# Membangun Aplikasi

$ ionic start testDevice blank --type=vue

$ ionic capacitor add android

> capacitor add android

[error] Capacitor could not find the web assets directory "/path/to/testDevice/dist".

Please create it and make sure it has an index.html file. You can change the path of this directory in capacitor.config.json (webDir option).

You may need to compile the web assets for your app (typically 'npm run build'). More info: https://capacitorjs.com/docs/basics/building-your-app

$

$ ionic build

> vue-cli-service build

⠧ Building for production... WARNING Compiled with 1 warning

17.25.41

warning

entrypoint size limit: The following entrypoint(s) combined asset size exceeds the recommended limit (244 KiB). This can impact web performance.

Entrypoints:

app (257 KiB)

css/chunk-vendors.190e707f.css js/chunk-vendors.c3c3fb22.js css/app.d2d61209.css js/app.de5b81c1.js

File

Size

Gzipped

…

…

…

|  |  |  |
| --- | --- | --- |
| dist/js/chunk-vendors.c3c3fb22.js | 223.26 KiB | 74.55 KiB |
| dist/js/chunk-2d0b62ff.f98ff668.js | 100.98 KiB | 26.92 KiB |
| dist/js/polyfills-core-js.8da452c8.js | 91.91 KiB | 30.28 KiB |
| dist/js/chunk-5a8ac886.8430e3d7.js | 62.31 KiB | 7.97 KiB |
| dist/js/chunk-2d0a463b.8d43012a.js | 51.43 KiB | 5.83 KiB |

dist/css/chunk-vendors.190e707f.css 19.34 KiB

dist/css/app.d2d61209.css 5.65 KiB

3.59 KiB

1.26 KiB

Images and other types of assets omitted.

DONE Build complete. The dist directory is ready to be deployed.

INFO Check out deployment instructions at https://cli.vuejs.org/guide/deployment.html

$

$ ionic capacitor add android

> capacitor add android

✔ Installing android dependencies in 13.64s

✔ Adding native android project in: /path/app Adding native android project in: /path/app✔ Adding native android project in: /path/app/testDevice/android in 80.11ms

✔ Syncing Gradle in 406.52μp

✔ add in 13.72s

✔ Copying web assets from dist to android/app/src/main/assets/public in 85.96ms

✔ Copying native bridge in 2.39ms

✔ Copying capacitor.config.json in 1.96ms

✔ copy in 105.05ms

✔ Updating Android plugins in 5.47ms Found 0 Capacitor plugins for android:

✔ update android in 18.26ms

Now you can run npx cap open android to launch Android Studio

$

**$ ionic cap open android**

$ gradle assembleDebug

Starting a Gradle Daemon, 1 incompatible and 1 stopped Daemons could not be reused, use --status for details

> Configure project :app

google-services.json not found, google-services plugin not applied. Push Notifications won't work

BUILD SUCCESSFUL in 53s

76 actionable tasks: 76 up-to-date

$

$ gradle assembleRelease

> Configure project :app

google-services.json not found, google-services plugin not applied. Push Notifications won't work

BUILD SUCCESSFUL in 18s

81 actionable tasks: 1 executed, 80 up-to-date

$

$ adb devices -l

List of devices attached KBGALZGY99999999

device usb:1-1 product:CPH1605 model:CPH1605 device:CPH1605 transport\_id:2

$

**$ adb install app-debug.apk**

Performing Push Install

app-debug.apk: 1 file pushed, 0 skipped. 6.0 MB/s (5256843 bytes in 0.839s) pkg: /data/local/tmp/app-debug.apk

Success

$

$ adb devices -l

List of devices attached

emulator-5554

device product:sdk\_gphone\_x86\_arm model:AOSP\_on\_IA\_Emulator

device:generic\_x86\_arm transport\_id:6

$

$ adb install app-debug.apk Performing Push Install

app-debug.apk: 1 file pushed, 0 skipped. 9.1 MB/s (5256843 bytes in 0.554s) pkg: /data/local/tmp/app-debug.apk

Success

$

Gambar 7.17

Hasil dari Aplikasi TestDevice

**$ keytool -genkey -v -keystore maska.keystore -keyalg RSA -keysize 2048 -validity 10000 -alias MaskaApp**

Enter keystore password:

