![HP logo]

HP Unified Functional Testing

Software Version: 12.52
Windows ® operating systems

HP Application Automation Tools Plugin for Bamboo User Guide

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Contents

Welcome to the HP Application Automation Tools Plugin for Bamboo User Guide

Welcome to the Bamboo Plugin User Guide.

This guide is designed to help users who deploy and manage the Unified Functional Testing (UFT) Plugin for Atlassian Bamboo build servers. This plugin enables you to run UFT tests as part of a product build process on an Atlassian Bamboo server.

Installing the HP Application Automation Tools Plugin for Bamboo

Before you can run UFT tests as part of your build processes, you have to install the plugin on your Bamboo server machine. To install the plugin, do the following:

1. Install UFT on the server.

2. From the main Bamboo page (Build Dashboard), in the upper left corner of the window, click the **Administration** button ⚙▾ and select **Add-ons**. The add-ons list is displayed in the Administration screen.

3. **Upload the plugin:**

   a. In the **Manage Add-ons** section of the Administration window, click **Upload add-on**. A dialog opens enabling you to select the location of the .jar file for the add-on.

   b. In the Upload Add-on window, in the **From my computer section**, do one of the following:

      ○ Click the **Browse** button and navigate to the location of your .jar file.

      ○ Enter the URL of your .jar file.
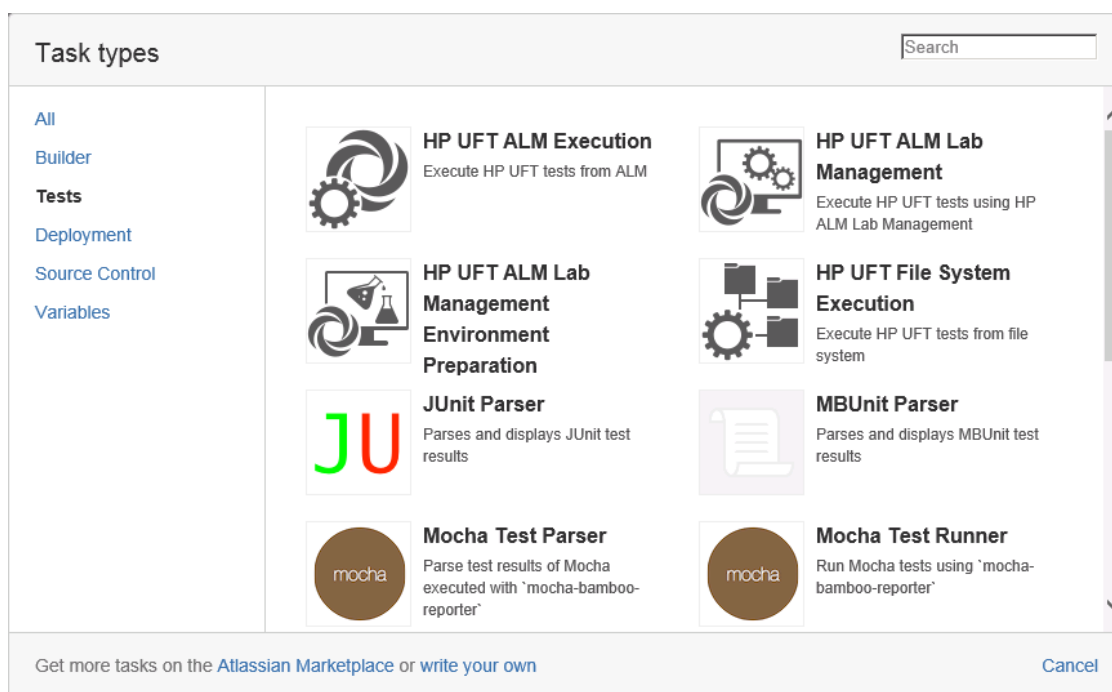
      > **Note:** This URL must be an absolute URL.

   c. Click **Upload**. Bamboo uploads and displays the installation progress in the Administration window.

      After the installation is finished, Bamboo displays a message indicating the success or failure of the installation.

   d. Close the installation window, and you are ready to set up build tasks to run UFT tests.

