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Guide to Creating a Localized Test Plan

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1. Before You Get Started

Localization is often an afterthought and developers typically address it late in the development cycle rather than in the planning stages. By that time, they're so eager to launch the website or release the product that localization gets put on the back burner. However, localization can have a tremendous impact on the user experience and bottom line.

Suppose that a Canadian customer is shopping on an e-commerce website and sees a free shipping offer. They may get halfway through the checkout process before realizing that the offer doesn't apply to them due to their location. In addition to missing a potential sale, the poor customer experience means they're unlikely to return to the website.

Localization avoids these problems by ensuring that the right messages and functionality reach the right audience based on their location. By starting the development process with a localization test plan, you can ensure that your website or application sends the right messages and enjoy the peace of mind that everything is functioning properly.

Before diving into how to create a localization test plan, let's take a look at why localization matters and the key components of a localization test plan.

Why Localization Matters

Localization is the process of adapting an existing website to the local language and culture of a target market. While translating text and using the right currencies is part of the equation, localization is a much broader topic that encompasses things like design requirements, marketing campaigns, products or services, and external advertising campaigns.

Some examples of localization include:

- E-commerce businesses may use localization to show the correct promotions, languages, and/or local currencies.
- Web applications may use localization to ensure that users access the most relevant data, such as customers in their area or stores near their location.
- Marketing agencies may use localization to target specific products or services to specific countries or regions.
- Publishers may want to show local stories or weather information to readers depending on their location.

There are [several benefits to localization](#):

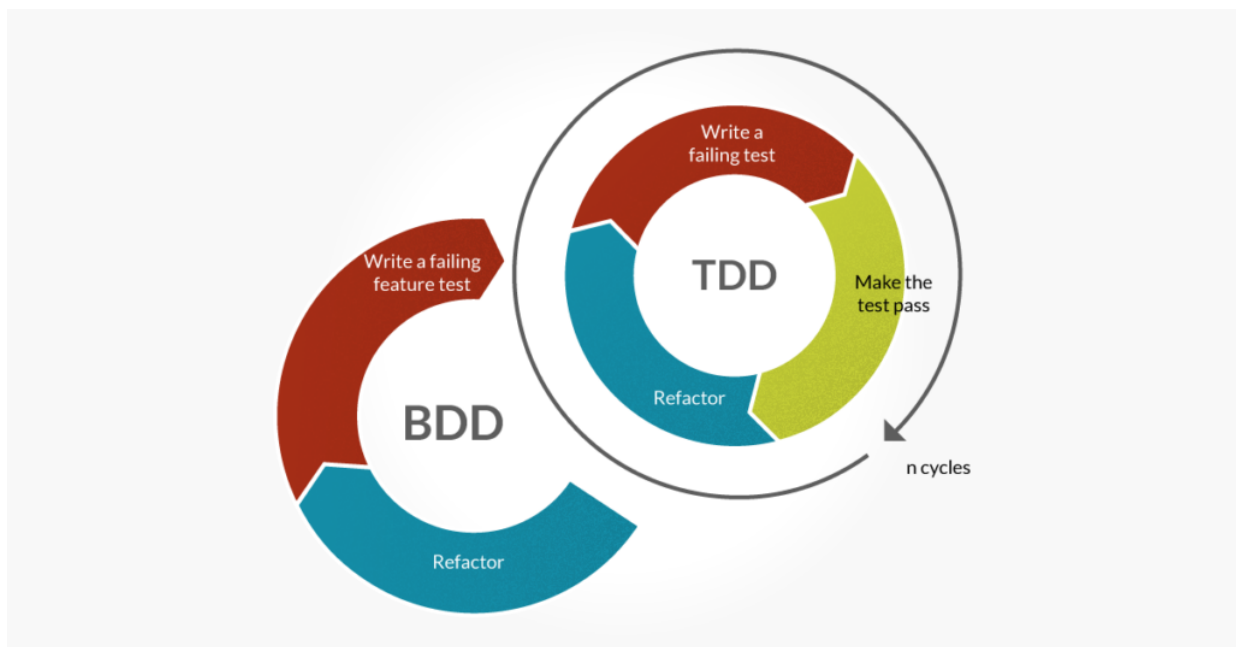
- North America accounts for less than one-third of total mobile app revenue, according to Distimo, which means that localization can open the door to new markets.
- About 56.2% of e-commerce consumers said the ability to obtain information in their own language is more important than price, according to Common Sense Advisory.
- About 86% of localized marketing campaigns outperformed the English campaigns in clicks and conversions, according to data compiled by Appia.

