

 무료 전자 책

배우기

# google-apps-script

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**Stack Overflow contributors.**

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apps-script

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# 1: google-apps-script

Google Apps Script <http://www.google.com/script/start> .

Google Apps Script Google JavaScript .

[https://developers.google.com/apps-script/guides/services/#basic\\_javascript\\_features](https://developers.google.com/apps-script/guides/services/#basic_javascript_features)

Apps Script JavaScript 1.6 1.7 1.8 . , Google : , , , . Apps HTML  
Google DOM Window API .

## Examples

Google Apps Script . Google . Gmail Google Apps for Work / Education / Government .  
[accounts.google.com](https://accounts.google.com) Google .

[script.google.com](https://script.google.com) . Google Apps (:, , ) tools -> Script editor... Google Apps Script .  
Connect more apps.. Google Apps Script Google .

[developers.google.com/apps-script/](https://developers.google.com/apps-script/) .

app-scripts code.gs . code.gs doGet () onOpen (addon) . .

API . API . Google Play G Marketplace SDK .

// Google .

Google App .

- 
- Google Apps
- 

Google (:, ) . [script.google.com](https://script.google.com) Google Google . Google . .

## Google Apps

Google Apps . Google (: Google Google ) . Google Apps tools> Script editor . , ,  
. [Google](https://script.google.com) . .

Google App Script . Google , , . Google Apps . .

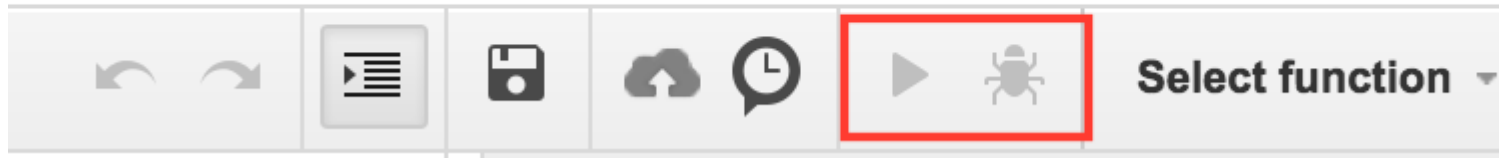
- doGet () doPost () .
- HTML HtmlOutput Content TextOutput .

inshort, doGet () doPost () http get post .

/

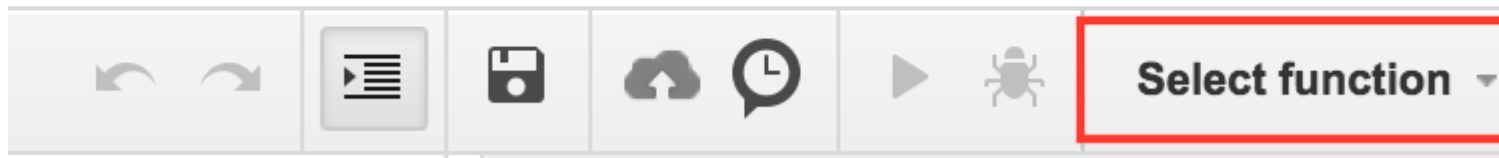
.

File Edit View Run Publish Resources Help



.. :

File Edit View Run Publish Resources Help



Ctrl + r . . . , . . .

-> .

Hello .

```
function helloWorld()
{
  Browser.msgBox("Hello World");
}
```

▶ Run -> helloWorld .

## Google Apps Script

Google Apps Script Google Apps JavaScript . Apps Script Google . IDE Apps Script . OAuth2 .

Apps Script HTML, CSS, JavaScript . Nodej App Scripts . . .

Apps Script . IO .

Apps . .

```
// Create a new spreadsheet from a template
function createSpreadsheet() {
  var templateFileId = '1Azcz9GwCeHjG19TXf4aUh6g20Eqmgd1UMSdNVjzIZPk';
  var sheetName = 'Account Log for:' + new Date();
}
```



```
SpreadsheetApp.openById(templateFileId).copy(sheetName);  
}
```

google-apps-script : <https://riptutorial.com/ko/google-apps-script/topic/1154/google-apps-script->

## 2: Apps Script

. UX . .

Apps Script . html .

. [Example Apps Script Form](#)

: Google .

Apps Script .

- Code.gs
- index.html
- Stylesheet.html
- JavaScript.html

## Examples

Apps :

```
//Triggered when the page is navigated to, serves up HTML
function doGet(){
  var template = HtmlService.createTemplateFromFile('index');
  return template.evaluate()
    .setTitle('Example App')
    .setSandboxMode(HtmlService.SandboxMode.IFRAME);
}

//Called from the client with form data, basic validation for blank values
function formSubmit(formData){
  for(var field in formData){
    if(formData[field] == ''){
      return {success: false, message: field + ' Cannot be blank'}
    }
  }
  return {success: true, message: 'Sucessfully submitted!'};
}
```

## HTML

```
<!DOCTYPE html>
<html>

  <head>
    <base target="_top">
    <link href="https://ssl.gstatic.com/docs/script/css/add-ons1.css" rel="stylesheet">
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.4/jquery.min.js"
type="text/javascript"></script>
  </head>

  <body>
    <div id="mainForm">
```

```

<h1>Example Form</h1>
<form>
  <div>
    <div class="inline form-group">
      <label for="name">Name</label>
      <input id="nameInput" style="width: 150px;" type="text">
    </div>
  </div>
  <div>
    <div class="inline form-group">
      <label for="city">City</label>
      <input id="cityInput" style="width: 150px;" type="text">
    </div>
    <div class="inline form-group">
      <label for="state">State</label>
      <input id="stateInput" style="width: 40px;" type="text">
    </div>
    <div class="inline form-group">
      <label for="zip-code">Zip code</label>
      <input id="zip-codeInput" style="width: 65px;" type="number">
    </div>
  </div>
  <div class="block form-group">
    <label for="typeSelect">Type</label>
    <select id="typeSelect">
      <option value="">
      </option>
      <option value="Type 1 ">
        Type 1
      </option>
      <option value="Type 2 ">
        Type 2
      </option>
      <option value="Type 3 ">
        Type 3
      </option>
      <option value="Type 4 ">
        Type 4
      </option>
    </select>
  </div>
  <button class="action" id="submitButton" type="button">Submit</button>
  <button class="clear" id="clearFormButton" type="button">Clear Form</button>
</form>
<div class="hidden error message">
  <div class="title">Error:</div>
  <div class="message"></div>
</div>
<div class="hidden success message">
  <div class="title">Message:</div>
  <div class="message">Sucessfully submitted</div>
</div>
</div>
<?!= HtmlService.createHtmlOutputFromFile('JavaScript').getContent(); ?>
<?!= HtmlService.createHtmlOutputFromFile('Stylesheet').getContent(); ?>
</body>

</html>

