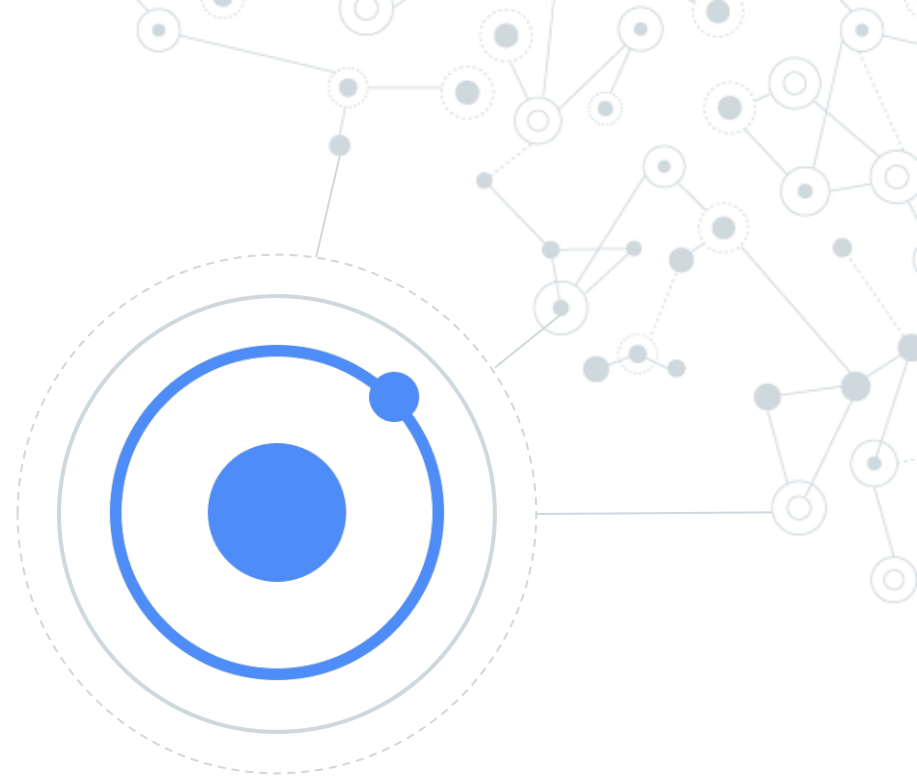


Ionic





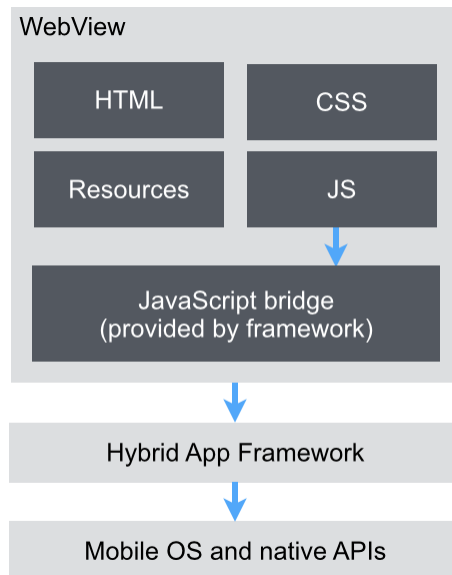
Programma

- Di cosa si tratta?
- Le tecnologie utilizzate
- Setup ambiente
- La struttura del progetto base
- I componenti base
- Alcuni servizi utili
- ...

Di cosa si tratta?