If you have users or visitors from different locations, the odds are that you could benefit from some form of localization. This guide will discuss some of the most common forms of localization that you may want to use, depending on your website or application, and how to build a test plan to ensure that they are properly implemented and functional.

How to Create a Test Plan

The first step in creating a localization test plan is determining what parts of your website or application need to be localized. For example, e-commerce websites may want to limit products, shipping offers, currencies, languages and other attributes to increase revenue and conversions. Other websites may have different localization requirements.

The second step is incorporating these elements into the development process. If you're using Agile development, you may write user stories and acceptance criteria covering localization features. Those stories are converted into behavior-driven development (BDD) scenarios and/or test-driven development (TDD) unit tests or integration tests.



This step is difficult without the right software. Many companies test localization features with proxy servers or virtual private networks (VPNs), but these manual processes can be tedious and ineffective. Automated tests may incorporate free proxy servers, but they're often unreliable, and insecure, for testing purposes.

As part of this guide, we will look at how to simplify the testing of localization features using a combination of automated testing frameworks, such as Selenium, continuous integration frameworks, such as Jenkins, and WonderProxy's reliable network of proxy servers around the world.

The final step is implementing the code and functionality necessary to make the tests pass. If you're using a continuous integration (CI) server, these tests will need to pass in order for the code to be deployed to staging or production servers and reach quality assurance testers or users. You can be sure that localization is working at all times.

Wrapping Up

Localization is important to improve the user experience of your website or application and maximize revenue and conversion rates. By starting with a localization test plan, you can ensure that you're covering all of your bases and realizing both of these benefits in your software.

In the rest of this guide, we will look at some of the most popular components of localization and explore how to test them, and then wrap up with a look at how to automate these tests with WonderProxy and common testing automation tools.

What's Next?

In the next section, we will explore how to ensure that the right content is being displayed to the right users.

2. Showing the Right Content

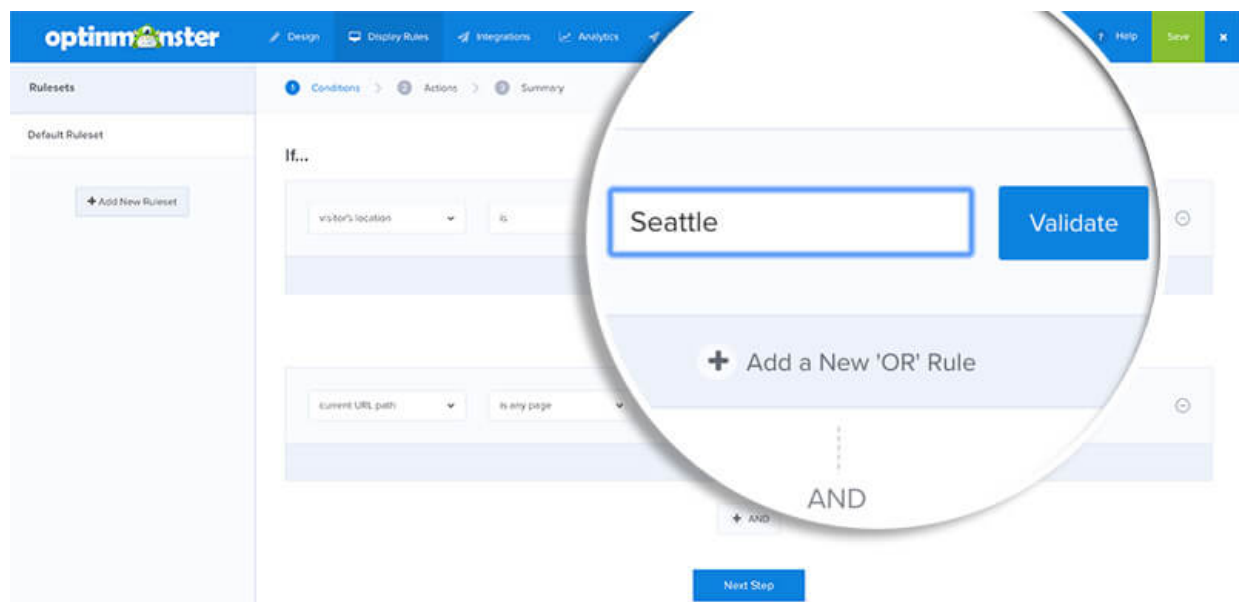
The most common use of localization is showing specific content to specific users based on their location. This content could be products, promotions, text, images, or anything else that could change based on a user's location. The idea is to make the content more engaging for readers in order to improve the user experience and/or conversion rate.

