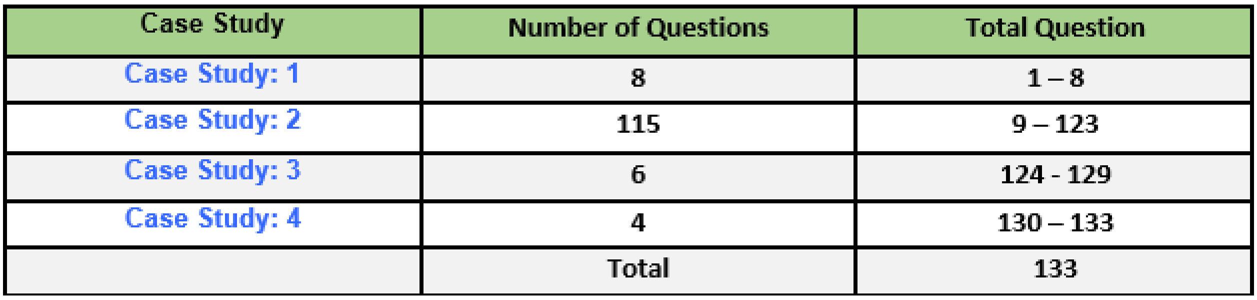
Microsoft

MS-600

Building Applications and Solutions with Microsoft 365 Core Services

QUESTION & ANSWERS

QUESTION 1



Case Study	Number of Questions	Total Question
Case Study: 1	8	1 – 8
Case Study: 2	115	9 – 123
Case Study: 3	6	124 - 129
Case Study: 4	4	130 – 133
	Total	133

Case Study: 1

ADatum Corporation

Existing Environment

Application Architecture

E-invoicing consists of a single-page application (SPA) and a backend web service that provides invoice management and processing functionality.

E-invoicing stores all the details of each invoicing operation in a backend cloud database. E-invoicing generates invoices in PDF format and provides users with the ability to download the PDF after it is generated. Each invoice has a unique identifier named invoiceid.

The users have a common workflow where they sign in to E-invoicing, and then open E-invoicing in multiple tabs of a web browser so they can use different parts of the application simultaneously.

Security Architecture

ADatum uses the principle of least privilege whenever possible. ADatum always uses the latest libraries and integration endpoints.

Requirements

Business Goals

ADatum wants to integrate E-invoicing, Azure Active Directory (Azure AD), and Microsoft Graph so that their customers can leverage Microsoft Office 365 services directly from within E-invoicing.

Planned Changes

ADatum plans to add the following capabilities to E-invoicing:

Email the generated invoices to customers on behalf of the current signed-in user. Any emails generated by the system will contain the invoiced.

Perform as many operations as possible in the browser without having to leave the E-invoicing application.

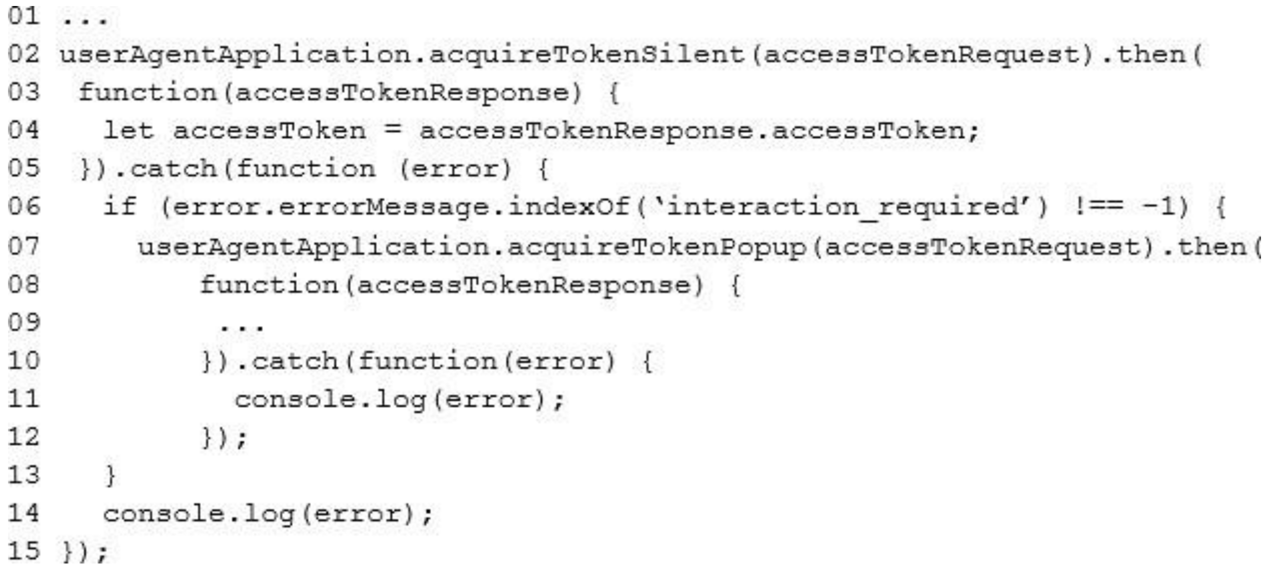
Use Azure AD to manage identities, authentication, and authorization.

Display all emails that contain a specific invoiced.

