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Session 7

# JavaScript for Web



# Feedback



What did we learn last time

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**Re-examination**

## Web development in a nutshell

```
// create element
const linkElement = document.createElement('a')

// modify element
linkElement.href = 'https://google.com'
linkElement.innerText = 'Google'

// insert element
document.body.appendChild(linkElement)
```

# Firebase: A comprehensive app development platform



## Build better apps

- ▶ Databases
- ▶ Authentication
- ▶ Machine Learning
- ▶ Backends
- ▶ Hosting



## Improve app quality

- ▶ Crash / Error reporting
- ▶ Performance monitoring
- ▶ App distribution



## Grow your business

- ▶ Analytics
- ▶ A/B Testing
- ▶ Notifications

## Cloud FireStore

- ▶ NoSQL Database
- ▶ Create, read, update & delete operations (CRUD)
- ▶ Automatic scaling, data syncing, user-based security



```
<script src="gstatic.com.firebaseiojs/7.firebaseio-app.js"></script>
<script src="gstatic.com.firebaseiojs/7.firebaseio-firebase.js"></script>
<script>
  const firebaseConfig = { /* ... */}
  // Initialize Firebase
  firebase.initializeApp(firebaseConfig)
  const database = firebase.firestore()

database
  .collection('posts')
  .add({
    title: 'Title of the post',
    description: 'Description of the post',
    postedAt: new Date()
  })
  .then(docRef => console.log('Created data:', docRef.id))
  .catch(error => console.error('Failed to create data', error))
</script>
```

## Cloud FireStore: Reading data

```
database
  .collection('posts')
  .get()
  .then(snapshot => {
    snapshot.forEach(doc => {
      const data = doc.data()
      console.log("Data", data)
    })
  })
```



<https://github.com/henningmu/js-workshop>

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# Exercise

# Cloud Storage for Firebase

- ▶ Store files (images and videos)
- ▶ CRUD operations
- ▶ User-based security



## Cloud Storage: Uploading a file

```
const storage = firebase.storage()

// read a file from an input element
const inputElement = document.getElementById('file-input')
const file = inputElement.files[0]

const imageRef = storage.ref(`images/${file.name}`)
imageRef
  .put(file)
  .then(snapshot => console.log('Uploaded file!'))
  .catch(error => console.error('Failed to upload', error))
```

## Cloud Storage: Getting the URL

```
const imageRef = storage.ref(`images/portrait1.jpg`)

imageRef.getDownloadURL().then(url => {
  const img = document.createElement('img')
  img.src = url
  document.body.appendChild(img)
})
```



<https://github.com/henningmu/js-workshop>

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# Exercise

## Firebase Authentication

- ▶ Easy sign-in with any platform
  - ▶ Google, Facebook, Github, Microsoft, Email + Password
- ▶ Comes with UI for fast implementation



# Firebase Authentication

```
<script src="https://www.gstatic.com/firebasejs/7.14.1/firebaseui.js"></script>
<link href="https://www.gstatic.com/firebasejs/7.14.1/firebaseui.css" />

const auth = firebase.auth()
const ui = new firebaseui.auth.AuthUI(auth)

ui.start('#auth-container', {
  signInOptions: [firebase.auth.EmailAuthProvider.PROVIDER_ID],
  signInSuccessUrl: window.location.href
})
```

# Firebase Authentication

```
auth.onAuthStateChanged(function(user) {  
  if (user) {  
    // signed in  
  } else {  
    // signed out  
  }  
})  
  
auth.signOut()
```



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# Exercise



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# Exercise



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# Quick Feedback