Let's take a look at why you might want to change content based on location and how to test that the right content is shown to the right users and customers.

Marketing & Promotions

The most effective promotions target specific audiences. For example, search engines display ads based on search queries and social media platforms display ads based on a user's location, demographics, and interests. Like these third-party ad platforms, localizing content can improve conversion rates for apps, websites, and e-commerce platforms.

Suppose that you own a sports memorabilia website. You may want to promote the local sports team on the homepage instead of showing the same content to everyone. A Boston Red Sox fan that sees New York Yankees apparel being promoted on the homepage is less likely to respond to the promotion than if they saw a Red Sox promotion at the onset.



Many marketing tools include geolocation features. For example, [Opt-in Monster](#) is a popular way to add pop-ups, in-line forms, content lockers, and other lead generation campaigns. The platform's Geolocation Rules enable marketers to easily target or exclude physical locations for promotional reasons or to comply with regulations like the GDPR.

Shipping & Payments

E-commerce shops must ensure that customers see the correct currencies, payment methods, shipping methods, and offers. Different countries prefer different payment methods and require different shipping methods. Without catering to these needs, you could be turning away a lot of potential customers.

Suppose that you own a U.S. ecommerce website that receives some international orders. Rather than showing everything in U.S. dollars, you may detect the visitor's location using their IP address, show prices in their local currency, present certain payment and shipping methods, and remove any U.S.-only offers for free shipping or returns.

Country	Default Language	Shipping Offer	Currency	Billing Partner	Notes
USA	English	Free > \$20	USD	Stripe	US flag should appear top right corner.
Canada	English	\$3.99 > \$20	USD	PayPal	Maple leaf added to logo. Note on USD pricing in page footer.
UK	English	£3.99 > £20	GBP	PayPal	Home page will always include at least one monarchy-related item (queen bobblehead, etc).
France	French	None	Euro	PayPal	Link to /loilang on all shipping pages for note on lack of shipping offer.

For e-commerce websites, it's a good idea to list out the shipping offers, currencies, and billing partners for each target country in a test plan (see above). It's easy for quality assurance testers to quickly reference this list and know exactly where content should appear for each major market.

Products & Services

There are many cases where you may want to show different products or services to different users or customers. In other cases, you may want to redirect a visitor to an entirely different website designed for a specific audience. This can be done through automatic identification using IP addresses or by having the customer manually select their region.

Some examples include:

- A sporting goods retailer may want to show surfboards in California, skis in Colorado, and snowshoes in Wisconsin.
- A global accounting firm may want to show different services depending on a client's country of residence.
- A memorabilia e-commerce shop may want to only show products that appeal to local sports teams.

Many popular publishing tools include this functionality. For example, Shopify has plugins like [Geolocation Redirect](#) that automatically redirect customers to the correct country website or add a notification bar at the top of the site to enable users to select a store that best suits them for their region.

How to Localize Content

There are many different approaches to localizing content and choosing the right option depends on your specific situation.

Small websites or applications may create a list of requirements, such as the table in the example above, and develop testing procedures to ensure that content is displayed properly in different regions. These procedures could be as simple as having a QA tester visit the website using different proxy servers to verify the correct messaging is there.

Larger website or applications may incorporate content localization into their larger development process:

1. Write a user story.

As a visitor from Europe, I should see only European shipping methods.