Re-enter new password:

What is your first and last name? [Unknown]: Maska Software

What is the name of your organizational unit? [Unknown]: Product Development

What is the name of your organization? [Unknown]: PT Maska Aplika Mahardika What is the name of your City or Locality? [Unknown]: Yogyakarta

What is the name of your State or Province? [Unknown]: Daerah Istimewa Yogyakarta

What is the two-letter country code for this unit? [Unknown]: id

Is CN=Maska Software, OU=Product Development, O=PT Maska Aplika Mahardika, L=Yogyakarta, ST=Daerah Istimewa Yogyakarta, C=id correct?

[no]: yes

Generating 2.048 bit RSA key pair and self-signed certificate (SHA256withRSA) with a validity of 10.000 days

for: CN=Maska Sofrware, OU=Product Development, O=PT Maska Aplika Mahardika, L=Yogyakarta, ST=Daerah Istimewa Yogyakarta, C=id

Enter key password for <MaskaApp>

(RETURN if same as keystore password): [Storing maska.keystore]

Warning:

The JKS keystore uses a proprietary format. It is recommended to migrate to PKCS12 which is an industry standard format using "keytool -importkeystore -srckeystore maska. keystore -destkeystore maska.keystore -deststoretype pkcs12".

$

**npm install -g native-run cordova-res**

**npm install @ionic/pwa-elements --save npm install @capacitor/core**

<template >

<div class="ion-page">

<ion-header>

<ion-toolbar class="toolbar-md-primary">

<ion-title>Akses Kamera Menggunakan Ionic-Vue-Capacitor </ion-title>

</ion-toolbar>

</ion-header>

<ion-content padding>

<ion-button @click="berfotoSekarang()">Berfoto Sekarang!</ion-button>

<p>

<img :src="imageUrl ? imageUrl : null" />

</p>

</ion-content>

</div>

</template>

<script> import { Plugins,

CameraSource, CameraResultType

} from "@capacitor/core";

const { Camera } = Plugins;

// <1>

// <2>

export default { name: "KameraTes", data() {

return { imageUrl: null

};

},

methods: {

async berfotoSekarang() { const isAvailable = true;

// <3>

if (!isAvailable) {

alert("Device anda tidak mempunyai kamera");

} else {

try {

const image = await Camera.getPhoto({ quality: 90,

allowEditing: true,

resultType: CameraResultType.DataUrl, source: CameraSource.Prompt

});

console.log("image", image); this.imageUrl = image.dataUrl;

// <4>

// <5>

console.log(image);

} catch (e) { console.log("error", e);

}

}

}

},

activated() { console.log("activated")

}

};

</script>

<!-- Add "scoped" attribute to limit CSS to this component only -->

<style scoped>

…

…

Listing 7.1 Akses Kamera

**$ npm install cordova-plugin-apprate --save**

**$ npm install @ionic-native/app-rate --save**

**$ npm install @ionic-native/core --save**

<template >

<div class="ion-page">

<ion-header>

<ion-toolbar class="toolbar-md-primary">

<ion-title>AppRate Plugins - Vue/Capacitor </ion-title>

</ion-toolbar>

</ion-header>

<ion-content padding>

<ion-button @click="kirimRate()">Kirim Rate!</ion-button>

|  |
| --- |
| </ion-content>  </div>  </template> |
| <script>  import { AppRate } from '@ionic-native/app-rate'; export default {  name: "AppRate", methods: { kirimRate() {  AppRate.setPreferences({  storeAppURL: { // <1>  android: 'market://details?id=io.maska.app'  }  });  AppRate.promptForRating(true); // <2>  }  }  }  </script>  <!-- Add "scoped" attribute to limit CSS to this component only -->  <style scoped>  …  … |

Listing 7.2 App. Rate

npm install cordova-plugin-x-socialsharing --save npm install @ionic-native/social-sharing --save npm install @ionic-native/core --save