WebView

L'applicazione vive in un browser contenuto nell'app

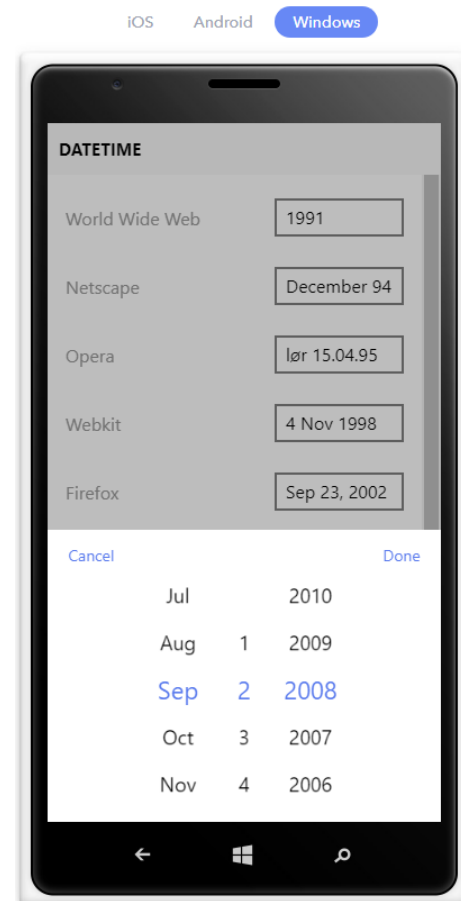
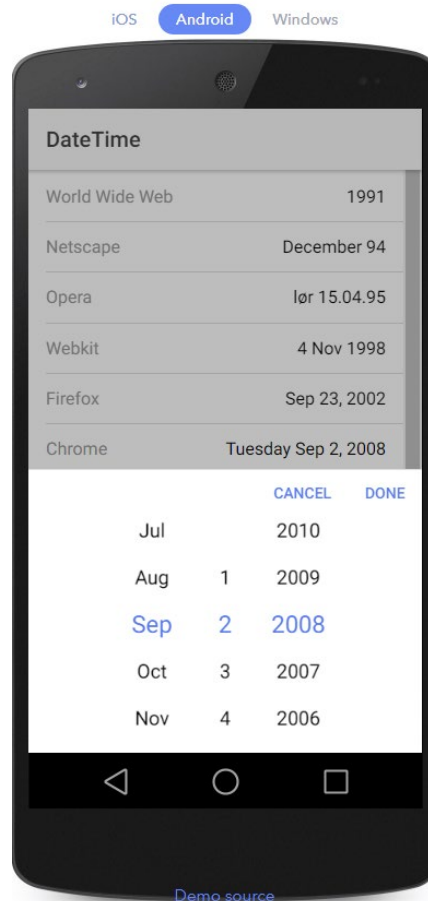
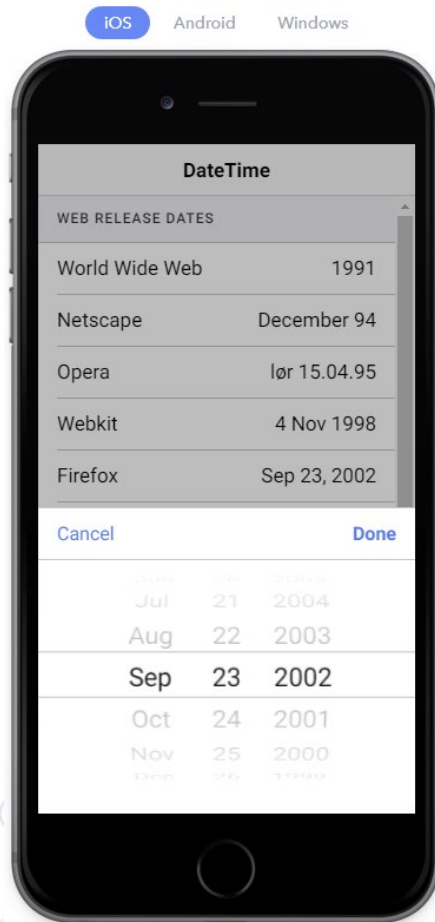


Ionic permette di sviluppare applicazioni mobile ibride sfruttando tecnologie web che tentano di riprodurre il comportamento nativo del sistema

Di cosa si tratta?

