To manually add the TypeScript code I provided as a VS Code extension, follow these steps:

1. Set Up Your Development Environment:

Node.js and npm: Ensure you have Node.js and npm (Node Package Manager) installed.
VS Code: You'll need VS Code itself.
Yeoman and VS Code Extension Generator:
Open your terminal or command prompt.
Install Yeoman and the VS Code extension generator:
Bash

```
npm install -g yo generator-code
```

2. Create the Extension Project:

In your terminal, navigate to the directory where you want to create your extension.
Run the VS Code extension generator:
Bash

```
yo code
```

Follow the prompts:
Choose "New TypeScript Extension."
Provide a name for your extension (e.g., "auto-import-shared-module").
Provide an identifier (e.g., "auto-import-shared-module").
Provide a description.
Choose a Git repository (optional).
Choose "npm" as the package manager.
Open the new folder in VS Code.
3. Replace the Generated Code:

Open the src/extension.ts file in your VS Code project.
Delete the existing generated code.
Paste the TypeScript code I provided into extension.ts.
edit the shared module path, and module name to the correct values for your project.
4. Modify package.json:

Open the package.json file.
Add a commands section to define your command:
JSON

```
{
  "name": "auto-import-shared-module",
  "displayName": "Auto Import Shared Module",
  "description": "Auto imports a shared module into all relevant files.",
  "version": "0.0.1",
  "engines": {
    "vscode": "^1.75.0"
  },
  "categories": [
    "Other"
  ],
  "activationEvents": [
    "onCommand:extension.autoImportSharedModule"
  ],
  "main": "./out/extension.js",
```

```
  "contributes": {
    "commands": [
      {
        "command": "extension.autoImportSharedModule",
        "title": "Auto Import Shared Module"
      }
    ]
  },
  "scripts": {
    "vscode:prepublish": "npm run compile",
    "compile": "tsc -p ./",
    "watch": "tsc -watch -p ./",
    "pretest": "npm run compile && npm run lint",
    "lint": "eslint src --ext ts",
    "test": "node ./out/test/runTest.js"
  },
  "devDependencies": {
    "@types/node": "18.x",
    "@types/vscode": "^1.75.0",
    "@typescript-eslint/eslint-plugin": "^5.27.0",
    "@typescript-eslint/parser": "^5.27.0",
    "eslint": "^8.16.0",
    "typescript": "^4.7.2",
    "@vscode/test-electron": "^2.1.3"
  }
}
```

5. Compile and Run the Extension:

Open the integrated terminal in VS Code (View > Terminal).
Run npm install to install dependencies.
Run npm run compile to compile the typescript code into javascript.
Press F5 to start debugging the extension. This will open a new VS Code window (the Extension Development Host).
6. Test the Extension:

In the Extension Development Host window, open a project that contains TypeScript files.
Open the command palette (Ctrl+Shift+P or Cmd+Shift+P).
Type "Auto Import Shared Module" and select your command.
The extension should run, and you should see the import statements added to your files.
7. Package the Extension (Optional):

If you want to distribute your extension, you can package it into a .vsix file.
Install vsce (VS Code Extension Manager):
Bash

```
npm install -g vsce
```

Run vsce package in your extension's directory. This will create a .vsix file.
Important Considerations:

Error Handling: Enhance the error handling in the code to provide more informative messages.
Configuration: Add settings to your package.json to allow users to customize the shared module name and path.
Testing: Write unit tests to ensure your extension works correctly.