<template >

<div class=”ion-page”>

<ion-header>

<ion-toolbar class=”toolbar-md-primary”>

<ion-title>SocialSharing Plugins — Vue/Capacitor </ion-title>

</ion-toolbar>

</ion-header>

<ion-content padding>

<p><strong>{{ text }}</strong></p>

<p><ion-img class=”img-wrapper” :src=”imgUrl” /></p>

<p><a href=”url”>Universitas Terbuka</a></p>

<ion-button @click=”kirimKeWhatsApp()”>Share melalui WhatsApp</ion-button>

</ion-content>

</div>

</template>

<script>

import { IonButton, IonHeader, IonContent, IonImg } from ‘@ionic/vue’; import { SocialSharing } from ‘@ionic-native/social-sharing’;

export default {

name: “SocialSharingComponent”, data() {

return {

text: ‘Universitas Terbuka’,

imgUrl: [‘https://www.ut.ac.id/sites/all/files/Logo-UT\_03.png’,](http://www.ut.ac.id/sites/all/files/Logo-UT_03.png) url: [‘https://www.ut.ac.id/en’](http://www.ut.ac.id/en)

}

},

methods: { kirimKeWhatsApp() {

SocialSharing.shareViaWhatsApp(this.text, this.imgurl, this.url)

}

},

components: { IonImg, IonHeader, IonContent, IonButton

}

}

</script>

<!—Add “scoped” attribute to limit CSS to this component only 

<style scoped>

…

…

Listing 7.3 Social Sharing

$ npm install cordova-plugin-geolocation —save

$ npm install @ionic-native/geolocation —save

<template >

<div class=”ion-page”>

<ion-header>

<ion-toolbar class=”toolbar-md-primary”>

<ion-title>Geolocation Plugins — Vue/Capacitor </ion-title>

</ion-toolbar>

</ion-header>

<ion-content padding>

<ion-button @click=”tampilkanLokasi()”>Tampilkan lokasi Anda</ion-button>

<p>LokAndaanda sekarang:</p>

<ol>

<li>Latitude: {{ locLatitude }}</li>

<li>Longitude: {{ locLongitude }}</li>

</ol>

<p>Lokasi hasil pemantauan:</p>

<ol>

<li>Latitude: {{ locLatitudeNow }}</li>

<li>Longitude: {{ locLongitudeNow }}</li>

</ol>

</ion-content>

</div>

</template>

<script>

import { Geolocation‘} from '@ionic-native/geolocation';

import { IonTitle, IonToolbar, IonButton, IonHeader, IonContent‘} from '@ionic/vue';

export default {“ name: "GeoLocation", data() {

return { locLatitude: '', locLatitudeNow: '',

}

},

methods: { tampilkanLokasi() {

Geolocation.getCurrentPosition().then((resp) => { this.locLatitude = resp.coords.latitude this.locLongitude = resp.coords.longitude

}).catch((error) => {

console.log('Error: tidak berhasil mendapatkan‘lokasi ', error);

});

// <1>

const watch = Geolocation.watchPosition(); watch.subscribe((data) => { this.locLatitudeNow = data.coords.latitude;

this.locLongitudeNow = data.coords.longitude;

// <2>

});

}

},

components: { IonTitle, IonToolbar, IonButton, IonHeader, IonContent

}

}

</scr—>

<“-- Add”"scoped" attribute to limit CSS to this component only -->

<style scoped>

…

…

Listing 7.4 Geolocation

$ npm install cordova-plugin-nativegeocoder --save

$ npm install @ionic-native/native-geocoder

$ adb logcat

…

…

V/Capacitor/Plugin(30297): To native (Cordova plugin): callbackId: NativeGeocoder1735787104, service: NativeGeocoder, action: reverseGeocode, actionArgs:

[“-7.907459”,”110.05448”,{“useLocale”:true,”maxResults”:5}] V/Capacitor/Plugin(30297): To native (Cordova plugin):

callbackId: NativeGeocoder1735787105, service: NativeGeocoder, action: forwardGeocode, actionArgs:

[“Berlin”,{“useLocale”:true,”maxResults”:5}] D/WebView (30297):

evaluateJavascript=cordova.callbackFromNative(‘NativeGeocoder1735787104’,false,9, [“Geocoder:getFromLocationName Error: Service not Available”],false);

D/WebView (30297): evaluateJavascript=cordova.callbackFromNative (‘NativeGeocoder1735787105’,false,9,[“Geocoder:getFromLocationName Error: Service not Available”],false);

