

# TRAINER PREPARATION GUIDE 1.2: MANAGE THE STATE OF AN APPLICATION

## Lesson Objective 1.2:

Manage the state of an application. *Topics include:* understand states of an application.

## Required materials to teach this lesson:

1. Microsoft® Expression® Studio 4 (preferred)
2. 98-375-ENU-1.2-LP
3. 98-375-ENU-1.2-IC
4. 98-375-ENU-1.2-ICKey
5. 98-375-ENU-1.2-PC

## Preparation tasks

### Technical preparation activities:

1. Create a simple HTML5 document in either Expression Web or Notepad. The demonstration shows how to add code to determine whether the browser supports specific HTML5 features such as localStorage.
2. Copy the following code into your HTML page:

```
<!DOCTYPE html>
<html>
<head>
<title>if</title>
<script>
function supportsWebStorage()
{
try{
return 'localStorage' in window && window['localStorage'] !== null;
}
catch(e) {
return false;
} }
</script>
</head>

<body>
<script>
if(supportsWebStorage())
{
document.write("Web Storage is supported");
}
else
{
```

```
document.write("Web Storage is not supported");  
}  
</script>  
</body>  
</html>
```

3. When you preview the page in a browser, a message states, "Web Storage is supported" or "Web Storage is not supported." Discuss the use of these commands to make sure they accommodate older browsers that don't support HTML5.

#### 4. Vocabulary:

**session state:** the time defined when the user makes the first request to access a web application and ends when the user closes the session.

**application state:** the time defined when the first request goes to the web server and is released when the application is closed.

**persist state information:** information that needs to continue to exist after the session has ended.

#### 5. Additional readings and resources:

##### MSDN®:

**HTML5 Tutorial:** <http://msdn.microsoft.com/en-us/ie/aa740476>

**Internet Explorer® 9 Guide for Developers:** <http://msdn.microsoft.com/en-us/ie/hh410106>

##### Other resources (books, e-reference):

**How to use an Application Cache:** <http://www.html5rocks.com/en/tutorials/appcache/beginner/>

**W3Schools:** <http://www.w3schools.com/html5/>

Schmitt, Christopher and Kyle Simpson. *HTML5 Cookbook* (Sebastopol: O'Reilly 2012).

Note: HTML5 is changing and developing quickly. The list of resources is current as of January 2012. Check resources for current and up-to-date information at the time of classroom use.

#### Instructor computer setup:

1. A workstation with Expression Studio 4 or Expression Web 4 (with service pack 2).

#### Instructional preparation activities:

1. Review the instructor notes in the notes view of Microsoft PowerPoint® presentation 98-375-ENU-1.2-LP.
2. Make copies of student documents available as needed.
3. Practice the demonstration before class to determine whether the browsers you have available support the HTML5 features in the demonstration.

#### Lesson sequence (50 minutes)

##### Activating prior knowledge/lesson staging (5 minutes):

Instruct students to answer each question in the "Guiding questions" section of the In-Class Activity document or in their personal class notes.

**Guiding questions:**

1. **What are the states of an HTML5 application?** Developers must understand the session state, application state, and persist state. HTTP is a stateless protocol and therefore does not keep any data. If a user partially completes a form, the information is lost when he or she logs off. Therefore, the developer must decide what information needs to be saved for each state.
2. **List the two ways to store data using HTML5.** HTML5 has two storage methods: sessionStorage and localStorage. The sessionStorage method is available for the lifetime of the current session only. The localStorage method is similar to a cookie, but it holds more data, access is restricted to just the client (JavaScript), and it distinguishes between windows as well as browser and domain.
3. **What is a cache, and how is it used in HTML5?** HTML5 defines a special application cache called AppCache to store frequently used resources such as images, CSS, JS, and HTML pages. Caching allows user access to pages and images even when users are offline.

**Lesson activity (35 minutes):**

1. Teacher instruction (35 minutes)
  - a. Use the PowerPoint presentation 98-375-ENU-1.2-LP to review managing the state of an application.
  - b. An In-class Activity document is available for use as needed.

**Lesson review (10 minutes):**

1. Lead students in a discussion of the guiding questions.
2. During and after the discussion, have students list any questions they have or any topics with which they would like more assistance.
3. Have students work in pairs to answer the additional questions written by students. Answer any questions that cannot be answered by students, or collect them for follow-up later.
4. Provide the Post-class Activity document for additional review. It requires students to watch a video (4:48 minutes) and answer questions.