Workspace Edits: instead of using fs.WriteFileSync, use vscode.workspace.applyEdit, and vscode.workspace.createWorkspaceEdit. This will allow the user to undo the changes made by your extension.
Progress Reporting: For large projects, provide progress updates to the user.
User Feedback: provide feedback to the user when the operation is complete, or if there were any errors.

```
import * as vscode from 'vscode';
import * as fs from 'fs';
import * as path from 'path';

export function activate(context: vscode.ExtensionContext) {
  let disposable =
vscode.commands.registerCommand('extension.autoImportSharedModule', async
() => {
    const sharedModuleName = 'SharedModule'; // Replace with your shared
module name
    const sharedModulePath = 'path/to/your/shared.module'; // Replace
with the relative path to your shared module

    if (!vscode.workspace.workspaceFolders) {
      vscode.window.showErrorMessage('No workspace folder open.');
      return;
    }

    const workspacePath =
vscode.workspace.workspaceFolders[0].uri.fsPath;

    async function processFile(filePath: string) {
        try {
            let content = fs.readFileSync(filePath, 'utf8');

            // Simple check if the module is already imported.
            if (content.includes(`import { ${sharedModuleName} } from
'${sharedModulePath}';`)) {
                return; // Already imported
            }

            // Simple insertion of the import statement at the top.
            const importStatement = `import { ${sharedModuleName} } from
'${sharedModulePath}';\n`;
            content = importStatement + content;

            fs.writeFileSync(filePath, content, 'utf8');

            console.log(`Imported ${sharedModuleName} into ${filePath}`);
        } catch (error) {
            console.error(`Error processing ${filePath}: ${error}`);
        }
    }

    async function processDirectory(dirPath: string) {
      const files = fs.readdirSync(dirPath);

      for (const file of files) {
        const filePath = path.join(dirPath, file);
        const stats = fs.statSync(filePath);
```

```
        if (stats.isDirectory()) {
          await processDirectory(filePath); // Recursive call for
subdirectories
        } else if (file.endsWith('.ts') || file.endsWith('.tsx')) { //
Filter for TypeScript files
          await processFile(filePath);
        }
      }
    }

    await processDirectory(workspacePath);

    vscode.window.showInformationMessage(`Auto-imported
${sharedModuleName} into relevant files.`);
  });

  context.subscriptions.push(disposable);
}

export function deactivate() {}
```

If you've uninstalled @types/jasmine and are still facing the error, it indicates that the duplicate definitions are persisting from another source, likely within your project's node_modules or potentially from a global installation. Here's a systematic approach to pinpoint and resolve the issue:

1. Verify Uninstallation:

Double-check package.json: Open your package.json file and make absolutely sure @types/jasmine is no longer listed in dependencies or devDependencies.

Verify node_modules: Delete the node_modules folder and reinstall your dependencies:

Bash

rm -rf node_modules
npm install
This ensures that any lingering cached versions of @types/jasmine are removed.

2. Investigate Remaining Type Definitions:

Global Installations (less likely, but possible):

While less common, it's possible you have a globally installed package that is causing conflict.
Run npm list -g and yarn global list to check for globally installed packages.
If you see @types/jasmine or any related packages, uninstall them globally.
node_modules Deep Dive:

Some dependencies you have may themselves depend on @types/jasmine.
Use npm ls @types/jasmine or yarn why @types/jasmine to see if other packages depend on it.
If a package is bringing in the offending dependency, you have a few options:
Update the package, maybe a newer version removes the dependency.
Consider switching to a different library that does not have the problematic dependency.
If the offending package is your own, you will need to remove the dependency from it.
VS Code Caching:

VS Code might be caching type information. Restart VS Code to clear any cached data.
3. Explicitly Scope Definitions (if needed, but still less ideal):

If, after all the above, you are still facing the issue, then you may need to explicitly scope the mocha definitions.
In the file that is causing the error, import mocha's definitions.
TypeScript

```
    import { describe, it, xdescribe } from 'mocha';

    describe('Your Suite', () => {
```

```
        it('Your test', () => {
            // your test code.
        });
        xdescribe('your xdescribe', ()=>{
            //your skipped test.
        });
    });
```

This will force the file to use the imported mocha definitions, and should resolve the conflict.

4. tsconfig.json (Use with Caution):

As mentioned earlier, modifying tsconfig.json is generally not the best approach. However, if all else fails, you can try these options:

types array:

Explicitly list only the types you want to include.

In your tsconfig.json, add or modify the types array:

JSON

```
{
  "compilerOptions": {
    // ... other options
    "types": ["mocha"] // Only include Mocha types
  }
}
```

typeRoots array:

Specify the directories where TypeScript should look for type definitions.

This can help you control which type definitions are loaded.

JSON

```
{
  "compilerOptions": {
    // ... other options
    "typeRoots": ["./node_modules/@types"] // Only look in
node_modules/@types
  }
}
```

Troubleshooting Tips:

Clean Install: Always perform a clean install (rm -rf node_modules && npm install) after making changes to dependencies.

VS Code Extensions: If you have any VS code extensions that might be influencing typescript, disable them to test if they are contributing to the issue.

Restart TypeScript Server: In VS Code, use "TypeScript: Restart TS Server" from the command palette.

By systematically working through these steps, you should be able to identify and eliminate the source of the duplicate type definitions.

This error message indicates a type definition conflict between @types/mocha and @types/jasmine. Both libraries define global functions like xdescribe and it, leading to TypeScript's "duplicate identifier" error.