Technical Requirements

ADatum identifies the following technical requirements for the planned E-invoicing capabilities:

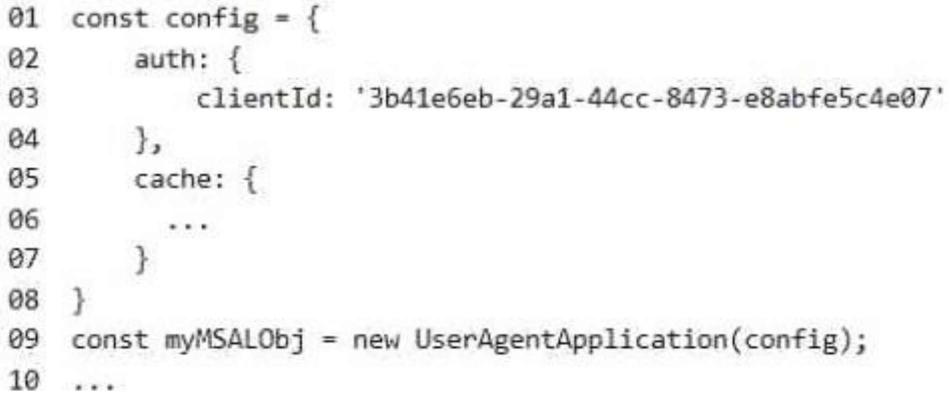
Ensure that all operations performed by E-invoicing against Office 365 are initiated by a user. Require that the user authorize E-invoicing to access the Office 365 data the first time the application attempts to access Office 365 data on the user's behalf.



```
...
userAgentApplication.acquireTokenSilent(accessTokenRequest).then(
 function(accessTokenResponse) {
  let accessToken = accessTokenResponse.accessToken;
 }).catch(function (error) {
  if (error.errorMessage.indexOf('interaction_required') !== -1) {
    userAgentApplication.acquireTokenPopup(accessTokenRequest).then(
        function(accessTokenResponse) {
         ...
        }).catch(function(error) {
          console.log(error);
        });
  }
  console.log(error);
});
```

Access Token JavaScript Script

You have the following JavaScript code to obtain an access token.



```
const config = {
    auth: {
        clientId: '3b41e6eb-29a1-44cc-8473-e8abfe5c4e07'
    },
    cache: {
      ...
    }
}
const myMSALObj = new UserAgentApplication(config);
...
```

Change Notification JSON

You have the following JSON message that will be sent by the Microsoft Graph service to detect the vendor emails.

You need to configure the initial login request in the access token JavaScript script.

Which code segment should you insert at line 01?

A. const scopes = ['https://graph.microsoft.com/.default'];
B. const accessTokenRequest = {}
C. const scopes = ['https://graph.microsoft.com/Files.Read.All','https://graph.microsoft.com/Mail.Send.All'];
D. const accessTokenRequest = {scopes: ['https://graph.microsoft.com/Files.ReadWrite','https://graph.microsoft.com/Mail.Send']};

Correct Answer: D

Explanation/Reference:

Scenario: ADatum identifies the following technical requirements for the planned E-invoicing capabilities:
Ensure that all operations performed by E-invoicing against Office 365 are initiated by a user. Require that the user authorize E-invoicing to access the Office 365 data the first time the application attempts to access Office 365 data on the user's behalf.

QUESTION 2

You are building email notifications for an expensing system.
When a user receives an email notification, the email will contain a comment field. When the user submits a comment, the data will be returned to the expensing system for processing.
What should you do to implement the notification by using the minimum amount of development effort?

A. Create a Microsoft Office Add-in that has an action pane to display the notifications
B. Leverage Microsoft Graph notifications
C. Leverage the Azure SignalR Service and implement web notifications
D. Configure the expensing system to send actionable messages

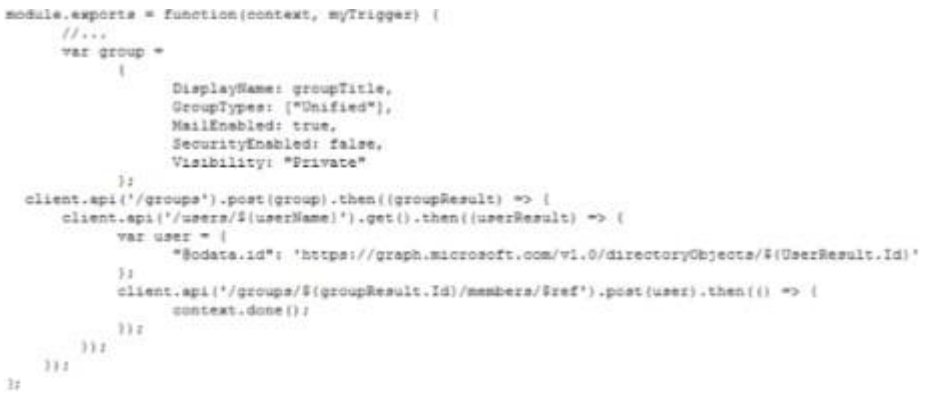
Correct Answer:D

Explanation/Reference:

Whether you are filling out a survey, approving an expense report, or updating a CRM sales opportunity, Actionable Messages enable you to take quick actions right from within Outlook. Developers can now embed actions in their emails or notifications, elevating user engagement with their services and increasing organizational productivity.
Office 365 provides two solutions to enhance productivity with Outlook Actionable Messages: actionable messages via email, and actionable messages via Office 365 Connectors.