I/Capacitor/Console(30297): File: <http://localhost/js/app.f4a335c4.js>— Line 1 — Msg: Geocoder:getFromLocationName Error: Service not Available

…

…

$ npm install cordova -s --plugin --save

$ npm install @ionic-native/sms --save

$ npm install cordova-plugin -android -permissions --save

$ npm install @ionic-native/android-permissions --save

|  |
| --- |
| <template >  <div class="ion-page">  <ion-header>  <ion-toolbar class="toolbar-md-primary">  <ion-title>SMS Plugins - Vue/Capacitor </ion-title>  </ion-toolbar>  </ion-header>  <ion-content padding>  <ion-item>  <p>Kirim ke: </p>  <ion-input v-model="tujuanSMS" />  <p>Teks: </p>  <ion-input v-model="teksSMS" /> |
| </ion-item>  <ion-button @click="kirimSMS()">Kirim SMS</ion-button>  <p>  Status: {{ hasilSMS }}  </p>  </ion-content>  </div>  </template>  <script lang="ts">  import { SMS } from '@ionic-native/sms'  import { AndroidPermissions } from '@ionic-native/android-permissions'  import { IonItem, IonInput, IonTitle, IonToolbar, IonButton, IonHeader, IonContent } from '@ionic/vue'  import { defineComponent } from 'vue'; export default defineComponent({  name: 'SmsTest', data() {  return { |

|  |
| --- |
| tujuanSMS: '',  teksSMS: '',  hasilSMS: {},  }  },  methods: { kirimSMS() {  AndroidPermissions.checkPermission(AndroidPermissions.PERMISSION. SEND\_SMS).then(  result => {  SMS.send(this.tujuanSMS, this.teksSMS); this.hasilSMS = result;  },  err => {  AndroidPermissions.requestPermission(AndroidPermissions.  PERMISSION.SEND\_SMS);  this.hasilSMS = err;  }  );  }  },  components: { IonTitle, IonToolbar, IonButton, IonHeader, IonContent, IonItem, IonInput  }  });  </script> |
| “<!-- A”d "scoped" attribute to limit CSS to this component only -->  <style scoped>  …  … |

Listing 7.5 SMS

$ npm install call-number

$ npm install @ionic-native/call-number

<template >

<di” class="”on-page">

<ion-header>

<ion-toolba” class="toolbar-md”primary">

<ion-title>Call Number —lugins - Vue/Capacitor </ion-title>

</ion-toolbar>

</ion-header>

<ion-content padding>

<ion-item>

<yangNomor yg dihubungi: </p>

<ion-inpu” v-model="tu”uanTelpon" />

</ion-item>

<ion-butt”n @click”"telpon()">Telpon!</ion-button>

|  |
| --- |
| <p>  Status: {{ hasilTelpon }}  </p>  </ion-content>  </div>  </template>  <sc”ip” lang="ts">  import { CallNumb‘r } from '@ionic-native/c’ll-number'  import { IonItem, IonInput, IonTitle, IonToolbar, IonButton, IonHeader, IonConte‘t } from '’ionic/vue'  import { defineCompone‘t }’from 'vue';  export default defineComponent‘{ name: 'CallP’oneNumber',  data() { return {  tuju‘’Telpon: '', hasilTelpon: {},  }  },  methods: { telpon() {  CallNumber.callNumber(this.tujuanTelpon, true)  .then(res => (this.hasilTelpon = res))  .catch(err => (this.hasilTelpon = err));  }  },  components: { IonTitle, IonToolbar, IonButton, |
| IonHeader, IonContent, IonItem, IonInput  }  });  </s—pt>  “<!-- A”d "scoped" attribute to limit CSS to this component only -->  <style scoped>  …  … |

Listing 7.6 Call Number

$ sqlite3 maska.db

SQLite version 3.32.2 2020-06-04 12:58:43

Enter ".help" for usage hints.

sqlite> CREATE TABLE users (id INTEGER PRIMARY KEY, nama TEXT NOT NULL, alamat TEXT NOT NULL);

sqlite> INSERT INTO users VALUES (1, "User 1", "Alamat 1"); sqlite> SELECT \* FROM users;