Here's a breakdown of the problem and how to resolve it:

Understanding the Problem

Duplicate Declarations:
Both @types/mocha and @types/jasmine provide type definitions for testing frameworks.
They both define global functions like describe, it, xdescribe, and others, which are used for writing test suites.
TypeScript is complaining because it finds multiple declarations for the same identifier in the global scope.
Conflicting Types:
Even if the function names were the same, the type signatures (the parameters and return types) might differ slightly, causing further conflicts.
VS Code and TypeScript:
VS Code uses the TypeScript language service to provide code analysis and error checking.
The error messages you're seeing are from the TypeScript compiler, which is flagging the type conflicts.
Solutions

Choose One Testing Framework:

The most robust solution is to decide whether you're primarily using Mocha or Jasmine for your tests.
If you're using Mocha, you likely don't need @types/jasmine, and vice versa.
Uninstall the type definitions for the framework you're not using:
Bash

```
npm uninstall @types/jasmine # If you're using Mocha
npm uninstall @types/mocha # If you're using Jasmine
```

Explicitly Import and Scope:

If you absolutely need to use both frameworks (which is generally discouraged), you can avoid global conflicts by explicitly importing the functions you need from each library and scoping them to specific files or modules. This will avoid global namespace pollution.
TypeScript

```
// Example (not recommended, but shows how to scope)
import { it as mochaIt, describe as mochaDescribe } from 'mocha';
import { it as jasmineIt, describe as jasmineDescribe } from 'jasmine';

mochaDescribe('Mocha tests', () => {
  mochaIt('should do something in Mocha', () => {
    // ...
  });
});

jasmineDescribe('Jasmine tests', () => {
  jasmineIt('should do something in Jasmine', () => {
```

```
    // ...
  });
});
```

This method is much more verbose, and generally should be avoided if possible.

Check for Conflicting Dependencies:

Sometimes, other libraries you're using might inadvertently include conflicting type definitions.

Review your package.json file and your node_modules directory to see if any dependencies are pulling in conflicting types.

You might need to update or remove those dependencies.

tsconfig.json Adjustments (Less Recommended):

You could attempt to adjust your tsconfig.json file to try and resolve the conflicts. However, this is generally not recommended, as it can lead to unexpected behavior and make your code less maintainable.

Specifically, you could try using typeRoots or types within the tsconfig file, to control how typescript resolves type definitions. However, if the root issue is that you have duplicate global definitions, this will not fully solve the issue.

Recommended Approach

The cleanest and most maintainable solution is to choose one testing framework (Mocha or Jasmine) and remove the type definitions for the other. This will prevent the type conflicts and make your code easier to understand and maintain.

```
import { providePrimeNG as PrimeNGConfig } from 'primeng/config';
```

The error "ERROR Missing publisher name. Learn more: https://code.visualstudio.com/api/working-with-extensions/publishing-extension#publishing-extensions" indicates that your package.json file is missing the publisher field, which is a mandatory requirement for publishing VS Code extensions to the VS Code Marketplace.

Here's a breakdown of the issue and how to resolve it:

Understanding the Error

Publisher Identity:
The publisher field in your package.json file identifies the entity (individual or organization) that is publishing the extension.
This is essential for distinguishing extensions from different authors and for managing extensions on the VS Code Marketplace.
VS Code Marketplace Requirement:
The VS Code Marketplace requires a publisher name to be specified in the package.json file.
This requirement helps maintain order and prevent name conflicts.
vsce Tool Enforcement:
The vsce (Visual Studio Code Extensions) tool enforces this requirement during the packaging and publishing process.
How to Resolve the Error

Create a Publisher Account:

If you don't already have a publisher account, you need to create one on the Azure DevOps (formerly Visual Studio Team Services) platform.
Follow the instructions in the VS Code documentation: https://code.visualstudio.com/api/working-with-extensions/publishing-extension#get-a-publisher
Essentially, you will need an Azure DevOps organization.
Add the publisher Field to package.json:

Open the package.json file in your extension's root directory.
Add a publisher field with the name of your publisher account.
Example:
JSON

```
{
  "name": "your-extension-name",
  "displayName": "Your Extension Display Name",
  "description": "Your extension description",
  "version": "1.0.0",
  "publisher": "your-publisher-name",
  // ... other fields
}
```

Replace "your-publisher-name" with the actual name of your publisher account.
Repackage or Republish:

After adding the publisher field, rerun the vsce package or vsce publish command.
The error should no longer appear.
Key Points

Publisher Name Uniqueness: Publisher names must be unique on the VS Code Marketplace.