```

```
<style>
.hidden {
    display: none;
}

.form-group {
    margin: 2px 0px;
}

#submitButton {
    margin: 4px 0px;
}

body {
    margin-left: 50px;
}

.message {
    padding: 2px;
    width: 50%;
}

.message > * {
    display: inline-block;
}

.message .title {
    font-weight: 700;
    font-size: 1.1em;
}

.success.message {
    border: 1px solid #5c9a18;
    background: #e4ffe4;
    color: #2a8e2a;
}

.error.message {
    background: #f9cece;
    border: 1px solid #7d2929;
}

.error.message .title {
    color: #863030;
}

button.clear {
    background: -moz-linear-gradient(top, #dd6e39, #d17636);
    background: -ms-linear-gradient(top, #dd6e39, #d17636);
    background: -o-linear-gradient(top, #dd6e39, #d17636);
    background: -webkit-linear-gradient(top, #dd6e39, #d17636);
    background: linear-gradient(top, #dd6e39, #d17636);
    border: 1px solid transparent;
    color: #fff;
    text-shadow: 0 1px rgba(0, 0, 0, .1);
}

button.clear:hover {
    background: -moz-linear-gradient(top, #ca602e, #bd6527);
    background: -ms-linear-gradient(top, #ca602e, #bd6527);
    background: -o-linear-gradient(top, #ca602e, #bd6527);
```

```

background: -webkit-linear-gradient(top, #ca602e, #bd6527);
background: linear-gradient(top, #ca602e, #bd6527);
border: 1px solid transparent;
color: #fff;
text-shadow: 0 1px rgba(0, 0, 0, .1);
}
</style>

```

```

<script>
var inputs = [
  'nameInput',
  'cityInput',
  'stateInput',
  'zip-codeInput',
  'typeSelect'
];

$(function(){
  var pageApp = new formApp();
  $('#submitButton').on('click', pageApp.submitForm);
  $('#clearFormButton').on('click', pageApp.clearForm);
});

var formApp = function(){
  var self = this;

  //Clears form input fields, removes message, enables submit
  self.clearForm = function(){
    for(var i = 0; i < inputs.length; i++){
      $('#'+inputs[i]).val('');
    }
    toggleSubmitButton(false);
    setErrorMessage(false);
    setSuccessMessage(false);
  }

  //Submits the form to apps script
  self.submitForm = function(){
    toggleSubmitButton(true);
    setSuccessMessage(false);
    setErrorMessage(false);

    google.script.run
      .withSuccessHandler(self.sucessfullySubmitted)
      .withFailureHandler(self.failedToSubmit)
      .formSubmit(self.getFormData());
  };

  //Retrieves the form data absed on the input fields
  self.getFormData = function(){
    var output = {};
    for(var i = 0; i < inputs.length; i++){
      output[inputs[i]] = $('#'+inputs[i]).val();
    }
    console.log(output)
    return output;
  }

  //When the apps script sucessfully returns
  self.sucessfullySubmitted = function(value){

```

```

    if(value.success){
        setSuccessMessage(true, value.message);
    } else {
        setErrorMessage(true, value.message);
        toggleSubmitButton(false);
    }
}

//When the apps script threw an error
self.failedToSubmit = function(value){
    toggleSubmitButton(false);
    setErrorMessage(true, value.message);
}
}

//Disables/enables the submit button
function toggleSubmitButton(disabled){
    $('#submitButton').prop('disabled', disabled);
}

//Sets the general message box's message and enables or disabled the error box
function setSuccessMessage(show, message){
    if(show){
        $('.success.message').removeClass('hidden');
        $('.success.message .message').text(message);
    } else {
        $('.success.message').addClass('hidden');
        $('.success.message .message').text('');
    }
}

//Sets the error message box's message and enables or disabled the error box
function setErrorMessage(show, message){
    if(show){
        $('.error.message').removeClass('hidden');
        $('.error.message .message').text(message);
    } else {
        $('.error.message').addClass('hidden');
        $('.error.message .message').text('');
    }
}

function getFormData(){
    var output = {};
    for(var i = 0; i < inputs.length; i++){
        output[inputs[i]] = $('#'+inputs[i]).val();
    }
    return output;
}
</script>

```

**Apps Script** : <https://riptutorial.com/ko/google-apps-script/topic/4874/apps-script-->

# 3: DriveApp

## Examples

### Google

```
function createNewFolderInGoogleDrive(folderName) {  
  return DriveApp.createFolder(folderName);  
}
```

createNewFolderInGoogleDrive **Google** Test folder .

```
var newFolder = createNewFolderInGoogleDrive('Test folder');
```

newFolder .

```
// output id of new folder to log  
Logger.log(newFolder.getId());
```

### Mime Google

```
function createGoogleDriveFileOfMimeType() {  
  var content, fileName, newFile; //Declare variable names  
  
  fileName = "Test File " + new Date().toString().slice(0,15); //Create a new file name with  
  date on end  
  content = "This is the file Content";  
  
  newFile = DriveApp.createFile(fileName, content, MimeType.JAVASCRIPT); //Create a new file in  
  the root folder  
};
```

### Google

```
function createGoogleDriveTextFile() {  
  var content, fileName, newFile; //Declare variable names  
  
  fileName = "Test Doc " + new Date().toString().slice(0,15); //Create a new file name with  
  date on end  
  content = "This is the file Content";  
  
  newFile = DriveApp.createFile(fileName, content); //Create a new text file in the root folder  
};
```

### BLOB Google

```
function createGoogleDriveFileWithBlob() {  
  var blob, character, data, fileName, i, L, max, min, newFile, randomNmbr; //Declare variable names
```

```

fileName = "Test Blob " + new Date().toString().slice(0,15);//Create a new file name with
date on end

L = 500;//Define how many times to loop
data = "";
max = 126;
min = 55;

for (i=0;i<L;i+=1) { //Loop to create data
    randomNmbr = Math.floor(Math.random()*(max-min+1)+min);//Create a random number
    //Logger.log('randomNmbr: ' + randomNmbr);
    character = String.fromCharCode(randomNmbr);

    //Logger.log('character: ' + character);//Print the character to the Logs
    data = data + character;
};

blob = Utilities.newBlob(data, MimeType.PLAIN_TEXT, fileName);//Create a blob with random
characters

newFile = DriveApp.createFile(blob);//Create a new file from a blob

newFile.setName(fileName);//Set the file name of the new file
};

```

- .

```

function processGoogleDriveFolders() {
    var arrayAllFolderNames,continuationToken,folders,foldersFromToken,thisFolder;//Declare
variable names

    arrayAllFolderNames = [];//Create an empty array and assign it to this variable name

    folders = DriveApp.getFolders();//Get all folders from Google Drive in this account
    continuationToken = folders.getContinuationToken();//Get the continuation token

    Utilities.sleep(18000);//Pause the code for 3 seconds

    foldersFromToken = DriveApp.continueFolderIterator(continuationToken);//Get the original
folders stored in the token
    folders = null;//Delete the folders that were stored in the original variable, to prove that
the continuation token is working

    while (foldersFromToken.hasNext()) { //If there is a next folder, then continue looping
        thisFolder = foldersFromToken.next();//Get the next folder
        arrayAllFolderNames.push(thisFolder.getName());//Get the name of the next folder
    };

    Logger.log(arrayAllFolderNames);//print the folder names to the Logs
};

```

- .

```

function processGoogleDriveFiles() {
    var arrayAllFileNames,continuationToken,files,filesFromToken,fileIterator,thisFile;//Declare
variable names

```



```

arrayAllFileNames = []; //Create an empty array and assign it to this variable name

files = DriveApp.getFiles(); //Get all files from Google Drive in this account
continuationToken = files.getContinuationToken(); //Get the continuation token

Utilities.sleep(18000); //Pause the code for 3 seconds

filesFromToken = DriveApp.continueFileIterator(continuationToken); //Get the original files
stored in the token
files = null; //Delete the files that were stored in the original variable, to prove that the
continuation token is working

while (filesFromToken.hasNext()) { //If there is a next file, then continue looping
  thisFile = filesFromToken.next(); //Get the next file
  arrayAllFileNames.push(thisFile.getName()); //Get the name of the next file
};

Logger.log(arrayAllFileNames);
};