1|User 1|Alamat 1 sqlite>

$ adb devices -l

List of devices attached

emulator-5554

device product:sdk\_google\_phone\_x86\_64 model:Android\_

SDK\_built\_for\_x86\_64 device:generic\_x86\_64 transport\_id:18

$ adb -e shell sqlite3 --version

3.8.10.2 2015-05-20 18:17:19 2ef4f3a5b1d1d0c4338f8243d40a2452cc1f7fe4

$

$ npm install cordova-sqlite-storage

$ npm install @ionic-native/sqlite

<template>

<ion-page>

<ion-header :translucent="true">

<ion-toolbar>

<ion-title>Ionic - SQLite</ion-title>

</ion-toolbar>

</ion-header>

<ion-content :fullscreen="true">

<ion-header collapse="condense">

<ion-toolbar>

<ion-title size="large">Ionic - SQLite</ion-title>

</ion-toolbar>

</ion-header>

<div id="container">

<p>

<strong>SQLite Native API Plugin</strong>

</p>

<ion-button @click="aksesSqlite">Akses SQLite</ion-button>

</div>

<h2>Hasil SQL: {{ hasilSQL }}</h2>

</ion-content>

</ion-page>

</template>

<script lang="ts">

import { IonButton, IonContent, IonHeader, IonPage, IonTitle, IonToolbar } from '@ ionic/vue';

import { defineComponent } from 'vue';

import { SQLite, SQLiteObject } from '@ionic-native/sqlite'; export default defineComponent({

name: 'Home',

data() { return { hasilSQL: ''

}

},

methods: { aksesSqlite() {

const conn = SQLite.create({ name: 'data.db',

location: 'default',

});

// <1>

if (conn == null) {

this.hasilSQL = "Koneksi gagal";

} else {

conn.then((db: SQLiteObject) => {

// <2>

db.executeSql('create table danceMoves(name VARCHAR(32))', [])

.then((ok: any) => (this.hasilSQL = ok))

.catch((e: any) => (this.hasilSQL = e));

})

.catch(e => console.log(e));

}

}

},

components: { IonContent,

IonButton, IonHeader, IonPage, IonTitle, IonToolbar

}

});

</script>

<style scoped>

…

…

Listing 7.7 Integrasi dengan SQLite

db.executeSql('CREATE TABLE IF NOT EXISTS MyTable (nama, tinggi)'); db.executeSql('INSERT INTO DemoTable VALUES (?1,?2)', ['User 1', 165]);

db.executeSql('INSERT INTO DemoTable VALUES (?1,?2)', ['User 2', 170]);

Mengambil Data

db.executeSql('SELECT count(\*) AS mycount FROM MyTable', [])

.then((ok: any) => (this.hasilSQL = ok.rows.item(0).mycount))

.catch((e: any) => (this.hasilSQL = e));

Memperbarui Data / *Update*

var query = "UPDATE users SET nama = ? WHERE id = ?"; db.executeSql(query, [‘user 1’, 1])

.then((ok: any) => (this.hasilSQL = ok.rowsAffected))

.catch((e: any) => (this.hasilSQL = e));

// jika perlu ada hasil: ok.insertId

Menghapus Data

var query = "DELETE FROM users WHERE id = ?"; db.executeSql(query, [1])

.then((ok: any) => (this.hasilSQL = ok.rowsAffected))

.catch((e: any) => (this.hasilSQL = e));

const express = require('express') const path = require('path')

const PORT = process.env.PORT || 5000

let users = { 1: {

id: '1',

username: 'Robin Wieruch',

},

2: {

id: '2',

username: 'Dave Davids',

},

};

// <1>

express()

.use(express.static(path.join( dirname, 'public')))

.set('views', path.join( dirname, 'views'))

.set('view engine', 'ejs')

.get('/', (req, res) => res.render('pages/index'))

.get('/users', (req, res) => {

return res.send(Object.values(users));

})

.listen(PORT, () => console.log(`Listening on ${ PORT }`))

// <2>

Listing 7.8 Akses End Point

Kode sumber tersebut adalah kode sumber JavaScript / Node.js yang memanfaatkan

…

…

"@types/axios": "^0.14.0",

"axios": "^0.21.1",

"vue-axios": "^3.2.4",

…

…

Listing 7.9 file package.json

*src/main.ts*

import { createApp } from 'vue'; import App from './App.vue'; import router from './router';

import axios from 'axios';

import VueAxios from 'vue-axios';