Un solo tag html:

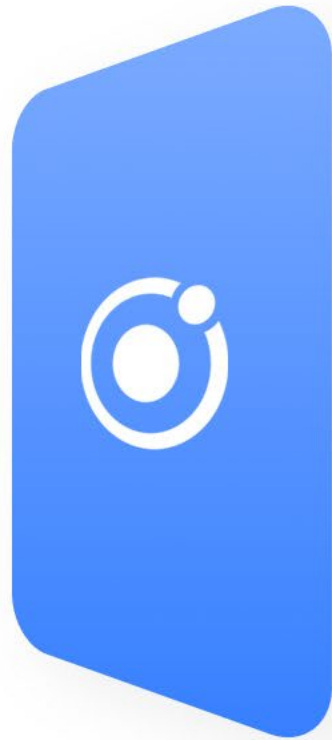
```
<ion-datetime displayFormat="MM/DD/YYYY" [(ngModel)]="myDate"></ion-datetime>
```



Le tecnologie utilizzate



YOUR APP (ANGULAR, REACT, VUE...)



UI CONTROLS (IONIC)



NATIVE ACCESS (CAPACITOR)



DISTRIBUTION PLATFORMS

Le tecnologie utilizzate



TypeScript: linguaggio di programmazione (superset di JavaScript)



HTML5: linguaggio di markup per pagine web



Sass/scss: estensione del css per definire fogli di stile

Setup

- Installare nodejs LTS
- Installare un IDE come VSCODE
- Eseguire: `npm install -g @ionic/cli`
- Eseguire: `ionic start «nomeprogetto»`
- Scegliere «conference» come esempio di app
- Condividere la stessa rete tra notebook e smartphone oppure usare il remote debugging di Chrome
- Entrare nella cartella del progetto ed eseguire: «`ng serve`»

Struttura

Immagini e risorse

app

main

pages

The screenshot shows the Visual Studio Code interface for a project named 'schedule.ts - myProget'. The Explorer sidebar on the left displays the project structure:

- EXPLORER
 - OPEN EDITORS
 - TS schedule.ts src\pages\schedule
 - MYPROGET
 - .github
 - .sourcemaps
 - .tmp
 - node_modules
 - resources
 - src
 - app
 - app.component.ts
 - app.module.ts
 - app.scss
 - app.template.html
 - main.ts
 - assets
 - interfaces
 - pages
 - about
 - about.html
 - about.scss
 - about.ts
 - about-popover
 - about-popover.ts
 - account
 - login
 - login.html
 - login.scss
 - login.ts
 - man

The main editor shows the content of 'TS schedule.ts':

```
1 import { Component, ViewChild } from '@angular/core';
2
3 import { AlertController, App, FabContainer, ItemSliding, List, Mo
4
5 /*
6  To learn how to use third party libs in an
7  Ionic app check out our docs here: http://ionicframework.com/doc
8  */
9 // import moment from 'moment';
10
11 import { ConferenceData } from '../../providers/conference-data';
12 import { UserData } from '../../providers/user-data';
13
14 import { SessionDetailPage } from '../session-detail/session-detail
15 import { ScheduleFilterPage } from '../schedule-filter/schedule-fi
16
17
18 @Component({
19   selector: 'page-schedule',
20   templateUrl: 'schedule.html'
21 })
22 export class SchedulePage {
23   // the list is a child of the schedule page
24   // @ViewChild('scheduleList') gets a reference to the list
25   // with the variable #scheduleList, 'read: List' tells it to ret
26   // the List and not a reference to the element
27   @ViewChild('scheduleList', { read: List }) scheduleList: List;
28
29   dayIndex = 0;
30   queryText = '';
31   segment = 'all';
32   excludeTracks: any = [];
33   shownSessions: any = [];
34   groups: any = [];
```


Pagina

Azione

view

controller

The image shows a development environment with three main components:

- EXPLORER (Left):** Shows the project structure. The file `about.html` is selected under the `pages/about` directory. Red arrows point from the labels 'view' and 'controller' to this file.
- EDITOR (Center):** Displays the HTML code for `about.html`. A red arrow points from the label 'Azione' to the `presentPopover($event)` function call in the code.
- MOBILE PREVIEW (Right):** Shows the rendered mobile application. The page title is 'About'. It features the Ionic logo and the following content:
 - Ionic Conference**
 - Date:** May 17, 2047
 - Location:** Madison, WI
 - Description:** The Ionic Conference is a one-day conference featuring talks from the Ionic team. It is focused on Ionic applications being built with Ionic 2. This includes migrating apps from Ionic 1 to Ionic 2, Angular concepts, Webpack, Sass, and many other technologies used in Ionic 2. Tickets are completely sold out, and we're expecting more than 1000 developers - making this the largest Ionic conference ever!

Componenti per UI

ActionSheetController

AlertController

App

Avatar

Badge

Button

Checkbox

Chip

Col

Config

Content

DateTime

Events

FabButton

FabContainer

FabList

Footer

Grid

Haptic

Header

HideWhen

Icon

<https://ionicframework.com/docs/components/>

Menus

Menu is a side-menu navigation that can be dragged out or toggled to show. The content of a menu will be hidden when the menu is closed.

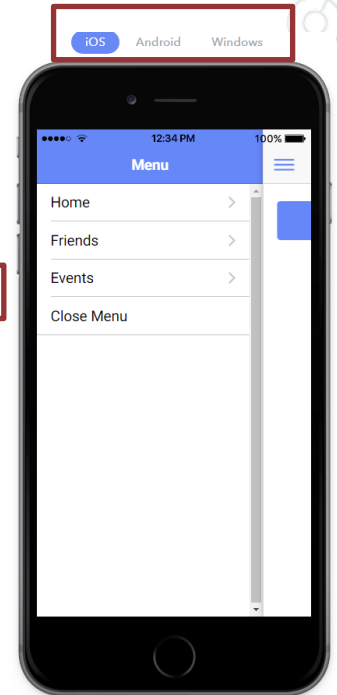
Menu adapts to the appropriate style based on the platform.

For more information, Check out the [API docs](#).

Basic Usage

```
<ion-menu [content]="content">
  <ion-header>
    <ion-toolbar>
      <ion-title>Menu</ion-title>
    </ion-toolbar>
  </ion-header>
  <ion-content>
    <ion-list>
      <button ion-item (click)="openPage(homePage)">
        Home
      </button>
      <button ion-item (click)="openPage(friendsPage)">
        Friends
      </button>
      <button ion-item (click)="openPage(eventsPage)">
        Events
      </button>
      <button ion-item (click)="closeMenu()">
        Close Menu
      </button>
    </ion-list>
  </ion-content>
</ion-menu>
```

[Demo Source](#)