```

```

function DriveAppAddFolder(child) { //Adds file to the root drive in Google Drive
  var body, returnedFolder; //Declare variable names

  if (!child) {
    body = "There is no folder";
    MailApp.sendEmail(Session.getEffectiveUser().getEmail(), "", "Error Adding Folder!", body)
    return;
  };

  returnedFolder = DriveApp.addFolder(child); //Add a folder to the root drive

  Logger.log('returnedFolder: ' + returnedFolder); //Print the folder results to the Logs
};

function createNewFolderInGoogleDrive() {
  var folder, newFolderName, timeStamp, dateTimeAsString;

  timeStamp = new Date(); //Create a new date
  dateTimeAsString = timeStamp.toString().slice(0,15);

  newFolderName = 'Test Folder Name ' + dateTimeAsString; //Create new folder name with
date/time appended to name

  folder = DriveApp.createFolder(newFolderName); //Create a new folder
  DriveAppAddFolder(folder); //Call a function and pass a folder to the function
};

```

```

function DriveAppAddFile(child) { //Adds file to the root drive in Google Drive
  var body, returnedFolder; //Declare variable names

  if (!child) {
    body = "There is no file";
    MailApp.sendEmail(Session.getEffectiveUser().getEmail(), "", "Error Adding File!", body)
    return;
  };

```

```

};

returnedFolder = DriveApp.addFile(child);

Logger.log('returnedFolder: ' + returnedFolder);
};

function createNewFileInGoogleDrive() {
  var content, file, newFileName, timeStamp, dateTimeAsString;

  timeStamp = new Date();//Create a new date
  dateTimeAsString = timeStamp.toString().slice(0,15);

  content = "This is test file content, created at: " + dateTimeAsString;//Create content for
new file
  newFileName = 'Test File ' + dateTimeAsString;//Create new file name with date/time appended
to name

  file = DriveApp.createFile(newFileName, content);//Create a new file
  DriveAppAddFile(file);//Call a function and pass a file to the function
};

```

```

function onOpen() {

  // Add a custom menu to run the script
  var ss = SpreadsheetApp.getActiveSpreadsheet();
  var searchMenuEntries = [ {name: "Run", functionName: "search"}];
  ss.addMenu("Get Files", searchMenuEntries);
}

function getFiles() {

  // Get the active spreadsheet and the active sheet
  var ss = SpreadsheetApp.getActiveSpreadsheet();
  var ssid = ss.getId();

  // Look in the same folder the sheet exists in. For example, if this template is in
  // My Drive, it will return all of the files in My Drive.
  var ssparents = DriveApp.getFileById(ssid).getParents();
  var sheet = ss.getActiveSheet();

  // Set up the spreadsheet to display the results
  var headers = [ ["Last Updated", "File Owner", "File Name", "File URL"]];
  sheet.getRange("A1:D").clear();
  sheet.getRange("A1:D1").setValues(headers);

  // Loop through all the files and add the values to the spreadsheet.
  var folder = ssparents.next();
  var files = folder.getFiles();
  var i=1;
  while(files.hasNext()) {
    var file = files.next();
    if(ss.getId() == file.getId()){
      continue;
    }
    sheet.getRange(i+1, 1, 1,
4).setValues([[file.getLastUpdated(),file.getOwner().getName(),file.getName(),
file.getUrl()]]);
    i++;
  }
}

```

```
}  
}
```

DriveApp : <https://riptutorial.com/ko/google-apps-script/topic/5363/driveapp>

---

## 4: DriveApp - getFileById (id)

URL . ID URL URL ID . ID URL .

### Examples

#### ID Google

```
function getGoogleDriveFileById(id) {
  var file;

  file = DriveApp.getFileById(id); //Returns a file - The "id" must be a string

  //One way to manually get a file ID
  // - Open the file from Google Drive
  // - The file ID is in the URL in the browsers address bar
  //https://docs.google.com/spreadsheets/d/File_ID_is_here/edit#gid=0
};
```

DriveApp - getFileById (id) : <https://riptutorial.com/ko/google-apps-script/topic/6087/driveapp---getFileById-id->

## 5: DriveApp

Google Mime Mime . Google Mime .

"DriveApp.createFile ()" Google MIME . .

MimeType.GOOGLE\_APPS\_SCRIPT

MimeType.GOOGLE\_DOCS

MimeType.GOOGLE\_DRAWINGS

MimeType.GOOGLE\_FORMS

MimeType.GOOGLE\_SHEETS

MimeType.GOOGLE\_SLIDES

## Examples

### Google

```
function createNewFolderInGoogleDrive() {
  var folderName,newFolder;//Declare variable names

  folderName = "Test Folder " + new Date().toString().slice(0,15);//Create a new folder name
with date on end
  newFolder = DriveApp.createFolder(folderName);//Create a new folder in the root drive
};
```

### Mime Google

```
function createGoogleDriveFileOfMimeType() {
  var content,fileName,newFile;//Declare variable names

  fileName = "Test File " + new Date().toString().slice(0,15);//Create a new file name with
date on end
  content = "This is the file Content";

  newFile = DriveApp.createFile(fileName,content,MimeType.JAVASCRIPT);//Create a new file in
the root folder
};
```

### Google

```
function createGoogleDriveTextFile() {
  var content,fileName,newFile;//Declare variable names

  fileName = "Test Doc " + new Date().toString().slice(0,15);//Create a new file name with
date on end
```

```

content = "This is the file Content";

newFile = DriveApp.createFile(fileName,content);//Create a new text file in the root folder
};

```

## BLOB Google

```

function createGoogleDriveFileWithBlob() {
    var blob,character,data,fileName,i,L,max,min,newFile,randomNmbr;//Declare variable names

    fileName = "Test Blob " + new Date().toString().slice(0,15);//Create a new file name with
date on end

    L = 500;//Define how many times to loop
    data = "";
    max = 126;
    min = 55;

    for (i=0;i<L;i+=1) { //Loop to create data
        randomNmbr = Math.floor(Math.random()*(max-min+1)+min);//Create a random number
        //Logger.log('randomNmbr: ' + randomNmbr);
        character = String.fromCharCode(randomNmbr);

        //Logger.log('character: ' + character);//Print the character to the Logs
        data = data + character;
    };

    blob = Utilities.newBlob(data, MimeType.PLAIN_TEXT, fileName);//Create a blob with random
characters

    newFile = DriveApp.createFile(blob);//Create a new file from a blob

    newFile.setName(fileName);//Set the file name of the new file
};

```

```

function processGoogleDriveFolders() {
    var arrayAllFolderNames,continuationToken,folders,foldersFromToken,thisFolder;//Declare
variable names

    arrayAllFolderNames = [];//Create an empty array and assign it to this variable name

    folders = DriveApp.getFolders();//Get all folders from Google Drive in this account
continuationToken = folders.getContinuationToken();//Get the continuation token

    Utilities.sleep(18000);//Pause the code for 3 seconds

    foldersFromToken = DriveApp.continueFolderIterator(continuationToken);//Get the original
folders stored in the token
    folders = null;//Delete the folders that were stored in the original variable, to prove that
the continuation token is working

    while (foldersFromToken.hasNext()) { //If there is a next folder, then continue looping
        thisFolder = foldersFromToken.next();//Get the next folder
        arrayAllFolderNames.push(thisFolder.getName());//Get the name of the next folder
    };
};