Azure DevOps: Publisher accounts are managed through Azure DevOps.
Documentation: The VS Code documentation provides detailed instructions on creating and managing publisher accounts.
By following these steps, you'll resolve the missing publisher name error and be able to successfully publish your VS Code extension.

To avoid the "WARNING: A 'repository' field is missing from the 'package.json' manifest file" warning when packaging or publishing your VS Code extension, you need to add the repository field to your package.json file. Here's a step-by-step guide:

1. Open Your package.json File:

Locate the package.json file in the root directory of your VS Code extension project.
Open it in a text editor.
2. Add the repository Field:

Inside the main JSON object in your package.json file, add a repository field.
The repository field should be an object with type and url properties.
The type property should be set to "git" (or another version control system if applicable).
The url property should be the URL of your extension's source code repository (e.g., your GitHub repository).
Example:

JSON

```
{
  "name": "your-extension-name",
  "displayName": "Your Extension Display Name",
  "description": "Your extension description",
  "version": "1.0.0",
  "repository": {
    "type": "git",
    "url": "https://github.com/your-username/your-extension-repo.git"
  },
  // ... other fields
}
```

Important Notes:

Replace Placeholders: Make sure to replace "your-username/your-extension-repo.git" with the actual URL of your repository.
Correct URL: Double-check that the URL is correct and points to the right repository.
Git Repository: If you're using Git (which is highly recommended for VS Code extensions), ensure that your extension's code is hosted on a Git platform like GitHub, GitLab, or Bitbucket.
Save the File: After adding the repository field, save your package.json file.
3. Repackage or Republish:

Once you've added the repository field, run the vsce package or vsce publish command again.
The warning should no longer appear.
Why This Is Important:

Transparency: Providing a repository URL allows users to view your extension's source code, report issues, and contribute.
Community: It fosters a sense of community and collaboration.
Best Practices: It adheres to the best practices for publishing VS Code extensions.
Automated tools: some tools that work with vscode extentions, or that people use to inspect them, will use the repository field.

These warnings from vsce indicate that your package.json and project are missing some recommended or required information for publishing a VS Code extension. Let's break down each warning and how to address them:

1. WARNING: A 'repository' field is missing from the 'package.json' manifest file.

Meaning:

The repository field in your package.json file specifies the location of your extension's source code repository (e.g., GitHub, GitLab, Bitbucket).
This is important for users who want to contribute to your extension, report issues, or view the source code.
How to Fix:

Open your package.json file.
Add a repository field with the URL of your repository.
Example:
JSON

```
{
  "name": "your-extension-name",
  "displayName": "Your Extension Display Name",
  "description": "Your extension description",
  "version": "1.0.0",
  "repository": {
    "type": "git",
    "url": "https://github.com/your-username/your-extension-repo.git"
  },
  // ... other fields
}
```

Make sure to replace "https://github.com/your-username/your-extension-repo.git" with the actual URL of your repository.
2. WARNING: LICENSE.md, LICENSE.txt or LICENSE not found.

Meaning:

A license file specifies the terms under which your extension can be used, distributed, and modified.
Providing a license is crucial for protecting your intellectual property and informing users of their rights.
How to Fix:

Choose a license for your extension (e.g., MIT, Apache 2.0, GPL).
Create a LICENSE.md or LICENSE.txt file in the root directory of your extension.
Copy the text of your chosen license into the file.
You can find license templates and information on websites like:
Choose a License: https://choosealicense.com/

Example of a basic MIT license within a LICENSE.md file.
Markdown

MIT License

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AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.
Replace [year] and [your name] with the appropriate information.
Why These Warnings Are Important

Professionalism: Providing a repository and license demonstrates that you are a responsible developer and that you care about your users.
User Trust: Users are more likely to trust and use extensions that have clear licensing and source code availability.
Legal Protection: A license protects your intellectual property and clarifies the terms of use for your extension.
Community Contribution: A repository makes it easier for others to contribute to your extension.
After adding the repository information and the license file, repackage or republish your extension, the warnings should disappear.

The error message "ERROR The Personal Access Token is mandatory" means that you're trying to perform an operation (most likely publishing a VS Code extension using vsce) that requires authentication with the VS Code Marketplace, and you haven't provided a Personal Access Token (PAT).

