacitor-plugin/eg-agent' ,
include: ['*.jar'])
}
```

- g. Open gradle.properties under android folder and add the below lines at the end of file.

```
android.jetifier.blacklist=rewriter-agent-2.0.0.jar
```

- h. In AndroidManifest.xml add **android:usesCleartextTraffic="true"** in application tag. Sample below

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="io.ionic.starter">

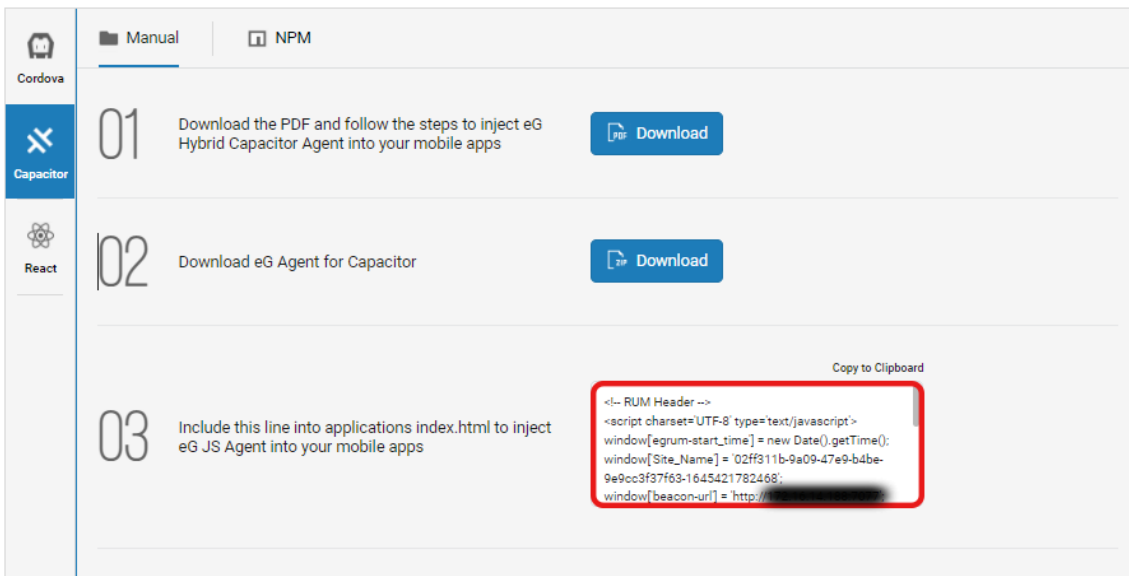
    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme"
        android:usesCleartextTraffic="true">
...

```

- i. In angular.json under the application root folder, include below lines under assets

```
"assets": [
  {
    "glob": "**/*.svg",
    "input": "node_modules/ionicons/dist/ionicons/svg",
    "output": "./svg"
  },
  {
    "glob": "**/egmobilerum.js",
    "input": "node_modules/@eginnovations/eginnovations-capacitor-plugin/src",
    "output": "."
  }
],
```

- j. Open index.html under applications src folder and add the below lines. Replace the app token and URL with the values from component page



01 Download the PDF and follow the steps to inject eG Hybrid Capacitor Agent into your mobile apps [Download](#)

02 Download eG Agent for Capacitor [Download](#)

03 Include this line into applications index.html to inject eG JS Agent into your mobile apps [Copy to Clipboard](#)

```
<!-- RUM Header -->
<script charset="UTF-8" type="text/javascript">
window[egrum-start_time] = new Date().getTime();
window[Site_Name] = '02ff311b-9a09-47e9-b4be-
9e9cc3f37f63-1645421782468';
window[beacon-url] = 'http://'
```

Build and run the angular android application

Clean the project and Build the application. After successful build, run the application in an emulator or mobile device and login to eG manager application to start seeing data.

Use the below commands to build and copy the source files to android

How to Install eG Capacitor Agent for Ionic React Applications – Android

- a. Add 'eG-Hybrid' Apps Component into eG Manager Console.
- b. Open capacitor.config.json and change bundledWebRuntime to true and webDir to "public" (The directory name where index.html is present)

```
{  
  "bundledWebRuntime": true,  
  "webDir": "public"  
}
```

- c. Open the plugin path in command prompt and run the below code

```
npm install  
npm run build
```

- d. Run the below commands from command prompt from application's root folder to install eG Agent capacitor plugin into the application. <PATH> - Ex: (E:\Hybrid_Capacitor_Agent\@eg...)

```
npm i <PATH>/@eginnovations/eginnovations-capacitor-plugin  
ionic cap sync
```

- e. Open the application in android studio or any IDE and open the MainActivity.java Add the below import statements

```
import com.eginnovations.capacitor.plugin.eGCapacitorPlugin;  
import com.eg.agent.android.eGAndroidAgent;  
import com.eg.agent.android.AppPlatform;
```