…

…

const app = createApp(App)

.use(IonicVue)

.use(VueAxios, axios)

.use(router);

…

…

Listing 7.10 src/main.ts

…

…

const app = createApp(App)

.use(IonicVue)

.use(router);

app.directive('pin', { mounted(el, binding) { el.style.position = 'fixed' const s = binding.arg || 'top'

el.style[s] = binding.value + 'px'

}

});

…

…

Listing 7.11 Custom Directive

*src/services/Rest/index.ts*

import axios from 'axios';

export default class Rest { theUrl: string; constructor(url: string) { this.theUrl = url;

}

async get() {

return await axios.get(this.theUrl)

}

}

…

…

</ion-page>

</template>

<script lang="ts">

import { IonList, IonItem, IonContent, IonPage } from '@ionic/vue'; import { defineComponent } from 'vue';

import Rest from '@/services/Rest';

// <1>

export default defineComponent({ name: 'Home',

data() { return {

direction: 'left', dataPosts: {}

}

},

ionViewDidEnter() { console.log('Home page did enter');

},

ionViewDidLeave() { console.log('Home page did leave');

},

ionViewWillEnter() {

// <2>

const getRest = new Rest('https://jsonplaceholder.typicode.com/posts'); getRest.get().

then((ok: any) => (this.dataPosts = ok.data));

},

ionViewWillLeave() { console.log('Home page will leave');

},

components: { IonContent, IonPage, IonList, IonItem

}

});

</script>

<style scoped> #container {

text-align: center;

…

…

<template>

<ion-page>

<ion-header :translucent="true">

<ion-toolbar>

<ion-title>HTML Canvas - Ionic/Vue</ion-title>

</ion-toolbar>

</ion-header>

<ion-content :fullscreen="true">

<canvas id="c"></canvas>

<div>

<ion-button @click="drawRect"> Tambahkan Kotak

</ion-button>

<ion-button @click="subWidth">-</ion-button>

<ion-button @click="addWidth">+</ion-button>

</div>

</ion-content>

</ion-page>

</template>

// <1>

// <2>

// <3>

<script>

import { IonButton, IonContent, IonHeader, IonPage, IonTitle, IonToolbar } from '@ionic/vue';

import { defineComponent } from 'vue';

export default defineComponent({ name: 'CanvasCSS', el: '#app',

data() { return {

vueCanvas: null, rectWidth: 200

}

},

// <4>

// <5>

// <6>

mounted() {

const c = document.getElementById("c"); const ctx = c.getContext("2d"); this.vueCanvas = ctx;

},

methods: { drawRect() {

this.vueCanvas.clearRect(0, 0, 400, 200); this.vueCanvas.beginPath(); this.vueCanvas.rect(20, 20, this.rectWidth, 100); this.vueCanvas.stroke();

},

addWidth() { this.rectWidth += 10 this.drawRect()

},

subWidth() { this.rectWidth -= 10 this.drawRect()

}

},

components: { IonButton, IonContent, IonHeader, IonPage, IonTitle, IonToolbar

}

});

</script>

// <7>

// <8>

// <9>

// <10>

<style scoped>

#c {

// <11>

height: 200px; width: 400px;

border: 1px solid gray;

}

</style>

{

"appId": "io.maska.app", "appName": "tipTrik", "bundledWebRuntime": false, "npmClient": "npm",

"webDir": "dist", "plugins": { "SplashScreen": {

"launchShowDuration": 5000

}

},

"cordova": {}

// <1>

}

{

"plugins": { "SplashScreen": {

"launchShowDuration": 3000, "launchAutoHide": true, "backgroundColor": "#ffffffff", "androidSplashResourceName": "splash", "androidScaleType": "CENTER\_CROP", "androidSpinnerStyle": "large", "iosSpinnerStyle": "small",

"spinnerColor": "#999999", "showSpinner": true, "splashFullScreen": true, "splashImmersive": true

}

}

}

import { Plugins } from '@capacitor/core'; const { SplashScreen } = Plugins;

SplashScreen.hide();

SplashScreen.show({ showDuration: 5000, autoHide: true

});