```

```
Logger.log(arrayAllFolderNames);//print the folder names to the Logs  
};
```

```
function processGoogleDriveFiles() {  
  var arrayAllFileNames, continuationToken, files, filesFromToken, fileIterator, thisFile; //Declare  
  variable names  
  
  arrayAllFileNames = []; //Create an empty array and assign it to this variable name  
  
  files = DriveApp.getFiles(); //Get all files from Google Drive in this account  
  continuationToken = files.getContinuationToken(); //Get the continuation token  
  
  Utilities.sleep(18000); //Pause the code for 3 seconds  
  
  filesFromToken = DriveApp.continueFileIterator(continuationToken); //Get the original files  
  stored in the token  
  files = null; //Delete the files that were stored in the original variable, to prove that the  
  continuation token is working  
  
  while (filesFromToken.hasNext()) { //If there is a next file, then continue looping  
    thisFile = filesFromToken.next(); //Get the next file  
    arrayAllFileNames.push(thisFile.getName()); //Get the name of the next file  
  };  
  
  Logger.log(arrayAllFileNames);  
};
```

**DriveApp** : <https://riptutorial.com/ko/google-apps-script/topic/6395/driveapp->

# 6: DriveApp -



## Examples

" " Google .

```
function mainSearchFunction(searchStr) {
  var fileInfo,arrayFileIDs,arrayFileNames,arrayOfIndexNumbers,
      allFileIDsWithStringInName,i,searchStr,thisID;//Declare variables

  if (!searchStr) {
    searchStr = "Untitled";//Assign a string value to the variable
  };

  fileInfo = getFilesOfType();//Run a function that returns files information
  arrayFileNames = fileInfo[1];//Get the array of file names
  arrayOfIndexNumbers = searchFileNamesForString(arrayFileNames,searchStr);

  //Logger.log('searchStr: ' + searchStr)
  //Logger.log(arrayOfIndexNumbers)

  allFileIDsWithStringInName = [];
  arrayFileIDs = fileInfo[0];

  for (i=0;i<arrayOfIndexNumbers.length;i+=1) {
    thisID = arrayFileIDs[arrayOfIndexNumbers[i]];
    allFileIDsWithStringInName.push(thisID);
  };

  Logger.log(allFileIDsWithStringInName)
};

function getFilesOfType() {
  var allFormFiles,arrFileName,arrFileID,arrFileUrls,thisFile;

  allFormFiles = DriveApp.getFilesByType(MimeType.GOOGLE_FORMS);
  arrFileName = [];
  arrFileID = [];
  arrFileUrls = [];

  while (allFormFiles.hasNext()) {
    thisFile=allFormFiles.next();
    arrFileName.push(thisFile.getName());
    arrFileID.push(thisFile.getId());
    arrFileUrls.push(thisFile.getUrl());
  };

  //Logger.log(arrFileName)
  return [arrFileID,arrFileName];
};

function searchFileNamesForString(arrayFileNames,searchStr) {
  var arrayIndexNumbers,i,L,thisName;
```



```
arrayIndexNumbers = [];  
  
L = arrayFileNames.length;  
  
for (i=0;i<L;i+=1){  
    thisName = arrayFileNames[i];  
    Logger.log(thisName);  
    Logger.log('thisName.indexOf(searchStr): ' + thisName.indexOf(searchStr));  
  
    if (thisName.indexOf(searchStr) !== -1) {  
        arrayIndexNumbers.push(i);  
    };  
};  
  
return arrayIndexNumbers;  
};
```

DriveApp - : <https://riptutorial.com/ko/google-apps-script/topic/4049/driveapp----->

# 7: Firebase AppScript :

Firestore Google AppScript Firestore .

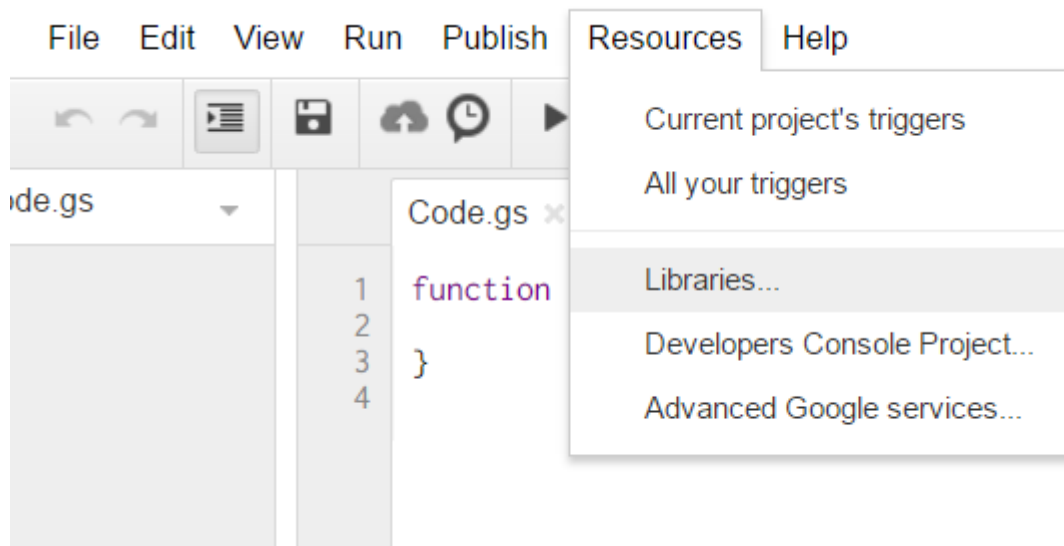
Firestore Google NoSQL , . NoSQL JSON .

## Examples

GAS Firestore Google Firestore

## AppScript Firestore .

- .
- Firestore AppScript .



- . MYeP8ZEEt1yIVDxS7uyg9plDOcoke7-2l Firestore .