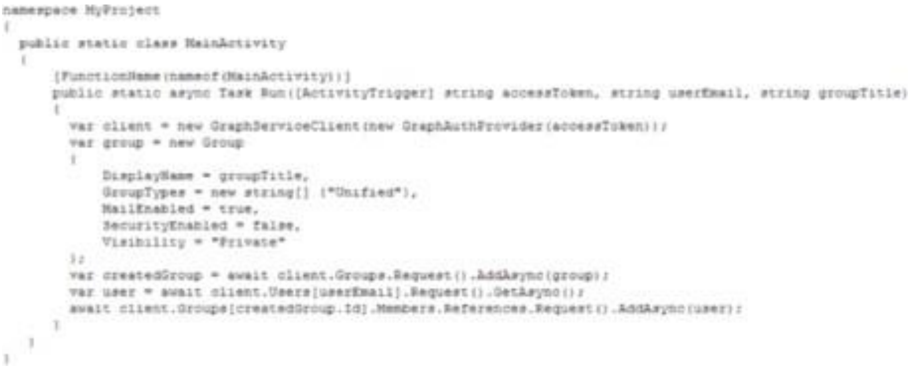
QUESTION 3

You have an application that has the code shown in the exhibits. (Click the JavaScript Version tab or the C# Version tab.)
For each of the following statements, select Yes if the statement is true. Otherwise, select No.
NOTE: Each correct selection is worth one point.
JavaScript Version

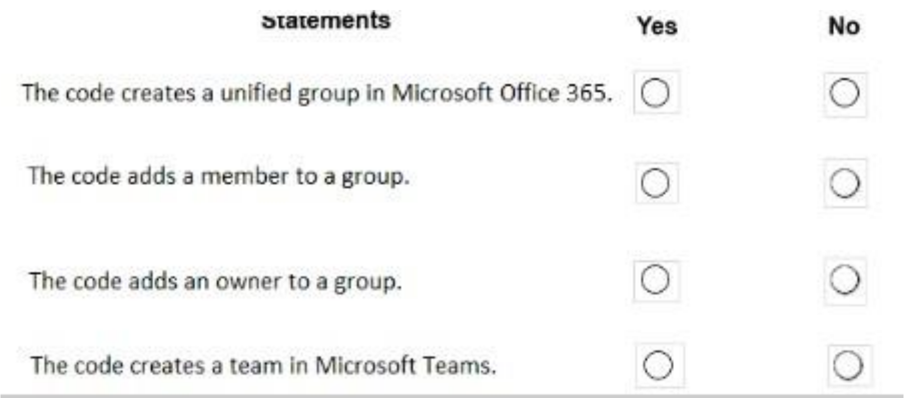


```
module.exports = function(context, myTrigger) {
      //...
      var group =
            {
                  DisplayName: groupTitle,
                  GroupTypes: ["Unified"],
                  MailEnabled: true,
                  SecurityEnabled: false,
                  Visibility: "Private"
            };
   client.api('/groups').post(group).then((groupResult) => {
      client.api('/users/${userName}').get().then((userResult) => {
            var user = {
                  "@odata.id": 'https://graph.microsoft.com/v1.0/directoryObjects/${UserResult.Id}'
            };
            client.api('/groups/${groupResult.Id}/members/$ref').post(user).then(() => {
                  context.done();
            });
         });
      });
};
```

C# Version

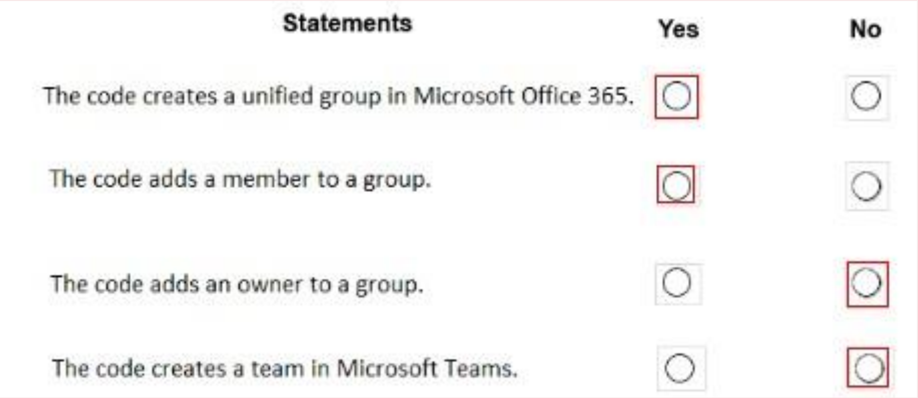


```
namespace MyProject
{
  public static class MainActivity
  {
      [FunctionName(nameof(MainActivity))]
      public static async Task Run([ActivityTrigger] string accessToken, string userEmail, string groupTitle)
      {
        var client = new GraphServiceClient(new GraphAuthProvider(accessToken));
        var group = new Group
        {
            DisplayName = groupTitle,
            GroupTypes = new string[] {"Unified"},
            MailEnabled = true,
            SecurityEnabled = false,
            Visibility = "Private"
        };
        var createdGroup = await client.Groups.Request().AddAsync(group);
        var user = await client.Users[userEmail].Request().GetAsync();
        await client.Groups[createdGroup.Id].Members.References.Request().AddAsync(user);
      }
   }
}
```



Statements	Yes	No
The code creates a unified group in Microsoft Office 365.	○	○
The code adds a member to a group.	○	○
The code adds an owner to a group.	○	○
The code creates a team in Microsoft Teams.	○	○

Correct Answer:



Statements	Yes	No
The code creates a unified group in Microsoft Office 365.	[✓ ○]	○
The code adds a member to a group.	[✓ ○]	○
The code adds an owner to a group.	○	[✓ ○]
The code creates a team in Microsoft Teams.	○	[✓ ○]

QUESTION 4

You are developing a Microsoft Teams app that will display differently depending on the current UI theme applied to Microsoft Teams.
You need to retrieve the current theme by using the Microsoft Teams JavaScript client SDK?
Which function should you call?

A. microsoftTeams.getContext
B. microsoftTeams.settings.getSettings
C. microsoftTeams.getMruTabInstances
D. microsoftTeams.initialize

Correct Answer: A

QUESTION 5

You are developing a SharePoint Framework (SPFx) web part. The web part will call a backed API that is secured by using Azure Active Directory (Azure AD). The web part will be on a page that has many other web parts.
Which type of web part should you use ensure that access to the exclusive to the web part?