2. Write a failing test.

```
it "does not show usps as an option" do
  user_location = "germany"
  expect(shipping_methods).not_to include("usps")
end
```

3. Write code to make the test pass.

4. Re-run the failing test.

5. Deploy the passing feature.

By writing localization tests first and including them in an automated testing suite, you can be sure that regressions aren't introduced into the codebase at a later date.

We will take a detailed look at how to set up testing automation later in this guide.

Wrapping Up

The most common use of localization is showing the right content to the right users. By doing so, you can improve user experiences and/or conversion rates.

What's Next?

In the next section, we will explore how to ensure that users see the correct language for their location without any errors.

3. Use the Right Language

Many businesses sell products and services across different countries, which makes languages an important consideration. While you could rely on browser-based translation, these crude translations can complicate the buying process and lead to lower conversion rates. Studies have consistently shown that localized languages can make a big difference.

Let's take a look at why using the right language matters, how to go about translation, and how to test language localization.

Why Languages Matter

Imagine that you're visiting France and decide to stop into a store to buy some clothing. You only know English and all of the store attendants only speak French. You could use an automatic translation app, but many of the words are incorrect and it's difficult to discern anything. Or, you could use a physical translator that more accurately conveys meaning.

Which scenario would have you more confident in buying?

The same dynamics impact e-commerce. According to Common Sense Advisory, more than half (52.6%) of e-commerce consumers said that the ability to obtain information in their own language is more important than price. The same study found that over half of customers (55%) only buy products from websites that support their language.

Supporting multiple languages creates an opportunity to increase revenue by expanding your total addressable market, while simultaneously improving conversion rates. In addition, the keywords that you use in different languages can influence everything from search engine result pages (SERP) rankings to marketplace categorizations.

How to Handle Translation

There have always been two different ways to handle translation when it comes to the localization of languages.

The first method is using automatic translation services. While these technologies were notoriously bad in the past, they have significantly improved with new deep learning algorithms. The second method is human translation, whereby a translator that is fluent in both languages will convert one to the other in the most natural-sounding way.

These days, most translators use a combination of the two methods. Deep learning algorithms take content 98% of the way there and a human translator steps in to make the other 2% of the edits to perfection. The process is so fast that some translators provide API-based translation services that offer near real-time translation for software.

For example, companies like [WebInterpret](#) provide automatic translation for e-commerce websites. Rather than relying exclusively on machines, the company employs translators that constantly update translations for marketplace categories. The UK may have Prams with a filter for Main Color while Germany may have Kinderwagens with a filter for Farbe.

Translations can make a big difference in user experiences and conversion rates, as well as how the products or content is categorized by marketplaces, such as eBay or Amazon, or ranked by Google search. By using the correct terminology, you can ensure that your localized content reaches the maximum number of customers around the world.

Testing Language Localization

There are many different ways to test language localization depending on your business and website requirements.

Automated testing can be used to ensure that the proper language is appearing and there is no character corruption. In addition, automated testing can ensure that the proper currencies are referenced, size conversions are properly calculated, phone numbers are correctly formatted with country codes, and dates and times are correctly formatted.

Most automated tests use technologies like Selenium and web proxies to ensure that the right content appears when visitors access pages from various locations. We will dive more into how to set up automated tests later in this guide, but it's important to know what is possible to automate and what is usually accomplished manually.

Manual quality assurance testing may be necessary for smaller or detailed testing. For example, manual testing is easier than automated testing for processes that require interaction with the page, such as a multi-step checkout process. It's also faster if you don't have much testing infrastructure since automated localization tests require a lot of preparation and scaffolding to get started.

Wrapping Up

Language localization is an important topic if you're selling products or services across the border. By showing the right language, you can dramatically improve your conversion rates and user experience. The translation process has become a lot simpler with API integrations and less expensive with the advent of deep learning algorithms.

While automated testing can be used to address some language localization issues, such as showing the correct language and verifying the format of some elements, manual QA testing may be necessary for nuances, such as grammar and terminology.

What's Next?

In the next section, we will take a look at other lesser-known use cases for localization, such as regulatory compliance and external advertising campaigns.

4. Advertising, Compliance & More

Many areas of a website or application may require localization beyond language and content. For example, you may be running a localized ad campaign and want to ensure that ads are appearing in the right countries, or you may be collecting personal information and want to ensure that you're compliant with GDPR regulations.