## Included Libraries

Title	Version	Identifier	Development Mode
FirebaseApp	...	FirebaseApp	off

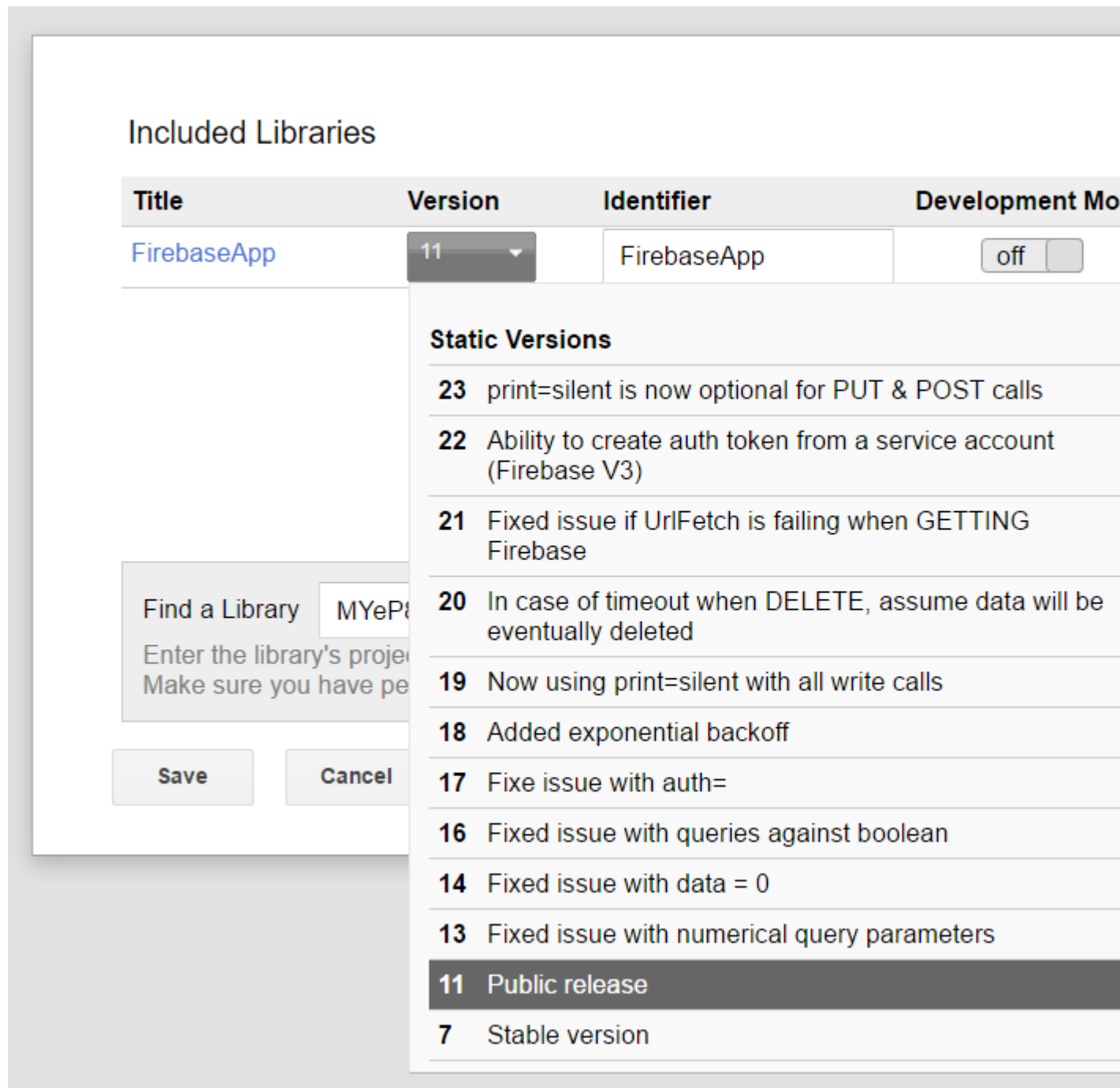
Find a Library

Select

Enter the library's project key (found under File > Project Properties).  
Make sure you have permissions to access the library or its containing spreadsheet.

Save

Cancel



- [Firebase AppScript](#)

## Firestore

- [Google](#)

A	B	C	D	E	
First Name	Last Name	Email Address	Phone Number	Semester	Departn
Vishal	vishwakarma	vishal.vishwakar	9594852468		7 INFT
Yash	Udasi		75395185246		7 INFT

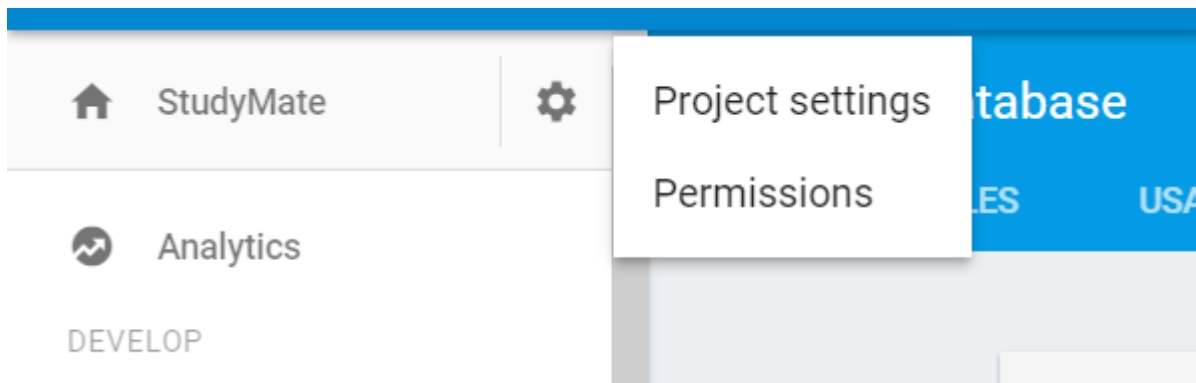
- `firebase . AppScript .`

```
function writeToFirebase() {
  var ss = SpreadsheetApp.openById("1LACsj0s3syAa9gvORdRWBhJ_YcXHbjQfHPgw3TLQ6g");
  var sheet = ss.getSheets()[0];
  var data = sheet.getDataRange().getValues();
  var dataToImport = {};
  for(var i = 1; i < data.length; i++) {
    var firstName = data[i][0];
    var lastName = data[i][1];
    dataToImport[firstName + '-' + lastName] = {
      firstName:firstName,
      lastName:lastName,
      emailAddress:data[i][2],
      semester:data[i][4],
      department:data[i][5],
    };
  }
  var firebaseUrl = "https://example-app.firebaseio.com/";
  var secret = "secret-key";
  var base = FirebaseApp.getDatabaseByUrl(firebaseUrl, secret);
  base.setData("", dataToImport);
}
```

ID firebaseURL .

## firebaseURL ?

- `firebase . .`



- `databaseURL . firebaseURL .`
- `Database Secrets .`

## firebaseURL . . AppScript .

- .
- .
- Firebase Database .

## Firestore .

.

### 1. .

```
function myFunction() {
  var firebaseUrl = "https://example-app.firebaseio.com/";
  var secret = "secret-key";
  var base = FirebaseApp.getDatabaseByUrl(firebaseUrl, secret);
  base.setData("test", "Hello Firestore");
}
```

### 2.

```
function getAllData() {
  var firebaseUrl = "https://example-app.firebaseio.com/";
  var secret = "secret-key";
  var base = FirebaseApp.getDatabaseByUrl(firebaseUrl, secret);
  var data = base.getData();
  for(var i in data) {
    Logger.log(data[i].firstName + ' ' + data[i].lastName);
  }
}
```

. **View** → **Logs** **Control + Enter** .

### 3.

```
function getContact() {
  var firebaseUrl = "https://example-app.firebaseio.com/";
  var secret = "secret-key";
  var base = FirebaseApp.getDatabaseByUrl(firebaseUrl, secret);
  var contact = base.getData("Yash-Udasi");
  Logger.log(contact);
}
```

. **View** → **Logs** **Control + Enter** .

### 4. .

```
function updateData() {
```

```
var firebaseUrl = "https://example-app.firebaseio.com/";
var secret = "secret-key";
var base = FirebaseApp.getDatabaseByUrl(firebaseUrl, secret);
base.updateData("Yash-Udasi/emailAddress", "yash.udasi@fyuff.com");
}
```

Firestore AppScript : : <https://riptutorial.com/ko/google-apps-script/topic/9417/firebase-appscript>

---

# 8: GmailApp

GmailApp [API](#) .

## Examples

### CSV

CSV .

```
function getCsvFromGmail() {
  // Get the newest Gmail thread based on sender and subject
  var gmailThread = GmailApp.search("from:noreply@example.com subject:\"My daily report\"", 0,
  1)[0];

  // Get the attachments of the latest mail in the thread.
  var attachments = gmailThread.getMessages()[gmailThread.getMessageCount() -
  1].getAttachments();

  // Get and parse the CSV from the first attachment
  var csv = Utilities.parseCsv(attachments[0].getDataAsString());
  return csv;
}
```

**GmailApp** : <https://riptutorial.com/ko/google-apps-script/topic/5899/gmailapp>



# 9: Google

Google .