   After you successfully install the plugin, UFT-related tasks are available in the **Tests** tab of the Tasks window:

4. **Enable the Agent.**

   a. From the main Bamboo page (Build Dashboard), in the upper left corner of the window, click

      the **Administration** button ![gear icon] and select **Agents**. The Agents list is displayed.

   b. From the left column of the Agents list, select the **Server capabilities** option. The list of currently active server capabilities is displayed.

   c. From the right side of the server capabilities list, click the **Detect server capabilities** button. The server pauses for a moment, and detects the ability to work with UFT. When the detection is finished, UFT should be displayed in the list of executables:

   > **Note:** UFT is displayed in the list of executables only if UFT is installed on the server machine.

   If you plan on running a test on a remote host, you must restart the Bamboo remote agent on the remote computer after installing UFT to detect the new capabilities of the remote agent on the machine.

Server capabilities

Detect server capabilities

You can use this page to view, add and delete server capabilities. These capabilities will be inherited by all local agents.

Executable

'executable' capabilities define the executables which are available to your build plans.

| Executable label A label to uniquely identify this executable	Path Please enter the path to your executable	Operations
HP Unified Functional Testing (HP)	C:\Program Files (x86)\HP\Unified Functional Testing\bin\UFT.exe	View | Edit | Delete
MSBuild v2.0 (32bit) (MSBuild)	C:\Windows\Microsoft.NET\Framework\v2.0.50727\MSBuild.exe	View | Edit | Delete
MSBuild v2.0 (64bit) (MSBuild)	C:\Windows\Microsoft.NET\Framework64\v2.0.50727\MSBuild.exe	View | Edit | Delete
MSBuild v3.5 (32bit) (MSBuild)	C:\Windows\Microsoft.NET\Framework\v3.5\MSBuild.exe	View | Edit | Delete
MSBuild v3.5 (64bit) (MSBuild)	C:\Windows\Microsoft.NET\Framework64\v3.5\MSBuild.exe	View | Edit | Delete
MSBuild v4.0 (32bit) (MSBuild)	C:\Windows\Microsoft.NET\Framework\v4.0.30319\MSBuild.exe	View | Edit | Delete
MSBuild v4.0 (64bit) (MSBuild)	C:\Windows\Microsoft.NET\Framework64\v4.0.30319\MSBuild.exe	View | Edit | Delete
Visual Studio 2012 (Visual Studio)	C:\Program Files (x86)\Microsoft Visual Studio 11.0\Common7\IDE	View | Edit | Delete

Run UFT tests in a Bamboo server build

Add UFT tests to a Bamboo server build process by adding them as build tasks from the build job. Before you start you must have a build project, plan, and job already created.

Run UFT tests from one the following locations:

- "From the Local file system" below

- "From ALM" on page 12

- "Run UFT tests from the ALM Test Lab" on page 14

From the Local file system

1. In your build plan, add an additional task.

2. In the task types window, open the **Tests** pane. A list of all available tasks is displayed:
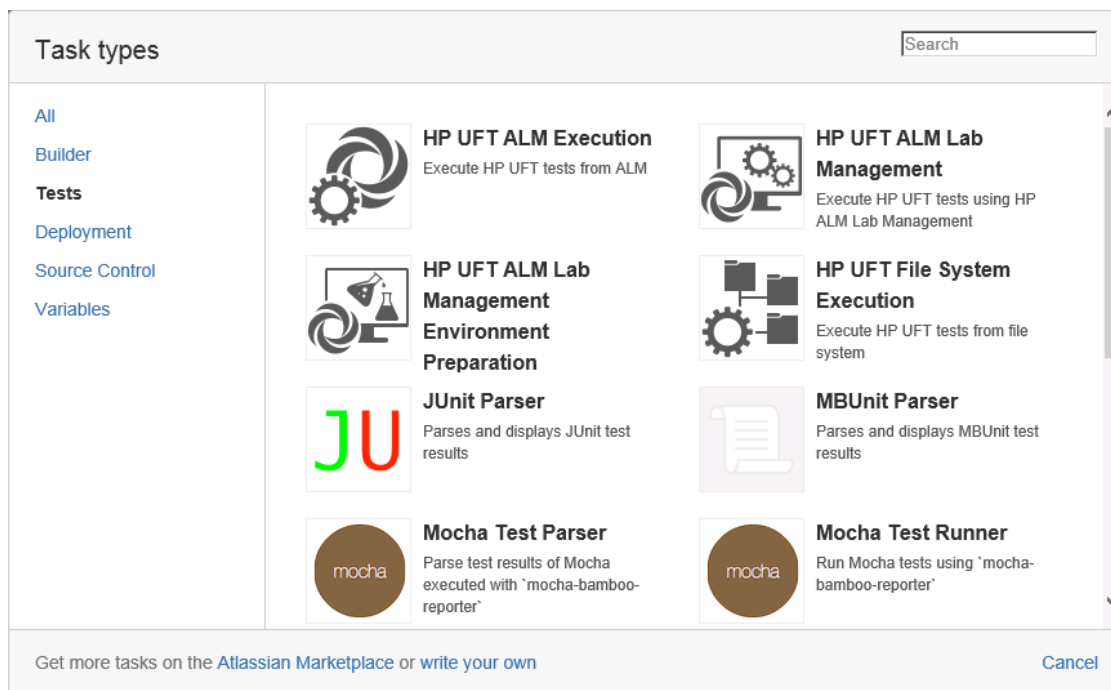
3. From the Tests pane, select the **HP UFT File System Execution** task. A new, empty task is added as part of your build plan:

4. Provide the following information for your task:

Task description (optional)	A description to understand the purpose of the task.
Tests	The tests, test batch file, or folder containing tests to run. Each line in this field should contain the path to a test, test batch file (.MTB file name), or folder on the machine where the tests are to be run. You can enter multiple tests as needed.
Timeout	The amount of time (in seconds) to wait if there is a problem opening or running the test. If the field is left blank, there is no timeout.
Archive and publish HP test results	Instructs the server what to do with the test results after the test run is complete. Select one of the following: • **Always archive HP test reports.** Saves all test results, both for passed and failed tests. • **Do not archive HP test reports:** No test results are saved, regardless of the test status. • **Archive HP test reports for failed tests:** Only results for failed tests are saved.

5. If you are running tests via Mobile Center (supported in Mobile Center versions 1.50 and later), select the Mobile Center Settings checkbox.

6. For your mobile application, enter the following:

Mobile Center URL	The URL of your Mobile Center server. This information is also saved in the Mobile pane of the UFT Options dialog (**Tools > Options > GUI Testing** tab > **Mobile** node).
Mobile Center **User Name** and **Password**	The user name and password used to access Mobile Center. This information is also saved in the Mobile pane of the UFT Options dialog (**Tools > Options**

	> GUI Testing tab > **Mobile** node).
Application Path	The path to your Mobile application on the file system. This application is uploaded to Mobile Center before the test runs as part of the build job.
Application Parameter Name	The name of the parameter used to identify the application in your test. This parameter is created in UFT.
	For details on how to prepare your UFT test for continuous integration, see the Mobile Center help.

7. Save the configuration.

   When the build runs, the test will run as a build task with the specified settings. A new artifact is added in the **Artifacts** tab of the build project.

   After the test run, the relevant build logs are saved in the **Logs** tab of the build execution results. You can view details about the test run and links to test results.

8. View the test results.

   After a test run, UFT automatically saves the run results to a selected location. Specify run results specific settings in the **Run Sessions** pane of the UFT Options dialog box (**Tools > Options > General** tab > **Run Sessions** node).

   To view the run results, do the following

   a. In the **Artifacts** tab, click the appropriate artifact link to download the report.

   b. Unzip and open the run results file, then do one of the following options:

      ○ Open the **run_results.html** file to view the run results.

      ○ In the HP Run Results Viewer select and open the **Results.xml** file.