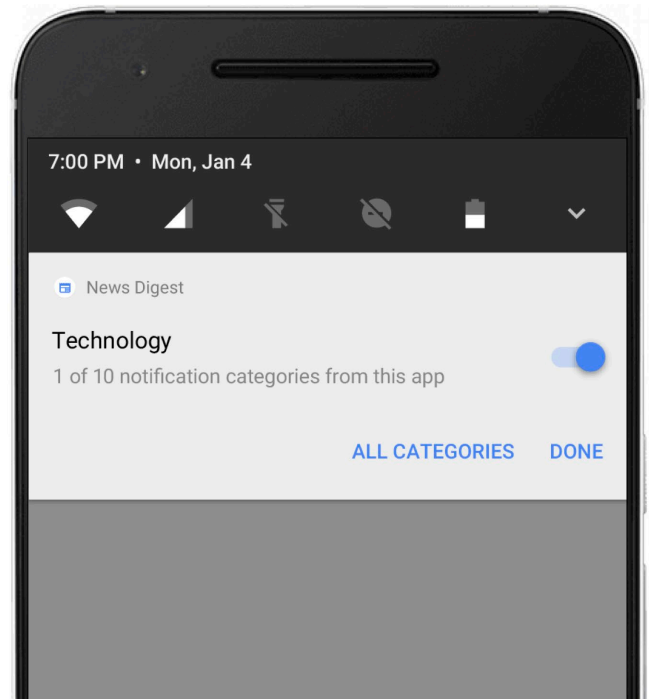
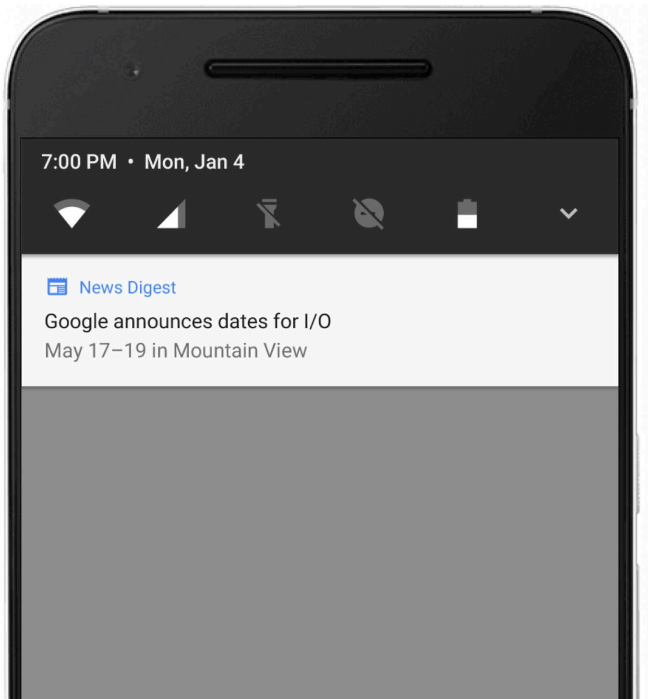
Attiva Windows
Passa a Impostazioni per attivare Windows.

Componente NavController

NavController is the base class for navigation controller components like `Nav` and `Tab`. You use navigation controllers to navigate to `pages` in your app. At a basic level, a navigation controller is an array of pages representing a particular history (of a `Tab` for example). This array can be manipulated to navigate throughout an app by pushing and popping pages or inserting and removing them at arbitrary locations in history.