Here's a breakdown of the problem and how to fix it:

Understanding the Error

Authentication:
Publishing extensions to the VS Code Marketplace requires authentication to verify your identity and permissions.
This authentication is done using a Personal Access Token (PAT).
vsce Requirement:
The vsce (Visual Studio Code Extensions) tool, which is used to package and publish VS Code extensions, requires a PAT to authenticate with the marketplace.
Missing PAT:
The error indicates that you're running a vsce command (like vsce publish) without providing a PAT.
How to Fix the Error

Create a Personal Access Token (PAT):
You'll need to create a PAT on Azure DevOps (formerly Visual Studio Team Services), which is used to manage VS Code Marketplace authentication.
Follow these steps:
Go to your Azure DevOps organization.
Click on your user settings (usually your profile picture) in the top right corner.
Select "Personal access tokens."
Click "New Token."
Give your token a descriptive name (e.g., "VS Code Extension Publishing").
Set an expiration date for the token.
Under "Scopes," select "Marketplace (Publish)." This is the crucial step.
Click "Create."
Important: Copy the generated PAT immediately and store it securely. You won't be able to retrieve it later.
Provide the PAT to vsce:
You can provide the PAT to vsce in a few ways:
Environment Variable:
The recommended approach is to set the VSCE_ACCESS_TOKEN environment variable.
Windows:
Bash

setx VSCE_ACCESS_TOKEN "your-personal-access-token"
After setting the environment variable, close and reopen your terminal.
macOS/Linux:
Bash

export VSCE_ACCESS_TOKEN="your-personal-access-token"
If you want to make this change permanent, add the export command to your shell's configuration file (e.g., ~/.bashrc, ~/.zshrc).
Command-Line Argument:
You can provide the PAT as a command-line argument using the --pat flag:
Bash

vsce publish --pat "your-personal-access-token"
This is generally less secure than using an environment variable, as the PAT will be visible in your command history.
Run vsce publish:
After providing the PAT, run the vsce publish command again.
The error should no longer appear.
Security Best Practices

Secure Storage: Store your PAT securely. Avoid committing it to version control or sharing it publicly.
Limited Scopes: Grant only the necessary scopes to your PAT (in this case, "Marketplace (Publish)").
Expiration: Set an appropriate expiration date for your PAT.
Environment Variables: Using environment variables is the most secure way to provide your PAT to vsce.

You're right, creating an Azure account just to publish a VS Code extension can be a barrier. Let's simplify the process, focusing on local development and testing, and postponing the actual publishing until you're ready to set up an Azure account.

Here's an easier process for local development and testing:

1. Focus on Local Development and Testing:

Develop and Test Your Extension:
Use VS Code's built-in debugging features to test your extension thoroughly.
Run your extension within the VS Code development environment.
Test all the features and functionality of your extension.
Local Packaging (using vsce):
You can still use vsce package to create a .vsix file locally without publishing to the VS Code Marketplace.
This allows you to distribute your extension to others or install it on different machines without an Azure account.
Even if there are errors related to publisher information, vsce package will still create the .vsix file.
To use vsce package, install vsce: npm install -g vsce
Then in your extension directory, run vsce package
2. Distributing Your Extension Locally (.vsix):

Install from .vsix:
You can install your extension from the generated .vsix file in VS Code.
Open VS Code, go to the Extensions view (Ctrl+Shift+X or Cmd+Shift+X).
Click the "..." menu in the top right corner.
Select "Install from VSIX..." and choose your .vsix file.
Sharing the .vsix:
You can share the .vsix file with others via email, file sharing services, or local networks.
They can then install your extension using the same "Install from VSIX..." method.
3. Postponing Azure Account Creation:

Delay Publishing:
Until you're ready to make your extension available on the VS Code Marketplace, you can postpone creating an Azure account.
Focus on developing a high-quality extension and gathering feedback from local users.
Documentation:
Continue to fully document your extension, especially the README.md file, so that when you are ready to publish, that part of the process is already complete.
Why This Is Easier:

No Azure Requirement: You can develop, test, and distribute your extension without needing an Azure account.
Simplified Workflow: You can focus on the core development process without the added complexity of setting up a publisher account.
Local Testing: You can thoroughly test your extension in a controlled environment.
Sharing: Allows you to share your extension with collegues, or friends, for testing and feedback.
When You're Ready to Publish:

When you're ready to publish your extension to the VS Code Marketplace, you'll need to create an Azure account and follow the steps in the VS Code documentation.
This approach provides a more streamlined development process for those who are not yet ready to publish to the vscode marketplace.