A. Provider-hosted
B. SharePoint-hosted
C. Domain isolated
D. Connected

Correct Answer: A

QUESTION 6

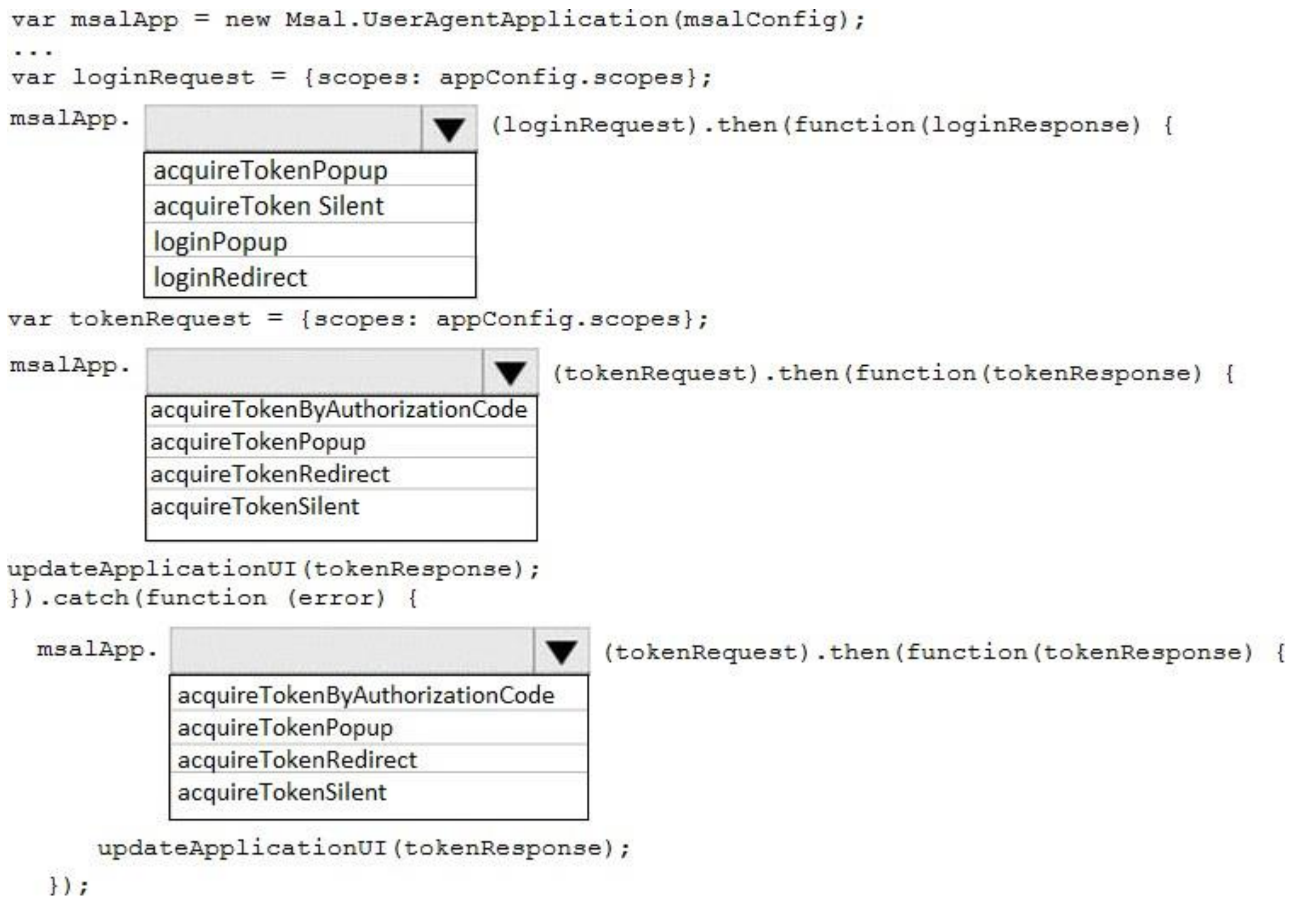
This question requires that you evaluate the underlined text to determine if it is correct.
In Microsoft Word on Windows, before you can sideload a Microsoft Office Add-in. you must first upload the manifest to Microsoft_pnePrivc.
Instructions: Review the underlined text. If it makes the statement correct, select 'No change is needed.' If the statement is incorrect, select the answer choice that makes the statement correct.

A. No change is needed.
B. deploy the manifest to an Azure website
C. publish the manifest to a trusted network location
D. set Microsoft Edge to Developer Mode

Correct Answer: A

QUESTION 7

You are developing a single-page application (SPA).
You plan to access user data from Microsoft Graph by using an AJAX call.
You need to obtain an access token by the Microsoft Authentication Library (MSAL). The solution must minimize authentication prompts.
How should you complete the code segment? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.



```
var msalApp = new Msal.UserAgentApplication(msalConfig);
...
var loginRequest = {scopes: appConfig.scopes};
msalApp.                    (loginRequest).then(function(loginResponse) {
```

- acquireTokenPopup
- acquireToken Silent
- loginPopup
- loginRedirect

```
var tokenRequest = {scopes: appConfig.scopes};
msalApp.                    (tokenRequest).then(function(tokenResponse) {
```