In the same file, inside onCreate method, add the below bolded lines and replace the app token and URL values that are obtained from add component page.

```
eGAndroidAgent.withCollectorHost("<APP_TOKEN>", "URL").start(getApplicationContext());  
eGAndroidAgent.setAppliacionPlatform(AppPlatform.Capacitor);  
  
// Initializes the Bridge  
this.init(savedInstanceState, new ArrayList<Class<? extends Plugin>>() {{  
    // Additional plugins you've installed go here  
    // Ex: add(TotallyAwesomePlugin.class);  
    add(eGCapacitorPlugin.class);  
}});
```

- f. Open build.gradle under android folder and add the below lines at the end of file.

```
buildscript {
    repositories {
        flatDir {
            dirs '../node_modules/@eginnovations/eginnovations-capacitor-plugin/eg-agent'
        }
    }
    dependencies {
        classpath fileTree(include: ['*.jar'], dir: '../node_modules/@eginnovations/eginnovations-capacitor-plugin/eg-agent')
    }
}
```

- g. Open build.gradle under app folder which is under android folder and add the below lines at the end of file.

```
repositories {
    flatDir {
        dirs '../..node_modules/@eginnovations/eginnovations-capacitor-plugin/eg-agent'
    }
}
apply plugin: 'eg'
dependencies {
    implementation fileTree(dir: '../..node_modules/@eginnovations/eginnovations-capacitor-plugin/eg-agent' ,
include: ['*.jar'])
}
```

- h. Open gradle.properties under android folder and add the below lines at the end of file.

```
android.jetifier.blacklist=rewriter-agent-2.0.0.jar
```

- i. In AndroidManifest.xml add **android:usesCleartextTraffic="true"** in application tag. Sample below

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="io.ionic.starter">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/AppTheme"
        android:usesCleartextTraffic="true">
        ...
```

- j. Copy egmobilerum_react.js from node_modules\@eginnovations\eginnovations-capacitor-plugin\src to public folder (where index.html is located).

- k. Open index.html under applications src folder and add the below lines. Replace the app token and URL with the values from component page.

```
<!-- RUM Header -->

<script src="capacitor.js"></script>
<script charset='UTF-8' type='text/javascript'>
window['egrum-start_time'] = new Date().getTime();
window['Site_Name'] = '<APP_TOKEN>';
window['beacon-url'] = '<COLLECTOR_URL>';
if(!window['egrum-config']) window['egrum-config'] = {}; (function (config) {config.capture = { jsError:true,
resourceDetails:true, ajax:true, ajaxCorrelation:false, fetch:true, spa:true, overwriteBtmUName:true,
excludeURLPattern:'none', ajaxExcludeURLPattern:'none', includeURLPattern:'*'}; config.username = {
username_enabled:true, selectortype:'xpath', selectoridorphpath:'/html/body/div/h1/p',
selectorindex:1;}})(window['egrum-config']);
</script>
<script id="egrum" src='egmobilerum_react.js' async > </script>

<!-- RUM Header -->
```

Build and run the android react application

Clean the project and Build the application. After successful build, run the application in an emulator or mobile device and login to eG manager application to start seeing data.

Use the below commands to build and copy the source files to android

```
ionic capacitor build android
```

How to Install eG Capacitor Agent for Angular Applications – iOS

- a. Add 'eG-Hybrid' Apps Component into eG Manager Console.
- b. Run the below commands from command prompt from application's root folder to install eG Agent capacitor plugin into the application.

```
npm i <PATH>/@eginnovations/eginnovations-capacitor-plugin
npx cap sync
ionic build
```

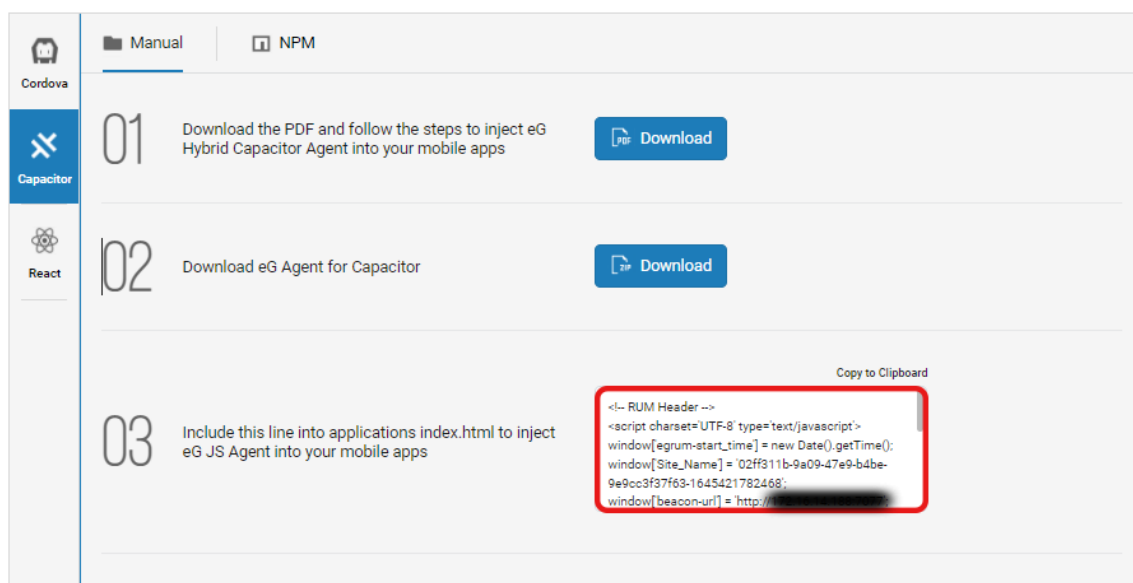
- c. Open the application in Xcode and open the AppDelegate.Swift Add the belowimport statements