(-> ).

## Examples

(cm / s<sup>2</sup> 1, ft / s<sup>2</sup> 2, m / s<sup>2</sup> 3) .

```
/**
 * Returns the standard gravity constant in the specified acceleration units
 * Values taken from https://en.wikipedia.org/wiki/Standard_gravity on July 24, 2016.
 *
 * @param {number} input 1 for cm/s2, 2 for ft/s2, 3 for m/s2
 *
 * @customfunction
 */
function sg(units_key) {
  var value;
  switch(units_key) {
    case 1:
      value = 980.665;
      break;
    case 2:
      value = 32.1740;
      break;
    case 3:
      value = 9.80665;
      break;
    default:
      throw new Error('Must to specify 1, 2 or 3');
  }
  return value;
}
```

(-> ...) . Google .

. JSDoc Javadoc . @customfunction .

#DIV/0 .

```
/**
 * Divides n by d unless d is zero, in which case, it returns
 * the given symbol.
 *
 * @param {n} number The numerator
 * @param {d} number The divisor
 * @param {symbol} string The symbol to display if `d == 0`
 * @return {number or string} The result of division or the given symbol
 *
 * @customfunction
 */
function zeroSafeDivide(n, d, symbol) {
```

```
if (d == 0)
  return symbol;
else
  return n / d;
}
```

( -> ... ) . Google .

$f_x$	=zeroSafeDivide(5,0,"-")	
	A	B
1	-	
2		

. JSDoc Javadoc . @customfunction .

Google : <https://riptutorial.com/ko/google-apps-script/topic/5572/google----->

# 10: Google MailApp

. GmailApp MailApp . MailApp Gmail .

GmailApp MailApp .

## Examples

### MailApp

MailApp Google App Script api .

```
function sendEmails() {  
  
    var subject = "A subject for your new app!";  
    var message = "And this is the very first message";  
    var recipientEmail = "abc@example.com";  
  
    MailApp.sendEmail(recipientEmail, subject, message);  
}
```

MailApp Google .

- (: Gmail) : 100 /
- Google Apps () : 100 /
- GSuite (/ Gov / Edu / Business) : 1500 /

MailApp .

```
function checkQuota() {  
    Logger.log(MailApp.getRemainingDailyQuota());  
}
```

```
function getSheetData() {  
  
    var sheet = SpreadsheetApp.getActiveSheet();  
  
    var startRow = 2; // First row of data to process  
    var numRows = 100; // Number of rows to process  
    var startCol = 1; // First column of data to process  
    var numCols = 15; // Number of columns to process  
  
    var dataRange = sheet.getRange(startRow, startCol, numRows, numCols);  
  
    // Fetch values for each row in the Range.  
    var data = dataRange.getValues();  
  
    return data;  
}
```

```
function getDataSheet() {
    sheet = SpreadsheetApp.getActiveSheet();

    //Get data range based on content
    var dataRange = sheet.getDataRange();

    // Fetch values for each row in the Range.
    var data = dataRange.getValues();

    return data;
}
```

- A .

- .

.

A	B	C
Name	Email Address	Reimberseme amount
Ramesh	ramesh@sample.com	200
Vidhita	vidhita@sample.com	50
Jhanvi	jhanvi@sample.com	30

.

```
function getDataSheet() {
    sheet = SpreadsheetApp.getActiveSheet();

    startRow = 2; // First row of data to process
    numRows = 100; // Number of rows to process
    startCol = 1; //First column of data to process
    numCols = 15; // Number of columns to process

    var dataRange = sheet.getRange(startRow, startCol, numRows, numCols);

    // Fetch values for each row in the Range.
    var data = dataRange.getValues();

    return data;
}

function getMessage(name, amount) {
    return "Hello " + name + ", Your reimbursement for amount " + amount + " is processed successfully";
}
```

```

function sendEmail() {

    var emailSent = "Yes";
    var reimbursed = "Yes";
    var emailCol = 5;

    var data = getDataSheet();

    for (var i = 0; i < data.length; i++) {

        var row = data[i];

        var isReimbursed = row[3];
        var isEmailSent = row[4];
        var name = row[0];
        var amount = row[2];

        if(isReimbursed == reimbursed && isEmailSent != emailSent) {

            var subject = "Reimbursement details";
            var message = getMessage(name, amount);

            var recipientEmail = row[1];

            MailApp.sendEmail(recipientEmail, subject, message);

            //Sheet range starts from index 1 and data range starts from index 0
            sheet.getRange(1 + i, emailCol).setValue(emailSent);
        }
    }
}

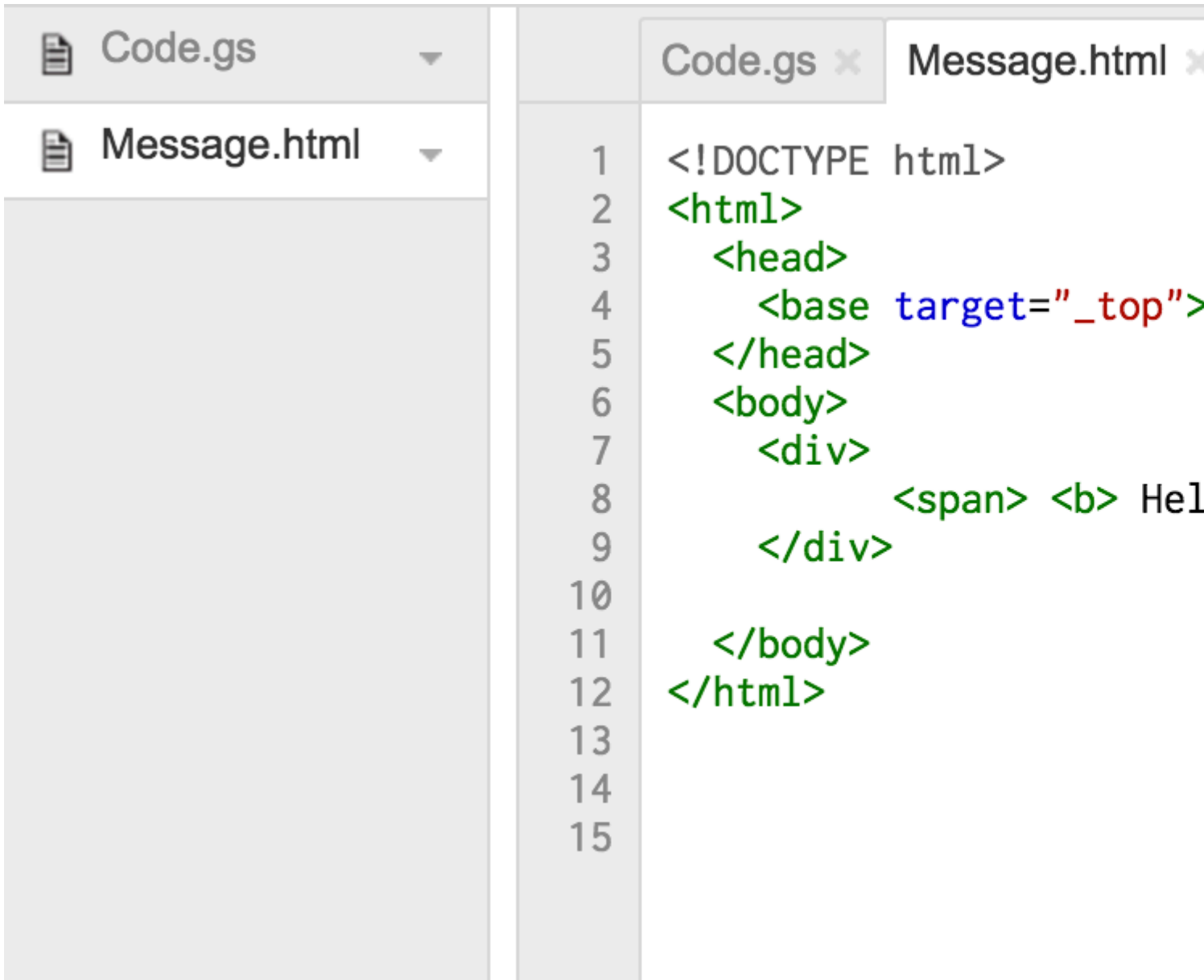
```