   If you added multiple test tasks, the different tasks are differentiated by their 3-digit ID at the beginning of the task. You can see these when you view the artifacts in the Artifacts tab. For example:
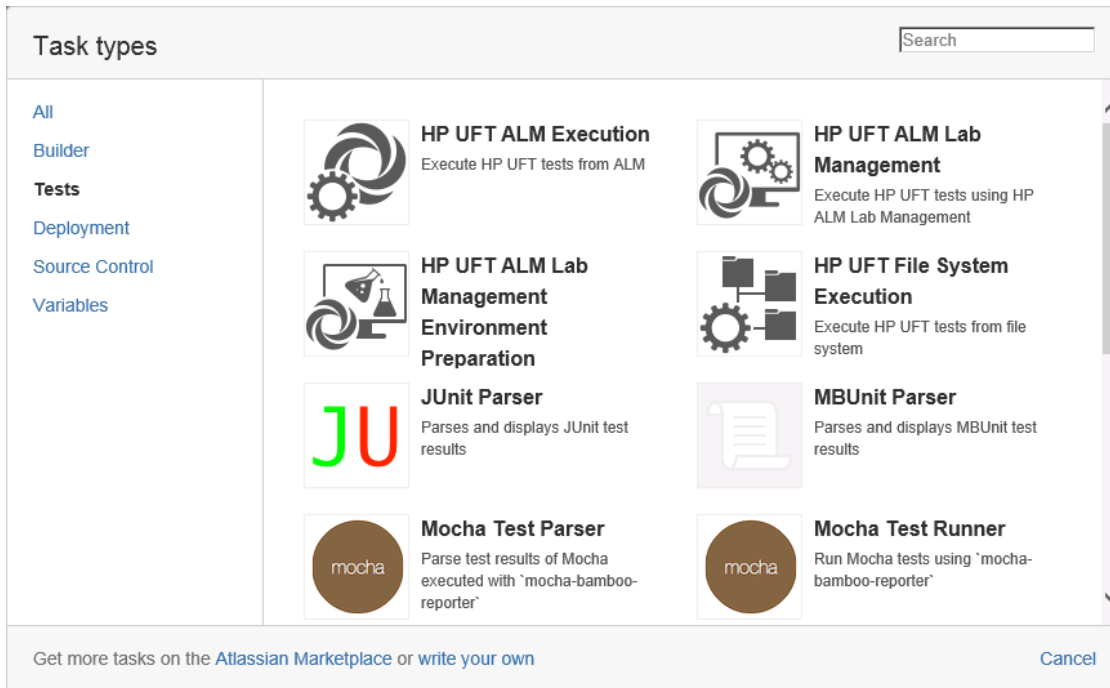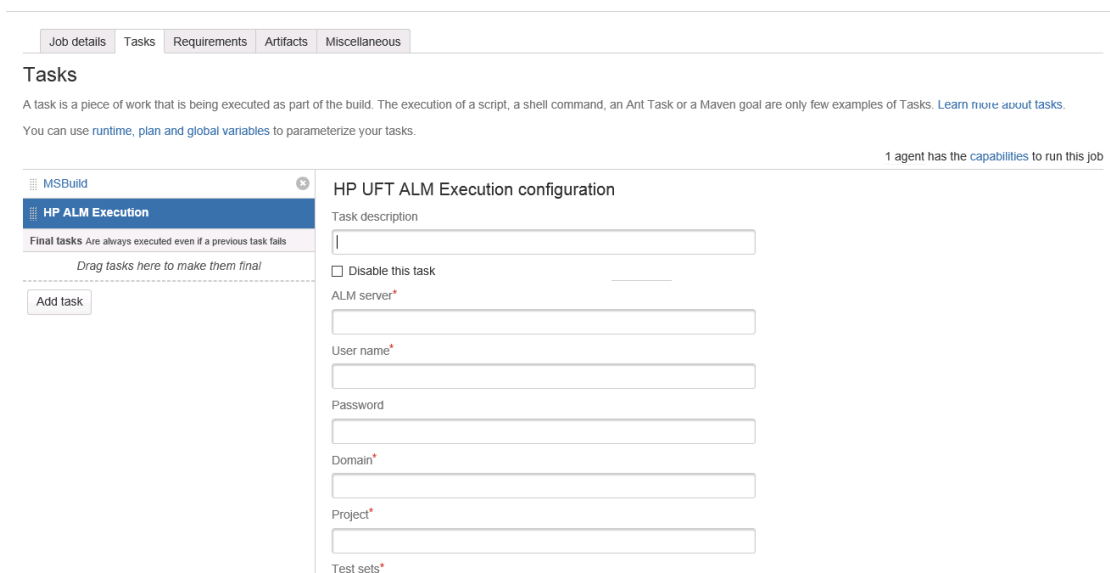
HP_UFT_Build_2