Push Notification



<https://ionicframework.com/docs/native/push>

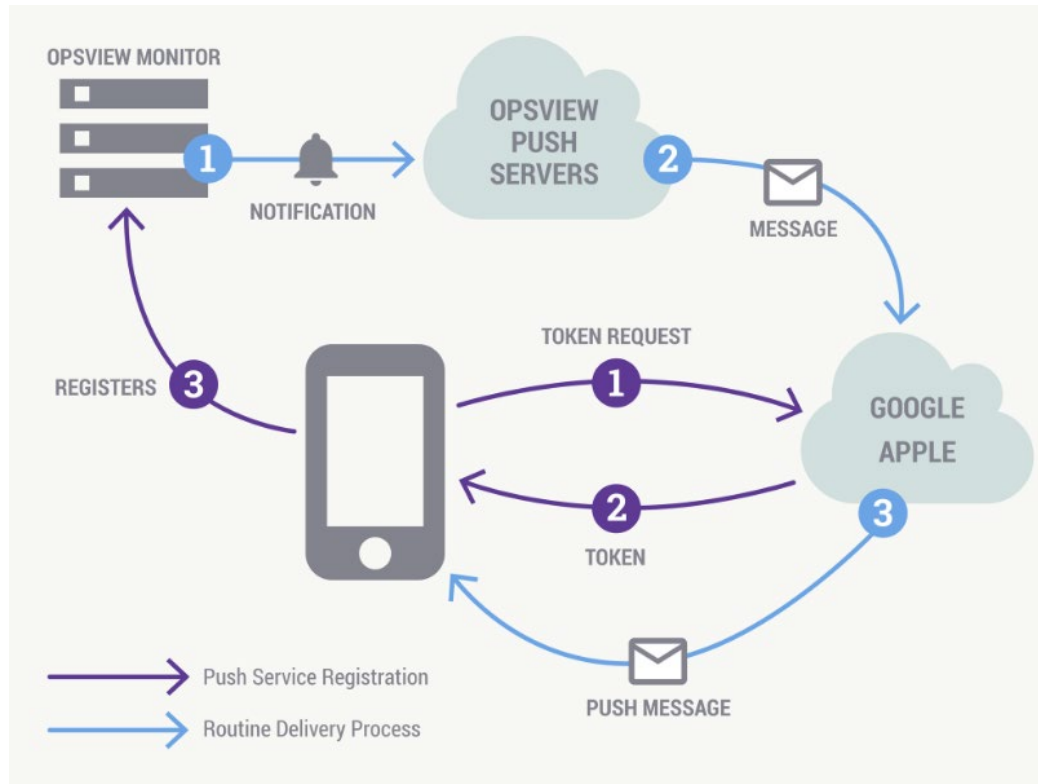
<https://knowledge.opsview.com/docs/getting-started-with-push>

Push Notification

Push messages enable you to bring information to the attention of your users even when they're not using your website/app.

<https://developers.google.com/web/ilt/pwa/introduction-to-push-notifications>

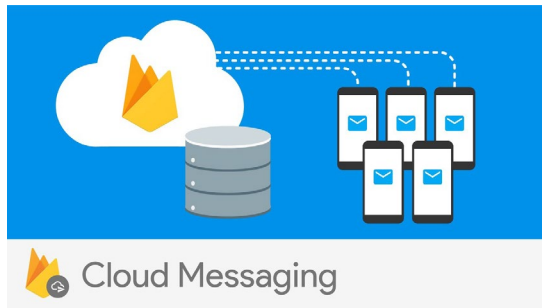
Push Service



<https://capacitorjs.com/docs/apis/push-notifications>

<https://knowledge.opsview.com/docs/getting-started-with-push>

Esempio di notifiche con Ionic e FireBase



Completamente free ma:

Maximum message rate to a single device

You can send up to 240 messages/minute and 5,000 messages/hour to a single device. This high threshold is meant to allow for short term bursts of traffic, such as when users are interacting rapidly over chat. This limit prevents errors in sending logic from inadvertently draining the battery on a device.

! Caution: Do not routinely send messages near this maximum rate. This could waste end users' resources, and your app may be marked as abusive.

Upstream message limit

We limit upstream messages at 1,500,000/minute per project to avoid overloading upstream destination servers.

We limit upstream messages per device at 1,000/minute to protect against battery drain from bad app behavior.

<https://www.freecodecamp.org/news/how-to-get-push-notifications-working-with-ionic-4-and-firebase-ad87cc92394e/>

<https://capacitor.ionicframework.com/docs/guides/push-notifications-firebase/>

Esempio di notifiche con FireBase per servizi backend

```
Node.js  Java  Python  Go  C#  REST

// This registration token comes from the client FCM SDKs.
var registrationToken = 'YOUR_REGISTRATION_TOKEN';

var message = {
  data: {
    score: '850',
    time: '2:45'
  },
  token: registrationToken
};

// Send a message to the device corresponding to the provided
// registration token.
admin.messaging().send(message)
  .then((response) => {
    // Response is a message ID string.
    console.log('Successfully sent message:', response);
  })
  .catch((error) => {
    console.log('Error sending message:', error);
  });
```

<https://firebase.google.com/docs/admin/setup>

<https://firebase.google.com/docs/cloud-messaging/send-message>