A	B	C
<b>Name</b>	<b>Email Address</b>	<b>Reimberseme amount</b>
Ramesh	ramesh@sample.com	20
Vidhita	vidhita@sample.com	5
Jhanvi	jhanvi@sample.com	3

## HTML

HTML -> -> HTML HTML .

gs HTML .



The screenshot shows a code editor with two tabs: 'Code.gs' and 'Message.html'. The 'Message.html' tab is active and displays the following HTML code:

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <base target="_top">
5   </head>
6   <body>
7     <div>
8       <span> <b> Hel
9     </div>
10
11   </body>
12 </html>
13
14
15
```

*getMessage ()* .

```
function getMessage(name, amount) {
  var htmlOutput = HtmlService.createHtmlOutputFromFile('Message'); // Message is the name of
the HTML file

  var message = htmlOutput.getContent()
  message = message.replace("%name", name);
  message = message.replace("%amount", amount);

  return message;
}
```

*MailApp API* .

```
MailApp.sendEmail(recipientEmail, subject, message, {htmlBody : message});
```

```

function getDataSheet() {

    sheet = SpreadsheetApp.getActiveSheet();

    startRow = 2; // First row of data to process
    numRows = 100; // Number of rows to process
    startCol = 1; //First column of data to process
    numCols = 15; // Number of columns to process

    var dataRange = sheet.getRange(startRow, startCol, numRows, numCols);

    // Fetch values for each row in the Range.
    var data = dataRange.getValues();

    return data;
}

function getMessage(name, amount) {
    var htmlOutput = HtmlService.createHtmlOutputFromFile('Message');

    var message = htmlOutput.getContent()
    message = message.replace("%name", name);
    message = message.replace("%amount", amount);

    return message;
}

function sendEmail() {

    var emailSent = "Yes";
    var reimbursed = "Yes";
    var emailCol = 5;

    var data = getDataSheet();

    for (var i = 0; i < data.length; i++) {

        var row = data[i];

        var isReimbursed = row[3];
        var isEmailSent = row[4];
        var name = row[0];
        var amount = row[2];

        if(isReimbursed == reimbursed && isEmailSent != emailSent) {

            var subject = "Reimbursement details";
            var message = getMessage(name, amount);

            var recipientEmail = row[1];

            MailApp.sendEmail(recipientEmail, subject, message, {htmlBody : message});

            sheet.getRange(startRow + i, emailCol).setValue(emailSent);
        }
    }
}

```

Google MailApp : <https://riptutorial.com/ko/google-apps-script/topic/5298/google--mailapp>

# 11: Google Google

Google App ( ) PC Google . .1. ( )2. . "How it works" .

<https://script.google.com> .

## Examples

### forms.html

```
<!DOCTYPE html>
<html>
  <head>
    <base target="_top">
    <script>

    setInterval(
    function ()
    {
      document.getElementById('messages').innerHTML = 'Event Timer Fetching';
      google.script.run
        .withSuccessHandler(onSuccess)
        .withFailureHandler(onFailure)
        .fetchFromGoogleDrive();
    }, 60000);

    function callFetchGoogleDrive() {
      document.getElementById('messages').innerHTML = 'Fetching';
      google.script.run
        .withSuccessHandler(onSuccess)
        .withFailureHandler(onFailure)
        .fetchFromGoogleDrive();
    }

    function onSuccess(sHref)
    {
      if(new String(sHref).valueOf() == new String("").valueOf())
      {
        document.getElementById('messages').innerHTML = 'Nothing to download';
      }
      else
      {
        document.getElementById('messages').innerHTML = 'Success';
        document.getElementById('HiddenClick').href = sHref;
        document.getElementById('HiddenClick').click(); // Must enable Pop Ups for
https://script.google.com
      }
    }

    function onFailure(error)
    {
      document.getElementById('messages').innerHTML = error.message;
    }
  }
</script>
</head>
</html>
```



```

    </script>
</head>
<body>
  <div id="messages">Waiting to DownLoad!</div>
  <div>
    <a id="HiddenClick" href="" target="_blank" onclick="google.script.host.close"
style="visibility: hidden;">Hidden Click</a>
  </div>
  <div>
    <button type="button" onclick='callFetchGoogleDrive();' id="Fetch">Fetch Now!</button>
  </div>
</body>
</html>

```

## code.gs

```

function doGet(e){
  var serveFile = e.parameter.servefile;
  var id = e.parameter.id;

  if(serveFile)
  {
    return downloadFile(id); // and Hyde
  }

  return HtmlService.createHtmlOutputFromFile('form.html'); // Jekyll
}

function fetchFromGoogleDrive() { // Jekyll
  var fileslist = DriveApp.searchFiles("your search criteria goes here + and trashed =
false"); // the 'and trashed = false' prevents the same file being download more than once

  if (fileslist.hasNext()) {
    var afile = fileslist.next();
    var html = ScriptApp.getService().getUrl()+"?servefile=true&id="+afile.getId();
    return html;
  }
  else
  {
    return '';
  }
}

function downloadFile(id){ // and Hyde
  try
  {
    var afile = DriveApp.getFileById(id);

    var aname = afile.getName();
    var acontent = afile.getAs('text/plain').getDataAsString();

    var output = ContentService.createTextOutput();
    output.setMimeType(ContentService.MimeType.CSV);
    output.setContent(acontent);
    output.downloadAsFile(aname);
    afile.setTrashed(true);
    return output;
  }
}

```

```

catch (e) {
    return ContentService.createTextOutput('Nothing To Download')
}
}

```

Google ( ) PC ( ) ( ).

DriveApp . Google Apps / . (Google )

DriveApp PC . .

. . PC . .

URL ( ) URL . url . URL ( ) ( ).

URL . URL .

Google ContentService createTextOutput doGet / doPost Drive . doGet / doPost UI

.

. UI .

UI .

Dr. Jekyll Mr Hyde .

GET (doGet) . . .

servefile = true .

javascript ( setInterval ) .

URL .

? servefile = true & id = the\_id\_of\_the\_google\_drive\_file

(\* .)

withSuccessHandler .

Java HREF .

app / script . doGet servefile . ID .

ID .

/ .

. .

Google Google : <https://riptutorial.com/ko/google-apps-script/topic/8212/google----google--->

---

## 12: SpreadsheetApp

: `getActive ()`

:

### Examples

`getActive ()` -

returns `null` .

