Bynar Test Document

Revision History

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| --- | --- | --- | --- |
| Name | Date | Reason for Change | Version |
| Michelle Zhong | 10/8/2019 | Outline the Test Document | 0.1 |
| Michelle Zhong | 10/9/2019 | Outline Test Cases | 0.2 |
| Michelle Zhong | 10/14/2019 | Flush out the Setup Information | 0.3 |
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Setup Information and Prerequisites

Travis runs continuous integration on Pull Requests to check if changes made can be integrated without issue. For manual testing, in many cases, fault injection in the Linux Kernel will be used to simulate bad disks and other issues. You will need to rebuild your kernel so that it can use fault injections. Go Here: <https://wiki.ubuntu.com/Kernel/BuildYourOwnKernel> to learn how to rebuild your kernel (for Ubuntu) and add the CONFIG\_FAULT\_INJECTION flag to your kernel config file.

# Test Cases

## Test Case 1: Bynar Config

### Description

This case consists of the steps required to test Bynar's Config File

### Preconditions For Running the Test Case

You will need to have config files set up for testing the deserialization as well as the use of some of the information in the config files. For that, you will need to set up test files to test the proper parsing and usage of config input. You will need to prepare working inputs for your test cases.

### Scenario

#### Test Case

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| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 2: Ceph Backend

### Description

This case consists of the steps required to test Bynar’s Ceph Backend

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
|  | Test journal sorting |  | Journal devices should be sorted from least to greatest number of partitions |  |
|  |  |  |  |  |
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## Test Case 3: Backend Module

### Description

This case consists of the steps required to test Bynar’s Backend Module

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 4: Host Information

### Description

This case consists of the steps required to test Bynar’s Host Information Module

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 5: Helpers Library

### Description

This case consists of the steps required to test Bynar’s Helper Library

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 6: Client Interface

### Description

This case consists of the steps required to test Bynar’s Client Interface

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 7: Support Ticket Creation

### Description

This case consists of the steps required to test Bynar’s Support Ticket Creation Module

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 8: Disk Manager

### Description

This case consists of the steps required to test Bynar’s Disk Manager

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 9: Database Logs

### Description

This case consists of the steps required to test Bynar’s Database Logging Module

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 10: State Machine

### Description

This case consists of the steps required to test Bynar’s Disk Test State Machine

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 11: Hardware Health Test

### Description

This case consists of the steps required to test Bynar’s Hardware Health Test Module

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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## Test Case 12: Bynar

### Description

This case consists of the steps required to test Bynar’s main program

### Preconditions For Running the Test Case

Root permissions are necessary when running these test cases as the test functions will attempt to create loopback devices, mount them, check their filesystems, etc. The nightly compiler for Rust is also currently required for testing as Mocktopus currently uses features that are not yet in stable Rust.

### Scenario

#### Test Case

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Description | Execution Steps | Expected Result | Actual Result |
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