Let's take a look at some of the other instances where localization and localization testing may be required.

Geo-Targeted Advertising

Geo-targeted advertising was popularized by Google AdWords. This enables advertisers to reach people in specific geographic areas. After all, the most relevant advertisements for people searching for a barber would be barber shops located close to their physical location. Geo-targeting has since become an integral piece of all major ad platforms.

In addition to local businesses, geo-targeting can help maximize revenue and conversion rates. You may advertise certain products in certain areas where buyers are more likely to convert. For example, using our previous example, a sporting goods company may advertise skis in Colorado and surfboards in California to increase their odds of a successful conversion.

While Google may be trustworthy, you may want to verify that your ads are appearing in specific locations when using lesser known ad platforms. You may have a partnership with a publisher that uses their own internal ad platform, for example, and want to verify that your ads are appearing in the correct countries or regions around the world.

Locations ?

Targeted locations

Reach ?

Remove all

All countries and territories - add a location to refine your targeting

chicago

Advanced search

Matches

Reach ?

Chicago, Illinois, United States - city	13,400,000	Add Exclude Nearby
Chicago Heights, Illinois, United States - city	17,000	Add Exclude Nearby
Chicago Ridge, Illinois, United States - city	2,000	Add Exclude Nearby
Chicago O'Hare International Airport, Illinois, United States - airport	39,000	Add Exclude Nearby
Chicago IL, United States - Nielsen® DMA® region	21,400,000	Add Exclude Nearby
Chicago Midway International Airport, Illinois, United States - airport	16,000	Add Exclude Nearby
Chicago Park, California, United States - city	--	Add Exclude Nearby
⚠ Limited reach ?		
Locations that enclose: Chicago, Illinois, United States		
Chicago IL, United States - Nielsen® DMA® region	21,400,000	Add Exclude Nearby
Illinois, United States - state	23,500,000	Add Exclude Nearby
United States - country	443,000,000	Add Exclude Nearby
Related locations		
NE-2, Nebraska, United States - congressional district	1,760,000	Add Exclude Nearby
58442, North Dakota, United States - postal code	--	Add Exclude Nearby
⚠ Limited reach ?		
54115, Wisconsin, United States - postal code	204,000	Add Exclude Nearby

ions (advanced)

anguages ? Eng

d strategy ? Foc

Budget ? CAS

thod (advanced)

o show relevant busi

ib. Take a tour

The easiest way to test that these advertising campaigns are appearing correctly is to use a web proxy, such as WonderProxy. After connecting to the proxy, QA testers can visit the publisher website and verify that the correct ads are showing by refreshing the page multiple times. These are often manual tests since they involve third-party websites and may only need to be tested once rather than on an ongoing basis.

Regulatory Compliance Issues

Location-specific regulatory compliance has always been an issue for some industries. For example, issuers of stocks and bonds may only be permitted to advertise their offerings to certain locations. Similarly, in the quasi-legal cannabis industry, companies may not be permitted to advertise their products in states where the drug hasn't been legalized. The failure to follow these rules can result in fines.

These issues have expanded to many more businesses with the rise of privacy concerns. In 2018, the European Union passed the General Data Protection Regulations (GDPR), which mandates that every website collecting data from a European citizen (including cookies or analytics) must disclose these activities. You may only want to show these notices to European citizens rather than showing them to everyone.

There are many different ways to implement these solutions depending on your website or application. In many cases, content management systems (CMS) have plugins available that use a visitor's IP address to determine where they are located and take the correct action, such as showing a privacy notice or confirming their location before redirecting them. Web applications can incorporate the same functionality.

Testing this functionality is similar to testing the other localization issues we've discussed thus far. Manual QA testers can use a web proxy to simulate their location and verify that the correct messages appear or redirects occur. Automated testing can also be used to verify this functionality, and we will discuss how to set up this testing in the next section.

Wrapping Up

There are many reasons that you may need localization on your website or application. While language and content localization are most common, you may also want to localize your advertising and regulatory requirements. Testing this functionality is very similar to testing any other localization functionality, but depends on your website or application.

What's Next?

In the next section, we will take a look at how to automate localization testing using tools like Selenium. We will also explore why you may want to consider using a service like WonderProxy that easily integrates with these tools to streamline the process with minimal disruption.