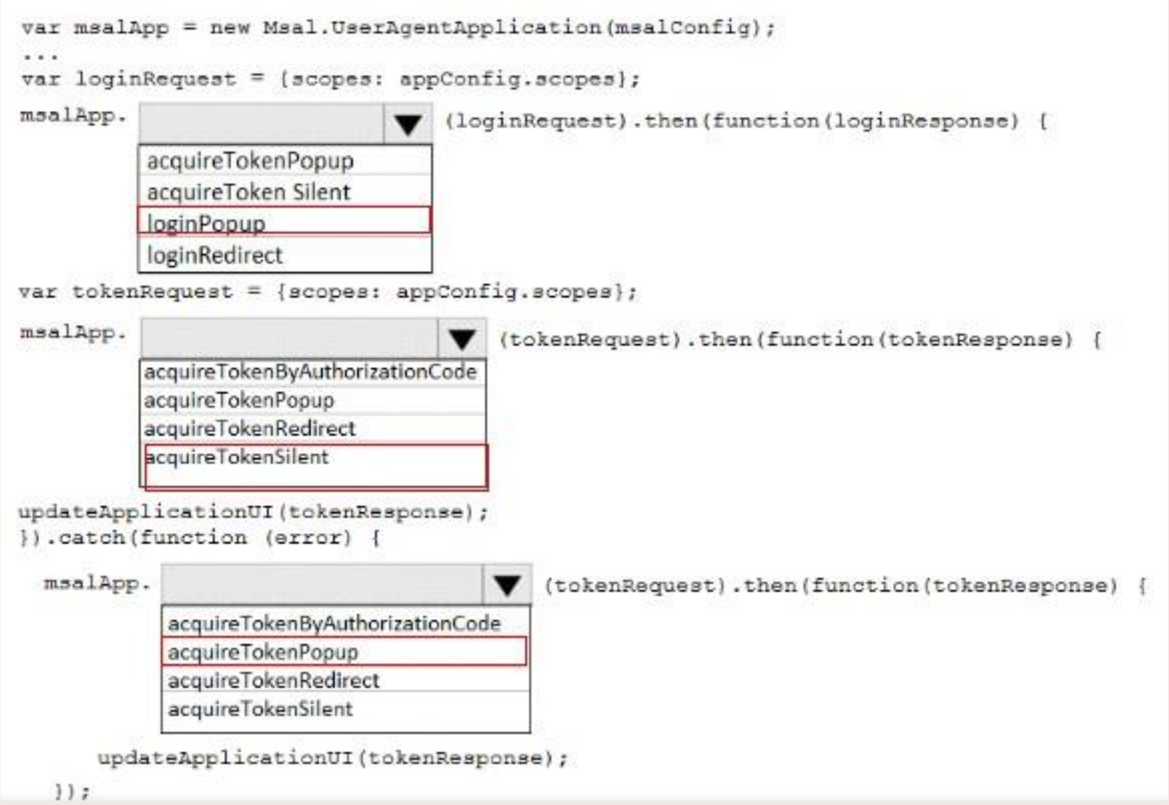
- acquireTokenByAuthorizationCode
- acquireTokenPopup
- acquireTokenRedirect
- acquireTokenSilent

```
updateApplicationUI(tokenResponse);
}).catch(function (error) {
  msalApp.                    (tokenRequest).then(function(tokenResponse) {
```

- acquireTokenByAuthorizationCode
- acquireTokenPopup
- acquireTokenRedirect
- acquireTokenSilent

```
     updateApplicationUI(tokenResponse);
  });
```

Correct Answer:



```
var msalApp = new Msal.UserAgentApplication(msalConfig);
...
var loginRequest = {scopes: appConfig.scopes};
msalApp. [ ▼ ] (loginRequest).then(function(loginResponse) {
         acquireTokenPopup
         acquireToken Silent
         [✓ loginPopup]
         loginRedirect
var tokenRequest = {scopes: appConfig.scopes};
msalApp. [ ▼ ] (tokenRequest).then(function(tokenResponse) {
         acquireTokenByAuthorizationCode
         acquireTokenPopup
         acquireTokenRedirect
         [✓ acquireTokenSilent]
updateApplicationUI(tokenResponse);
}).catch(function (error) {
  msalApp. [ ▼ ] (tokenRequest).then(function(tokenResponse) {
           acquireTokenByAuthorizationCode
           [✓ acquireTokenPopup]
           acquireTokenRedirect
           acquireTokenSilent
      updateApplicationUI(tokenResponse);
  });
```

QUESTION 8

You are developing a Microsoft Team application. To host a webpage in a Teams tab, the manifest file must include the contentUrl property within the staticTabs property.
Instructions: Review the underline text. If the makes the statement correct, select " No change is needed. " If the statement is incorrect, select the answer choice that makes the statement correct.

A. No change is needed.
B. websiteUrl property within the configuragbleTabs property
C. ValidDomain property within the configuragbleTabs property
D. ValidDomain property within the statictabs property