```
import eGMobileAPM
```


In the same file, inside `didFinishLaunchingWithOptions` method, add the below bolded lines and replace the app token and URL values that are obtained from add component page.

```
egAPM.sharedInstance().start(appToken:"APP_TOKEN", collectorHost:"URL")
```

- d. Open `index.html` under `applications src` folder and add the below lines. Replace the app token and URL with the values from component page.



- e. In `angular.json` under the application root folder, include below lines under `assets`

```
"assets": [
{
"glob": "**/*.svg",
"input": "node_modules/ionicons/dist/ionicons/svg",
"output": "./svg"
},
{
"glob": "**/egmobilerum.js",
"input": "node_modules/eginnovations-capacitor-plugin/src",
"output": "./"
}
],
```

Build and run the angular iOS application

Clean the project and Build the application. After successful build, run the application in simulator or mobile device and login to eG manager application to start seeing data.

Use the below commands to build and copy the source files to iOS

```
ionic build  
npx cap sync ios
```

How to Install eG Capacitor Agent for React Applications – iOS

- a. Add 'eG-Hybrid' Apps Component into eG Manager Console.
- b. Open capacitor.config.json and change bundledWebRuntime to true and webDir to "public" (The directory name where index.html is present)

```
{  
  "bundledWebRuntime": true,  
  "webDir": "public"  
}
```

- c. Run the below commands from command prompt from application's root folder to install eG Agent capacitor plugin into the application.

```
npm i <PATH>/@eginnovations/eginnovations-capacitor-plugin  
ionic build  
npx cap copy web  
npx cap sync
```

- d. Copy egmobilerum_react.js from node_modules\@eginnovations\eginnovations-capacitor-plugin\src to public folder (where index.html is located).
- e. Open the application in Xcode and open the AppDelegate.swift Add the belowimport statements

In the same file, inside didFinishLaunchingWithOptions method, add the below bolded lines and replace the app token and URL values that are obtained from add component page.

```
egAPM.sharedInstance().start(appToken:"APP_TOKEN", collectorHost:"URL")
```

- f. Open index.html under applications src folder and add the below lines.
Replace the apptoken and URL with the values from component page.

```
<!-- RUM Header -->
<script src="capacitor.js"></script>
<script charset='UTF-8' type='text/javascript'> window['egrum-start_time'] = new Date().getTime();
window['Site_Name'] = <APP_TOKEN>; window['beacon-url'] = <COLLECTOR_URL>;
if(!window['egrum-config']) window['egrum-config'] = {}; (function (config) {config.capture =
{ jsError:true, resourceDetails:true, ajax:true, ajaxCorrelation:false, fetch:true, spa:true,
overwriteBtmUName:true, excludeURLPattern:'none', ajaxExcludeURLPattern:'none', includeURLPattern:'*'};
config.username ={ username_enabled:true, selectortype:'xpath', selectoridorpath:'/html/body/div/h1/p',
selectorindex:1;}})(window['egrum-config']);
</script>
<script id="egrum" src='egmobilerum_react.js' async > </script> <!-- RUM Header -->
```

Build and run the React iOS application

Clean the project and Build the application. After successful build, run the application in an simulator or mobile device and login to eG manager application to start seeing data.

Use the below commands to build and copy the source files to iOS.

```
ionic build
npx cap sync ios
```

Troubleshooting for JS Error in ionic angular applications for both android and iOS

Add the following code in app.module.ts file in the application.

Ref: <https://angular.io/api/core/ErrorHandler>

```
import { ErrorHandler } from '@angular/core';
declare var EGRUM: any;
@Injectable()
export class EGRUMErrorHandler implements ErrorHandler {
  handleError(err: any): void {
    EGRUM.onerror({
      message: err.message,
      filename: err.filename,
      lineNumber: err.lineNumber,
      columnNumber: err.columnNumber,
      stack: err.stack,
      meta: { type: "Internal Error." }
    });
  }
}
@NgModule({
  declarations: [AppComponent],
  entryComponents: [],
  imports: [BrowserModule, IonicModule.forRoot(), AppRoutingModule],
  providers: [
    {provide: ErrorHandler, useClass: EGRUMErrorHandler}
  ],
  bootstrap: [AppComponent]
})
```