5. Automate Your Localization Testing

Testing automation is the cornerstone of modern software development.

Throughout this guide, we have recommended that you build localization into your test-driven development (TDD) processes, which means testing first and building second. But, how exactly do you test localization without spending hours in front of a computer switching between proxy servers?

Let's take a look at how to build automated tests for localization functionality using Selenium and proxy servers.

What Tools Are Required?

Most integration tests use Selenium—a popular browser automation framework. When a test is executed, each Selenium command generates an HTTP request that's sent to a browser driver that executes the request and returns the status back to the test. WebDriver translates these requests from many different programming languages, such as Java or Ruby.

Tests can be written in any number of programming languages and testing frameworks. For example, a Ruby on Rails application may incorporate Selenium into a RSpec integration test. The test framework is what ultimately deciphers the response from Selenium (and the browser driver) and determines if that was the "correct" or "incorrect" response.

For the most robust tests, we recommend using Selenium, Sauce Labs, and WonderProxy:

- Selenium is a popular browser automation framework.
- Sauce Labs is a cloud-based testing platform that runs your tests on over 350 browser/platform combinations.
- WonderProxy provides a global network of proxy servers that are designed for maximum security and uptime.

However, you can incorporate Selenium and WonderProxy into almost any testing environment.

Selenium & Proxy Servers

The most challenging step for most developers looking to automate their localization testing is integrating Selenium with a proxy server.

The first challenge is finding a reliable proxy server. While there is no shortage of options, many free proxy servers inject advertisements or other content onto a webpage, which can make it difficult to run automated tests. Others may be too unreliable or insecure for testing purposes. Randomly failing tests are frustrating for developers, and when coupled with a CI server, they can throw off release cycles.

This challenge can be overcome by using reliable proxy servers. For example, you can set up your own servers that are remotely located and manage them or use a service like WonderProxy that provides authenticated proxy servers in nearly 200 countries.

The second challenge is a little more technical: How do you get Selenium to run requests through a proxy server?

There are a few different options:

- **Authenticated Proxies without SauceLabs:** You can use Selenium 3.7.1 and PhantomJS to connect to authenticated proxies. Unfortunately, newer versions of Selenium don't support authenticated proxy servers, so these versions are necessary.
- **Authenticated Proxies with Sauce Labs:** You can use Sauce Labs, and WonderProxy's integration with it, to test modern browsers without any issues. There's only some minor one-time setup required on Sauce Labs beforehand.
- **Non-Authenticated Proxies:** You can use IP address whitelisting to avoid the use of authentication and use any browser drivers that you'd like. WonderProxy offers whitelisting on its Corporate and Enterprise plans.

You can also use manual testing with VPNs if you need to test websites or software that doesn't support proxies. For example, Flash and Silverlight ignore browser proxy settings.

The right decision depends on your individual website or application.

Configuring Selenium with a Proxy

Writing tests in Selenium is a topic covered by thousands of books, videos, and tutorials. Since there are many combinations of languages and frameworks, we won't cover how to write these tests in this guide. However, we will look at how to setup Selenium with a proxy in a Unix/Linux environment as a prerequisite to these tests to help you get started on the right foot.

The first step is setting up local environment variables for your proxy server username and password, if you're using an authenticated proxy without Sauce Labs.

```
export USERNAME=username
export PASSWORD=password
```

The next step is creating a method to add the proxy server and credentials into Selenium's PhantomJS driver using the **DesiredCapabilities** object. The resulting method should return the customized browser driver that directs all requests through the proxy server for testing purposes.

Here's an example written in Python:

```
def proxied(self, proxy):
    capabilities = DesiredCapabilities.PHANTOMJS.copy()
    capabilities['phantomjs.cli.args'] = [
        '--proxy=' + proxy,
        '--proxy-type=http',
        '--proxy-auth=' + evar.get('USERNAME') + ':' +
        evar.get('PASSWORD')
    ]

    return webdriver.Remote(
        command_executor=self.selenium,
        desired_capabilities=capabilities
    )
```

If you're using Sauce Labs, you can read [our detailed guide](#) that discusses how to integrate with WonderProxy using separate methods.