```
var currentSheet = SpreadsheetApp.getActive();
var url = currentSheet.getUrl();
Logger.log( url );
```

**SpreadsheetApp** : <https://riptutorial.com/ko/google-apps-script/topic/5861/spreadsheetapp-->

# 13:

API <https://developers.google.com/apps-script/reference/spreadsheet/> .

## Examples

```
var spread_sheet = SpreadsheetApp.getActiveSpreadsheet(); //Get active spreadsheet
var sheet_with_name_a = spread_sheet.getSheetByName("sheet_tab_name");
```

```
var spread_sheet = SpreadsheetApp.getActiveSpreadsheet();
var active_sheet = spread_sheet.getActiveSheet();
```

```
var spread_sheet = SpreadsheetApp.getActiveSpreadsheet();
var active_sheet = spread_sheet.getActiveSheet();
active_sheet.insertColumnAfter(1); // This inserts a column after the first column position
active_sheet.insertColumnBefore(1); // This inserts a column in the first column position
active_sheet.insertColumns(1); // Shifts all columns by one
active_sheet.insertColumns(1, 3); // Shifts all columns by three
active_sheet.insertColumnsAfter(1); // This inserts a column in the second column position
active_sheet.insertColumnsBefore(1, 5); // This inserts five columns before the first column
```

```
var spread_sheet = SpreadsheetApp.getActiveSpreadsheet();
var active_sheet = spread_sheet.getActiveSheet();
active_sheet.insertRowAfter(1); // This inserts a row after the first row position
active_sheet.insertRowBefore(1); // This inserts a row in the first row position
active_sheet.insertRows(1); // Shifts all rows by one
active_sheet.insertRows(1, 3); // Shifts all rows by three
active_sheet.insertRowsAfter(1); // This inserts a row in the second row position
active_sheet.insertRowsBefore(1, 5); // This inserts five rows before the first row
```

```
var spread_sheet = SpreadsheetApp.getActiveSpreadsheet();
var active_sheet = spread_sheet.getActiveSheet();
var cell = range.getCell(1, 1);
var cell_value = cell.getValue();
cell.setValue(100);
```

```
var spread_sheet = SpreadsheetApp.getActiveSpreadsheet();
var active_sheet = spread_sheet.getActiveSheet();
var rangeToCopy = active_sheet.getRange(1, 1, sheet.getMaxRows(), 5);
rangeToCopy.copyTo(sheet.getRange(1, 6));
```

```
var spread_sheet = SpreadsheetApp.getActiveSpreadsheet();
var active_sheet = spread_sheet.getActiveSheet();
var range = active_sheet.getRange("B5");
var formula = range.getFormula();
range.setFormula("=SUM(B3:B4)");
```

Google B2 D5 .

```
function copyValueandPaste()
```

```

{
  var source = SpreadsheetApp.openById('spread sheet id is here'); //Separate spreadsheet
  book
  var sourcesheet = source.getSheetByName('Sheet1'); //Sheet tab with source data
  var sourceCellValue = sourcesheet.getRange('B2').getValue(); // get B2 cell value

  var thisBook = SpreadsheetApp.getActive(); // Active spreadsheet book
  var thisSheet = thisBook.getSheetByName('Sheet1'); // Target sheet
  thisSheet.getRange('D5').setValue(sourceCellValue); //Set value to target sheet D5 cell
}

```

## URL ID .

```

function lastRowForColumn(sheet, column){
  // Get the last row with data for the whole sheet.
  var numRows = sheet.getLastRow();

  // Get all data for the given column
  var data = sheet.getRange(1, column, numRows).getValues();

  // Iterate backwards and find first non empty cell
  for(var i = data.length - 1 ; i >= 0 ; i--){
    if (data[i][0] != null && data[i][0] != ""){
      return i + 1;
    }
  }
}

```

```

var someSheet = SpreadsheetApp.getActiveSpreadsheet().getSheets()[0];
someSheet.appendRow(["Frodo", "Baggins", "Hobbit", "The Shire", 33]);

```

```

var someSheet = SpreadsheetApp.getActiveSpreadsheet().getSheets()[0];

var newRowIndex = 2;
var row = ["Gandalf", "?", "Wizard", "?", 2019];
someSheet.insertRowBefore(newRowIndex);
// getRange(row, col, numRows, numCols)
someSheet.getRange(newRowIndex, 1, 1, row.length).setValues([row]); // Note 2D array!

```

```

function insertRowBefore(sheet, rowIndex, rowData) {
  sheet.insertRowBefore(rowIndex);
  sheet.getRange(rowIndex, 1, 1, rowData.length).setValues([rowData]);
}

```

:

```
var someSheet = SpreadsheetApp.getActiveSpreadsheet().getSheets()[0];
insertRowBefore(someSheet, 2, ["Gandalf", "?", "Wizard", "?", 2019]);
```

: <https://riptutorial.com/ko/google-apps-script/topic/2688/-->

# 14:

## 1. addMenu (name, subMenus)



onOpen addMenu .

```
// The onOpen function is executed automatically every time a Spreadsheet is loaded
function onOpen() {
    var activeSheet = SpreadsheetApp.getActiveSpreadsheet();
    var menuItems = [];
    // When the user clicks on "addMenuExample" then "Menu 1", the function Myfunction1 is
    executed.
    menuItems.push({name: "Menu 1", functionName: "Myfunction1"});
    menuItems.push(null); // adding line separator
    menuItems.push({name: "Menu 2", functionName: "Myfunction2"});

    activeSheet.addMenu("addMenuExample", menuEntries);
}
```

## Examples

UI . . .

```
var activeSheet = SpreadsheetApp.getActiveSpreadsheet();
var menuItems = [];
// When the user clicks on "addMenuExample" then "Menu 1", the function Myfunction1 is
executed.
menuItems.push({name: "Menu 1", functionName: "Myfunction1"});
menuItems.push(null); // adding line separator
menuItems.push({name: "Menu 2", functionName: "Myfunction2"});

activeSheet.addMenu("addMenuExample", menuEntries);
```

/\*

: App Loads .

\*/

```
function onOpen() {
    var ui = SpreadsheetApp.getUi();
    // Or DocumentApp or FormApp.
    ui.createMenu('My HR')
        .addItem('Send Form to All', 'sendIDPForm_All')
        .addItem('Trigger IDP System', 'applyCategory')
```

```
.addToUi ();  
}
```

: <https://riptutorial.com/ko/google-apps-script/topic/4253/--->



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# 15: Google -

Google appscript Google , . Google .

Google Google . Google

## Examples

Google .

```
<script src="https://apis.google.com/js/api.js"></script>
<script>
function start() {
  // 2. Initialize the JavaScript client library.
  gapi.client.init({
    'apiKey': 'YOUR_API_KEY',
    // clientId and scope are optional if auth is not required.
    'clientId': 'YOUR_WEB_CLIENT_ID.apps.googleusercontent.com',
    'scope': 'profile',
  }).then(function() {
    // 3. Initialize and make the API request.
    return gapi.client.request({
      'path': 'https://people.googleapis.com/v1/people/me',
    })
  }).then(function(response) {
    console.log(response.result);
  }, function(reason) {
    console.log('Error: ' + reason.result.error.message);
  });
};
// 1. Load the JavaScript client library.
gapi.load('client', start);
</script>
```

Google - : <https://riptutorial.com/ko/google-apps-script/topic/8875/-google----->

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