Parent Directory

📁 001_HP_File_System_Execution 0 bytes Oct 12, 2015 12:54:44 PM

From ALM

1. In your build plan, add an additional task.

2. In the task types window, open the **Tests** pane. A list of all available tasks is displayed:

3. From the Tests pane, select the **HP UFT ALM Execution** task. A new, empty task is added as part of your build plan:

4. **Provide the following information for your task:**

Task description (optional)	A description to understand the purpose of the task.
ALM Server	The ALM server from which to run the test. The ALM server address must be in the format: `http://<ALM server name or IP>:<port>/qcbin`.
User name	The ALM user name to use to access the server. **Note:** Ensure that the ALM user specified in this task has the correct permissions to open and run the UFT tests. For details on permissions, see the *HP Application Lifecycle Management Administrator Guide*.
Password	The password for the ALM user specified above.
Domain	The domain in the ALM server where the project containing the tests is stored.
Project	The project containing the tests.
Test sets	The test sets to run with this build task. You should provide a full ALM path to these test sets. Each line in this field can contain a test name or folder.
Timeout	The amount of time (in seconds) to wait if there is a problem opening or running the test. If the field is left blank, there is no timeout.
Advanced Settings	You can specify the **Run mode** in one of the following locations: • **Run locally**: Runs the test on the same computer as the build • **Run on planned host:** Runs the test (as part of a scheduled test run) on a remote UFT computer • **Run remotely:** Runs the test on a remote UFT computer (not a scheduled run) If you select one of the remote computer options, specify the host on which you want to run the test. **Note:** In order to run on the remote computer, you must set the **Allow other HP products to run tests and components** option in the **Test Runs** pane of the Options dialog box (**Tools > Options > GUI Testing** tab > **Test Runs** tab).

5. **Save the existing configuration.**

When the build runs, the test will run as a build task with the specified settings.

After the test run, the build logs relevant to the test run task can be found in the **Logs** tab of the build execution results. You can view details about the test run and links to test results.

6. **View the test results.**

After a test run, UFT automatically saves the run results to your Bamboo server. In the Build Artifacts, you can view a html file with a link to the test run in your ALM project:

HP_UFT_Build_7

Parent Directory

📁 002_HP_ALM_Execution 0 bytes Nov 4, 2015 4:42:34 PM

Run UFT tests from the ALM Test Lab

Note: If you want to set the environment configuration for the application being tested before this task, you can add an additional build task to your build plan. For details on how to do this, see "Setting the Application Environment Configuration as Part of a Build Process" on page 17.

1. In your build plan, add an additional task.

2. In the task types window, open the **Tests** pane. A list of all available tasks is displayed:
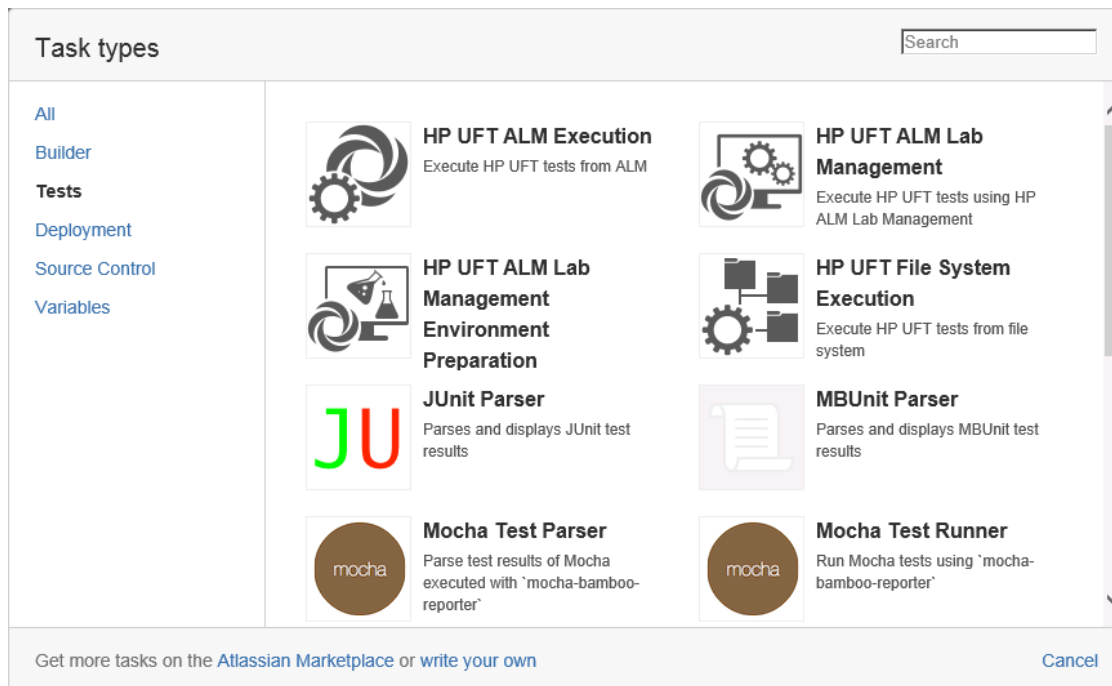
3. From the Tests tab, select the **HP UFT ALM Lab Management** task. A new, empty task is added as part of your build plan:

4. Provide the following information for your task:

Task description (optional)	A description to understand the purpose of the task.
ALM Server	The ALM server from which to run the test. The ALM server address must be in the format: `http://<ALM server name or IP>:<port>/qcbin`.
User name	The ALM user name to use to access the server. **Note:** Ensure that the ALM user specified in this task has the correct permissions to open and run the UFT tests. For details on permissions, see the *HP Application Lifecycle Management Administrator Guide*.
Password	The password for the ALM user specified above.
Domain	The domain in the ALM server where the project containing the tests is stored.
Project	The project containing the tests. **Note:** The selected project should be enabled for Server Side Execution of UFT tests. For details on Server Side Execution, see the *HP Application Lifecycle Management User Guide*.
Run type	Select one of the following types of runs: • **Test set** • **Build verification suite**

	For more details about test steps and build verification suites, see the *HP Application Lifecycle Management User Guide*.
Test Set/Build Verification Suite ID	The ALM ID of the selected test set or the build verification suite ID. **Note:** If you select a test set, your test set should be a functional test set, and must be prepared for Server Side Execution. For details, see the *HP Application Lifecycle Management User Guide*
Description	The description of the test set or build verification suite (as entered in ALM).
Timeslot Duration	The duration of the slot reserved for a scheduled run of the test set or build verification suite.
Environment Configuration ID	The ID of your application environment configuration, as entered in ALM. To find this ID, in ALM, right-click the entity, copy the URL, and paste it to a text editor. Use the number associated with the EntityID at the end of the URL.

5. Save the configuration.

When the build runs, the test will run as a build task with the specified settings.

After the test run, the relevant build logs are saved in the **Logs** tab of the build execution results.

You can view details about the test run and links to test results.

Setting the Application Environment Configuration as Part of a Build Process

If you are running UFT tests saved in ALM, as part of a test set or build verification suite from the Test Lab module in ALM, you can prepare the environment configuration for the test and the application being tested as a separate build task. This task can be used before the task to run the test.

To set this configuration, do the following:

1. In your build plan, add an additional task.

2. In the task types window, open the **Tests** pane. A list of all available tasks is displayed:
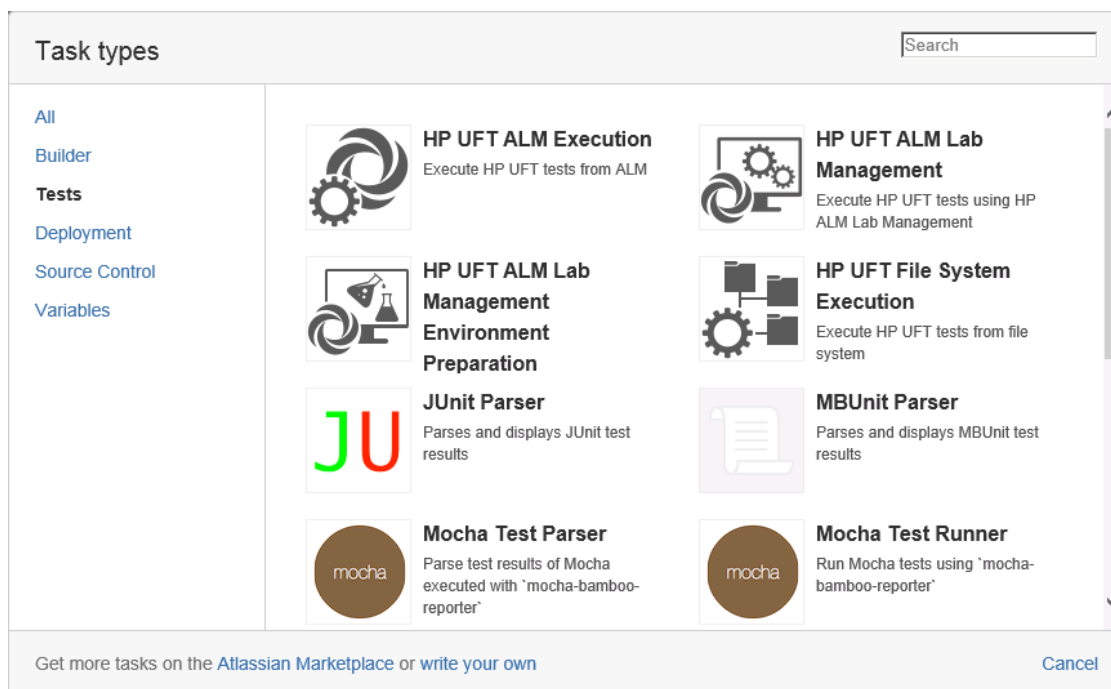
3. From the Tests pane, select the **HP UFT ALM Lab Management Environment Preparation** task. A new, empty task is added as part of your build plan:

4. If necessary, add a task description for the task.

5. Enter the ALM login credentials for the ALM server, including:

   - **ALM server**

   - **User name**

     > **Note:** Ensure that the ALM user specified in this task has the correct permissions to open and run the UFT tests. For details on permissions, see the *HP Application Lifecycle Management Administrator Guide.*

   - **Password**

   - **Domain** in which the project containing the tests is saved

   - **Project** in which the tests are saved

     > **Note:** The selected project should be enabled for Server Side Execution of UFT tests. For details on Server Side Execution, see the *HP Application Lifecycle Management User Guide.*

6. Enter the ID of the environment for which you want to create/update a configuration. To find this ID, in ALM, right-click the entity, copy the URL, and paste it to a text editor. Use the number associated with the EntityID at the end of the URL.

7. Select one of the following options:

- **Create a new configuration named:** Enter a name for the new configuration.

  If you select this option, enter a string variable in the **Assign AUT Environment Configuration ID to:** field. (Bamboo will save an ID for this variable for use in future tasks.)

- **Use an existing configuration with ID:** Enter the ID of your AUT Environment Configuration in ALM.

8. (Optional) Enter a path for a JSON file that contains values for the AUT Environment parameters for the relevant configuration.

9. Add the AUT Environment parameters that you want to update for the configuration.

   a. Click the **Add Parameters** button.

   b. For each parameter, select the type of the parameter from the drop-down menu (**Manual**, **Environment**, or **From JSON**).

   c. Enter the full path of the parameter as it appears in ALM. For example, you could enter `Parameters/my_param1`.

   d. Enter the value you want to assign to this parameter.

10. Save the existing configuration.

This configuration will be applied as build step when building the entire build process.

Troubleshooting and Limitations – HP Application Automation Tools Plugin for Bamboo

If you have trouble with the HP Application Automation Tools Plugin for Bamboo plugin, see the following details for troubleshooting and limitations:

- In the Security and Permission options for the server, you must clear the **Enable XSRF protection option** before running tests on your Bamboo server.

- If you are using the **HP ALM Lab Management Environment Preparation Configuration** task, the ALM server should be accessible from server machine.

- **When using the HP ALM Execution task:**

  - If you receive an error the first time you run a test with this task, you need to install the TD connectivity tool. The link to install this tool can be found in the build log.

  - If the same error occurs on subsequent test runs, you must reregister the ALM client on the server machine.

  For details on how to install the TD connectivity tool or register the ALM client, see your ALM documentation.

- If you are running a test on a remote host, you must restart the Bamboo remote agent on the remote computer after installing UFT to detect new capabilities of the remote agent machine.

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