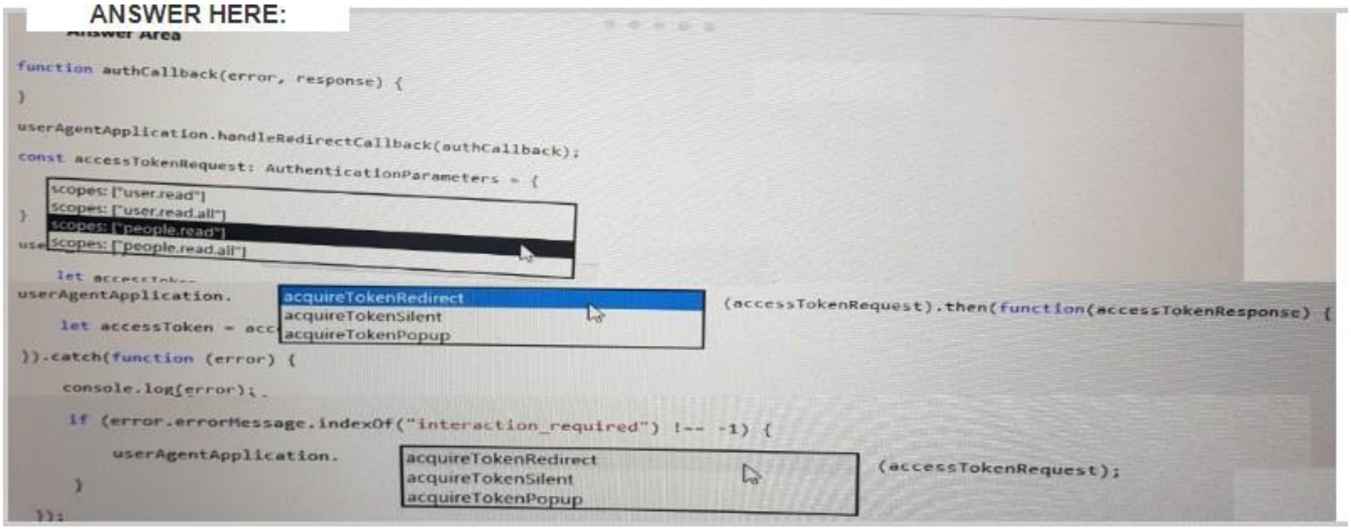
Correct Answer: B

QUESTION 9

You are developing a single page application (SPA) named App1 that will be used by the public.
Many users of App1 restrict pop-up windows from opening in their browser.
You need to authenticate the users by using the Microsoft identity platform. The solution must meet the following requirements:
* Ensure that App1 can read the profile of a user.
* Minimize user interaction during authentication.
* Prevent App1 from requiring admin consent for any permissions.

How should you complete the code? To answer, select the appropriate options in the answer area.
NOTE: Each correct selection is worth one point.

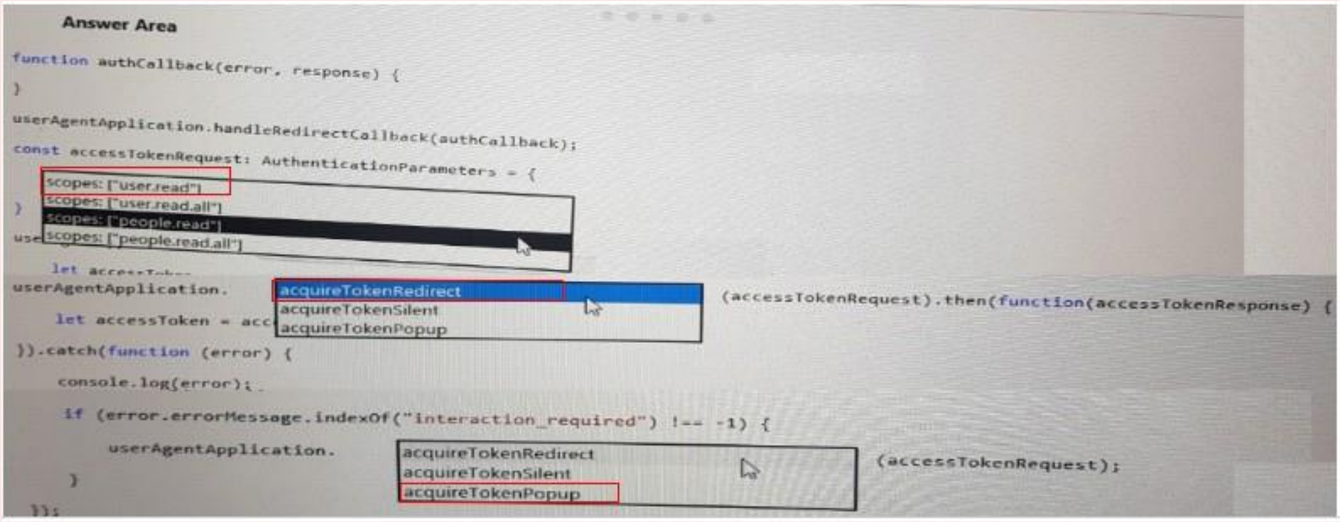
ANSWER HERE:



Answer Area

```
function authCallback(error, response) {
}
userAgentApplication.handleRedirectCallback(authCallback);
const accessTokenRequest: AuthenticationParameters = {
    scopes: ["user.read"]
    scopes: ["user.read.all"]
    scopes: ["people.read"]
    scopes: ["people.read.all"]
}
use
    let accessTok...
userAgentApplication.    acquireTokenRedirect      (accessTokenRequest).then(function(accessTokenResponse) {
                         acquireTokenSilent
                         acquireTokenPopup
    let accessToken = acc
}).catch(function (error) {
    console.log(error);
    if (error.errorMessage.indexOf("interaction_required") !-- -1) {
        userAgentApplication.    acquireTokenRedirect      (accessTokenRequest);
                                 acquireTokenSilent
                                 acquireTokenPopup
    }
});
```

Correct Answer:



Answer Area

```
function authCallback(error, response) {
}
userAgentApplication.handleRedirectCallback(authCallback);
const accessTokenRequest: AuthenticationParameters = {
    scopes: ["user.read"]
    scopes: ["user.read.all"]
    scopes: ["people.read"]
    scopes: ["people.read.all"]
}
use
    let accessTok...
userAgentApplication.    acquireTokenRedirect      (accessTokenRequest).then(function(accessTokenResponse) {
                         acquireTokenSilent
                         acquireTokenPopup
    let accessToken = acc
}).catch(function (error) {
    console.log(error);
    if (error.errorMessage.indexOf("interaction_required") !-- -1) {
        userAgentApplication.    acquireTokenRedirect      (accessTokenRequest);
                                 acquireTokenSilent
                                 acquireTokenPopup
    }
});
```

QUESTION 10

Case Study: 4

E-invoicing

Existing Environment

Application Architecture

E-invoicing consists of a single-page application (SPA) and a backend web service that provides invoice management and processing functionality.