Running Tests Through the Proxy

Localization tests should run requests through the method(s) created in the last section and check the response that should have come from the appropriate country or region under test.

Here's an example in Python:

```
def testUserLocationAlbuquerque(self):
    self.driver = self.proxied('albuquerque.wonderproxy.com:11000')
    self.driver.get(self.url)
    search = self.driver.find_element_by_id('user-city')
    self.assertIn('Albuquerque', search.text)
```

This test accesses a URL through an Albuquerque, NM proxy server and tests to see if an element with the ID of "user-city" has the text "Albuquerque". These same techniques can be used to create localization tests for all of the topics that we've discussed in this guide.

Depending on how you write these tests, you may be able to share the same test code across multiple locations. This could make your test suite even more flexible and powerful when it comes to testing hundreds of locations to ensure that there are no issues with translations or functionality.

The testing strategy that you use depends on your website or application.

Integrating with a CI Server

The test written in the prior section can be incorporated into a continuous integration (CI) server. With each commit, the CI server verifies that a build is passing before it can be deployed, which reduces the changes of any defects reaching production. You can be sure that localization is working without having to worry about manually QA testing each deploy.

Here's an example of using Jenkins CI with Ruby's Rspec:

```
git checkout $branch
git pull origin $branch
bundle install
RAILS_ENV=test bundle exec rake db:migrate
RAILS_ENV=test bundle exec rspec spec/*
echo "Tests finished."
```

Any failures will result in the build failing, which can be configured to report the failure or prevent a deploy from reaching production.

Wrapping Up

Testing automation is the cornerstone of modern software development. By integrating Selenium with a proxy server, you can run localization tests to ensure that the right content and functionality is reaching the right audience. Integrating these tests with CI/CD services can prevent any localization bugs from reaching production and ultimately improve your user experiences and conversion rates.

What's Next?

In the next two sections, we will look at how WonderProxy simplifies the localization testing process and answer some common questions about localization testing.

How WonderProxy Simplifies Localization Testing

Localization is an often ignored—but extremely important—part of any website or software application. While most people immediately think of language, localization also applies to everything from the promotions that you show users to complying with country-specific regulations. A failure to address localization could be impacting your bottom line.

Rather than treating localization as an afterthought, development teams should consider incorporating localization testing into their traditional test-driven development workflows. User stories and acceptance criteria should start with localization and the code to implement it should be written last. Creating the right localization test plan is the best place to start.

WonderProxy solves many of the hurdles associated with localization tests with servers in 88 countries, integrations with common testing tools, and unparalleled reliability. You shouldn't have to worry about randomly failing tests or dealing with complex integrations—WonderProxy makes it easy to get started immediately with what matters.

WonderProxy's servers cover 97% of the world's GDP, including 77 servers in the United States for granular testing and other servers in 256 cities and 88 countries around the world. You don't have to waste any more time finding the right proxy servers or setting up your own proxy network.

[Sign up for WonderProxy today and see how easy it is to get started!](#)

Questions and Answers About WonderProxy

How does WonderProxy Work?

You can install our [browser extension](#) or [configure](#) your testing automation framework to use an HTTP proxy—it's very straightforward. Then just pick the location you want to test, and browse the internet as you normally would.

How fast are your proxy servers?

There is some additional latency from traffic going further across a network (e.g. from your computer to a proxy server to the website and back again), but our proxy servers reside on good machines in great data centers. Our load values tend to hover around zero, so your testing can be as efficient as possible.

What happens if a server goes down?

We provide a real-time network status page (including information at the top of our homepage) to show any changes in availability. That way, you can instantly know if a problem is resulting from our servers being down or a local testing issue. Of course, we try to resolve any issues as quickly as possible to minimize downtime.

Do you show any ads or restrict any content?

We do not show any ads since they could interfere with your testing and this is a paid service. While we do not impose any restrictions, you are required to comply with laws and regulations that apply to your location, the proxy location, and the service you're using.

Do you offer a free trial?

Yes, you can request a free trial [on our website](#).



Simplify Your Localization Testing with WonderProxy

Global access to proxy servers in hundreds of cities and nearly 100 countries around the world, including 50+ servers in the United States, along with an easy-to-use API and browser extension.

[Explore Plans](#)