E-invoicing stores all the details of each invoicing operation in a backend cloud database. E-invoicing generates invoices in PDF format and provides users with the ability to download the PDF from OneDrive after it is generated. Each invoice has a unique identifier named invoiceid.

The users have a common workflow where they sign in to E-invoicing, and then open E-invoicing in multiple tabs of a web browser so they can use different parts of the application simultaneously.

Security Architecture

Requirements

Business Goals

Planned Changes

* Email the generated invoices to customers on behalf of the current signed-in user. Any emails generated by the system will contain the invoiceid.

* Perform as many operations as possible in the browser without having to leave the E-invoicing application.

* Use Microsoft identity platform to manage identities, authentication, and authorization.

* Display all emails that contain a specific invoiceid.

Technical Requirements

* Ensure that all operations performed by E-invoicing against Microsoft 365 are initiated by a user. Require that the user authorize E-invoicing to access the Microsoft 365 data the first time the application attempts to access Microsoft 365 data on the user's behalf.

* Send scheduled reminders to customers before a payment due date. Create an administration user interface to enable the scheduled reminders.

* Implement Microsoft Graph change notifications to detect emails from vendors that arrive in a designated mailbox.

* Implement single sign-on (SSO) and minimize login prompts across browser tabs.

* Secure access to the backend web service by using Microsoft identity platform.

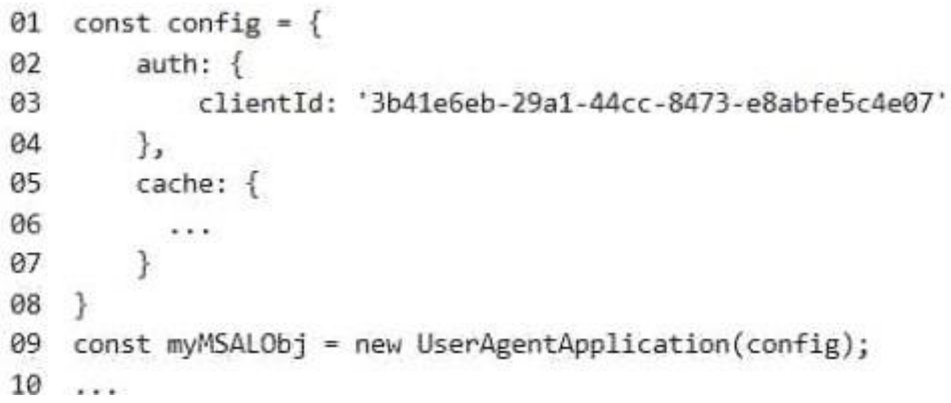
* Ensure that all solutions use secure coding practices.

Backend Security Planned Changes

E-invoicing will have internal logic that will dynamically identify whether the user should be allowed to call the backend API.

SSO JavaScript Script

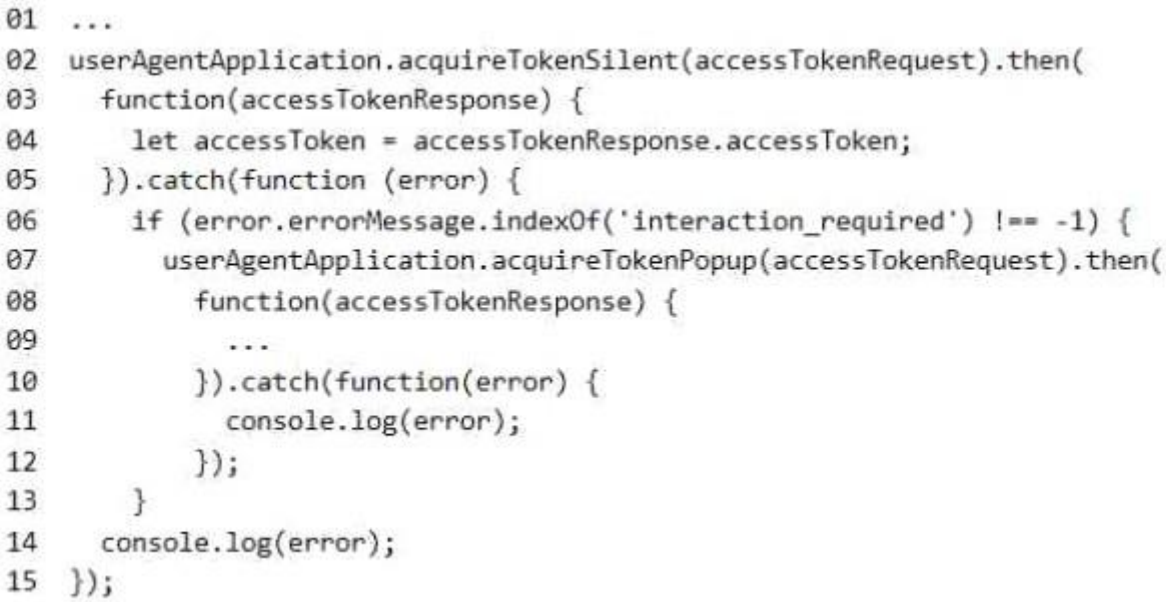
You plan to implement SSO with Microsoft Authentication Library (MSAL) by using the following code.



```
const config = {
    auth: {
        clientId: '3b41e6eb-29a1-44cc-8473-e8abfe5c4e07'
    },
    cache: {
      ...
    }
}
const myMSALObj = new UserAgentApplication(config);
...
```

Access Token JavaScript Script

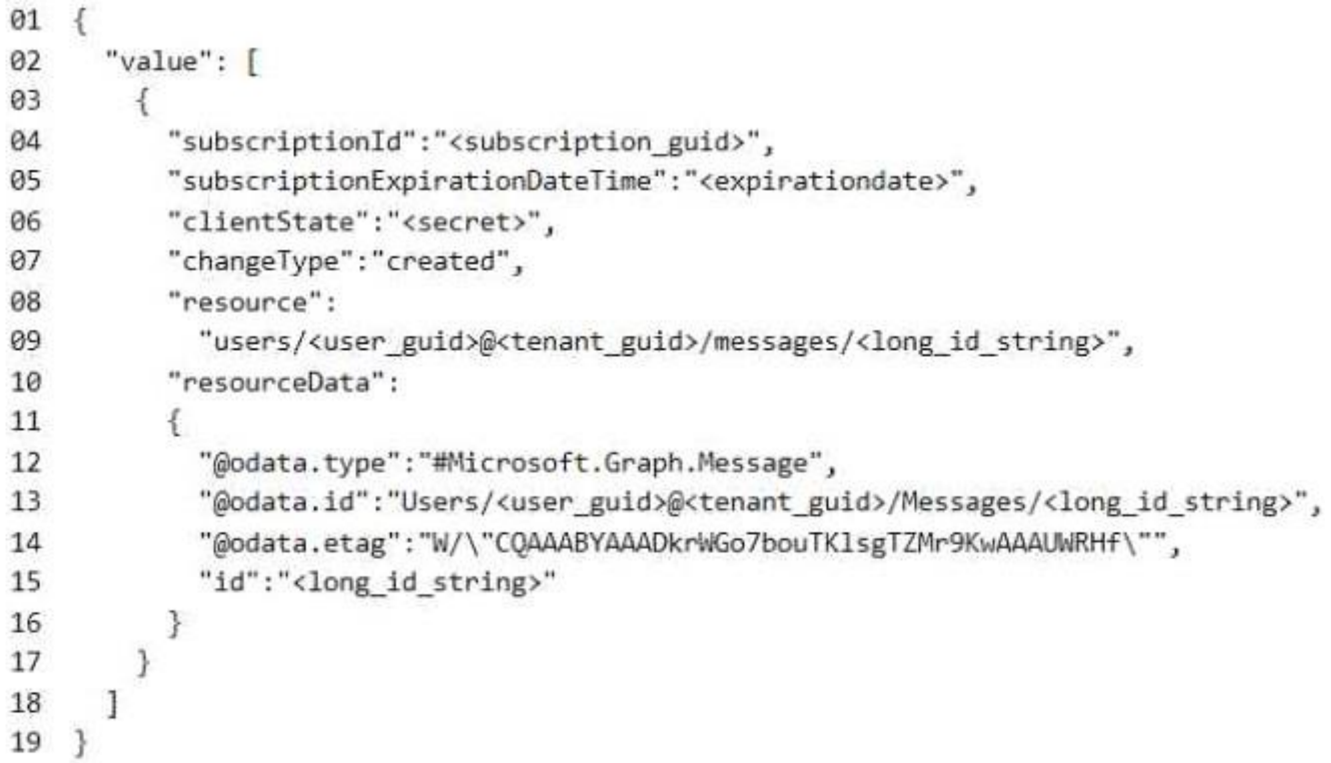
You have the following JavaScript code to obtain an access token



```
...
userAgentApplication.acquireTokenSilent(accessTokenRequest).then(
  function(accessTokenResponse) {
    let accessToken = accessTokenResponse.accessToken;
  }).catch(function (error) {
    if (error.errorMessage.indexOf('interaction_required') !== -1) {
      userAgentApplication.acquireTokenPopup(accessTokenRequest).then(
        function(accessTokenResponse) {
          ...
        }).catch(function(error) {
          console.log(error);
        });
    }
  console.log(error);
});
```

Change Notification JSON

You have the following JSON message that will be sent by the Microsoft Graph service to detect the vendor emails.



```
{
  "value": [
    {
      "subscriptionId":"<subscription_guid>",
      "subscriptionExpirationDateTime":"<expirationdate>",
      "clientState":"<secret>",
      "changeType":"created",
      "resource":
        "users/<user_guid>@<tenant_guid>/messages/<long_id_string>",
      "resourceData":
      {
        "@odata.type":"#Microsoft.Graph.Message",
        "@odata.id":"Users/<user_guid>@<tenant_guid>/Messages/<long_id_string>",
        "@odata.etag":"W/\"CQAAABYAAADkrWGo7bouTKlsgTZMr9KwAAAUWRHf\"",
        "id":"<long_id_string>"
      }
    }
  ]
}
```

Which URI should you use to query all the emails that relate to an invoice?

A. https://graph.microsoft.com/vl.6/me/messages?Sfilter=contains(subject,{invoiceid})
B. https://graph.microsoft.com/vl.0/me/me5sages?$subject eq {invoiceid}
C. https://graph.microsoft.com/vl.e/me/messages?$search"{Invoiceid}'
D. https://graph.microsoft.com/vl.e/me/messages?${invoiceid}

Correct Answer:C

QUESTION 11

You have a SharePoint Framework (SPFx) web part named WebPartA that uses SPFx 1.11.0. You need to ensure that WebPartA can be installed as an app in Microsoft Teams. What should you do?

A. Update the WebPartA.manifestjson file.
B. Update the Config.json file.
C. Upload WebPartA to the Microsoft Teams app catalog.
D. From a command prompt, run the yo gmicrosoft/sharepoint command.

Correct Answer:C